

Germany's Arctic Engagement – Between Environmental Responsibilities and Geo-Economic Interests

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Perhaps there is no question connected with geographical science, which has been so long in agitation, without being resolved, and so often revived with the most sanguine expectations of success, and then abandoned as hopeless, - as the question of the existence of a navigable communication between the European and the Chinese Seas, by the North.

(William Scoresbury in 1820)¹

The Arctic region is 'ground zero' for climate change.

(Ban Ki-Moon in 2016)²

The Essence of ultimate decision remains impenetrable to the observer – often, indeed, to the decider himself [...] There will always be the dark entangled stretches in the decision-making process – mysterious even to those who may be most intimately involved.

(John F. Kennedy in 1963)³

¹ William Scoresby, *An Account of the Arctic Regions with a History of the Northern Whale-Fishery* (Edinburgh: A. Constable & Co, 1820), pp. 1-2.

² UN News Centre, *In Iceland, UN Chief Highlights That Fate of Arctic and that of the World Are Intertwined* (New York: United Nations, 8 October 2016) <<http://www.un.org/apps/news/story.asp?NewsID=55247#.WKrWkoVN3E8>> [accessed 20 February 2017].

³ Graham T. Allison and Philip Zelikow, *Essence of Decision. Explaining the Cuban Missile Crisis* (New York: Longman, 1999), p. i.

Table of Contents

Table of Contents.....	III
List of Tables.....	VII
List of Figures.....	IX
List of Abbreviations.....	X
Abstract.....	XII
Acknowledgments.....	XIII
1 INTRODUCTION	1
1.1 Germany’s Arctic Engagement.....	3
1.1.1 Foreign Policy.....	3
1.1.2 The Legal Foundations of Germany’s Foreign Policy.....	3
1.1.3 Issue Areas in the Focus.....	4
1.1.4 Definition of the Arctic.....	5
1.2 Puzzle, Research Questions, Determining Factors and Working Assumptions.....	9
1.3 Literature Review and Academic Relevance.....	13
1.4 Political Relevance.....	18
1.5 Brief Overview of the Dissertation’s Structure.....	27
1.6 Short Summary of the Empirical Findings.....	27
2 ANALYTICAL FRAMEWORK	29
2.1 Ontology, Epistemology, and Methodology.....	29
2.1.1 Ontology.....	30
2.1.2 Epistemology.....	34
2.1.3 Methodology.....	37
2.2 The Call for a Multi-Causal and Multi-Dimensional Analysis.....	39
2.3 Theoretical Considerations.....	44
2.3.1 International Order and Complex Interdependence.....	45
2.3.2 Perceptions and Interests.....	50
2.3.3 Bureaucratic Politics.....	55
2.3.3.1 The “Stand-Sit” Proposition.....	58
2.3.3.2 The “Bargaining” Proposition.....	62
2.3.3.3 The “Resultant” Proposition.....	65
2.3.3.4 The Impact of International Developments on Bureaucratic Politics.....	66
2.3.4 Applying Analytical Eclecticism.....	68
2.4 Considerations About Methods.....	70
2.4.1 Single-Case Study.....	70
2.4.2 Process Tracing.....	71
2.4.3 Structured, Focused Comparison.....	72
2.4.4 The Application of the Chosen Methods to the Four Analytical Steps.....	73
2.4.5 Use of Sources.....	76
2.5 Analytical Framework and Operationalization.....	77

2.5.1	Analytical Step No. 1: The Operational Environment.....	79
2.5.2	Analytical Step No. 2: Ministerial Perceptions of the Operational Environment	80
2.5.3	Analytical Step No. 3: Ministerial Interests Linked to the Perceptions of the Operational Environment.....	81
2.5.4	Analytical Step No. 4: The Arctic Policy Guidelines Bargaining Process.....	82
3	<u>ENVIRONMENTAL AFFAIRS: GERMANY’S FIGHT AGAINST GLOBAL CLIMATE CHANGE</u>	83
3.1	Operational Environment.....	83
3.1.1	External Global Level: Global Climate Change.....	84
3.1.1.1	Manifestations of Global Climate Change.....	85
3.1.1.2	Process-related Implications of Global Climate Change in Environmental and Economic Affairs.....	87
3.1.1.3	Structural Implications of Global Climate Change in Political Affairs.....	90
3.1.2	External Regional Level: The Arctic.....	91
3.1.2.1	Manifestations of Arctic Warming.....	92
3.1.2.2	Process-related Implications of Arctic Climate Change in Environmental Affairs	96
3.1.2.3	Structural Implications of Arctic Climate Change in Political Affairs.....	99
3.1.3	Germany’s Interdependence with Global and Arctic Environmental Affairs... 100	
3.1.3.1	Manifestations of Germany’s Vulnerability to Global Climate Change.....	101
3.1.3.2	Background Information: Germany’s Polar Research Activities.....	103
3.1.3.3	Background Information: Germany’s Engagement in the Fight against Global Climate Change.....	105
3.2	Psychological Environment.....	106
3.2.1	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	106
3.2.2	Federal Ministry of Education and Research.....	111
3.2.3	Federal Foreign Office.....	116
3.2.4	Federal Ministry of Defence.....	120
3.2.5	Federal Ministry for Economic Affairs and Energy.....	121
3.3	Political Interests.....	121
3.3.1	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	121
3.3.2	Federal Ministry of Education and Research.....	123
3.3.3	Federal Foreign Office.....	123
3.3.4	Federal Ministry of Defence.....	125
3.3.5	Federal Ministry for Economic Affairs and Energy.....	125
4	<u>ECONOMIC AFFAIRS: GERMANY’S GEO-ECONOMIC ENGAGEMENT</u>	126
4.1	Operational Environment.....	126
4.1.1	External Global Level: Economic Globalization.....	126
4.1.1.1	The Global Economic Order’s Structure.....	127

4.1.1.2	The Functioning of the Global Economic Order	140
4.1.1.3	The Nature of the Global Economic Order.....	142
4.1.1.4	Structural Implications of the Changing Global Economic Order.....	145
4.1.1.5	Process-Related Implications of Ongoing Economic Globalization in Environmental, Economic and Political Affairs	145
4.1.2	External Regional Level: The Arctic	146
4.1.2.1	Structure of the Regional Economic Order.....	148
4.1.2.2	The Functioning of the Economic Order.....	159
4.1.2.3	The Nature of the Regional Economic Order.....	160
4.1.2.4	Structural Implications of Arctic Economic Developments in Economic and Political Affairs.....	161
4.1.2.5	Process-related Implications of Arctic Economic Developments in Environmental, Economic, and Political Affairs.....	162
4.1.3	Germany's Economic Interdependence with Global and Arctic Economic Affairs	162
4.2	Psychological Environment.....	177
4.2.1	Federal Ministry for Economic Affairs and Energy.....	177
4.2.2	Federal Ministry of Education and Research.....	187
4.2.3	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	188
4.2.4	Federal Foreign Office	189
4.2.5	Federal Ministry of Defence	193
4.3	Political Interests.....	196
4.3.1	Federal Ministry for Economic Affairs and Energy.....	196
4.3.2	Federal Ministry of Education and Research.....	198
4.3.3	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	198
4.3.4	Federal Foreign Office	199
4.3.5	Federal Ministry of Defence	199
5	POLITICAL AND SECURITY AFFAIRS: GERMAN CONSIDERATIONS	200
5.1	Operational Environment.....	201
5.1.1	External Global Level	201
5.1.1.1	The Structure of the International Political Order.....	202
5.1.1.2	The Functioning of the International Political Order.....	212
5.1.1.3	The Nature of the International Political Order	215
5.1.1.4	Structure-related Implications of a Changing International Political Order ...	217
5.1.1.5	Process-Related Implications of a Changing International Political Order for Environmental and Economic Affairs	217
5.1.2	External Regional Level: The Arctic	218
5.1.2.1	Background Information: The Role of the Arctic During the Cold War	218
5.1.2.2	The Structure of the Regional Political Order	220
5.1.2.3	The Functioning of the Regional Political Order.....	232
5.1.2.4	The Nature of the Regional Political Order	239

5.1.2.5	Structural and Process-Related Implications of Arctic Political Developments	242
5.1.3	Germany’s Political Interdependence with Global and Arctic Political Affairs	244
5.2	Psychological Environment	246
5.2.1	Federal Ministry of Defence	247
5.2.2	Federal Foreign Office	249
5.2.3	Federal Ministry for Economic Affairs and Energy.....	251
5.3	Political Interests	253
5.3.1	Federal Ministry of Defence	253
5.3.2	Federal Foreign Office	253
5.3.3	Federal Ministry for Economic Affairs and Energy.....	254
6	THE ARCTIC POLICY GUIDELINES FORMULATION PROCESS	255
6.1	Background Information	256
6.2	The “Stand-Sit” Proposition	258
6.2.1	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	260
6.2.2	Federal Ministry for Economic Affairs and Energy.....	262
6.2.3	Federal Ministry of Education and Research.....	265
6.2.4	Federal Foreign Office	266
6.2.5	Ministry of Defence.....	267
6.3	The “Bargaining” Proposition	268
6.3.1	The Structure of the Bargaining Process.....	270
6.3.2	Different Organizational Interests	271
6.3.3	Unequal Power Potentials	277
6.4	The “Resultant” Proposition	282
6.4.1	Narrative No. 1: The Extraction of Arctic Natural Resources as an Opportunity to Improve a Stable and Secure Supply for the German Economy.....	283
6.4.2	Narrative No. 2: The Economic Opportunities of Arctic Shipping and Maritime Affairs.....	284
6.4.3	Narrative No. 3: The Arctic as a Victim and a Driver of Global Climate Change	285
6.4.4	Narrative No. 4: The Responsibility to Protect the Arctic’s Fragile Ecosystem	286
6.4.5	Narrative No. 5: Squaring the Circle – The Arctic as an Export Market for German High-Tech Products that Ensure an Environmentally Friendly Economic Development.....	286
6.4.6	Narrative No. 6: The Freedom of Research	288
6.4.7	Narrative No. 7: Enhancing Stability and Security through the Promotion of Governance.....	288
6.4.8	Narrative No. 8: The Opportunity to Present Germany as an Arctic Player.....	290
7	CONCLUSIONS	290
8	BIBLIOGRAPHY	309
9	ANNEX	347

List of Tables

Table 1 - Ontology, Epistemology and Methodology	29
Table 2 - Arctic Sea-Ice Extent.....	94
Table 3 - GDP Development of World Regions: 2008 – 2012	128
Table 4 - World oil production (in million tons): 2005-2013.....	130
Table 5 - World oil consumption (in million tons): 2005-2013.....	130
Table 6 - Global oil price (Brent) per year (in US dollars per Barrel): 2005-2013.....	131
Table 7 - Global gas production (in billion cubic metres): 2005-2013.....	131
Table 8 - Global gas consumption (in billion cubic metres): 2005-2013.....	131
Table 9 - Global gas price (Heren NBP Index) p.a. (in US dollars per million Btu): 2005-2013	131
Table 10 - The world's 10 largest oil exporters (in millions tons per year): 2005-2013	131
Table 11 - The world's 10 largest oil importers (in million tons per year): 2005 - 2013	132
Table 12 - The world's 10 largest gas exporters 2005-2013 (in billion cubic metres)..	134
Table 13 - The world's 10 largest gas importers 2005-2013 (in billion cubic metres) .	134
Table 14 - Global iron and steel as well as metals and ores trade: 2005-2010 (in million tons)	137
Table 15 - Bilateral Metal Trade (in millions of dollars) in 2002.....	138
Table 16 - Bilateral Metal Trade (in millions of dollars) in 2014.....	138
Table 17 - Decline of IOC's oil reserves (in billion bbl), oil production (in million bpd) and RP ratio (in years).....	143
Table 18 - Arctic GRP (in billions US Dollar): 2000-2010	147
Table 19 - GRP of Arctic States as Share of the Arctic Total in 2005	148
Table 20 - Arctic share of global petroleum production (2002).....	149
Table 21 - Arctic Share of World Conventional Oil Resources in 2008 (billion barrels of oil).....	150
Table 22 - Arctic Share of World Conventional Natural Gas Resources in 2008 (trillion cubic feet).....	150
Table 23 - Territorial Distribution of Estimated Arctic Petroleum Resources in 2008..	151
Table 24 - Arctic Shipping Routes (in kilometers)	156
Table 25 - Comparison of Shipping via the NSR, the NWP, the Panama Canal and the Suez Canal	156
Table 26 - Comparison of Shipping via the NSR and the Suez Canal	157
Table 27 - Comparison of Shipping via the TSR and the Suez Canal.....	157
Table 28 - NSR Transit Numbers 2011-2015.....	157
Table 29 - The Development of Germany's Foreign Trade (in billion €).....	163
Table 30 - GDP per capita Growth in Germany and the Global Average	164
Table 31 - Germany's Most Important Oil Import Countries.....	170
Table 32 - Germany's Most Important Gas Import Countries	170
Table 33 - The Development of German Resource Imports	171
Table 34 - The Five Most Important Import Goods.....	172
Table 35 - The Five Most Important Export Goods in Processing Trade	174
Table 36 - Sea-based Trade.....	174
Table 37 - German Trade with China (in billion €)	175
Table 38 - Defence Budgets by Year and Country in billion US \$.....	205
Table 39 - Defence Expenditures by Region and Year in billion \$.....	205

Table 40 - Three Layers of Arctic Actors.....	221
Table 41 - Arctic Coastal States' Cost Guard and Military Capabilities.....	230
Table 42 - Overview of Main Ministerial Interests	257
Table 43 - Interdependencies between Global Affairs, the Arctic, and Germany in Environmental, Economic, and Political Affairs.....	295
Table 44 - Overview of Ministerial Perceptions along the three Guiding Questions.....	298
Table 45 - Selected Ministerial Political Interests Regarding the Arctic's Transformation	302
Table 46 - Main Ministerial Documents of Germany's Arctic Engagement	347

List of Figures

Figure 1 - The Perceptions-Foreign Policy-Link.....53
Figure 2 - The Bureaucratic Politics Model (BPM)66
Figure 3 - The Relationship between External Factors, Perceptions, Bureaucratic Politics,
and Foreign Policy68
Figure 4 - Analytical Framework.....78

List of Abbreviations

AC	Arctic Council
ACIA	Arctic Climate Impact Assessment
AEC	Arctic Economic Council
AEPS	Arctic Environmental Protection Strategy
AEW	Aircraft Early Warning
AMAP	Arctic Monitoring and Assessment Programme
ASEAN	Association of Southeast Asian Nations
ASFR	Arctic Security Forces Roundtable
ASW	Anti-Submarine Warfare
AWI	Alfred-Wegener-Institut
BPM	Bureaucratic Politics Model
BMEWS	Ballistic Missile Early Warning System
CAFF	Conservation of Arctic Flora and Fauna
CH ₄	Methane
CIA	Central Intelligence Agency
CIS	Commonwealth of Independent States
COSCO	China Ocean Shipping (Group) Co.
CO ₂	Carbon Dioxide
DERA	Deutsche Rohstoffagentur
DFG	Deutsche Forschungsgemeinschaft
EPPR	Emergency, Preparedness, Prevention and Response
EU	European Union
FPA	Foreign Policy Analysis
FFO	Federal Foreign Office
GDP	Gross Domestic Product
GHG	Green House Gas
GRP	Gross Regional Product
IASC	International Arctic Science Committee
IEA	International Energy Agency
IMF	International Monetary Fund
IMO	International Maritime Organization
IO	International Organisation
IOC	International Oil Company
IPCC	Intergovernmental Panel on Climate Change
IR	International Relations
IS	Islamic State
IT	Information Technology
ITLOS	International Tribunal for the Law of the Sea
KfW	Kreditanstalt für Wiederaufbau
LNG	Liquified Natural Gas
LRA	Long Range Aviation (Soviet Union)
MARPOL	International Convention for the Prevention of Pollution from Ships
MFA	Ministry of Foreign Affairs
mm	millimeter
MMboe	Million Barrels of Oil Equivalent
N ₂ O	Nitrous Oxide

NATO	North Atlantic Treaty Organization
NGL	Natural Gas Liquids
NOC	National Oil Company
NORAD	North American Air Defence Command
NSC	National Security Cutter
NPT	Nuclear Non-Proliferation Treaty
OECD	Organisation for Economic Cooperation and Development
OPV	Offshore Patrol Vessel
OSCE	Organization for Security and Cooperation in Europe
PAME	Protection of the Arctic Marine Environment
PP	Permanent Participant
RAS	Russian Academy of Science
RCEP	Regional Comprehensive Economic Partnership
RP	Reserve-to-Production
SAC	Strategic Air Command (United States)
SAO	Senior Arctic Official
SCAR	Scientific Committee on Antarctic Research
SDU	Sustainable Development and Utilization
SLOC	Sea Lane of Communication
SOLAS	International Convention on Safety of Life at Sea
SSBN	Ship Submersible Ballistic Nuclear (ballistic missile submarines)
TPP	Trans-Pacific Partnership
TTIP	Trans-Atlantic Trade and Investment Partnership
TSR	Transpolar Sea Route
UAV	Unmanned Aerial Vehicle
UK	United Kingdom
UN	United Nations
UNCLOS	United Nations Convention of the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
US	United States
USGS	United States Geological Survey
USARAK	US Army Alaska
VDR	Verband Deutscher Reeder
WTO	World Trade Organization

Abstract

This dissertation analyzes the development of Germany's Arctic engagement between 2005 and 2013. During this period the Arctic witnessed a fundamental transformation in environmental, economic, and political affairs. At the same time the German government's approach towards the region changed in two important ways. First, it evolved from uncoordinated ministerial activities towards a coordinated whole-of-government approach as exemplified in the formulation of the Arctic Policy Guidelines – the country's first ever Arctic policy. Second, the overall focus of Germany's engagement shifted from the fight against global climate change and a sense of responsibility to protect the pristine Arctic environment towards the realization of economic opportunities the Arctic's warming has promised. Against the background of these developments this dissertation poses the following research questions: *Why did the government start the inter-ministerial Arctic Policy Guidelines formulation process in 2012, and why is there a stronger emphasis on geo-economic opportunities than on responsibilities related to environmental and climate change in the document?* In order to answer these questions it is a) important to understand how ministerial perceptions about the Arctic's transformation evolved and how they conditioned respective ministerial interests, in order to b) explain why the ministerial bargaining process resulted in a final document that focuses more on the economic opportunities than the environmental responsibilities.

In order to grasp the complexity of interactions between the Arctic's transformation, its global drivers and Germany's Arctic engagement, this dissertation is based upon a multi-causal and multi-dimensional analytical framework that is applied to the three relevant issue areas (environmental, economic, and political affairs). In a first step, the operational environment, i.e. the objective reality in which Germany's Arctic engagement takes place, is analyzed along the main shaping developments on the global level, in the Arctic, and in Germany. This analysis is based upon the structure-oriented theoretical concepts of *International Order* and *Complex Interdependence*. In a second step, based on the theoretical concept of *Perceptions*, the psychological environment – the ministerial perceptions of the developments in the operational environment – are analyzed. In a third step, ministerial interests (political and bureaucratic) with regard to the Arctic's transformation and Arctic-related global developments are deduced. This analysis forms the basis for the in-depth analysis of the inter-ministerial bargaining process that resulted in the publication of Germany's Arctic Policy Guidelines. This fourth step is based on the theoretical concept of *Bureaucratic Politics*.

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1 Introduction

The Arctic is the most impressive symbol of the international community's attempt to square the circle: Environmental protection in the context of fighting climate change is sought to be reconciled with an economic growth model that continues to rely on fossil fuels. Nowhere else do these two interests interact as closely as in the Polar North, creating an Arctic paradox: Global warming accelerates the melting of the region's ice shield and makes the extraction of natural resources easier than ever. The burning of Arctic hydrocarbon resources releases CO₂, thereby strengthening global warming. Thus the Arctic's transformation is equally a symbol for economic opportunities and at the same time it stands for environmental challenges.

Since the mid-2000's, the Arctic⁴ is experiencing a fundamental transformation in environmental, economic, and political affairs – the three issue areas under consideration. This transformation is driven mainly by global climate change⁵, economic globalization⁶ and a changing international order⁷ – three drivers that are closely interconnected. Due to global climate change, Arctic ice is melting and the region opens up new economic opportunities in resource exploitation and shipping. This Arctic warming, mainly driven by increased global pollution caused by accelerating economic globalization and its underlying fossil fuel-based industrial production, again, fuels global climate change processes like rising sea-levels. The region's transformation offers opportunities and challenges for a variety of regional and global stakeholders as it has the potential to change existing geo-economic,⁸ political and security-related power relations in the region and across the globe. As a consequence, new security challenges in the region and beyond might emerge. Therefore, Arctic and non-Arctic players, like Germany, have developed a growing interest in the region.

The main analytical focus of this dissertation is the development of Germany's Arctic engagement between 2005 and 2013. The time frame has been chosen for two reasons. First, the government consisted of two different political coalitions during that period (Christian Democrats and Social Democrats from 2005 to 2009 and Christian Democrats

⁴ For a definition of the Arctic see chapter 1.1.4.

⁵ For a definition of global climate change see chapter 3.1.1.

⁶ For a definition of economic globalization see chapter 4.1.1.

⁷ For a definition of international order see chapter 5.1.1.

⁸ For a definition of geo-economics see chapter 1.3 and 1.4.

and Liberals from 2009 to 2013). As there is a variance in the governing parties it seems reasonable to rather neglect the factor of political party influence on foreign policy. Second, the chosen time frame is also deduced from political events. In the mid-2000's global discussions on climate change and peak oil brought the Arctic into the political spotlight. In 2007 the Intergovernmental Panel on Climate Change (IPCC) published its findings on global climate change and Al Gore's movie "An inconvenient truth" won an Oscar. At the same time, the Arctic witnessed a record low of summer sea ice extent. In 2008 the IPCC and Al Gore were awarded with the Nobel Peace Prize. Later that year, the global oil price skyrocketed to \$147 per barrel and the United States Geological Survey (USGS) concluded that roughly 25% of global undiscovered hydrocarbon resources are located in the Arctic. These environmental and economic developments led to a growing political interest in the region most prominently exemplified by the planting of a Russian titanium flag on the Arctic seabed.⁹ As global interest in the Arctic increased, so did Germany's interest. And after a bureaucratic bargaining process the Arctic Policy Guidelines have been published in 2013. From 2005 to 2013 Germany's engagement towards the Arctic developed from uncoordinated ministerial policies towards a coordinated governmental approach – at least on a declaratory level. In addition, the focus of attention shifted from environmental concerns towards geo-economic opportunities. This dissertation aims to understand and to explain both developments.

First, Germany's Arctic engagement is defined (chapter 1.1). Subsequently the main research questions, working assumptions as well as the determining factors (chapter 1.2) are presented. After a literature review and a discussion of the academic relevance (chapter 1.3) the political relevance (chapter 1.4) is reconsidered as well. In addition, a

⁹ IPCC, *Climate Change 2007. Synthesis Report* (Intergovernmental Panel on Climate Change, 2007), pp. 23–74 <https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf> [accessed 22 September 2015]; John Matson, *Al Gore Nabs Elusive Award Triple Crown. Oscar, Nobel, Grammy*, *Scientific American*, 9 February 2009 <<https://blogs.scientificamerican.com/news-blog/al-gore-nabs-elusive-award-triple-c-2009-02-09/>> [accessed 23 January 2017]; U.S. National Snow & Ice Data Center, *Arctic Sea Ice Shatters All Previous Record Lows* (Boulder, Colorado: U.S. National Snow & Ice Data Center, 1 October 2007) <http://nsidc.org/news/newsroom/2007_seaiceminimum/20071001_pressrelease.html> [accessed 23 January 2017]; Dag Harald Claes and Arild Moe, 'Arctic Petroleum Resources in a Regional and Global Perspective', in *Geopolitics and Security in the Arctic. Regional Dynamics in a Global World*, ed. by Rolf Tamnes and Kristine Offerdal (New York: Routledge, 2014), pp. 97–120 (p. 97); Kenneth J. Bird and others, *Circum-Arctic Resource Appraisal. Estimates of Undiscovered Oil and Gas North of the Arctic Circle* (Menlo Park, CA: U.S. Geological Survey, 2008), pp. 1–4 <<https://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>> [accessed 20 September 2016]; C. J. Chivers, 'Russians Plant Flag on the Arctic Seabed', *New York Times* (New York, 3 August 2007) <http://www.nytimes.com/2007/08/03/world/europe/03arctic.html?_r=0> [accessed 2 May 2016].

brief overview of the structure of the dissertation is given (chapter 1.5). Finally, a short summary of the empirical findings is presented (chapter 1.7).

1.1 Germany's Arctic Engagement

Before analyzing Germany's Arctic engagement, the scope of this term has to be defined first.

1.1.1 Foreign Policy

Germany's Arctic engagement is understood to be synonymous with the full spectrum of government activities (decisions and actions) related (direct and indirect) to the Arctic between 2005 and 2013. Following Hill, foreign policy is considered "the sum of official external relations conducted by an independent actor (usually a state) in international relations."¹⁰ The state, however, consists of various bureaucratic entities. Consequently, "governmental actions [...] are really an agglomeration [...] of relatively independent decisions and actions by individuals and groups of players [...]"¹¹ Against this background, "foreign policy must always be seen as a way of trying to hold together [...] the various activities which the state [...] is engaged in internationally."¹² Hence, foreign policy actions are defined as "the various acts of officials of a government in exercises of governmental authority that can be perceived outside the government."¹³ So in order to analyze foreign policy decisions and actions it is necessary to "examine all official [governmental] actions that affect this outcome."¹⁴

1.1.2 The Legal Foundations of Germany's Foreign Policy

Under constitutional law, the German federal government comprising various ministries and subordinated agencies is the central actor in the formulation and implementation of the country's foreign and security policy.¹⁵ However, the distribution of power within the federal government complicates the formulation and implementation of a coherent

¹⁰ Christopher Hill, *The Changing Politics of Foreign Policy* (New York: Palgrave Macmillan, 2003), p. 3.

¹¹ Allison and Zelikow, p. 296.

¹² Hill, pp. 3-5.

¹³ Graham T. Allison and Morton H. Halperin, 'Bureaucratic Politics: A Paradigm and Some Policy Implications', *World Politics*, 24. Supplement: Theory and Policy in International Relations (1972), 40-79.

¹⁴ Allison and Zelikow, p. 295.

¹⁵ Kai Oppermann and Alexander Höse, 'Die Innenpolitischen Restriktionen Deutscher Außenpolitik', in *Deutsche Außenpolitik. Sicherheit, Wohlfahrt, Institutionen Und Normen*, ed. by Thomas Jäger, Alexander Höse, and Kai Oppermann, (Wiesbaden: VS Verlag für Sozialwissenschaften, 2007), pp. 40-68 (p. 44).

and coordinated foreign and security policy.¹⁶ Under article 32 (1) of the Basic Law the federal government is solely responsible for Germany's external relations. Article 73 (1) states that the federal government is exclusively responsible for the country's defense.¹⁷ The traditional and most important foreign and security policy institutions have been the chancellery, the Federal Ministry of Defence, and the Federal Foreign Office.¹⁸ But other institutions like the Federal Ministry for Economic Affairs and Energy as well as the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety have become central actors in German foreign policy, too. Thus many foreign and security policy actors (in this case ministries) are interacting in the policy framing and decision-making process. Under article 65 of the Basic Law, two conflicting principles, namely the "Principle of Chancellor policy guidelines" and the "Principle of ministerial autonomy", complicate coherent foreign and security policy-making and implementation. The articles imply that, first, the chancellor sets the guidelines of German (foreign and security) policy, whilst, second, the ministers possess autonomy in their respective policy fields. This leads to conflicting interests in several instances.¹⁹ As the dividing line between domestic politics and international affairs is increasingly blurred, the various federal ministries and their subordinated agencies have become more active in pursuing their own ministerial foreign policies.²⁰ This overlap of competences has direct consequences for policy coordination and implementation.²¹ In practice these two conflicting principles can negatively affect the coherence of Germany's engagement in the world.²²

1.1.3 Issue Areas in the Focus

In this dissertation Germany's Arctic engagement is analyzed along three particular issue areas: environmental affairs (including polar research, environmental protection

¹⁶ Sven Bernhard Gareis, 'Deutsche Außenpolitik. Grundlagen, Akteure, Strukturen, Prozesse', ed. by Christine Hesse, *Informationen Zur Politischen Bildung*, 304.3/2009, 59 (pp. 8–10).

¹⁷ Gareis, p. 8.

¹⁸ Klaus Brummer, *Die Innenpolitik Der Außenpolitik. Die Große Koalition, 'Governmental Politics' und Auslandseinsätze Der Bundeswehr* (Wiesbaden: Springer VS, 2013), p. 19; Oppermann and Höse, p. 47.

¹⁹ Gareis, pp. 9–10.

²⁰ Dirk Messner, 'Wettstreit Der Akteure. Die Internationalen Verflechtungen Revolutionieren Das Regieren', *Internationale Politik*, 16–22 (pp. 16–22); Christoph Weller, 'Bundesministerien', in *Handbuch Zur Deutschen Außenpolitik*, ed. by Siegmund Schmidt, Gunther Hellmann, and Reinhard Wolf (Wiesbaden: VS Verlag für Sozialwissenschaften, 2007), pp. 212–13.

²¹ Brummer, *Die Innenpolitik Der Außenpolitik. Die Große Koalition, 'Governmental Politics' und Auslandseinsätze Der Bundeswehr*, p. 20; Oppermann and Höse, p. 48.

²² Gareis, p. 10.

and the fight against climate change); economic affairs (hydrocarbon and mineral resources and maritime trade); and political and security affairs (including legal issues). This exclusive focus has been chosen for three reasons.

First, for practical reasons it is impossible to give a complete and all-embracing overview of all issue areas related to the Arctic. Thus a particular sample had to be chosen. Second, the three issue areas have been chosen because of their political relevance (see chapter 1.4). This dissertation is based upon the understanding that political analysis is about the “identification and interrogation of the distribution, exercise and consequences of power.”²³ Consequently, “the terrain of political analysis [...] should include all perspectives, whether consciously political or not, which might have something to say about the distribution and exercise of power.”²⁴ Thus, environmental and economic affairs (two of the three issue areas of this dissertation) have been chosen as issue areas (along the issue areas of political affairs) because developments in these issue areas have the potential to change existing power relations in the Arctic and on the global level.²⁵ To sum up, the three issue areas fulfill the criterion of being politically “most important”.²⁶ Third, in contrast to a larger number of sub-cases, a focus on three particular issue areas allows for the required in-depth analysis of each area as well as a detailed comparative analysis across all three issue areas.²⁷

1.1.4 Definition of the Arctic

Finally, to further sharpen the research focus the Arctic region has to be defined. But what is the Arctic? The Arctic, depending on the respective focus and interest, can be defined either in geographical or in functional terms or according to various narratives.²⁸

²³ Colin Hay, *Political Analysis. A Critical Introduction* (Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2002), p. 73.

²⁴ Hay, p. 3.

²⁵ Hay, p. 4.

²⁶ Jörg Friedrichs and Friedrich Kratochwil, ‘On Acting and Knowing: How Pragmatism Can Advance International Relations Research and Methodology’, *International Organization*, 63.Fall 2009 (2009), 701–31 (p. 718).

²⁷ Michael Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process* (London: Oxford University Press, 1972), p. 13.

²⁸ Rolf Tamnes and Kristine Offerdal, ‘Introduction’, in *Geopolitics and Security in the Arctic. Regional Dynamics in a Global World*, ed. by Rolf Tamnes and Kristine Offerdal (New York: Routledge, 2014), pp. 1–11 (p. 2).

The most basic and common geographical definition understands the Arctic as the region between the North Pole and 66.33° northern latitude.²⁹ It is an area encompassing 30,604,000 square kilometers, which is roughly three times the size of continental Europe.³⁰ Almost half of this area is covered by the Arctic Ocean (14 million square kilometers). Yet with only four million people, it is a very thinly populated region.³¹ Eight states have Arctic territories, including “land territories [...], their maritime zones and continental shelves extending beyond those zones:”³² Canada, Denmark (Greenland), Finland, Norway, Russia, Sweden, and the United States.

A second way to define the region is by looking at it through the lens of the 10°C July Isotherm. Isotherm is understood as a line of geographical spots that have the same or equal temperatures.³³ This definition is often used to differentiate between Tundra and Taiga.³⁴ During summer the temperature does not rise above 10°C.³⁵

The third way is to focus on the Northern tree line. This definition is largely, but not entirely identical with the 10°C July isotherm definition. The Northern tree line defines the Arctic as all territory where (big) trees cannot grow and survive.³⁶

Another geographical definition focuses on the permafrost line. According to this definition the Arctic comprises all territory that is permanently frozen. Mostly the permafrost line runs south of the northernmost tree line, as considerable parts of the boreal forests stand upon permafrost soil.³⁷ This definition entails the possibility of a changing Arctic geography as the permafrost is thawing due to global climate change. The final geographical definition is based upon marine borders. The Arctic can also be demarcated at sea, thereby complementing the above-mentioned land border based

²⁹ Auswärtiges Amt, *Die Arktis* (Berlin: Auswärtiges Amt, 17 February 2014) <http://www.auswaertiges-amt.de/DE/Aussenpolitik/InternatRecht/Einzelfragen/Arktis/Arktis-Grundlagentext_node.html> [accessed 8 August 2014].

³⁰ Alf Håkon Hoel, ‘The Legal-Political Regime in the Arctic’, in *Geopolitics and Security in the Arctic. Regional Dynamics in a Global World*, ed. by Rolf Tamnes and Kristine Offerdal (New York: Palgrave Macmillan, 2014), pp. 49–72 (p. 50); Claes and Moe, p. 103.

³¹ Hoel, p. 50.

³² Hoel, p. 50.

³³ North Carolina State University, *Isobars and Isotherms*, 15 October 2010 <<http://climate.ncsu.edu/edu/k12/.IsobarIsotherm>> [accessed 5 January 2017].

³⁴ University of the Arctic, *Arctic Boundaries* (University of the Arctic, 2009) <<http://old.uarctic.org/AtlasTheme.aspx?m=642>> [accessed 9 February 2016]; Willy Østregren, *The Elusive Arctic*, 2010 <<http://www.arctis-search.com/The+Elusive+Arctic>> [accessed 8 August 2014].

³⁵ U.S. National Snow & Ice Data Center, *What Is the Arctic?* (Boulder, Colorado: U.S. National Snow & Ice Data Center, 2017) <<https://nsidc.org/cryosphere/arctic-meteorology/arctic.html>> [accessed 23 January 2017].

³⁶ University of the Arctic; Østregren.

³⁷ University of the Arctic; Østregren.

definitions. According to the marine border definition the Arctic is demarcated at sea where melt water from the Arctic ice cap meets warmer and saltier water masses from the southern oceans.³⁸

The region can also be conceptualised in functional terms, depending on the purpose of definition in the respective issue area (e.g. economic, environmental or political affairs).³⁹ In the energy context, companies and geological surveys often refer to areas of having “Arctic-like operating conditions [...] even when they lie outside the strict geographical definition.”⁴⁰ In the military context the Arctic is delineated with respect to operational conditions instead of geographical characterizations.⁴¹

Finally, the region can be defined by narrative. Four different narratives currently exist. The first two focus on different political geographies of the European and North American parts of the Arctic. The third targets at the indigenous people living in the entire region. The “Circumpolar Arctic” is the fourth narrative and views the entire Arctic as being a driver and recipient of global processes.⁴² In part these narratives can co-exist, depending on the respective perspective.

The first definition focuses on the 500,000 indigenous people living in the Arctic.⁴³ The Arctic is their homeland.

Then there is the European Arctic, sometimes also termed “High North” – understood as the “European parts of the Arctic, including Russia.”⁴⁴ It has a long history in polar expeditions and plays an important role in Norwegian and Russian identity. During the Cold War, it was the setting for great power competition.⁴⁵ Today, as it becomes more easily accessible than the North American parts, it offers new economic opportunities.⁴⁶

The third definition focuses on the North American part of the Arctic. This region “also has a long and rich history of polar expeditions, but the area is less accessible, less well

³⁸ University of the Arctic; Østreng.

³⁹ Tamnes and Offerdal, pp. 3–4.

⁴⁰ Tamnes and Offerdal, pp. 3–4.

⁴¹ Tamnes and Offerdal, pp. 3–4.

⁴² Tamnes and Offerdal, p. 5.

⁴³ Arctic Council, *Permanent Participants* (Tromsø: Arctic Council, 2015) <<http://www.arctic-council.org/index.php/en/about-us/permanent-participants>> [accessed 8 December 2015].

⁴⁴ Tamnes and Offerdal, p. 5.

⁴⁵ Tamnes and Offerdal, p. 5.

⁴⁶ Tamnes and Offerdal, p. 5.

developed and less densely populated than the European north. While the Arctic is fundamental to Canada's identity, US historical and political narratives focus little on the region. Awareness of the north in the United States is largely confined to Alaska and imaginative notions involving wilderness, the "gold rush" of the 1890s, and the "oil boom" from the 1960s."⁴⁷

The "Circumpolar Arctic" is the final narrative and focuses on the region's recent transformation in environmental affairs and the link to global climate change. It is also linked to new political initiatives that accompany these dynamics. The establishment of the Arctic Council (AC) in 1996 has been the most important political token of this narrative.⁴⁸

What is evident, from all these definitions, is the fact that there is not one exclusive definition of the Arctic. Instead, the answer to the question "what is the Arctic?" always depends on the chosen perspective. It is needless to say that all definitions have their own legitimacy.

As this dissertation analyzes three different issue areas that rely on slightly different definitions of the region a definitional compromise had to be found. When using the term Arctic without any further explanation or remark it refers to the "Circumpolar Arctic". It connects well with the aim to comprehensively explore the interdependencies between global developments, the region's transformation and Germany for three reasons. First, it includes all Arctic states and inhabitants of the region. Second, it recognizes the region's interdependence with global dynamics and other parts of the globe. Third, it allows to investigate different issue areas (environmental, economic and political affairs) at the same time.

⁴⁷ Tamnes and Offerdal, p. 5.

⁴⁸ Tamnes and Offerdal, p. 5 Besides of focusing on slightly different definitions, what all of them have in common is the rather exclusive regional perspective. As most of current research on Arctic affairs focuses on the regional dimension, the lack of a supraregional perspective is not surprising. Yet, this is exactly the analytical focus of this dissertation, which is why a new frame 'the Global Arctic' is suggested in order to guide future empirical analyses. Hence, the Arctic is understood as a space or component of the earth system that affects and is affected by environmental, economic and political affairs from the regional to the global level and vice versa. Consequently it encompasses all structural and agential parts that form part of these interdependencies – be they located in the Arctic or somewhere else in this earth system. .

1.2 Puzzle, Research Questions, Determining Factors and Working Assumptions

The development of Germany's Arctic engagement between 2005 and 2013 is puzzling for two reasons. First, it developed from rather uncoordinated and partly conflicting ministerial policies towards a coordinated, comprehensive and explicit policy framework. For most of the time, Germany's Arctic engagement was only the sum of ministerial policies, directly or indirectly directed towards the region. Germany is a long-standing permanent observer in the AC, a signatory state of the Spitsbergen Treaty, has close relationships with all Arctic states, and is in economic terms closely connected to many countries in the region (e.g. Norway and Russia). Nevertheless, it was only seen as an Arctic player with regard to polar research and in the context of its leadership role in the fight against global climate change.⁴⁹ Critics argued, that the lacking definition of ends and means prevented a more coherent, targeted and effective whole-of-government approach.⁵⁰ Only in late 2013 the German government became more outspoken and noticeable with regard to the Arctic and published the Arctic Policy Guidelines, entitled „Assume Responsibility, Seize Opportunities“.

Second, Germany's focus of attention shifted from environmental to economic affairs. Whilst the Arctic Policy Guidelines still cover polar research, climate change and environmental protection prominently, they cover more explicitly the geo-economic opportunities. And even though the title underlines the government's willingness (at least on a declaratory level) to square the circle between environmental responsibility and geo-economic opportunities, the document's content favors the latter over the former.⁵¹

A brief analysis of the three most visible public activities of German government representatives in an Arctic context underlines the government's changing perception

⁴⁹ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', 2012, p. 14 <https://www.fona.de/mediathek/pdf/Rapid_Climate_Change_in_the_Arctic.pdf> [accessed 18 May 2016]; The Governor of Svalbard, *Svalbard Treaty* (Longyearbyen: The Governor of Svalbard, 14 June 2012) <<http://www.sysselmannen.no/en/Toppmeny/About-Svalbard/Laws-and-regulations/Svalbard-Treaty/>> [accessed 19 September 2016]; Helga Haftendorn, *The Case for Arctic Governance. The Arctic Puzzle* (Reykjavik: Centre for Arctic Policy Studies, June 2013), p. 16 <<https://ams.hi.is/wp-content/uploads/old/thecaseforarcticgovernance.pdf>> [accessed 29 April 2016]; Helga Haftendorn, 'Zaungast in Der Arktis. Deutschlands Interessen an Rohstoffen Und Umweltschutz', *Internationale Politik*, 2011.4, 72-79; Helga Haftendorn, 'Der Traum Vom Ressourcenreichtum Der Arktis', *Zeitschrift Für Außen-Und Sicherheitspolitik*, 2012.5 (2012), 445-61 (p. 457).

⁵⁰ Haftendorn, 'Zaungast in Der Arktis. Deutschlands Interessen an Rohstoffen Und Umweltschutz'.

⁵¹ For a detailed analysis of the Arctic Policy Guidelines see chapter 6.4.

about the region's importance from environmental to economic considerations. In August 2007, Chancellor Merkel and then environment minister Gabriel travelled to Greenland to "illustrate the challenges humankind faces" with respect to a fundamentally changing global climate.⁵² The focus was clearly on the environmental challenges and the resulting responsibilities for Germany and the rest of the world in the fight against global climate change.⁵³ Seven years later in October 2014, Merkel appeared again in an Arctic context. This time it was via a video message broadcasted at the Arctic Circle conference in Reykjavik, Iceland. As in Greenland seven years earlier, she underlined the region's symbolic character in the fight against global climate change, as nowhere else are the "dramatic changes of climate change" more evident. To fight global climate change, she underlined the importance of scientific research in the region and suggested to create specifically designated environmental protection zones. In addition to the environmental focus, however, she broadened the region's relevance by also highlighting the region's geopolitical and economic significance for global affairs. She further elaborated: "We rely on cooperation and coordination to enable us to benefit from the economic opportunities whilst protecting the Arctic's sensitive ecosystem thus promoting sustainable development."⁵⁴ The shift in priorities became even more apparent in October 2015 when State Secretary Beckmeyer of the Federal Ministry for Economic Affairs and Energy, instead of a representative of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, was tasked to head an official German delegation to present the country's Arctic engagement to the Arctic Circle conference.⁵⁵ Over time, these three episodes demonstrate the shifting perception of the consequences the region's transformation bears for Germany and the world and

⁵² Florian Gathmann, 'Grönland-Reise. Merkel Auf Eis', *Der Spiegel*, 2007 <<http://www.spiegel.de/politik/deutschland/groenland-reise-merkel-auf-eis-a-500231.html>> [accessed 25 February 2015].

⁵³ This dissertation uses the IPCC's definition of climate change as „a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity" IPCC, *Climate Change 2007. Synthesis Report*, p. 30.

⁵⁴ Angela Merkel, *Videobotschaft auf der Arctic Circle Konferenz Reykjavik* (Reykjavik, 2014) <<http://arcticcircle.org/video-2014>> [accessed 25 February 2015].

⁵⁵ Botschaft der Bundesrepublik Deutschland Reykjavik, *Deutschland Und Die Arktis. Deutsche Länderpräsentation Beim Arctic Circle 2015* (Reykjavik: Botschaft der Bundesrepublik Deutschland Reykjavik, 2016) <http://www.reykjavik.diplo.de/Vertretung/reykjavik/de/Seiten-De/Arctic_20Circle_202015.html> [accessed 19 September 2016].

underline the growing economic importance the German government sees in a changing Arctic.

The organizational shift from rather uncoordinated and partly indirect ministerial policies towards a more explicit and comprehensive policy and a shifting focus of interest from environmental protection, the fight against global climate change and polar research more towards geo-economic considerations is puzzling. Against this background the dissertation aims to understand and to explain the development of Germany's Arctic engagement (and the factors influencing it). It therefore poses the following research questions:

Why did the government start the inter-ministerial Arctic Policy Guidelines formulation process in 2012, and why is there a stronger emphasis on geo-economic opportunities than on responsibilities related to environmental and climate change in the document?

Grounded in Foreign Policy Analysis (FPA) but based upon a multi-causal and multi-dimensional reasoning, it is assumed that Germany's Arctic engagement, and thus the formulation process of Germany's Arctic Policy Guidelines, are influenced by structural and agential factors on the domestic and the international level.

In trying to answer these questions this dissertation follows Max Weber in aiming to both understand and explain a) the shift from uncoordinated ministerial policies towards a more coordinated government approach, b) the shifting focus of policy priorities as well as c) the decision-making process that led to the publication of the Arctic Policy Guidelines.⁵⁶ First, the dissertation seeks to understand the decision context or operational environment within which the federal ministries decided to start the policy framing process.⁵⁷ Therefore the interdependencies between the key global and regional drivers of the Arctic's transformation (international dimension) and their impacts on Germany (domestic dimension) are analyzed. This rather descriptive step is necessary to contextualize the policy formulation process, as foreign policy decision-making does not take place in a vacuum without pressure from the operational

⁵⁶ Following Max Weber this dissertation is based on the idea that social scientific knowledge is equally based on *verstehen* (understanding) and on *erklären* (explaining) (Max Weber, 'Basic Sociological Concepts', in *Essential Weber. A Reader*, ed. by Sam Whimster (London: Routledge, 2004), pp. 432 (pp. 311–58)).

⁵⁷ Decision context and operational environment are understood of being the structural context (domestic and international) of foreign policy decisions and action. Both terms are used interchangeably in this dissertation.

environment.⁵⁸ Second, against the background of the decision context, the objective is to understand what kind of perceptions the ministries subsequently developed with regard to the operational environment. Third, based on these perceptions, respective ministerial interests are deduced. Fourth, by analyzing the influence of the different political and bureaucratic interests of the ministries in the formulation process as well as the relative bargaining power of ministries, it is possible to explain the outcome of the inter-ministerial bargaining process, namely the publication of the Arctic Policy Guidelines in which geo-economic considerations seem to trump environmental concerns.

This four-step approach allows to develop a clearer picture of the particular factors that have driven Germany's Arctic engagement, understood as the formulation of Arctic-related ministerial policies as well as the Arctic Policy Guidelines.

It is assumed that the decision context (domestic and international) indirectly – via perceptions – influenced the ministries interests in the Arctic and thereby triggered their decision to formulate an explicit Arctic policy – the Arctic Policy Guidelines. It is also assumed that the ministries interests and their respective bargaining (dis)advantages in the decision-making process – via bureaucratic politics – directly influenced the actual outcome of the Arctic Policy Guidelines, namely the stronger focus on geo-economic opportunities instead of environmental responsibilities. For an elaboration of the theoretical tenets from which the working assumptions are derived, see chapter 2.3.2 and chapter 2.3.3.

Based on these main arguments, two working assumptions structure and focus the empirical analysis.⁵⁹

WA1: The more the ministries perceive the growing interdependence between the Arctic's transformation (and its global drivers) and Germany of having an impact on Germany and their ministerial interests the more likely they will formulate explicit Arctic policies and engage in inter-ministerial coordination on Arctic issues.

⁵⁸ Yong-Soo Eun, 'Why and How Should We Go for a Multicausal Analysis in the Study of Foreign Policy? (Meta-) Theoretical Rationales and Methodological Rules', *Review of International Studies*, 38.4 (2012), 763–83 (pp. 770–71).

⁵⁹ Based on the dissertation's findings additional working assumptions for future research have been inductively generated and are presented in the Conclusions (see chapter 7).

WA2: The stronger the bargaining advantages of single ministries in the Arctic Policy Guidelines decision-making process the more likely they will push through their political interests.

This dissertation analyzes the development of Germany's Arctic engagement. The Arctic Policy Guidelines are of particular analytical importance as they are the first comprehensive document of the German government towards the Arctic region. It is the culmination, so to speak, of all previous ministerial and governmental activities – direct and indirect – towards the Arctic and the most visible sign of Germany's Arctic engagement. According to the research questions, the decision to formulate the Arctic Policy Guidelines is assumed to have been determined by ministerial perceptions of a changing operational environment. This relationship guides the first part of the analysis. In the second part of the analysis the geo-economic focus of the Arctic Policy Guidelines is assumed to have been determined by particular interests and bargaining advantages of involved ministries in the the formulation process.

1.3 Literature Review and Academic Relevance

This dissertation is relevant and original for eight reasons. First, most academic work on Arctic affairs has focused exclusively on regional dynamics.⁶⁰ These were analyzed mainly with either a realist or an institutionalist theoretical approach.⁶¹ What is mostly missing, so far, is the effort to put the Arctic region into a global perspective by analyzing existing and increasing interdependencies between the Arctic on the one side and global processes as well as the various feedback loops between the two on the other.⁶² A

⁶⁰ See for example Tamnes and Offerdal; Kathrin Keil, 'Cooperation and Conflict in the Arctic. The Cases of Energy, Shipping and Fishing' (Freie Universität Berlin, 2013); Kristian Atland, 'Russia and Its Neighbors. Military Power, Security Politics, and Interstate Relations in the Post-Cold War Arctic', *Arctic Review on Law and Politics*, 1.2 (2010), 279–98; Scott G. Borgerson, 'Arctic Meltdown', *Foreign Affairs*, 2008 <<https://www.foreignaffairs.com/articles/arctic-antarctic/2008-03-02/arctic-meltdown>> [accessed 6 February 2016]; Scott G. Borgerson, 'The Great Game Moves North', *Foreign Affairs*, 2009 <<https://www.foreignaffairs.com/articles/global-commons/2009-03-25/great-game-moves-north>> [accessed 6 February 2016]; Margaret Blunden, 'The New Problem of Arctic Stability', *Survival*, 51.5 (2009), 121–42; Dag Harald Claes and Oyvind Osterud, 'The New Geopolitics of the High North' (presented at the ISA Annual Convention, New Orleans, 2010).

⁶¹ See amongst others Tamnes and Offerdal, pp. 6–7; Oran R. Young, *Creating Regimes: Arctic Agreements and International Governance* (Ithaca: Cornell University Press, 1998); Keil, 'Cooperation and Conflict in the Arctic. The Cases of Energy, Shipping and Fishing'.

⁶² Rare examples of a global analytical view on Arctic affairs are Lassi Heininen and Chris Southcott, *Globalization and the Circumpolar North* (Fairbanks: University of Alaska Press, 2010); Kathrin Keil, 'Die

rudimentary understanding of environmental and climatologic interdependencies already exists. Social science aspects (e.g. economic or political affairs and developments), however, have not yet been sufficiently discussed. Here the dissertation offers new scientific contributions and additional insights by applying the concept of Complex Interdependence.

Second, a large amount of research has been undertaken to investigate the Arctic policies of Arctic states.⁶³ In comparison, the number of analyses of non-Arctic state's foreign policies towards the region is rather small.⁶⁴ First steps have been taken in recent years to shed some light on the Arctic engagement of non-Arctic actors. However,

Zukunft Arktischer Öl- Und Gasressourcen - Internationale Einflussfaktoren Arktischer Energieressourcengewinnung', *Sicherheit Und Frieden*, 33.3 (2015), 12-18 (pp. 12-18).

⁶³ See amongst others Ingrid Lundestad, 'US Security Policy and Regional Relations in a Warming Arctic', *Sword and Ploughshares*, 17.3 (2009), 15-17 (pp. 15-17); Ingrid Lundestad, 'US Security Policy in the European Arctic in the Early 21st Century' (presented at the ISA Annual Conference, New Orleans, 2010); Julia S. P. Loe, *Driving Forces in Russian Arctic Policy*, Econ Working Paper No. WP-2011-001 (Oslo: Pöyry, 13 January 2011), p. 42 <http://geopoliticsnorth.org/images/stories/attachments/econ_2011.pdf> [accessed 11 June 2012]; Katarzyna Zysk, 'The Arctic in Russia's Military Strategic Thinking. The Role of the Northern Fleet' (presented at the ISA Annual Convention, New Orleans, 2010); Katarzyna Zysk, 'Russia's Arctic Strategy. Ambitions and Constraints', *Joint Force Quarterly*, 57.2 (2010), 103-10; Atland, 'Russia and Its Neighbors. Military Power, Security Politics, and Interstate Relations in the Post-Cold War Arctic'; Kristian Atland, 'Russia's Armed Forces and the Arctic. All Quiet on the Northern Front?', *Contemporary Security Policy*, 32.2 (2011), 267-85.

⁶⁴ Some notable exceptions include Joel Plouffe, 'Thawing Ice and French Foreign Policy. A Preliminary Assessment', in *Arctic Yearbook 2012*, 2012, pp. 51-79 <<http://www.arcticyearbook.com/articles>> [accessed 6 February 2016]; Piotr Graczyk, 'Poland and the Arctic. Between Science and Diplomacy', in *Arctic Yearbook 2012*, 2012, pp. 139-55 <http://www.arcticyearbook.com/images/Articles_2012/Graczyk.pdf> [accessed 6 February 2016]; Duncan Depledge, 'The United Kingdom and the Arctic in the 21st Century', in *Arctic Yearbook 2012*, 2012, pp. 130-38 <http://www.arcticyearbook.com/images/Articles_2012/Depledge.pdf> [accessed 6 February 2016]; Clive Archer, *Security Prospects in the High North and the United Kingdom* (Rome, 2009) <<http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?id=102391&lng=en>> [accessed 6 February 2016]; Gang Chen, 'Chinas Emerging Arctic Strategy', *The Polar Journal*, 2.2 (2012); Malte Humpert and Andreas Raspotnik, *From Great Wall to Great White North. Explaining China's Politics in the Arctic* (Washington, D.C.: Arctic Institute, 17 August 2012) <<http://www.thearcticinstitute.org/2012/08/from-great-wall-to-great-white-north.html>> [accessed 6 February 2016]; Anne-Marie Brady, *Polar Stakes. China's Polar Activities as a Benchmark for Intentions* (The Jamestown Foundation, 19 July 2012), pp. 11-15 <[http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews\[tt_news\]=39647#.VrZp0lJN35c](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews[tt_news]=39647#.VrZp0lJN35c)> [accessed 6 February 2016]; Linda Jakobson, *China Prepares for an Ice-Free Arctic*, SIPRI Insights on Peace and Security (Stockholm: Stockholm International Peace Research Institute (SIPRI), March 2010), pp. 1-16 <<http://books.sipri.org/files/insight/SIPRIInsight1002.pdf>> [accessed 7 February 2016]; Olga Alexeeva and Frédéric Lasserre, 'China and the Arctic', in *Arctic Yearbook 2012*, 2012, pp. 80-90 <http://www.arcticyearbook.com/images/Articles_2012/Alexeeva_and_Lassere.pdf> [accessed 7 February 2016]; Frédéric Lasserre, *China and the Arctic: Threat or Cooperation Potential for Canada?*, *China Papers*, June 2010, pp. 1-17 <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.475.2735&rep=rep1&type=pdf>> [accessed 7 February 2016]; Steven Boroviec, *South Korea Angles for Influence on Arctic Policy* (World Politics Review, 25 September 2012) <<http://www.worldpoliticsreview.com/articles/12366/south-korea-angles-for-influence-on-arctic-policy>> [accessed 7 February 2016]; Aki Tonami and Stewart Watters, 'Japan's Arctic Policy. The Sum of Many Parts', *Arctic Yearbook*, 2012, pp. 93-103 <http://www.arcticyearbook.com/images/Articles_2012/Tonami_and_Watters.pdf> [accessed 7 February 2016].

no attempt has been made to comprehensively illustrate Germany's engagement in the region.⁶⁵ This gap shall be narrowed by offering empirical insights into how global, Arctic, and German domestic levels interact and influence Germany's Arctic engagement. Third, even though German foreign policy is a prominent topic in IR- and FPA⁶⁶-based research it has been mostly analyzed with structural theoretical approaches.⁶⁷ The Bureaucratic Politics Model (BPM), an FPA approach, however, has not been widely operationalized.⁶⁸ One of the main reasons for the lack of BPM analyses might be the "in-between" character of bureaucracies as an object of political analysis. Most bureaucratic organizations are "too domestic" for structure-oriented IR- and FPA scholars, and "too

⁶⁵ Some notable exceptions of discussions about Germany and the Arctic are Mia Bennett, 'The Port of Hamburg and the Northern Sea Route', *Cryopolitics*, 2014 <<https://cryopolitics.com/2014/06/23/the-port-of-hamburg-and-the-northern-sea-route/>> [accessed 7 February 2016]; Haftendorn, 'Zaungast in Der Arktis. Deutschlands Interessen an Rohstoffen Und Umweltschutz'; Haftendorn, 'Der Traum Vom Ressourcenreichtum Der Arktis'; Helga Haftendorn, 'Schatzkammer Arktis. Deutschlands Interessen an Rohstoffen Aus Dem Hohen Norden', *Internationale Politik*, 2012.Juli/August (2012), 91-97; Kathrin Keil, 'Deutsches Engagement in Arktis-Politik Und -Forschung', *IASS Potsdam Blog*, 2015 <<http://blog.iass-potsdam.de/de/2015/09/deutsches-engagement-in-arktis-politik-und-forschung/>> [accessed 7 February 2016]; Stefan Steinicke, 'A Slow Train Coming. Germany's Emerging Arctic Policy', in *Perceptions and Strategies of Arcticness in Sub-Arctic Europe*, ed. by Andris Sprüds and Toms Rostoks (Riga: Latvian Institute of International Affairs, 2014), pp. 119-45 <http://liia.lv/site/docs/Paraugs_Artic_148x210.pdf> [accessed 19 December 2015].

⁶⁶ This dissertation follows Rosenau's definition of foreign policy and international relations: 'One group of theorists and researchers are interested in discerning regularities in the behavior of actors, in the common goals that are sought, in the means and processes through which the goal seeking behavior is sustained, and in the societal sources of the goals and means selected. In other words, the members of this group are concerned with the study of foreign policy, and they tend to regard the condition of the international system at any moment in time as stemming from the foreign policy actions of nation-states. A second group of theorists and researchers are mainly concerned with the patterns that recur in the interaction of states, in the balances and imbalances that develop under varying circumstances, in the formation of coalitions and other factors that precipitate changes in the international system, and in the development of supranational institutions that might regulate one or another aspect of the international system. Stated differently, adherents of this approach are concerned with the study of international politics, and they tend to view the condition of the international system at any moment in time as stemming from properties of the system that require conforming behavior on the part of its national components.' James Rosenau, 'Introduction', in *International Politics and Foreign Policy*, ed. by James Rosenau, revised edition (New York: Free Press, 1969), pp. xvii-xx (p. xviii).

⁶⁷ See for example Volker Rittberger, *German Foreign Policy since Unification. Theories and Case Studies* (Manchester: Manchester University Press, 2001); More recent exceptions are Akan Malici, 'Germans as Venetians. The Culture of German Foreign Policy Behaviour', *Foreign Policy Analysis*, 2.1 (2006), 37-62; Klaus Brummer, 'Überzeugungen Und Handlungen in Der Außenpolitik. Der Operational Code von Angela Merkel Und Deutschlands Afghanistanpolitik', ed. by Klaus Brummer and Stefan Fröhlich, *Zeitschrift Für Außen- Und Sicherheitspolitik*, Zehn Jahre Deutschland in Afghanistan, 4.1 (2011), 143-69; Klaus Brummer, 'Germany's Participation in the Kosovo War. Bringing Agency Back In', *Acta Politica*, 47.2 (2012), 272-91.

⁶⁸ The most prominent exceptions are *Verwaltete Außenpolitik. Sicherheits- und Entspannungspolitische Entscheidungsprozesse in Bonn*, ed. by Helga Haftendorn and others (Köln: Verlag Wissenschaft und Politik, 1978); *Bürokratische Politik*, ed. by Hayo Uthoff and Werner Deetz (Stuttgart: Klett-Cotta, 1980); Brummer, *Die Innenpolitik der Außenpolitik. Die Große Koalition, 'Governmental Politics' und Auslandseinsätze der Bundeswehr*.

international” for analysts of domestic politics.⁶⁹ Nevertheless, the lack of BPM approaches in the analysis of German foreign policy is puzzling against the background of the relatively large autonomy of German ministries (see chapter 1.1) – contrary to more centralized governments – and thus the high demand for inter-ministerial coordination.

Fourth, the in-depth analysis of bureaucratic politics might offer new insights into how to refine the concept against the background of two important recent developments. First, a growing number of bureaucratic actors is involved in foreign policy decision-making processes. Second, the BPM’s empirical focus so far has been on crisis decision-making of traditional security bureaucracies. A broadening of the security concept today (from purely military territorial defence to civilian-military risk reduction) calls for an inclusion of other ministerial bureaucracies involved in foreign policy and security policy-making (e.g. Ministry of Economics, Ministry of Finance, Ministry of the Environment).⁷⁰ In addition, there is a lack of analysis of more “routine” decisions. This comes as a surprise considering that most foreign policies are the result of “routine” decision-makings. Thus, another aim is to evaluate whether the BPM also has explanatory power in more routine decision-making processes.

Fifth, even though psychological factors can have an impact on government representatives and thereafter on decision-making processes the role of perceptions so far has solely played a subordinated role in the analysis of international relations and foreign policy in general.⁷¹ This also applies to the analysis of German foreign policymaking. One more recent exception is Brummer’s work on cognitive factors influencing Angela Merkel’s foreign policy positions.⁷² Hence the dissertation aims to offer additional theory-driven empirical insights.

Sixth, the combination of structural and agential factors into a single multi-causal and multi-dimensional analytical framework might offer new insights into how to make the

⁶⁹ Amy Zegart, *Flawed by Design: The Evolution of the CIA, JCS, and NSC* (Stanford: Stanford University Press, 1999), p. 3.

⁷⁰ Daniel Drezner, ‘Ideas, Bureaucratic Politics, and the Crafting of Foreign Policy’, *American Journal of Political Science*, 44.4, 733–49 (p. 734).

⁷¹ Jack S. Levy, *Psychology and Foreign Policy Decision-Making* (New Brunswick, New Jersey: Rutgers University, 2013), p. 33 (pp. 1–2) <<https://www.surrey.ac.uk/politics/research/researchareasofstaff/isppsummeracademy/instructors%20/Levy%20-%20Psychology%20and%20Foreign%20Policy%20Decision-Making.pdf>> [accessed 23 July 2014].

⁷² Brummer, ‘Überzeugungen und Handlungen in der Außenpolitik. Der Operational Code von Angela Merkel und Deutschlands Afghanistanpolitik’.

concept of *Analytical Eclecticism* come alive.⁷³ Contrary to those who underline the dividing lines between IR and FPA approaches, this dissertation aims to show how both can complement each other in order to develop a more comprehensive theoretical understanding of a nation state's foreign and security policies in a fundamentally transforming international environment of global affairs in the 21st century. A growing number of scholars call for such inclusive approaches yet few have actually done so.⁷⁴ Seventh, most analyses using a bureaucratic politics approach acknowledge the importance of the government actors' perceptions of the operational environment for the decision-making process. However, they do not offer an integrated theory that includes a) the perceptions of b) the operational environment and c) how these two factors influence ministerial interests and the bureaucratic decision-making processes. In combining the theoretical concept of the bureaucratic politics model with other theoretical concepts that analyze the perceptions of government actors of their decision context, this dissertation aims to gain new theoretical insights into how these two theoretical concepts might relate to each other, thereby aiming at closing existing gaps. Eighth, this dissertation aims to contribute to the discussion about the (changing) character of German foreign policy that has increased in recent years.⁷⁵ In particular it

⁷³ Rudra Sil and Peter J. Katzenstein, 'Analytic Eclecticism in the Study of World Politics. Reconfiguring Problems and Mechanisms across Research Traditions', *Perspectives on Politics*, 8.2 (2010), 411–31; Eun.

⁷⁴ Eun, pp. 773–74; James Rosenau, 'Pre-Theories and Theories of Foreign Policy', in *Approaches to Comparative and International Politics*, ed. by Barry R. Farrell (Evanston, IL: Northwestern University Press, 1966), pp. 27–92; Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*; Ian Hall, 'What Causes What. The Ontologies of Critical Realism', *International Studies Review*, 11.3 (2009), 629–30 (pp. 629–30); Ole R. Holsti, 'Theories of International Relations and Foreign Policy. Realism and Its Challengers', in *Controversies in International Relations Theory. Realism and the Neo-Liberal Challenge*, ed. by Charles W. Kegley (New York: St. Martin's Press, 1994); Valerie Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory* (New York: Rowman & Littlefield Publishers, 2007); Lloyd Jensen, *Explaining Foreign Policy* (Englewood Cliffs, New Jersey: Prentice Hall, 1982); Milja Kurki, *Causation in International Relations. Reclaiming Causal Analysis*, Cambridge Studies in International Relations (Cambridge: Cambridge University Press, 2008); Laura Neack, *The New Foreign Policy. U.S. and Comparative Foreign Policy in the 21st Century*, New Millennium Books in International Studies (Lanham, Maryland: Rowman and Littlefield Publishers, 2002); *American Foreign Policy. Pattern and Process*, ed. by Eugene R Wittkopf, Christopher R. Jones, and Charles W. Kegley (Boston, Massachusetts: Cengage Learning Emea, 2008); *Power and Interdependence*, ed. by Robert O. Keohane and Joseph S. Nye Jr., 4th edn (Boston: Longman, 2012), p. 281; Mathias Albert and Stephan Stetter, 'Actorhood in World Politics. The Dialectics of Agency/Structure within the World Polity', in *Theorizing Foreign Policy in a Globalized World*, ed. by Gunther Hellmann and Knud Erik Jorgensen (New York: Palgrave Macmillan, 2015), pp. 81–100.

⁷⁵ See amongst others Stiftung Wissenschaft und Politik and The German Marshall Fund of the United States, *Neue Macht Neue Verantwortung. Elemente Einer Deutschen Außen- Und Sicherheitspolitik Für Eine Welt Im Umbruch* (Berlin und Washington: Stiftung Wissenschaft und Politik und The German Marshall Fund of the United States, 2013), p. 52 <https://www.swp-berlin.org/fileadmin/contents/products/projekt_papiere/DeutAussenSicherhpol_SWP_GMF_2013.pdf> [accessed 10 February 2016]; Robert Kappel, 'Global Power Shifts and Germany's New Foreign Policy Agenda', *Strategic Analysis*, 38.3 (2014), 341–52; 'Früher, Entschiedener Und Substantieller'? *Die Neue*

aims to put the empirical analysis in the context of academic discussions about Germany of becoming a geo-economic actor.⁷⁶ Germany's Arctic engagement seems to be a good test case to trace whether it is actually more driven by economic interests than environmental responsibilities.

1.4 Political Relevance

In addition to its academic importance, this dissertation is politically relevant for three reasons. First, the Arctic has become a region of global significance. Global drivers like accelerating climate change, ongoing economic globalization and a changing international order fuel the region's fundamental transformation. This transformation, coupled with growing global interdependencies, brings the Arctic to the center of global affairs, offering opportunities as well as challenges for the region itself and beyond as well as the actors interested in becoming engaged in Arctic affairs.

As humans have become a decisive factor in the future biogeophysical development of planet earth, mainly due to economic activities, the world might have entered a new epoch of earth history called the "Anthropocene."⁷⁷ Human fossil fuel-based economic activities result in rising CO₂ emissions, which subsequently cause global warming. The IPCC anticipates a temperature increase of 2°C to 4°C at the end of this century.⁷⁸ Nowhere else on earth are the signs of the "Anthropocene" more evident than in the

Debatte Über Deutschlands Außenpolitik, ed. by Gunther Hellmann, Daniel Jacobi, and Ursula Stark Urrestarazu, *Zeitschrift Für Außen- Und Sicherheitspolitik*, 8 (Springer VS, 2015), 1, SUPPLEMENT.

⁷⁶ A geo-economic power can be defined in two ways. First, in a „soft“ sense, a geo-economic actor views the world almost exclusively in economic terms as a way of importing and exporting goods and services. Second, in a „hard“ sense a geo-economic actor uses his/her economic power to convince or coerce other actors to follow his or her preferred strategy of action (see: Hans Kundnani, *The Paradox of German Power* (London: Hurst & Company, 2014), pp. 103–4). For discussions about Germany becoming a geo-economic actor see Hans Kundnani, 'Germany as a Geo-Economic Power', *The Washington Quarterly*, 34.3 (2011), 31–44; Kundnani, *The Paradox of German Power*; Stephen F. Szabo, *Germany, Russia, and the Rise of Geo-Economics* (London: Bloomsbury Academic, 2014).

⁷⁷ Revkin, 'Confronting the „Anthropocene“', *Dot Earth*, 2011 <http://dotearth.blogs.nytimes.com/2011/05/11/confronting-the-anthropocene/?_r=0> [accessed 27 November 2013]; Will Steffen, Jacques Grinevald, and others, 'The Anthropocene. Conceptual and Historical Perspectives', *Philosophical Transactions of The Royal Society A*, 2011.369 (2011), 842–67 (pp. 842–43); Will Steffen, Asa Persson, and others, 'The Anthropocene. From Global Change to Planetary Stewardship', *AMBIO: A Journal on the Human Environment*, 40.7 (2011), 739–61.

⁷⁸ Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2013. The Physical Science Basis. Summary for Policymakers* (Cambridge: Intergovernmental Panel on Climate Change (IPCC), 2013), p. 28 (p. 20) <http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_SPM_FINAL.pdf> [accessed 13 February 2014].

Arctic, a region that is warming twice as fast as the rest of the globe.⁷⁹ From an earth system perspective the Arctic is closely interconnected with global environmental processes and transformations (e.g. rising CO₂ emissions in other parts of the globe lead to the deposit of soot sediments on the Arctic's ice surface, which then causes Arctic sea-ice melt). Partly it is an accelerator of these transformations and partly it is the bereaved of global processes happening elsewhere. Without any doubt the Arctic's transformation will lead to environmental challenges in other world regions. The melting of Arctic glaciers, for example, is expected to be one of the main factors leading to a global sea-level rise. Coastal regions in South-East Asia, already today home to some of the world's largest and fastest growing metropolitan areas, located near the coast line, will be hit hardest.⁸⁰ Thus climate change related developments will challenge the resilience of societies.⁸¹ Ultimately climate change can be seen as a threat multiplier and it serves as a catalyst for instability and conflict.⁸²

The melting Arctic, however, also offers significant geo-economic opportunities. Geo-economics, in this dissertation, is defined as "the relationship between economic policy and change on national power and geopolitics – in other words, the geopolitical consequences of economic phenomena or as the economic consequences of geopolitical trends and national power."⁸³ Melting ice as a result of global warming offers access to

⁷⁹ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report* (Cambridge: Arctic Council, 2005), p. 146 (p. 8) <<http://www.amap.no/documents/doc/impacts-of-a-warming-arctic-2004/786>> [accessed 29 April 2016] The changing geography of parts of planet earth, as exemplified in the Arctic, poses a fundamental challenge to large parts of IR research and consequently for foreign policy in the age of the Anthropocene: How to continue to assume 'a stable environment as its background context', when human agency is "a new "global geophysical force, equal to 'some of the great forces of Nature' in terms of Earth System functioning" (Steffen et al., 2011: 741) and "statist ontologies and [...] their epistemological binaries of human-nature, inside-outside and subject-object [...]" (Hammilton, 2016: 2)'.

⁸⁰ Lloyd's Register, QinetiQ, and University of Strathclyde Glasgow, *Global Marine Trends 2030* (London: Lloyd's Register Group Limited, 2013), p. 75 (p. 45) <<http://www.lr.org/en/marine/projects/global-marine-trends-2030.aspx>> [accessed 12 February 2014].

⁸¹ Parag Khanna and Greg Lindsay, 'Where Will You Live in 2050', *Reuters* <<http://blogs.reuters.com/great-debate/2013/08/06/where-will-you-live-in-2050/>> [accessed 31 July 2014].

⁸² CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change* (CNA Military Advisory Board, 31 July 2014), p. 2 <<http://www.cna.org/reports/accelerating-risks>> [accessed 31 July 2014].

⁸³ Sanjaya Baru, *Introduction. Understanding Geo-Economics and Strategy*, Assessing the Interplay of Economic and Political Risk Geo-Economics and Strategy Conference (Manama: IISS, 25.03 2012), pp. 1–11 (p. 2) <<https://www.iiss.org/en/events/geo-economics%20seminars/geo-economics%20seminars/archive/2012-4152/a-new-era-of-geo-economics-617d/understanding-geo-economics-and-strategy-b0f1>>; for a further discussion of the concept see: Edward N. Luttwak, 'From Geopolitics to Geo-Economics. Logic of Conflict, Grammar of Commerce', *The National Interest*, 20 (1990), 17–23.

so far untapped natural resources. It also opens up the possibility of shorter maritime trading routes between the Atlantic and the Pacific. Global demand for natural resources (e.g. oil, gas, and minerals) is expected to increase significantly over the next decades. Global energy demand is expected to be 50% higher in 2030 compared to today.⁸⁴ Global mineral demand could rise by 60% between 2007 and 2050.⁸⁵ Altogether the Arctic might hold 22% of the world's undiscovered oil and gas reserves.⁸⁶ It also has vast reserves of mineral resources. Most of the additional natural resource demand will come from emerging economies like China and India. Shorter maritime transit routes to access and transport these resources via the Northern Sea Route (NSR) and the North-West Passage (NWP) and at a later stage via the Transpolar Sea Route (TSR) are highly lucrative for both actors. Likewise, European and North-American countries might be interested in using these shorter transit passages to export their goods to the world's emerging center of economic gravity, i.e. Asia. Analysts expect the shipping distance between European and Asian port cities to be reduced by up to 40%, resulting not only in shorter transit time but also reduced CO₂ emissions.⁸⁷ Already today, the region is integrated into global economic flows, mainly natural resource exports from the region to world markets.⁸⁸ Due to growing global demand for these resources and the opening up of new maritime transit ways a further integration into the global economy is expected. A growing interdependence between the Arctic and other world regions increases the reciprocal effects and feedback loops between the region and the rest of the globe. Consequently, Arctic developments have more and more implications for the world and vice versa.⁸⁹

⁸⁴ National Intelligence Council, *Global Trends 2030. Alternative Worlds* (Washington, D.C.: National Intelligence Council, 2012), p. 160 (p. 34) <<http://www.dni.gov/index.php/about/organization/national-intelligence-council-global-trends>> [accessed 30 January 2014].

⁸⁵ Stephen E. Kesler, *Mineral Supply and Demand into the 21st Century*, p. 58 <<http://pubs.usgs.gov/circ/2007/1294/>> [accessed 19 March 2014].

⁸⁶ Bird and others.

⁸⁷ Miaojia Liu and Jacob Kronbak, 'The Potential Economic Viability of Using the Northern Sea Route (NSR) as an Alternative Route between Asia and Europe', *Journal of Transport Geography*, 18.3 (2009); Lars Ingolf Eide, Magnes Eide, and Ovind Endresen, *Shipping Across the Arctic Ocean. A Feasible Option in 2030-2050 as a Result of Global Warming?* (Hovik: Det Norske Veritas (DNV), 2010), p. 22 (p. 4) <http://www.lappi.fi/c/document_library/get_file?folderId=1190621&name=DLFE-19482.pdf> [accessed 8 September 2016].

⁸⁸ Heininen and Southcott, pp. 67-71.

⁸⁹ Tom Shanker, 'Pentagon Releases Strategy for the Arctic', 22 November 2013 <<http://www.nytimes.com/2013/11/23/world/pentagon-releases-strategy-for-arctic.html?partner=rss&emc=rss&r=0>> [accessed 23 November 2013].

Finally, environmental changes resulting in new economic opportunities could trigger geopolitical risks, both within the Arctic region and on a global scale. Geopolitics analyzes the “connections between geographic space and power politics. [...] The basic premise of geopolitical thinking is that power and geography matter in relations between states.”⁹⁰ On a regional level the access to and control of natural resources and maritime choke points could destabilize a so far stable region. The emergence of new Arctic stakeholders could further strain the fragile regional governance mechanisms put in place. In addition, climatic changes in the region pose a threat to the physical infrastructure and human living conditions. The Arctic, however, is also a key component in global climate change. The melting of Arctic glaciers not only pushes global warming but also leads to a global sea-level rising. Global warming will lead to more extreme weather patterns (e.g. prolonged drought and flooding as well as desertification). Glacial melting will pose an immediate threat to many coastal regions across the globe, where already today a large part of the world’s population lives. In both cases Arctic-driven climate change functions as a “threat multiplier”. The impacts of these processes could serve as catalysts for conflict elsewhere.⁹¹ Finally climate change is closely linked to the question of energy security as the fight against global warming is directly dependent upon a reduction of CO₂ emissions, which has consequences for the energy security of nation-states.⁹²

To conclude, the challenges and opportunities arising out of the Arctic’s transformation are a prime example of the complexity and interdependence of 21st century global politics.

Second, discussions about how to design complex bureaucracies and improve inter-bureaucratic coordination have become more important in recent years against the background of wicked problems, multilevel governance and an ever more complex becoming state of global affairs.⁹³

As the dividing lines of domestic and international politics have become blurred “domestic conditions of international dynamics and international conditions of domestic

⁹⁰ Tamnes and Offerdal, p. 6.

⁹¹ CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change*, p. 2.

⁹² Marilyn A. Brown and Benjamin K. Sovacool, *Climate Change and Global Energy Security* (Cambridge, Massachusetts: MIT Press).

⁹³ Daniel Drezner, *Avoiding Trivia. The Role of Strategic Planning in American Foreign Policy* (Washington, D.C.: Brookings Institution Press, 2009).

dynamics” are emerging. In addition, the boundaries between different issue areas on the domestic and international level are becoming more porous. Consequently, various issue areas (e.g. environmental, economic and political affairs) today are more closely interacting than before and more ministries become engaged in foreign policy.⁹⁴ This often results in overlapping bureaucratic interests and responsibilities. Additionally foreign policy agendas become larger and more diverse without a clear hierarchy of issues.⁹⁵ This has far reaching consequences for the institutional settings of foreign and security policy decision-making as it becomes more complex and at the same time more decentralized.⁹⁶ As a consequence of this greater organizational segmentation, domestic bureaucracy management and foreign policy coordination become more pressing and at the same time more challenging to achieve.⁹⁷ It is challenging because each and every single one of these actors’ actions may be rational from the respective ministerial perspective. From a government perspective, however, it may lead to collective failure.⁹⁸ The increasing organizational segmentation also increases the likelihood of bureaucratic turf wars. Therefore it becomes less likely “that the state will be united when dealing with foreign governments or that its components will interpret national interests similarly when negotiating with foreigners.”⁹⁹

Germany is facing these foreign policy making challenges, too.¹⁰⁰ The increasing complexity of global affairs, at least in theory, calls for more inter-ministerial coordination.¹⁰¹

The participation of a growing number of bureaucratic players in German foreign and security policy, however, challenges inter-ministerial coordination, decision-making

⁹⁴ Hay, p. 256.

⁹⁵ Keohane and Nye, p. 22.

⁹⁶ Lauri Karvonen and Bengt Sundelius, ‘Interdependence and Foreign Policy Management in Sweden and Finland’, *International Studies Quarterly*, 34.2 (1990), 211–27 (pp. 211, 221).

⁹⁷ Karvonen and Sundelius, pp. 213, 221–22; Hill, p. 14.

⁹⁸ Ian Goldin and Mike Mariathan, *The Butterfly Defect. How Globalization Creates Systemic Risks, and What to Do about It* (Princeton, New Jersey: Princeton University Press, 2014), p. 3.

⁹⁹ Keohane and Nye, p. 29.

¹⁰⁰ For an overview of these debates see Messner; Thomas Bagger, ‘Netzwerkpolitik. In einer veränderten Welt wachsen dem Auswärtigen Dienst neue Aufgaben zu’, *Internationale Politik*, 2013, 44–50; Thomas Bagger and Wolfram von Heynitz, ‘Der „vernetzter Diplomat“. Von Vernetzter Sicherheit zu einer „netzwerkorientierten Außenpolitik“’, *Zeitschrift Für Außen- Und Sicherheitspolitik*, 5.1 Supplement (2012), 49–61.

¹⁰¹ Goldin and Mariathan, p. 1; Weller, p. 215; Keohane and Nye, p. 29.

processes and the implementation of policies.¹⁰² As the foreign policy competencies are decentralized (see chapter 1.1.2) the challenge to coordinate various ministries and subordinated agencies is bigger than in strongly hierarchical organized countries (e.g. France, China) and their respective foreign and security bureaucracies.¹⁰³ As realized by key decision-makers in Germany's foreign and security establishment, the government's bureaucracy seems no longer to be sufficiently in the position to tackle these challenges.¹⁰⁴ Therefore foreign minister Steinmeier in 2014 announced a review process to analyze how to adjust Germany's foreign policy to a changing international environment in the 21st century.¹⁰⁵

One of the aims of this dissertation is therefore also to analyze the main shortcomings in the government's bureaucracy and offer first hints about how to overcome existing deficits. The analysis of the structures and processes that influence Germany's Arctic engagement might thus give a more general insight into how well prepared Germany is to tackle new, non-traditional security challenges that are multi-dimensional in nature.

Third, this dissertation aims to narrow the widening gap between the academic discipline of International Relations (IR) (and FPA) on the one side and policy-makers and the public sphere on the other.¹⁰⁶ In times of growing complexity and confusion

¹⁰² Bagger; Bagger and von Heynitz; Messner, pp. 16–22; Zegart, p. 5; Allison and Zelikow, pp. 159–60, 179–80; Oppermann and Höse, p. 52.

¹⁰³ Keohane and Nye, p. 29.

¹⁰⁴ Bagger and von Heynitz, pp. 49–61; Bagger, pp. 44–50.

¹⁰⁵ Auswärtiges Amt, *Außenminister Steinmeier Gibt Startschuss Für Diskussionsreihe Prozess 'Review 2014 – Außenpolitik Weiter Denken'* (Berlin: Auswärtiges Amt, 2014) <http://www.auswaertiges-amt.de/DE/Infoservice/Presse/Meldungen/2014/140703_Review.html> [accessed 5 September 2016].

¹⁰⁶ For a discussion about this growing gap in Germany and the US, see amongst others Carlo Masala, 'Politikwissenschaft. Auf Dem Rückzug', *Die Zeit* (Hamburg, 23 February 2017) <<http://www.zeit.de/2017/07/politikwissenschaft-wissenschaftler-forschung-gesellschaftliche-relevanz>> [accessed 28 February 2017]; Michael Desch, *Rigor over Relevance. The Professionalization of Political Science and the Marginalization of Security Studies*, 2013, p. 1 <http://gwpoliscideptspeakerseries.files.wordpress.com/2013/10/cult_theory_paper-1.pdf> [accessed 23 April 2014]; Stephen M. Walt, *International Affairs and the Public Sphere*, 2011 <<http://publicsphere.ssrc.org/walt-international-affairs-and-the-public-sphere/>> [accessed 14 April 2014]; David A. Lake, 'Why "isms" Are Evil. Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress', *International Studies Quarterly*, 55.2 (2011), 465–80 (p. 465); Paul C. Avey and others, 'The Beltway vs. The Ivory Tower. Why Academics and Policymakers Don't Get along', *Foreign Policy*, 2012 <http://www.foreignpolicy.com/articles/2012/01/03/the_beltway_vs_the_ivory_tower> [accessed 24 April 2014]; Paul C. Avey and Michael C. Desch, 'What Do Policymakers Want from Us? Results of a Survey of Current and Former National Security Decision-Makers', *International Studies Quarterly*, 58.4 (2014); Joseph S. Nye Jr., 'Scholars on the Sidelines', *Washington Post* (Washington, D.C., 13 April 2009) <<http://www.washingtonpost.com/wp->

about the state of international affairs it is even more important that political science researchers come up with new ideas for policy-makers about how to solve real-world problems. Likewise, academic work can help the public sphere to make sense of world affairs. However, there is a growing disconnect between both sides.¹⁰⁷

The main reasons for the growing disconnect are well known. In IR, two trends have had a particular impact on the growing gap. First, in recent years the discipline has become ever more fragmented along different research traditions as a result of a growing specialization.¹⁰⁸ Obviously there are good reasons to support the development of different research traditions (e.g. they help to organize and rank the vast amount of knowledge of social reality).¹⁰⁹ The downside, however, is the inevitable „bypassing [of] aspects of a complex reality that do not fit neatly within the meta-theoretical or methodological parameters.“¹¹⁰ This rather narrow and inward-looking approach, however, not only distracted scholars from studying real-world problems but also resulted in a growing inability of different schools to interact.¹¹¹ These trends, unfortunately, threaten to make academic work less relevant for policy-makers and the

dyn/content/article/2009/04/12/AR2009041202260.html> [accessed 24 April 2014]; Stephen M. Walt, 'The Relationship between Theory and Practice in International Relations', *Annual Review of Political Science*, 8 (2005), 23–48 (pp. 23–25); Josh Busby, *Is International Relations Useful?* (Duck of Minerva, 2012) <<http://duckofminerva.com/2012/06/is-international-relations-useful.html>> [accessed 6 September 2016]; Foreign Policy Staff, *Does the Academy Matter? Do Policymakers Listen? Should You Get a Ph.D.? And Where Are All the Women?*, (Washington, D.C.: Foreign Policy, 2014) <http://www.foreignpolicy.com/articles/2014/03/14/does_the_academy_matter_do_policymakers_listen_should_you_get_a_phd_and_where_ar> [accessed 14 April 2014]; Michael Desch, *If, When, and How Social Science Can Contribute to National Security Policy* (Notre Dame: University of Notre Dame, 2010) <http://web.mit.edu/ssp/seminars/wed_archives_2010Spring/desch.html> [accessed 14 April 2014]; Francis J. Gavin and James B. Steinberg, *Mind the Gap. Why Policymakers and Scholars Ignore Each Other, and What Should Be Done About It* (New York: Carnegie Corporation, 2012), p. 16 <<http://teaching-national-security-law.insct.org/wp-content/uploads/2012/07/Carnegie-Corporation-of-New-York%20A0Mind-the-Gap.pdf>> [accessed 9 September 2016].

¹⁰⁷ Walt, 'The Relationship between Theory and Practice in International Relations', pp. 23–48.

¹⁰⁸ Lake, 'Why "isms" Are Evil. Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress', p. 465; Barry Buzan and Richard Little, 'Why International Relations Has Failed as an Intellectual Project and What to Do About It', *Millenium. Journal of International Studies*, 30.1 (39), 19 (pp. 29–31).

¹⁰⁹ Sil and Katzenstein, p. 413.

¹¹⁰ Sil and Katzenstein, p. 413.

¹¹¹ Desch, *Rigor over Relevance. The Professionalization of Political Science and the Marginalization of Security Studies*, p. 6; John J. Mearsheimer and Stephen M. Walt, 'Leaving Theory Behind. Why Hypothesis Testing Has Become Bad for IR', *European Journal of International Relations*, 19.3 (2013), 428–57 (p. 429); Miguel Angel Centeno, 'The New Leviathan. The Dynamics and Limits of Technocacy', *Theory and Society*, 22.3 (1993), 307–35 (p. 312); Joseph S. Nye Jr., 'International Relations: The Relevance of Theory to Practice', in *The Oxford Handbooks of International Relations*, ed. by Christian Reus Smit and Duncan Snidal (Oxford: Oxford University Press, 2008), pp. 648–62 (pp. 654–55); Lake, 'Why "isms" Are Evil. Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress', p. 471; Michael Brecher, 'International Studies in the Twentieth Century and Beyond. Flawed Dichotomies, Synthesis, Cumulation. ISA Presidential Address', *International Studies Quarterly*, 43.2 (1999), 213–64.

public sphere, who are interested in exactly this complex reality in order to better understand contemporary global affairs.¹¹²

Second, IR has seen, in recent decades, a shift in scientific inquiry away from theory testing and refinement towards observation and generalization, called „technification“ or „scientification.“¹¹³ Today „a good theory must generalize across cases, events, incidents and time-frames pursuing parsimony in such a way as to make them usable in the present as a guide for the future.“¹¹⁴ This benchmark of a theory’s soundness seems to be the result of a rather „statistical“ or „quantitative“ worldview of social sciences as proclaimed by the likes of King, Keohane and Verba.¹¹⁵ According to Mearsheimer and Walt, however, „social science theories are not universal [and] apply only to particular realms of activity or to specified time periods.“¹¹⁶ According to Eun, this is because causation in IR varies „across time and space [and] across different kinds of states and policymakers. All of this brings into question the notion of prediction and generalization.“¹¹⁷ By aspiring to achieve the rigor of their natural science counterparts, „most social scientists have developed a profound aversion to the inherent uncertainty and contextual specificity that plagues strategic policy formulation [...].“¹¹⁸ Yet as Albert Einstein put it: “Not everything that can be counted counts, and not everything that counts can be counted.”¹¹⁹

Young therefore calls for an end of privileging quantitative over qualitative approaches: „It is time for us to stop being fascinated with numbers for their own sake and to get on with the job of explaining important political phenomena.“¹²⁰

¹¹² Desch, *If, When, and How Social Science Can Contribute to National Security Policy*; Sil and Katzenstein, p. 413; Gavin and Steinberg, p. 10.

¹¹³ Jon R. Bond, ‘The Scientification of the Study of Politics. Some Observations on the Behavioral Evolution in Political Science’, *The Journal of Politics*, 69.4 (2007), 897–907; Desch, *Rigor over Relevance. The Professionalization of Political Science and the Marginalization of Security Studies*.

¹¹⁴ Eun, p. 779.

¹¹⁵ Mearsheimer and Walt, p. 446; Sil and Katzenstein, pp. 419–20; Sheldon Wolin, ‘Political Theory as a Vocation’, *American Political Science Review*, 63.4 (1969), 1062–82 (p. 1063).

¹¹⁶ Mearsheimer and Walt, p. 432.

¹¹⁷ Eun, p. 780.

¹¹⁸ Gavin and Steinberg, p. 4.

¹¹⁹ Einstein in: Bruce Feiler, ‘The United States of Metrics’, *The New York Times* (New York, 16 May 2014) <http://www.nytimes.com/2014/05/18/fashion/the-united-states-of-metrics.html?_r=0> [accessed 2 June 2014].

¹²⁰ Oran R. Young, ‘Review: Professor Russett: Industrious Tailor to a Naked Emperor’, *World Politics*, 21.3 (1969), 486–511 (p. 493).

Whilst the ambition to be as rigorous as possible in scientific inquiry is commendable, it seems rather questionable whether this goal is achieved in IR by becoming more like the natural sciences. To counter this development it is necessary to overcome the idea that „real“ science can only be done when it is based on mathematical formulas as well as focusing solely on methods instead of choosing exactly that way which enables greater insights and thus generates new knowledge.¹²¹

Obviously, scholars have to find the right balance between scientific (theoretical and methodological) precision and political as well as societal relevance.¹²² In recent years, however, the trend has been moving more towards the goal of rigor in following narrower questions and more parsimonious theories. This led to a critical imbalance between both requirements.¹²³ Instead, the integration of different approaches from different (sub-) disciplines and different levels of analysis can help to solve real-world problems better than any single theory.¹²⁴ Also academic work in the social sciences has to be judged not only by its methodological rigor but also by the new insights it can offer, which then can be used to improve social conditions.¹²⁵ According to Desch, „the best approach to balancing scholarly rigor with continuing policy relevance is methodological pluralism, which includes a significant role for qualitative social science, and a commitment to problem-, rather than method-, driven research agendas.“¹²⁶ The only way forward is to create better theoretical models by adapting old paradigms to new evidence in creating new theoretical models, that are a combination of existing theoretical approaches and arguments of different schools and methods (some of these thoughts are further developed in chapter 2.1).¹²⁷

¹²¹ Desch, *Rigor over Relevance. The Professionalization of Political Science and the Marginalization of Security Studies*, p. 26.

¹²² Desch, *Rigor over Relevance. The Professionalization of Political Science and the Marginalization of Security Studies*, p. 3.

¹²³ Sil and Katzenstein.

¹²⁴ Hay, p. 5; Desch, *Rigor over Relevance. The Professionalization of Political Science and the Marginalization of Security Studies*, p. 4; Buzan and Little, pp. 34–35.

¹²⁵ Samuel Huntington, 'One Soul at a Time. Political Science and Political Reform', *The American Political Science Review*, 82.1 (1998), 3–10 (p. 4).

¹²⁶ Desch, *Rigor over Relevance. The Professionalization of Political Science and the Marginalization of Security Studies*, p. 45.

¹²⁷ Brecher, 'International Studies in the Twentieth Century and Beyond. Flawed Dichotomies, Synthesis, Cumulation. ISA Presidential Address', pp. 213–64; Nate Silver, *The Signal and the Noise. Why So Many Predictions Fail - but Some Don't* (New York: Penguin Group, 2012), pp. 51–52, 260; Philip Tetlock, *Expert Political Judgement. How Good Is It? How Can We Know?* (Princeton, New Jersey: Princeton University Press, 2005); Desch, *Rigor over Relevance. The Professionalization of Political Science and the*

1.5 Brief Overview of the Dissertation's Structure

Based on the main arguments and working assumptions developed in chapter 1.2, this dissertation is structured as followed: Following a discussion of ontological, epistemological, and methodological positions the chosen theories and methods are discussed and the analytical framework is developed (chapter 2). The first case study then focuses on the issue area of environmental affairs (chapter 3). The second case study zooms in on the issue area of economic affairs (chapter 4). The third case study concentrates on the issue area of political affairs (chapter 5). All three case studies present the main developments in the operational environment, outline how these developments have been perceived by German ministries and present the key political interests the ministries deduced from their perceptions. Subsequently, the Arctic Policy Guidelines decision-making process is analyzed (chapter 6). This is followed by a comparison and synthesis of the empirical findings of the four previous chapters. The conclusion focuses on answering the research questions and giving an outlook on potential future research activities (chapter 7).

1.6 Short Summary of the Empirical Findings

In a nutshell, the following illuminations allow to understand and to explain the development of Germany's Arctic engagement. Most notably, they give a compressed answer to the dissertation's research questions.

1. In 2013, all relevant ministries – albeit to different degrees – perceived a growing interdependence between global developments and the Arctic's transformation on the one side and their potential impacts on Germany and thus on the respective ministerial interests. This growing Arctic awareness led to the decision to start the inter-ministerial Arctic Policy Guidelines formulation process in order to become a more coherent actor in Arctic affairs that is able to realize its interests.

2. The involved ministries perceived a varying relevance of the different aspects of the region's transformation. Two conflicts of interests evolved. The biggest conflict was

Marginalization of Security Studies For a more detailed elaboration on the epistemological implications of these considerations about the growing gap between academia and policy-makers as well as the public sphere see chapter 2.1.2.

between those highlighting the responsibility to protect the pristine Arctic environment and those that underlined the necessity to become economically active in the region. The two main ministerial adversaries were the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Economic Affairs and Energy.

A second conflict emerged over the question whether polar research activities (mainly executed by the Alfred-Wegener-Institut) had to prove that they were environmentally sustainable prior to receiving the permission to undertake research activities in the region. The main ministerial adversaries were the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry of Education and Research. These two conflicts dominated the decision-making process.

3. Due to bargaining advantages of the Federal Ministry for Economic Affairs and Energy over the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the final document focuses stronger on the geo-economic opportunities than on environmental responsibilities. The Federal Ministry for Economic Affairs and Energy had two bargaining advantages.

First, with already adopted ministerial policies like the National Resource Strategy and the National Masterplan Maritime Technologies, the ministry already had developed explicit Arctic interests and ministerial positions for the bargaining process. In addition, it had Arctic-related desks at its disposal. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, on the other hand, neither had adopted policy documents nor had it Arctic-related desks to rely on in the decision-making process, which probably was a disadvantage.

Second, the Federal Ministry for Economic Affairs and Energy was better able to highlight the growing direct and short-term vulnerability of the German economy to global and Arctic processes (the need to ensure secure supply of natural resources to ensure gross domestic product (GDP) growth via its exports – otherwise the German economy loses jobs), whilst the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety remained rather vague regarding the direct and short-term consequences of growing interdependencies between global and Arctic processes and Germany (a temperature increase and changing precipitation patterns in Germany).

2 Analytical Framework

This chapter develops the analytical framework of this dissertation. In a first step, questions of ontology, epistemology, and methodology are discussed in order to present the respective positions this dissertation is based upon (chapter 2.1). Derived from the ontological positions developed above, a call for a multi-causal and multi-dimensional analysis is made (chapter 2.2). Subsequently, the four chosen theoretical approaches are discussed (chapter 2.3). In addition, the methodological considerations and chosen methods are presented (chapter 2.4). Finally, the analytical framework and its case studies are operationalized (chapter 2.5).

2.1 *Ontology, Epistemology, and Methodology*

Ontology and epistemology build the framework for theories. Methodology, closely connected to epistemology, builds the framework for methods. Ontological, epistemological, and methodological questions are thus closely connected. According to Furlong and Marsh, they can be categorized in two broad ontological, three epistemological and three methodological categories.¹²⁸

Table 1 - Ontology, Epistemology and Methodology¹²⁹

Ontology	Foundationalism		Anti-Foundationalism
Epistemology	Positivism	Realism	Interpretivism
Methodology	Quantitative Privileged	Quantitative and Qualitative	Qualitative Privileged

This dissertation broadly uses a foundationalist ontology as developed by Furlong and March. In epistemological terms, it follows a (scientific) realist perspective in line with Furlong and Marsh's as well as Mearsheimer and Walt's understanding.¹³⁰ In doing so, the aim is to strike a balance between more positivist-influenced epistemological considerations while also acknowledging the relevance of some elements of a more interpretivist epistemology. As Keohane has stated, "the social world is not one of

¹²⁸ Paul Furlong and David Marsh, 'A Skin Not a Sweater. Ontology and Epistemology in Political Science', in *Theory and Methods in Political Science*, ed. by David Marsh and Gerry Stoker, Political Analysis, 3rd edn (Basingstoke: Palgrave Macmillan, 2010), pp. 184–211 (p. 186).

¹²⁹ Own illustration based on: Furlong and Marsh, p. 186.

¹³⁰ Mearsheimer and Walt, pp. 432–33; Furlong and Marsh.

either/or.”¹³¹ As a result, in methodological terms, the dissertation is based upon a pragmatic and pluralist approach that takes into account quantitative and qualitative approaches.

2.1.1 Ontology

The ontological position is based on four assumptions.

First, the world we are observing comprises of distinct objects and processes “which possess properties that are independent of the observer/researcher.”¹³² A country’s geological configuration is an example of a real world that simply exists independently of any cognitive construction of it. Germany is a resource poor country and therefore dependent on natural resource imports to keep its economy alive. A country’s geographic location (e.g. being a landlocked country or a coastal state) is another example of such an independently existing real world. And a process like global climate change fundamentally shapes the constitution of countries worldwide – be they low-lying island states that are threatened to be completely flooded or nations that are affected by severe droughts. These entities and processes simply exist. In all of these cases policy-makers have to deal with these situations and their existence cannot be argued away. Thus there exists a world “independently of our knowledge of it.”¹³³ And this world is assumed of becoming more complex. The growing complexity is the result of and manifests itself in a rising global connectivity between social, economic and ecological systems.¹³⁴ As a result, the dividing lines between these issue areas as well as between domestic and international affairs are becoming increasingly blurred.¹³⁵ At the same time, it becomes increasingly difficult, if not impossible, for decision-makers to

¹³¹ Robert O. Keohane, ‘Ideas Part-Way Down’, *Review of International Studies*, 26.1 Forum on Wendt’s Social Theory on International Relations (2000), 125–30 (p. 126).

¹³² Furlong and Marsh, p. 190.

¹³³ Furlong and Marsh, p. 190.

¹³⁴ Thomas Homer-Dixon and others, ‘Synhronous Failure. The Emerging Causal Architecture of Global Crisis’, *Ecology and Society*, 20.3 (2015), 1–16.

¹³⁵ Whether the world has become more complex over the last two decades and seems to become even more complex is a question that cannot be answered empirically and ultimately. Instead such an assumption, to a large degree, is the result of a subjective estimation and perception. To a certain degree this position can be deduced from the realist ontological perspective. But from a certain degree onwards it is the result of a personal interpretation. As the author perceives the world as becoming more complex he also pleads for a more complex analytical framework. For a more detailed discussion about the growing complexity of the world and international affairs see chapter 1.4. Hay, p. 5.

anticipate the impact of their actions.¹³⁶ All these aspects are signs of a growing complexity.

Second, this world is presumed to possess independent causal powers.¹³⁷ And in parts these causal powers comprise of unobservable structures and processes.¹³⁸ As such this dissertation is based on the idea that the aim of social science is to make causal statements.¹³⁹ However, in this context, causes are understood to have influential instead of deterministic power.¹⁴⁰

Third, a more complex world also results in growing interactions between agents and structures. Consequently, even though they are distinct, one has to think of agency and structure not as two opposing forces but instead in terms of a dynamic relationship between the two in the causation of real-world events and foreign policy outcomes.¹⁴¹ Structure is understood as the context within which things like political events happen.¹⁴² Often these things are “beyond the immediate control of the actors directly involved.”¹⁴³ Agency is understood as political action. It is the “ability or capacity of an actor to act consciously and, in so doing, to attempt to realize his or her intentions.”¹⁴⁴ This understanding of agency is related to the “great man theory”. It claims that individuals shape policy and ultimately history.¹⁴⁵ At the same time “Marx’s truism that men make history, but not in circumstances of their own choosing”¹⁴⁶ seems correct. But through their actions men influence their environment. Consequently, agents influence and develop their structural conditions. At the same time structures can be agents, too. A

¹³⁶ Goldin and Mariathan, pp. 1–25.

¹³⁷ Jonathan Joseph, ‘Philosophy in International Relations. A Scientific Realist Approach’, *Millennium. Journal of International Studies*, 35.2 (2007), 345–59 (p. 346); Furlong and Marsh, p. 190 For a definition of ‘causal mechanism’ see chapter 2.2.

¹³⁸ Colin Wight and Jonathan Joseph, ‘Scientific Realism and International Relations’ (Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2010), pp. 1–15 (p. 9); Furlong and Marsh, p. 205.

¹³⁹ Furlong and Marsh, p. 194.

¹⁴⁰ Eun, p. 773.

¹⁴¹ Hay, p. 132; Eun, p. 779; Wight and Joseph, pp. 19–20; The author is aware that „perspectives on the question of structure and agency cannot be falsified.“ Hay, p. 92 Thus the perspective developed here is based upon a particular interpretation of the real world.

¹⁴² Hay, pp. 94, 101 Of course these definitions are influenced by the author’s ontological position, too.

¹⁴³ Hay, p. 96.

¹⁴⁴ Hay, pp. 94, 101 Of course these definitions are influenced by the author’s ontological position, too. .

¹⁴⁵ Thomas Carlyle, ‘On Heroes, Hero Worship, and the Heroic in History’, in *On Heroes, Hero Worship, and the Heroic in History*, ed. by David R. Sorensen and Brent E. Kinser (New Haven: Yale University Press, 2013), p. 192; Sydney Hook, *The Hero in History. Study in Limitation and Possibility* (New York: Cosimo Classics, 2008).

¹⁴⁶ Hay, p. 90.

ministry is a bureaucratic structure but also an actor – depending on the context. And the bureaucrats working in a ministry, acting together, comprise a structure, too.

Thus “while agents do indeed fashion the world they inhabit (agency causes structure), the context or circumstances in which this occurs affects their ability to do so (structure constrains or conditions agency).”¹⁴⁷ So the structured context in which an actor is located ultimately influences his ability to act.¹⁴⁸ Whilst structural and agential factors “are ontologically independent, capable of exercising ‘autonomous influences’”¹⁴⁹, they most often act in concert¹⁵⁰ and thus form a dynamic relationship.¹⁵¹ Hence neither agential nor structural factors and conditions alone can explain a state’s foreign-policy behavior.¹⁵² Instead, structures and agents are recognized as interrelated causes of a state’s foreign policy decisions and actions.¹⁵³

To conclude, “the way states behave as they do in world politics mirrors the complex and dynamic relationships between the (intentions and perceptions of) human decision-makers and the international environment.¹⁵⁴ Closely linked is the presumption that states’ foreign policy behavior is the result of structural and agential factors in material as well as in ideational terms.¹⁵⁵ Therefore, ontologically speaking, this dissertation aims to overcome the structure-agency debate by allocating potential causal status to both structural and agential factors in the explanation of nation-state behavior.

Fourth, whilst the first point assumes a real world out there independent of the researcher’s knowledge, it is highly questionable if the world can be perceived in its ‘true’ form. While Hay assumes that “[t]he world does not present itself to us as it really is”¹⁵⁶, it is argued here that the world might in fact appear in its ‘real’ condition, but due to our limited cognitive abilities and/or personal biases, we are incapable of seeing the whole picture. What unites both lines of argument is the belief in the existence of real structures and processes that exist independently of our minds or our knowledge. As

¹⁴⁷ Hay, p. 118.

¹⁴⁸ Joseph, p. 353; Hay, pp. 89, 116–17, 254.

¹⁴⁹ Hay, p. 123.

¹⁵⁰ Hay, p. 124.

¹⁵¹ Hay, p. 254.

¹⁵² Heikki Patomäki and Colin Wight, ‘After Postpositivism? The Promises of Critical Realism’, *International Studies Quarterly*, 44.4 (2000), 213–37 (pp. 231–32).

¹⁵³ Eun, p. 772.

¹⁵⁴ Eun, p. 776.

¹⁵⁵ Joseph, pp. 351, 354, 356–58.

¹⁵⁶ Hay, p. 122.

Wight and Joseph have stated, “some of these forces may well be unobservable, but nonetheless real”.¹⁵⁷ Consequently from this perspective, there is (or there might be) an appearance-reality divide, meaning that there are deep structures and processes that cannot be directly observed.¹⁵⁸ This gap is transmitted by perceptions of the identified reality. It follows that ideas play a crucial role in the analysis and interpretation of reality. They are the central link between external structures and agents. Whilst structural factors exist independently of an actor’s interpretation of them (e.g. a country’s geographic location or geological configuration), it is only by interpreting or understanding of these factors that outcomes (in this case actor-driven foreign policy decisions and actions) are affected. It is an actor’s ability to reflect upon structural forces that contests the idea of structural factors having deterministic power. Instead, structural factors are understood as having constraining or facilitating power.¹⁵⁹ In addition, ideas bring together domestic and international politics. Thus, the causal power or influence of the real world’s structural forces is mediated by ideas of this external environment and by how it is perceived by those who act upon it. Accordingly, “ideational factors [play a significant role] in the causation of political outcomes.”¹⁶⁰ This position has direct epistemological consequences.

These four ontological positions are the attempt to build a bridge between “views of the world” that are often seen as rather incompatible. This is particularly true for the first (existence of a real world independent of the observer) and fourth (this world cannot be perceived as it really is) position. However, it is only a contradiction in terms at first glance. On the one side this dissertation is infused with ‘empirical realist’ thought, which by itself is influenced by positivism, in the sense that a real world out there is assumed to exist. At the same time, however, it is also influenced by a constructivist-inspired consideration, which is more closely linked to interpretivism and according to which ideational, and thus unobservable, factors have causal power as well.¹⁶¹ Instead of completely following either a foundationalist or an anti-foundationalist ontology, and thereby either ignoring material or ideational factors, this dissertation follows an

¹⁵⁷ Wight and Joseph, p. 3.

¹⁵⁸ Furlong and Marsh, p. 194.

¹⁵⁹ Furlong and Marsh, p. 205.

¹⁶⁰ Hay, p. 166.

¹⁶¹ Furlong and Marsh, p. 190.

ontology that goes beyond this artificial dualism.¹⁶² The absolutism of either a foundationalist or an anti-foundationalist ontology is rejected in order to get a more nuanced understanding of the real world out there, perceptions thereof and the social re-construction of the real world by human agents.

2.1.2 Epistemology

The epistemological position is based on four assumptions.

First, it is deemed possible to “identify ‘real’ or ‘objective’ relations between social phenomena.”¹⁶³ Hence, the empirical identification of causal relationships allows to generate knowledge about the ‘real world’.¹⁶⁴

Second, and based on the fourth ontological point, not all these causal relationships, however, are thought to be directly observable.¹⁶⁵ Instead, one can expect “deep structural relationships between social phenomena which can’t be directly observed, but which are crucial for any explanation of behavior.”¹⁶⁶ One prominent example is the concept of perceptions. According “[t]o Hay and March, there may be ‘real’ processes at work, but the way they affect outcomes is mediated by the discursive construction(s) of these processes. This argument has both realist and interpretivist elements. There is an appeal to a real world, but the emphasis is on the discursive construction of that world.”¹⁶⁷ Again, Germany as a resource poor country serves as a good example. The lack of resources is a fact. And yet it is only when policy-makers feel insecure about this situation and perceive the German economy to be vulnerable to this situation that they start to look for a policy solution and act accordingly. Whilst insecurity cannot be measured directly, it is manifested in policy-makers words and actions.¹⁶⁸

It follows, third, that “[t]he unobservable relationships can only be established indirectly; we can observe other relationships which, our theory tells us, are the result of those unobservable pre-relationships.”¹⁶⁹ Theories are thus a means to bridge the

¹⁶² Joseph, p. 351.

¹⁶³ Furlong and Marsh, p. 186.

¹⁶⁴ Wight and Joseph, p. 10.

¹⁶⁵ Furlong and Marsh, pp. 186, 192, 204.

¹⁶⁶ Furlong and Marsh, p. 192.

¹⁶⁷ Furlong and Marsh, pp. 208–9.

¹⁶⁸ Mearsheimer and Walt, p. 433.

¹⁶⁹ Furlong and Marsh, p. 193.

appearance-reality divide.¹⁷⁰ A theory's core assumptions about unobservable structural forces and their causal powers help the researcher to spot empirical evidence of a presumed causal relationship.¹⁷¹

Fourth, the usefulness of parsimonious and rigid theoretical concepts for understanding, explaining, and predicting global affairs is questioned due to the ontological assumption of a world that is becoming more complex. In line with this, Eun, Katzenstein, Mearsheimer, Sil, Walt and others reject the discipline's shift towards more parsimonious theories and the attempt to become more like the natural sciences. As IR „deals with the largest and most complicated social system“,¹⁷² this dissertation follows the call of numerous scholars for modest theoretical aspirations and an epistemologically cautious position instead of radical theoretical simplifications.¹⁷³ The qualitative difference between the social sciences and natural sciences is the fact “that the former must deal with conscious and reflective subjects, capable of acting differently under the same stimuli, whereas the units which comprise the latter can be assumed inanimate, unreflective and hence entirely predictable in response to external stimuli. Agency injects an inherent indeterminacy and contingency into human affairs for which there is simply no analogy in the physical sciences.”¹⁷⁴ According to Hay, “[i]ntentionality and reflexivity are complications which the natural sciences do not have to deal with; molecules do not modify their behavior in the light of the claims scientists may make about it.”¹⁷⁵ This seems to be the major difference. In the natural sciences one of the “most basic assumption[s] [...] is that the rules of the game do not change with time”.¹⁷⁶ This, however, is not true for social or political systems. Instead they are “subject to constant reproduction, renewal and transformation. They are [...] culturally, spatially and historically specific. This is simply not the case for the laws of gravity”¹⁷⁷ And against the background of global affairs becoming more complex and unpredictable – and thus “a world in which the ‘rules of the game’ seem to be in a state of near-

¹⁷⁰ Wight and Joseph, p. 11.

¹⁷¹ Milja Kurki, ‘Critical Realism and Causal Analysis in International Relations’, *Millenium. Journal of International Studies*, 35.2 (2007), 361–78 (p. 373); Wight and Joseph, p. 11.

¹⁷² Lake, ‘Why “isms” Are Evil. Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress’, p. 467.

¹⁷³ Eun, p. 780; Sil and Katzenstein, p. 412; Lake, ‘Why “isms” Are Evil. Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress’, p. 467.

¹⁷⁴ Hay, pp. 48–50.

¹⁷⁵ Hay, p. 79.

¹⁷⁶ Hay, p. 86.

¹⁷⁷ Hay, p. 86.

constant flux”¹⁷⁸ – the aim to model social sciences like natural sciences seems misguided.¹⁷⁹ Thus it is necessary to accept the basic differences between social sciences and natural sciences. It follows from this last point, that the growing complexity and interdependence of world affairs call for more complex theoretical models, which also incorporate insights from different research traditions, theoretical schools and sub-disciplines. Hence this dissertation follows Hay’s argument that “[i]f we accept that we live in an interdependent world which does not respect spatial and sectoral divisions of analytical labour [...] This entails a political analysis which refuses to accept a resolute division of labour between political science [and thus of domestic politics] and international relations just as it refuses to accept that it can leave the analysis of economic variables to economists.”¹⁸⁰ Such an understanding calls for an analytical eclecticism (see chapter 2.2, page 39).

Finally, the lack of „straightforward ways to measure many key concepts“¹⁸¹ further challenges the call for parsimonious theories. In order to offer guidance for policymakers and societies at large „we as a society need all the help we can get. There is no monopoly of knowledge. And there is no guarantee that any one kind of knowledge generated and understood within any one epistemology or ontology is always and everywhere more useful than another.“¹⁸²

These epistemological assumptions have direct consequences for how the concept of political analysis is understood. Five considerations drive this dissertation’s analytical *modus operandi*.

First, scientific research is assumed to be value-laden and thus not objective in absolute terms.¹⁸³ This is because the political analyst is located within the subject of analysis – the social and political sphere. The analyst cannot escape this sphere.¹⁸⁴ As some knowledge claims cannot be directly observed scientific realism recognizes the

¹⁷⁸ Hay, p. 135.

¹⁷⁹ Hay, p. 135.

¹⁸⁰ Hay, p. 5.

¹⁸¹ Mearsheimer and Walt, p. 441.

¹⁸² David A. Lake, ‘Theory Is Dead, Long Live Theory. The End of the Great Debates and the Rise of Eclecticism in International Relations’, *European Journal of International Relations*, 19.3 (2013), 567–87 (p. 580).

¹⁸³ Hay, pp. 37, 66; Nye, ‘International Relations: The Relevance of Theory to Practice’, pp. 648–49.

¹⁸⁴ Hay, p. 87.

possibility “that the science of any given time can be wrong about its object.”¹⁸⁵ Second, this has clear implications for how certain a researcher might be about the conclusions drawn from his or her analyses as well as the possibility to generalize the findings.¹⁸⁶ Absolute knowledge claims and absolute objectivity seem rather impossible.¹⁸⁷ Knowledge is always preliminary and knowledge claims are based upon a researcher’s interpretation of findings that cannot be objective in absolute terms. Thus, the researcher’s knowledge is imperfect and – at least to a certain degree – dependent or influenced by the researcher’s interpretation of the world.¹⁸⁸ Fourth, in order to maintain objectivity in the analytical process as much as possible it is necessary to be as explicit about every research step as possible so that the analytical endeavor becomes comprehensible for the external observer. Fifth, it is important to keep in mind that any “ontological position, or indeed the relationship between ontology and epistemology” cannot be proven.¹⁸⁹ Instead the researcher “should adopt a position which makes sense to [himself] and use it consistently, while acknowledging that it is contested.”¹⁹⁰

What all these ontological and epistemological positions unites, is this dissertation’s credo that the world’s inherent complexity necessitates academics of diverse schools of thought and different research traditions to join forces in order to get closer to a correct understanding and explanation of world affairs. At the same time, however, it has to be acknowledged, that it is an extremely difficult task to arrive at more accurate understandings and explanations. Whilst academic ambitions should not give up hope to achieve these tasks, a certain sense of humility is appropriate and necessary in order to remain credible as a researcher.

2.1.3 Methodology

Based upon the ontological and epistemological positions developed above, this dissertation follows the call for methodological pluralism and rejects the “absolutism of deductive and inductive logic.”¹⁹¹ Instead it is based on a combination of both tenets.¹⁹²

¹⁸⁵ Wight and Joseph, p. 13.

¹⁸⁶ Hay, p. 63.

¹⁸⁷ Furlong and Marsh, p. 202.

¹⁸⁸ Furlong and Marsh, p. 205; Hay, p. 142.

¹⁸⁹ Furlong and Marsh, p. 186.

¹⁹⁰ Furlong and Marsh, p. 186.

¹⁹¹ Hay, pp. 43, 46; Eun, p. 775.

Such a flexible methodological approach seems appropriate as it is argued that methodologies and methods have to be chosen according to the identified problems a research project aims to solve and not exclusively according to what is legitimate and permissible. And in order to answer the various dimensions of the research questions of this dissertation, the analysis depends on methodological pluralism.¹⁹³ Hence, it follows a combination of quantitative (e.g. official statistics) and qualitative (e.g. analysis of official statements) analyses in order to trace the observable and the unobservable parts of causal mechanisms “associated with the complex interplay between structures and agents.”¹⁹⁴ Via quantitative approaches, directly observable processes (e.g. the development of the global oil price) can be analyzed. With the help of qualitative methods, processes that are not directly observable (e.g. the perceptions of the global oil price’s development) can be scrutinized indirectly (e.g. through the analysis of political actors words and actions; see third epistemological position).¹⁹⁵

On the one side, an abstract, theoretical, deductive, and empiricist approach might offer a useful set of correlations and explanations.¹⁹⁶ On the other side, “an inherently interpretative and creative act of translation is still required to produce something recognizable as a causal explanation from such correlations”.¹⁹⁷ However, “[p]ure description [...] [as suggested by the supporters of an inductive approach] explains nothing yet is true to the complexity of reality.”¹⁹⁸ To conclude, neither pure explanation (based on simplistic theoretical models) nor pure understanding (based on thick and rich description) alone can offer the necessary insights into the relationship between a more complex world and its influence on foreign policy.¹⁹⁹ These insights, however, are a necessary precondition to develop solutions for real-world problems that policy-makers and the public sphere are concerned with (see chapter 1.4, page 23).²⁰⁰

¹⁹² Eun, p. 775; Hay, p. 46 This thesis has to be – at least to a certain degree – exploratory and thus descriptive by nature as there has never been a thorough analysis of Germany’s Arctic engagement (see chapter 1.4).

¹⁹³ Benjamin Herborth, ‘Methodenstreit. Methodenzwang. Methodenfetisch’, *Zeitschrift Für Internationale Beziehungen*, 18.2 (2011), 137–51 (p. 139).

¹⁹⁴ Eun, p. 776; Furlong and Marsh, p. 205.

¹⁹⁵ Furlong and Marsh, p. 193; Mearsheimer and Walt, p. 433.

¹⁹⁶ Hay, pp. 35, 79–80.

¹⁹⁷ Hay, pp. 79–80; Mearsheimer and Walt.

¹⁹⁸ Hay, p. 35.

¹⁹⁹ Hay, pp. 35–36, 252.

²⁰⁰ Ann Chih Lin, ‘Bridging Positivist and Interpretivist Approaches to Qualitative Methods’, *Policy Studies Journal*, 26.1 (1998), 162–80 (p. 168).

Thus, a middle way that allows to understand and to explain has to be found. This premise then calls for a third way, called loose-knit deductive reasoning. This “is a logical process in which one finds multiple causes using a flexible epistemological and methodological approach, standing on a rich ontological platform formulated prior to application of the approach.”²⁰¹ It proceeds as follows: First, some broad assumptions about causal mechanisms are generated from the chosen theories. These assumptions, second, structure and guide the empirical work. This step allows to identify “the real causes of an observed phenomenon and reconstruct its causal processes in a systemic and clear manner.”²⁰² It also implies that only at the end of the empirical work the relative power of both factors as well as their complex interplay can be determined. Finally, the interpretation of the compiled work allows to inductively generate new causal insights and to formulate additional working assumptions that can form the basis for future research.

2.2 The Call for a Multi-Causal and Multi-Dimensional Analysis

The first ontological assumption (the world is becoming more complex), the third ontological assumption (a more complex world results in growing interactions between structures and agents), and the fourth epistemological assumption (because of the world’s complexity and the growing complexity of global affairs analytical frameworks have to take this situation into account and become more complex, too) have significant implications for the design of this dissertation’s theoretical framework.

Due to the world’s growing complexity, domestic and global affairs have become more interdependent. At the same time, the boundaries between different issue areas become more porous (see chapter 2.1.1, page 30). And as a result of the world’s growing complexity the interaction between structures and agents increases, too. Thus, more frequently they constitute a dynamic relationship in the causation of real-world events (see chapter 2.1.1).

Grounded in FPA-based reasoning in general and the Bureaucratic Politics Model (BPM) in particular, this dissertation’s conceptual thinking is closely linked to three foundational FPA works and respective arguments: First, Rosenau in „Pre-theories and Theories of Foreign Policy“ called for a multi-level and multi-causal foreign policy

²⁰¹ Eun, p. 778.

²⁰² Eun, pp. 777–78.

analysis that spans from the international to the domestic level.²⁰³ Second, Snyder, Bruck and Sapin emphasized in „Foreign Policy Decision-Making“ to open the black box state and to focus on the foreign policy decisionmaking process and the actors involved in the process.²⁰⁴ Finally, Sprout and Sprout in „The Ecological Perspective on Human Affairs with Special Reference to International Relations“ suggested to also take the psycho milieu of individual decisionmakers or larger groups – the international context as it is perceived - into account.²⁰⁵

It follows from Rosenau’s position, that the artificial divisions between structure and agency as well as between international relations and domestic politics, that most IR- and FPA- theories and concepts (based on their different analytical focus)²⁰⁶ are engaged in, need to be overcome. Structural and agential factors both influence foreign policies and thus *international relations*.²⁰⁷ Those theories and concepts with an exclusive focus on structural explanations for nation-state behavior, however, seem not sufficiently equipped to explain particular foreign policy decisions and actions. Here the agency factor plays a bigger role, as “[a]ll that occurs between nations and across nations is grounded in *human decision makers acting singly or in groups*.”²⁰⁸ At the same time, those approaches focusing exclusively on the actor-dimension seem short-sighted, too, as policymakers do not operate in a vacuum “with an almost unrestricted menu of choices, limited only by the scope of their own ambitions.”²⁰⁹ Instead they are influenced by the structure of the international system, too.²¹⁰ The close interrelationship and mutual dependency between human agents and social structures then calls for a “dynamic synthesis of both factors.”²¹¹ As Eun elaborates “states’ external actions occur

²⁰³ Rosenau, ‘Pre-Theories and Theories of Foreign Policy’.

²⁰⁴ Richard C. Snyder, H. W. Bruck, and Burton Sapin, *Foreign Policy Decision-Making*, ed. by Valerie Hudson, Derek H. Chollet, and James M. Goldgeier, Revisited (New York: Palgrave Macmillan, 2002).

²⁰⁵ Harold Sprout and Margaret Sprout, *The Ecological Perspective on Human Affairs. With Special Reference to International Politics* (Princeton, New Jersey: Princeton University Press, 1965).

²⁰⁶ Walter Carlsnaes, ‘The Agency-Structure Problem in Foreign Policy Analysis’, *International Studies Quarterly*, 36.3 (1992), 245–70 (pp. 248–50).

²⁰⁷ Hans Mouritzen and Anders Wivel, *Explaining Foreign Policy. International Diplomacy and the Russo-Georgian War* (Boulder, Colorado: Lynne Rienner, 2012), p. 19.

²⁰⁸ Valerie Hudson, ‘Foreign Policy Analysis: Actor-Specific Theory and the Ground of International Relations’, *Foreign Policy Analysis*, 1.1 (2005), 1–30 (p. 1).

²⁰⁹ Eun, p. 770.

²¹⁰ Patomäki and Wight, p. 231.

²¹¹ Carlsnaes, ‘The Agency-Structure Problem in Foreign Policy Analysis’, pp. 246–47; Eun, pp. 773–74; Stefan Fritsch, ‘Technology and Global Affairs’, *International Studies Perspectives*, 12.1 (2011), 27–45 (p. 34).

due to existence and gatherings of human policymakers and the structural condition with which their nations are confronted.”²¹²

And these structural conditions have an international and a domestic dimension. According to Gourevitch “[i]nternational relations and domestic politics are [...] so interrelated that they should be analyzed simultaneously.”²¹³ Putnam’s “logic of two-level games” follows a similar approach in recognizing “that central decision-makers strive to reconcile domestic and international imperatives simultaneously.”²¹⁴ The central national foreign policy decision-makers play a particularly important role as they are directly exposed to both domestic and international pressures. With this focus, Putnam underlines his comprehension of the state not as a unitary actor but instead as multiple central decision-makers.²¹⁵ Brecher criticizes both single-country studies and general systems theory as insufficient to the analysis of foreign policy. To overcome existing shortcomings he proposes a new approach to the analysis of foreign policy, that “guide[s] systematic inquiry into cause-effect relations, as well as the search for patterns of regularity in state behavior [...] in which the interplay of different pressures can be observed and measured.”²¹⁶ In line with Rosenau, he assumes that “the foreign policy system comprises an environment or setting, a group of actors, structures through which they initiate decisions and respond to challenges, and processes which sustain or alter the flow of demands and products of the system as a whole [...] It is necessary, therefore, to explore the content and interrelations of these key variables-environment, actors, structures, and processes [...] and products of policy or outputs.”²¹⁷ Gourevitch follows Brecher’s argument. While he certainly agrees that the pressures of the international system have an influence on domestic decision-making he states as well that these pressures are “unlikely to be fully determining.”²¹⁸ Most often there is a choice on how to respond. This choice needs to be explained. In order to do so, the

²¹² Eun, p. 772.

²¹³ Peter Gourevitch, ‘The Second Image Reversed. The International Sources of Domestic Politics’, *International Organization*, 32.4 (1978), 881–912 (pp. 882, 911).

²¹⁴ Robert D. Putnam, ‘Diplomacy and Domestic Politics. The Logic of Two-Level Games’, *International Organization*, 42.3 (1988), 427–60 (p. 460).

²¹⁵ Putnam, p. 432.

²¹⁶ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 1.

²¹⁷ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 2.

²¹⁸ Gourevitch, p. 911 He identifies two main factors of influence: the distribution of power among states (international state system) and the distribution of economic activity and wealth (international economy) (882-883).

politics, “the struggle among competing responses” have to be analyzed.²¹⁹ Here, the link to Snyder, Bruck, and Sapin’s focus on decision-making officials is obvious. Hudson also calls for an analysis along different levels in FPA. Regarding the macro-level, she states: “Systems-level thinking is thus not focused on foreign policy per se, but rather on the context in which foreign policy is made.”²²⁰ She further explains that “variables at lower levels of abstraction are likely to be more proximate causes of foreign policy behavior.”²²¹ Therefore it is important to open the black box of the nation-state, as foreign policy decision-making is still be done by human agents. By doing so, the analytical focus then includes not only “the pressures of the international system” (e.g. the distribution of power among states in the international state system and the distribution of economic activity and wealth in the international economy) but also domestic attributes (e.g. patterns of economic dependence and interdependence in general or natural resource dependency in particular that help to answer the question of how these pressures have an impact on foreign policy decision-making.²²² What is important to keep in mind is the assumption, that IR theories and IR-infused concepts should be included in FPA, as they can add value to the aim of a multi-causal and multi-level analysis, even though the main focus is on decision-makers. However, and this goes back to Sprout and Sprout, the idea of a direct influence of structural factors on foreign policy decision-making is rejected. Instead, human decision-makers have to perceive external structural factors. And this entails the possibility of misperceptions and consequently the possibility of irrational human actions.²²³ The great uncertainty and ambiguity decision-makers are confronted with in international affairs then calls into question the rather idealized assumption of rational calculating decision-makers.²²⁴ In addition, humans perceive reality differently, a fact that has to be incorporated in theoretical models. Finally, not only external structural factors but also domestic developments are perceived by decision-makers and thus influence foreign policy decision-making. Consequently, foreign policy decisions are often not the most “rational”

²¹⁹ Gourevitch, p. 911.

²²⁰ Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 153.

²²¹ Hudson, 2007: 161

²²² Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, pp. 145, 150, 153; Gourevitch, pp. 882–83.

²²³ Robert Jervis, *Perceptions and Misperceptions in International Politics* (Princeton: Princeton University Press, 1976); Mark Schafer, ‘Science, Empiricism, and Tolerance in the Study of Foreign Policymaking’, *International Studies Review*, 2003.5 (2003), 171–77 (p. 172).

²²⁴ Eun, p. 768.

or most optimal decisions, given the country's interests but some form of compromise.²²⁵

Therefore, helpful approaches from various schools of thought focusing on different levels of analysis have to be integrated into a single analytical framework in order to try to better understand and explain 21st century foreign policy behavior of nation-states. In a world as complex as it is, giving potential causal status to structural and agential factors on the international and domestic level and integrating them in a multi-causal and multi-dimensional analytical framework is no longer a choice but a necessity.²²⁶ It is built on the intellectual stance of a so-called *Analytical Eclecticism* – „the only real alternative to the status quo.“²²⁷

This scholarship is characterized by three core assumptions. First, it has a pragmatist ethos in its search for middle-range theoretical explanations that tackle concrete real-world problems.²²⁸ Second, it rejects parsimonious theoretical explanations and opts for more complex analytical frameworks in order to more adequately make sense of today's complex and messy situations that policy-makers are confronted with. Third, it develops analytical frameworks that combine different causal mechanisms (operating at different levels of reality) of different theoretical schools in order to be able to grasp the complexity of their interactions.²²⁹ By doing so, the aim is to generate a “causal understanding of the interplay between forces typically analyzed by discrete schools.”²³⁰ The attempt to broaden the scope of analysis by bringing various theoretical traditions into a dialogue is a necessary undertaking in order to strengthen the understanding of the complexity and messiness of global affairs.²³¹

In this dissertation, causal mechanisms are hence understood as “all entities – whether individual actions or choices, social relations or networks, environmental or

²²⁵ Juliet Kaarbo and others, 'The Analysis of Foreign Policy in Comparative Perspective', in *Foreign Policy in Comparative Perspective. Domestic and International Influences on State Behavior* (Los Angeles, London, New Dehli, Singapore, Washington, D.C.: Sage Publications, 2012), pp. 1–26 (p. 13).

²²⁶ Gourevitch, pp. 882, 911; Eun, p. 772.

²²⁷ Lake, 'Why “isms” Are Evil. Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress', p. 472.

²²⁸ Sil and Katzenstein, p. 412.

²²⁹ Sil and Katzenstein, pp. 412, 421.

²³⁰ Sil and Katzenstein, pp. 419, 421.

²³¹ Lake, 'Why “isms” Are Evil. Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress', p. 472; Sil and Katzenstein, p. 420.

institutional characteristics, specific events or contextual factors, individual cognitive dispositions or collectively shared ideas and worldviews – that generate immediate effects through processes that may or may not recur across contexts and that may be, but often are not, directly observable.”²³² In addition causal mechanisms are assumed of being an influential instead of a deterministic force, working according to a mechanistic ‘when A, then B’ manner.²³³

More integrated frameworks, however, face two particular risks. First, they run the risk of combining theoretical concepts with different ontological and epistemological positions.²³⁴ Therefore care must be taken to ensure that the respective concepts are „properly understood and translated before they are brought into an integrated analytical framework.“²³⁵ Such an endeavor seems possible when the different explanatory models are divided in multiple segments which then allows them to become „abstractly compatible“ with other models’ segments.²³⁶ Second, such a framework might appear to be too complex – compared to more typical analytical frameworks in social sciences. However, the ontological position of a complex world (see chapter 2.1.1, page 30) calls for more complex frameworks in order to be able to address those kinds of problems that policymakers and the public sphere are interested in.²³⁷

2.3 Theoretical Considerations

In IR and FPA a theory is a simplified picture of the “complex reality underlying world politics.”²³⁸ It sharpens the analyst’s focus on particular causal processes and thereby helps to properly describe, explain, and sometimes even predict real-world events.²³⁹

²³² Sil and Katzenstein, p. 421.

²³³ Eun, p. 772.

²³⁴ Sil and Katzenstein, p. 414.

²³⁵ Sil and Katzenstein, p. 414.

²³⁶ Sil and Katzenstein, p. 415.

²³⁷ Sil and Katzenstein, p. 421 A multi-causal and multi-dimensional analytical approach makes even more sense keeping in mind that one of the main ways of judging a theory’s scientific value is its ability to predict future developments with a certain degree of probability. Research results indicate that the accuracy of forecasts increases with the incorporation of different scientific and theoretical approaches (414).

²³⁸ Eun, p. 780; Mearsheimer and Walt, p. 431.

²³⁹ Eun, pp. 779–80; Mearsheimer and Walt, p. 431; Brecher, ‘International Studies in the Twentieth Century and Beyond. Flawed Dichotomies, Synthesis, Cumulation. ISA Presidential Address’, p. 217; Hay, p. 47.

Following the call for a multi-causal and multi-dimensional analysis, this dissertation combines four theoretical approaches, namely International Order, Complex Interdependence, Perceptions and the Bureaucratic Politics Model (BPM). These approaches have been chosen as they shed light on those causal mechanisms this dissertation is interested to investigate. They are thus particularly well suited to understand Germany's Arctic engagement and thereby to answer the dissertation's research questions.

The concepts of *International Order* and *Complex Interdependence* have been chosen to describe and analyze the operational environment (or structural setting of international politics and foreign affairs), the existing interdependencies between the global and regional (Arctic) level (international dimension) as well as Germany (domestic dimension). The concept of *Perceptions* then offers a way to analyze how the affected ministries have perceived these interdependencies in the decision context. It also makes possible to deduce their political interests with regard to the Arctic. The identification of ministerial interests then allows – via the *Bureaucratic Politics Model* – to analyze the Arctic Policy Guidelines decision-making process and offer an explanation for the geo-economic focus of the document.

2.3.1 International Order and Complex Interdependence

The international system, comprising of structures and processes, is changing fundamentally as the world enters “a new era of connectivity and integration.”²⁴⁰ In world politics, thus, nation-states and their decision-makers face a new array of shaping and constraining forces from a highly interdependent international order in the 21st century.

Whilst foreign policy decisions and actions are taken by conscious and self-determined human decision-makers, they do not act in a vacuum and thus do not possess an unlimited list of potential options to act upon.²⁴¹ Instead their room for manoeuvre is restricted by certain contextual factors and conditions – both at the international and the domestic level.²⁴² By bringing together the theoretical concepts of *International Order* and *Complex Interdependence*, it becomes possible to analyze the international

²⁴⁰ Goldin and Mariathan, pp. 2, 9; Hill, p. 11; Keohane and Nye, p. 3.

²⁴¹ Eun, p. 770.

²⁴² The constraining and shaping factors on the domestic level are discussed in further detail in the chapters on perceptions and bureaucratic politics (see chapter 2.3.2 and 2.3.3).

system from two different but complementary analytical angles, namely in terms of structures and processes. In this dissertation's context, structure is understood as the international order's composition, comprising of the three analytical categories "structure", "functioning", and "nature". It focuses primarily on the distribution of capabilities among units.²⁴³ Processes are understood as „the patterns of interaction – the ways in which the units relate to each other.”²⁴⁴ It focuses on the interactions between the international order's components (regional and functional orders, nation-states and non-state actors). It also includes the patterns of interaction between global developments (e.g. climate change and globalization) and the international order. In addition, it allows to analyze the connections between the global level and the Arctic on the one side and the domestic situation in Germany on the other. Taken together, this allows for a comprehensive analysis of the operational environment in the three issues areas.

To address questions of international order is a central task of many IR theories.²⁴⁵ What all four major IR paradigms (realism, liberalism, institutionalism, and constructivism) agree on, is the fact that anarchy is the background condition for the emergence of any international order.²⁴⁶ However, they disagree about the political implications of anarchy. Whilst for realists conflict is more likely in an anarchical world, liberalists (because of international society and international law), institutionalists (because of international institutions, regimes, treaties and conventions) and constructivists (because of ideas, identities and interactions) are more optimistic about the possibility for cooperation.²⁴⁷ The three realist core assumptions – groupism (“Humans face one another mainly as members of groups. Today the most important human groups are nation-states and the most important source of in-group cohesion is nationalism.”), egoism (“Self-interest ultimately drives political behavior.”), and power-

²⁴³ Deborah L. Hanagan, 'International Order', in *U.S. Army War College Guide to National Security Issues*, ed. by J. Boone Jr. Bartholomees, National Security Policy and Strategy, 2, 5th edn (Carlisle: US Army War College, 2012), pp. 1–433 (p. 123); Keohane and Nye, p. 275.

²⁴⁴ Keohane and Nye, p. 275.

²⁴⁵ For an up-to-date discussion about the current international (dis)order see Carlo Masala, *Weltunordnung. Die Globalen Krisen Und Das Versagen Des Westens* (München: C.H. Beck, 2016).

²⁴⁶ *International Politics. Enduring Concepts and Contemporary Issues*, ed. by Robert J. Art and Robert Jervis, 12th edn (Boston, Massachusetts: Pearson, 2014).

²⁴⁷ Hanagan, pp. 125–31.

centrism (Power is the fundamental feature of politics.)²⁴⁸ – however, are identified in this dissertation as the most fundamental characteristics of nation-state behaviour. Therefore the dissertation broadly follows the realist assumptions about international order, according to which a state's capacity to act is strongly influenced by the international structure and domestic power resources. Yet, at the same time, it is assumed that these assumptions cannot entirely explain the international order or nation-state behaviour. Obviously, and in contrast to realist reasoning, states are not unitary actors, they are not the only actors in international politics, and the international order is not the exclusive driving force of a state's foreign policy.²⁴⁹ Instead, to make sense of current affairs, it is necessary to incorporate elements of the various other theoretical paradigms.²⁵⁰

The term 'international order', as understood in the context of this dissertation, comprises of three analytical categories, namely „the structure, functioning and nature of the international political system.”²⁵¹ Structure is understood as „the distribution of power among states, functioning as “the ‘rules of the game’ that delineate how states act toward each other,” and nature as ‘content or character’.”²⁵² The international order comprises of three levels: the global level, the regional level and the national level. The global level is understood as “the total web of relationships among all actors.”²⁵³ The regional level focuses on a geographically defined region, and “represents an intermediate level.”²⁵⁴ The national level is a single state.²⁵⁵ In addition, functional orders exist and, increasingly, non-state actors shape the international order, too. To sum up, the international order is composed of overlapping, mutually interdependent and interacting regional and functional partial orders, nation states and non-state actors.

²⁴⁸ William C. Wolforth, 'Realism and Foreign Policy', in *Foreign Policy. Theories. Actors. Cases*, ed. by Steve Smith, Amelia Hadfield, and Tim Dunne, 2nd edn (Oxford: Oxford University Press, 2012), pp. 35–53 (p. 36).

²⁴⁹ Walter Carlsnaes, 'Actors, Structures, and Foreign Policy Analysis', in *Foreign Policy. Theories. Actors. Cases*, ed. by Steve Smith, Amelia Hadfield, and Tim Dunne, 2nd edn (Oxford: Oxford University Press, 2012), pp. 113–29 (p. 117).

²⁵⁰ Hanagan, p. 132.

²⁵¹ Hanagan, p. 123 These three analytical categories are applied to the international and the regional level.

²⁵² Hanagan, p. 124.

²⁵³ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 5.

²⁵⁴ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 6.

²⁵⁵ Nation-states are still considered of playing the most important role in constraining and shaping the international order. However they do no longer play an exclusive role.

The concept of 'complex interdependence', developed by Keohane and Nye and inspired by liberal-institutionalist thought, suits well as an additional analytical angle as it also focuses on national power in the context of growing global interdependencies. The term 'complex interdependence' "refers to situations characterized by reciprocal effects among countries or among actors in different countries"²⁵⁶ as well as among networks of interdependence at multicontinental distances in environmental, economic, and military affairs.²⁵⁷ As a result of globalization, the world in environmental, economic, political, and security affairs is "more tightly linked than ever before, and the connections are more complex."²⁵⁸ Following Goldin and Mariathan, globalization is here understood as "the process driven by and resulting in increased cross-border flows of goods, services, money, people, information, technology, and culture. These flows are multidimensional, and the number of connections between them is unprecedentedly large and growing exponentially."²⁵⁹ This definition has been chosen for two reasons. First, it connects well with the argument made, that the world and global affairs are becoming increasingly complex (see chapter 2.1.1, page 30). Second, the focus on increasing multidimensional cross-border flows can be linked to the assumption of an increasing blurring line between international and domestic affairs (see chapter 2.1.1, page 30).

The increasing connectivity deepens interdependencies and as a result of this deepening the web of connections (interdependencies) becomes more complex.²⁶⁰ Based on Goldin and Mariathan's definition, complexity is understood as „phenomena generated by interacting parts, all of whose causal connections are not easily discernible, [and] whose behaviour over time exhibits disorder and behaves unpredictably or chaotically.“²⁶¹

It is against the background of this increasing complex interdependence that the concept of power is widened. It is no longer understood exclusively as coming "out of the barrel

²⁵⁶ Keohane and Nye, p. 7.

²⁵⁷ Keohane and Nye, pp. 225, 227–28.

²⁵⁸ Goldin and Mariathan, p. 1; Keohane and Nye, p. 9.

²⁵⁹ Goldin and Mariathan, p. 10 No common definition of globalization exists. For a brief overview on discussions about globalization and international relations see ; Ian Clark, *Globalization and International Relations* (Oxford: Oxford University Press, 19991); Ian Clark, 'Beyond the Great Divide. Globalization and the Theory of International Relations', *Review of International Studies*, 24.4 (1998), 479–98.

²⁶⁰ Goldin and Mariathan, pp. 4, 23.

²⁶¹ Goldin and Mariathan, pp. 19, 21.

of a gun.”²⁶² Instead, a growing interdependence between states as well as between states and global developments (and vice versa) enhances the risk of asymmetric vulnerabilities on both sides.²⁶³ These vulnerabilities are measured in “sensitivity” and “vulnerability”. Sensitivity is captured as “costly effects of cross-border flows on societies and governments, within an unchanged framework of basic policies.”²⁶⁴ Vulnerability is grasped as an „actor’s liability to suffer costs imposed by external events even after policies have been altered.“²⁶⁵ Via these two categories it is possible to analyze the process-related interdependencies between the global level and the Arctic (international dimension) on the one side and Germany (domestic dimension) on the other.²⁶⁶ This gives a comprehensive overview of the decision context in the three defined issue areas (environmental, economic and political affairs) in which the federal ministries shaped Germany’s Arctic engagement. The main idea is that in an interdependent world the effects of interaction are consequential, meaning they are costly.²⁶⁷ Changes in one actor’s constitution can have implications for another actor’s condition.²⁶⁸ At the same time, it is important to highlight that these implications most often impact domestic affairs of a state. Thus under circumstances in which the actions of global or regional actors influence another state’s domestic affairs, this state then reacts to these external pressures. Sensitivity and vulnerability “can be caused by real flows or by perceptions of potential flows.”²⁶⁹ This is a particularly important consideration, as “[v]ulnerability can only be distinguished from sensitivity if there is an actor, or agent, that reacts to a set of flows: only then can one distinguish vulnerability from sensitivity.”²⁷⁰ Thus a key analytical task in this regard is to investigate how actors perceive their power and interests to be affected by the constraints and opportunities in

²⁶² Keohane and Nye, p. xxxii.

²⁶³ Keohane and Nye, p. xxxii.

²⁶⁴ Keohane and Nye, p. 232.

²⁶⁵ Keohane and Nye, p. 233 An interesting complementary reading on vulnerability is Taleb’s discussion of the concept of antifragility; Nassim Nicholas Taleb, *Antifragile. Things That Gain from Disorder* (London: Penguin Group, 2012).

²⁶⁶ Obviously, these process-related interdependencies have an impact on the structure of the international order, too.

²⁶⁷ Keohane and Nye, p. 232.

²⁶⁸ Hill, p. 175.

²⁶⁹ Keohane and Nye, pp. 232–33 This is an important ontological consideration as the structure-oriented theoretical approach of Complex Interdependence ‘takes into account human agency’ (Keohane and Nye, p. 233).

²⁷⁰ Keohane and Nye, p. 233.

the operational environment.²⁷¹ Consequently, structural and agential factors, domestic and international drivers, and the interactions between both levels have to be thought and analyzed together.²⁷²

On this basis, it becomes evident that “perceptions matter”. How they shape political interests and policy positions of decision-makers will be shown in the next section.

2.3.2 Perceptions and Interests

The operational environment²⁷³ does not directly impact on the foreign policy decision-making process. Instead, the effects of the decision context have to be perceived, filtered, or downloaded by those domestic players who act on behalf of their bureaucracies.²⁷⁴ Only after decision-makers²⁷⁵ have taken notice of a situation and its constraining and shaping opportunities they can define their particular interests and forge a foreign policy as a reaction to these sources.²⁷⁶ So policy-makers “do not respond to the “objective” facts of the situation, whatever that may mean, but to their “image” of the situation. It is what [they] think the world is like, not what it is really like, that determines [...] [their] behavior.”²⁷⁷ It is interesting to see that this insight is accepted not only by academics but also by policy practitioners.²⁷⁸

Jervis, therefore, argues that “it is often impossible to explain crucial decisions and policies without reference to the decision makers’ beliefs about the world and their

²⁷¹ Keohane and Nye, p. 275.

²⁷² Keohane and Nye, p. 275.

²⁷³ For a definition of the operational environment, see page 52.

²⁷⁴ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*; Snyder, Bruck, and Sapin; Sprout and Sprout, *The Ecological Perspective on Human Affairs. With Special Reference to International Politics*; Harold Sprout and Margaret Sprout, *An Ecological Paradigm for the Study of International Politics*, Research Monograph, 30 (Princeton, New Jersey: Center of International Studies, 1968); Harold Sprout and Margaret Sprout, ‘Environmental Factors in the Study of International Politics’, in *International Politics and Foreign Policy*, ed. by James Rosenau (New York: Free Press, 1969), pp. 41–56; Keohane and Nye, p. 249.

²⁷⁵ In this dissertation ministerial bureaucrats below the level of the minister are also understood as decision-makers as they interact with domestic and international counterparts and partly have the authority to decide and to act on behalf of their respective ministry.

²⁷⁶ Hill, p. 174; Eun, p. 772.

²⁷⁷ Kenneth E. Boulding, ‘National Images and International Systems’, *The Journal of Conflict Resolution*, 3.2 (1959), 120–31 (pp. 120–21).

²⁷⁸ Javier Solana, *Grave New World* (Prague and New York: Project Syndicate, 25 September 2014) <<http://www.project-syndicate.org/commentary/javier-solana-urges-the-world-s-traditional-and-emerging-powers-to-unite-to-confront-shared-challenges>> [accessed 26 September 2014].

image of others.”²⁷⁹ Thus, besides of structural factors, ideational factors are understood of having causal influence, too.

Instead of rationalist approaches, according to which decision-makers most often are able to correctly perceive the “objective” world, the academic work on perceptions is strongly influenced by the cognitive approach, rooted in political psychology, and the underlying idea that the human mind has only limited capacities to process information about an inherently complex world. Cognitive approaches conclude that decision-makers use mental “short cuts” and act within a “bounded rationality” – even when they think they act rational, they do so on a limited understanding of the true nature of the world.²⁸⁰ This implies the possibility of misperceptions of the “real world”.

No commonly shared definition of perceptions exists. Perceptions, in the broadest sense, are understood as “the process of apprehending by means of the senses and recognizing and interpreting what is processed.”²⁸¹ This dissertation basically follows Jervis’ logic who defines perceptions as „the decision-makers’ beliefs about the world and their images of others.”²⁸² And yet the dissertation’s analytical focus is on collective perceptions, understood as the aggregated perceptions of ministries, instead of those of individual decision-makers. Thus this dissertation is more influenced by the basic assumption that perceptions are “beliefs about the world and their images of others” than by the focus on single actors (for a more detailed discussion about this point, see page 54).

Key to the theoretical development in FPA of the relationship between the operational environment, perceptions thereof, and the decision-making process is the work of Brecher, Snyder et al. as well as Sprout and Sprout.²⁸³ All of them claim that instead of

²⁷⁹ Jervis, p. 28.

²⁸⁰ Jerel A. Rosati, ‘The Power of Human Cognition in the Study of World Politics’, *International Studies Review*, 2.3 (2000), 45–75 (pp. 45, 49–52); Levy, p. 9; Jerel A. Rosati and Colleen E. Miller, *Political Psychology, Cognition, and Foreign Policy Analysis*, The International Studies Encyclopedia (International Studies Association, 2010), p. 3
<http://www.isacompendium.com/public/tocnode?id=g9781444336597_yr2015_chunk_g978144433659716_ss1-10> [accessed 4 February 2017].

²⁸¹ Janice Gross Stein, *Threat Perception in International Relations*, 2013, p. 55 (p. 2)
<<https://www.surrey.ac.uk/politics/research/researchareasofstaff/isppsummeracademy/instructors%20/Stein%20-%20Threat%20Perception%20in%20International%20Relations.pdf>> [accessed 2 February 2017].

²⁸² Jervis, p. 28.

²⁸³ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*; Snyder, Bruck, and Sapin; Sprout and Sprout, *The Ecological Perspective on Human Affairs. With Special Reference to International Politics*; Sprout and Sprout, *An Ecological Paradigm for the Study of International Politics*; Sprout and Sprout, ‘Environmental Factors in the Study of International Politics’.

the objective reality of the decision context, decision-maker attitudes and images thereof influence state behavior. Thus, there is a difference between the objective nature of the operational environment and decision-makers perceptions of it – the psychological environment. With reference to international politics, the concept of perceptions has been developed first by Sprout and Sprout, who identified human decision-makers as the central interface between international relations and domestic politics.²⁸⁴ They elaborated on the distinction between the “operational environment”, defined as the objective reality, and the “psychological environment”, described as “subjective and under the influence of a myriad of perceptual biases and cognitive stimuli.”²⁸⁵ According to Sprout and Sprout, decisions are taken primarily on the basis of the “psychological environment”, as decision-makers rely “on perceptions as a guide, rather than any cold weighing of objective facts.”²⁸⁶ As a consequence, “foreign policy decisions are most often not the most “rational” or most optimal decisions, given the country’s interests.”²⁸⁷ Brecher follows the distinction between the operational and the psychological environment. He defines the operational environment as “the setting in which foreign policy decisions are taken.”²⁸⁸ In addition the operational environment is sought to comprise of “two general types of variables, external and internal.”²⁸⁹ The external part “refers to conditions and relationships which exist beyond the territorial boundaries of states.”²⁹⁰ This part composes of a global, a regional and a bilateral level. Whilst an analysis of the setting is important it might be even more relevant to analyze the images of decision-makers: “Perception of reality might not correspond with reality, but the perceptions held by elites may be much more formative of foreign policy than objective measures of the operational environment.”²⁹¹ Thus the decision context shapes “the results or outcomes of decisions directly but influences the choices among policy options [...] only as it is filtered through the images of decision-makers.”²⁹²

²⁸⁴ Hyam Gold, ‘Foreign Policy Decision-Making and the Environment. The Claims of Snyder, Brecher, and the Sprouts’, *International Studies Quarterly*, 22.4 (1978), 569–86 (p. 571); Sprout and Sprout, ‘Environmental Factors in the Study of International Politics’.

²⁸⁵ Chris Alden and Aran Amnon, *Foreign Policy Analysis. New Approaches* (London: Routledge, 2012), pp. 19–20.

²⁸⁶ Alden and Amnon, p. 20.

²⁸⁷ Kaarbo and others, p. 13.

²⁸⁸ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 2.

²⁸⁹ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 5.

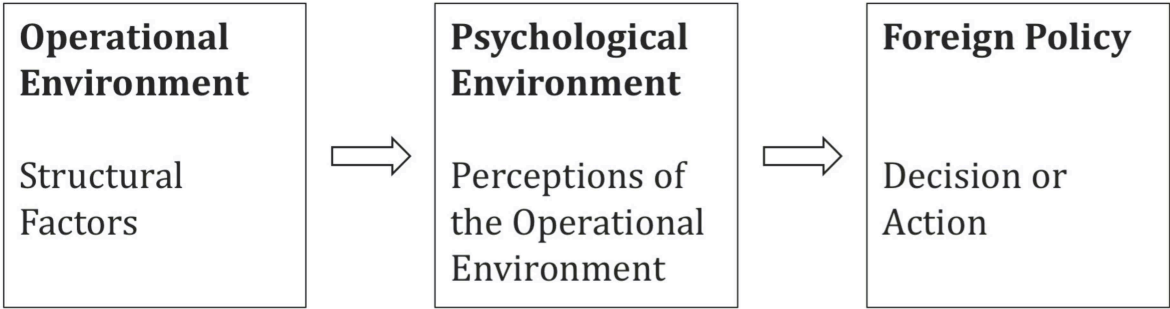
²⁹⁰ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 6.

²⁹¹ Brecher, 1972, in: Hudson, 2007: 170

²⁹² Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, pp. 4–5.

Closely linked to the assumption that the operational environment has to be perceived in order to shape foreign policy is this dissertation's understanding that based on perceptions of the operational environment concrete policy interests are developed by the perceiving decision-makers.²⁹³ Only after the "definition of a situation" and the "constructed national interest" a concrete foreign policy is developed.²⁹⁴

Figure 1 - The Perceptions-Foreign Policy-Link



To sum up, perceptions matter. Yet, whilst this dissertation broadly follows the above discussed propositions, they are complemented by two important considerations.

First, what Snyder et al., Sprout and Sprout, and Brecher seem to assume, is a rather linear and direct relationship between perceptions of the operational environment and foreign policy decisions or actions. This dissertation, however, follows the assumption that perceptions only indirectly influence foreign policy. Whilst a direct relationship seems plausible in cases where there is only one key decision-maker²⁹⁵ or where all participating actors in the decision unit perceive the operational environment in an identical manner, the same relationship becomes implausible when perceptions within a decision group diverge. In these cases, perceptions will still affect the policy positions taken by single decision makers. But these single positions, in order to become the

²⁹³ David Patrick Houghton, 'Reinvigorating the Study of Foreign Policy Decision-Making. Toward a Constructivist Approach', *Foreign Policy Analysis*, 2007.3 (2007), 24-45 (pp. 29, 31).

²⁹⁴ Jutta Weldes, 'Constructing National Interests', *European Journal of International Relations*, 2.3 (1996), 275-318 (p. 280); Snyder, Bruck, and Sapin; Houghton, p. 37; Levy, p. 7.

²⁹⁵ Many cognitive approaches have been developed in the 1970s, at a time when foreign policy was much more centralized compared to today. In addition most of these approaches have been developed in the US, where the President traditionally plays an above-average role in foreign policy decision-making, compared to other countries. Two prominent examples of cognitive approaches analyzing US decision-makers are: Ole R. Holsti, 'Cognitive Dynamics and Images of the Enemy. Dulles and Russia', in *Image and Reality in World Politics*, ed. by R. Axelrod (New York: Columbia Press, 1967), pp. 16-39; S. G. Walker, 'Cognitive Maps and International Realities. Henry Kissinger's Operational Code and the Vietnam War', *Journal of Conflict Resolution*, 21 (1977), 129-68 Today, such an assumption of a centralized decision-making process with one central decision-maker makes less sense against the background of growing ministerial independence in foreign policy, as has been elaborated in chapter 1.4.

government's position, have to be fought for in a bureaucratic bargaining game. Thus, perceptions no longer directly influence decision-making outcomes. It is therefore necessary to integrate the concept of perceptions (operational environment and psychological environment) with the BPM into an integrated analytical framework.

Second, Brecher, Snyder et al. and Sprout and Sprout as well as other cognitive approaches like George's "operational code", Axelrod's "cognitive mapping", or Wohlstetter's "information processing" largely focus on the perceptions of single decision-makers, or in other words, of individual persons. Aggregated ministerial perceptions only play a minor role.²⁹⁶ This dissertation, however, analyzes the perceptions of bureaucracies, in this case German federal ministries.²⁹⁷ Obviously ministerial perceptions are the result of the aggregation of perceptions of individual bureaucrats working in a ministry. But these bureaucrats are assumed to be heavily socialized by the ministry they are working in. According to Scharpf, "the departmental identity of actors shapes their "selective perception" [...]."²⁹⁸ Against this background, institutions are understood as "provid[ing] moral or cognitive templates for interpretation and action. The individual is seen as an entity deeply imbricated in a world of institutions [...] which provide the filters for interpretation [...]."²⁹⁹ Hence, in this dissertation the shaping role of ministerial perceptions on ministerial policy positions is understood to be bigger than the personal perceptions of individual bureaucrats. To recur to the structure-agency debate (see chapter 2.1.1, page 31) the former beats the latter in terms of perceptions' influence on ministerial policy positions. However, the dissertation equally acknowledges that institutions can only have an influence on political outcomes through the actions of their bureaucrats..³⁰⁰ In focusing on federal ministries, this dissertation follows a new institutionalist assumption which

²⁹⁶ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*; Snyder, Bruck, and Sapin; Sprout and Sprout, 'Environmental Factors in the Study of International Politics'; *Structure of Decision. The Cognitive Maps of Political Elites*, ed. by R. Axelrod (Princeton, New Jersey: Princeton University Press, 2015); Alexander L. George, 'The "Operational Code". A Neglected Approach to the Study of Political Leaders and Decisionmaking', *International Studies Quarterly*, 13.2 (1969), 190–222; Roberta Wohlstetter, *Pearl Harbor. Warning and Decision* (Stanford: Stanford University Press, 1962).

²⁹⁷ A similar analytical focus on institutional perceptions has been taken by: Carolyn Peach H. Brown and others, 'Institutional Perceptions of Opportunities and Challenges of REDD+ in the Congo Basin', *Journal of Environment & Development*, 20.4 (2011), 381–404.

²⁹⁸ Fritz W. Scharpf, *Games Real Actors Play. Actor-Centered Institutionalism in Policy Research* (Boulder, Colorado: Westview Press, 1997), p. 39.

²⁹⁹ Peter A. Hall and Rosemary C. R. Taylor, *Political Science and the Three New Institutionalisms* (Cambridge, Massachusetts: Harvard University, Political Science Department, 9 May 1996), p. 32 (p. 8) <http://edoc.vifapol.de/opus/volltexte/2011/2782/pdf/dp96_6.pdf> [accessed 26 November 2013].

³⁰⁰ Hall and Taylor, p. 7.

is, for instance rooted in actor-centered institutionalism³⁰¹, according to which institutions are central actors in political decision-making processes and “structure a nation’s response to new challenges.”³⁰² According to Allison and Zelikow, “governments perceive problems through organizational sensors.”³⁰³ Thus individual bureaucrats are understood as agents of an institution and their perceptions are to a large degree influenced by the institutions they are working in (for a more detailed discussion of this aspect, see chapter 2.3.3.1, page 59).³⁰⁴ Based on these ministry-influenced perceptions bureaucrats try to influence the inter-ministerial decision-making process according to the interests of the respective ministry.

In following this second consideration about the importance of ministerial perceptions, Jervis’ definition of perceptions is slightly modified. Ministerial perceptions are defined as *the ministries’ beliefs about the world and their images of others*. These ministerial perceptions have to be analyzed in order to infer the political and bureaucratic interests of the various ministries involved in the decision-making process. Only after the identification of the respective ministerial interests the actual bargaining process between the ministries that led to the publication of the Arctic Policy Guidelines can be analyzed. In order to do so, the BPM is applied to analyze the Arctic Policy Guidelines formulation process

2.3.3 Bureaucratic Politics

What seems evident is that perceptions of the operational environment do not directly impact on national foreign policy-making. Instead they are filtered by the bureaucracy and then influence ministerial interests and the respective bargaining processes. Consequently, environmental perceptions are more important in influencing the initial policy positions of bureaucratic actors, prior to their bargaining games, instead of directly influencing decision outcomes.³⁰⁵

³⁰¹ Scharpf.

³⁰² Hall and Taylor, p. 9; Stephen Bell, *Institutionalism: Old and New*, 2002, p. 16 (pp. 1, 7) <<https://espace.library.uq.edu.au/view/UQ:9699/Institutionalism.pdf>> [accessed 27 November 2013].

³⁰³ Allison and Zelikow, p. 143.

³⁰⁴ In this case bureaucrats are actors but at the same time they are part of a ministerial structure. To make things even more complicated a ministry is not only a structure in which agents or bureaucrats work but it is an agent, too, when it interacts with other ministries.

³⁰⁵ Gold, p. 584.

The Bureaucratic Politics Model (BPM) is one of the most frequently used concepts in social science in general and in FPA in particular.³⁰⁶ Its main focus lies on the interactions of various bureaucratic actors in the design of a state's foreign policy. Contrary to IR theories that treat the state as a unitary actor with a coherent set of interests, the BPM acknowledges the state's incoherence in political interests, decisions and actions – due to the multifaceted character of foreign policy (see chapter 1.1.1 and 1.1.2).

Consequently, foreign policy problems often overlap and influence each other. Foreign policy making is not a linear approach. Instead, government behavior is a collage of various and partly conflicting decisions and actions (e.g. authorizing action by a department, giving a speech, the phrasing of a cable or the publication of a ministerial document).³⁰⁷ In order “[t]o explain why a particular formal governmental decision was made, or why one pattern of governmental behavior emerged, it is necessary to identify the games and players, to display the coalitions, bargains, and compromises, and to convey some feel for the confusion.”³⁰⁸

The BPM differs in two important aspects from basic assumptions of many IR theories. First, the BPM conceptualizes the nation state and the national government in foreign and security policy not as a unified actor that reacts in a rational way to international opportunities and challenges.³⁰⁹ Instead it is assumed that the government consists of various bureaucratic organizations and individual political actors acting in the name of an institution.³¹⁰ These organizations are defined as “groups of individual human members assembled in regular ways, and established structures and procedures dividing and specializing labor, to perform a mission or achieve an objective.”³¹¹ Among them responsibility for particular tasks is split along their respective areas of responsibility – even though almost no policy issue can be exclusively assigned to only

³⁰⁶ Jerel A. Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, *World Politics*, 33.2 (1981), 234–52 (p. 235).

³⁰⁷ Allison and Zelikow, p. 257.

³⁰⁸ Allison and Zelikow, pp. 256–57.

³⁰⁹ Thomas Jäger, Kai Oppermann, and Alexander Siedschlag, ‘Bürokratie- Und Organisationstheoretische Analysen Der Sicherheitspolitik. Vom 11. September Zum Irakkrieg’, in *Methoden Der Sicherheitspolitischen Analyse* (Wiesbaden: VS Verlag für Sozialwissenschaften, 2006), pp. 109–38 (p. 107).

³¹⁰ Allison and Halperin, p. 42; Morton H. Halperin, *Bureaucratic Politics and Foreign Policy* (Washington, D.C.: Brookings Institution Press, 1974), pp. 311–12; Allison and Zelikow, p. 143; Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 75.

³¹¹ Allison and Zelikow, pp. 144–45.

one organization or ministry.³¹² As tasks are divided, power is shared. The transfer of power to different organizations results in a lack of unified power for the single central authority, in this case the head of government.³¹³ As the bureaucratic players (in this case ministries) can act to a large degree independently on their particular policy issues, overall policy coherence is undermined and the foreign policy behavior sometimes seems rather irrational.³¹⁴ This is due to diverging policy preferences and interests on the one side and the challenges to effectively coordinate these multiple actors on the other. Each organization (i.e. ministry) has different interests and is mainly concerned with those aspects of a policy issue that affects the organization's interests.³¹⁵ In order to counter the departmentalization of a state's policy response, the government has to coordinate the various organizational decisions and actions. Organizations, however, prefer policy stands that ensure political autonomy over extensive inter-ministerial coordination and cooperation.³¹⁶

To sum up, the "[f]actored problems and fractionated power are two edges of the same sword. Factoring permits more specialized attention to particular facets of problems."³¹⁷ However, most policy issues do not fall into the exclusive competence of only one organization (see the discussions about the "Principle of Chancellor policy guidelines" and the "Principle of ministerial autonomy", page 4).³¹⁸ And the greater the number of actors involved in a decision-making process, the more complicated becomes the coordination of these actors, thereby negatively affecting the coherence and comprehensiveness of foreign policy actions.

Second, the BPM rejects parsimonious theoretical models that offer simplified explanations for nation-state behavior whilst missing the more peculiar and context-dependent factors that led to specific actions.³¹⁹ Still, "it is possible to identify a number

³¹² Allison and Zelikow, pp. 143, 166.

³¹³ Allison and Zelikow, pp. 164–65, 167, 173.

³¹⁴ Allison and Zelikow, pp. 143, 166; Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 75.

³¹⁵ Allison and Halperin, p. 42; Halperin, *Bureaucratic Politics and Foreign Policy*, pp. 311–12; Rosati, 'Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective', p. 237.

³¹⁶ Allison and Halperin, p. 49.

³¹⁷ Allison and Zelikow, p. 167.

³¹⁸ Allison and Zelikow, p. 173.

³¹⁹ Allison and Halperin, p. 42.

of relevant factors, and, in many cases, analysts can acquire enough information about these factors to offer explanations and analyze the future.”³²⁰

Three paradigms have been identified as being particularly relevant for the analysis of bureaucratic politics: the “Stand-Sit” Proposition, the “Bargaining” Proposition, and the “Resultant” Proposition.³²¹ The “Stand-Sit” Proposition represents the structure of the decision-making process: “numerous individuals and organizations, with varying interests, are involved for any single issue, without the predominance of any participant.”³²² The “Bargaining” Proposition and the “Resultant” Proposition refer to the decision-making process: “the decision is formulated through bargaining and compromise, and considerable slippage occurs during implementation.”³²³ Hence, decisions and actions often are a result around the lowest common denominator, instead of the most logical or rational position.³²⁴ Thus by focusing on the decision-making structure as well as the decision-making process the BPM both describes and explains a state’s foreign policy behavior.³²⁵

2.3.3.1 The “Stand-Sit” Proposition

The “Stand-Sit” Proposition is composed of two assumptions. First, individual bureaucrats’ interests are heavily influenced by the organizational interests of the bureaucracy (in this case a ministry) they are working in. Second, in inter-ministerial bargaining games bureaucrats aim to protect their ministry’s core interests.

³²⁰ Allison and Zelikow, p. 305 This call for more complex theoretical approaches and the rejection of parsimonious theoretical models is in line with Sil and Katzenstein’s call for an analytical eclecticism (see chapter 2.2).

³²¹ Paradigms are defined as ‘a systematic statement of the basic assumptions, concepts, and propositions employed by a school of analysis [...] Weaker than a satisfactory theoretical model, these paradigms nevertheless represent an important step in that direction from looser, implicit conceptual models.’ (Merton, 1968, in: Allison and Zelikow, 1999, pp. 23-24) Robert Merton, *Social Theory and Social Structure* (New York: The Free Press, 1968), pp. 69-72; Allison and Zelikow, pp. 23-24.

³²² Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 238.

³²³ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, pp. 238, 249.

³²⁴ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 237; Allison and Zelikow, p. 294; Allison and Halperin, pp. 53-54.

³²⁵ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, pp. 238, 249.

Thus, a ministerial bureaucrat's policy position ("stand") is driven in most instances by the position in government ("sit") thus the ministry he or she is working in. It can be summarized as "where you stand depends on where you sit".³²⁶

The reason for a bureaucrat's self-identification with the interests of the organization he is working in is a phenomenon called role socialization, meaning "the process by which an individual's behavior and attitudes change when he or she becomes the spokesperson for a particular institution."³²⁷ This process is driven by an institution's organizational culture, which is defined as "a set of beliefs the members of an organization hold about their organization."³²⁸ It "shape[s] the behavior of individuals within the organization in ways that conform with informal as well as formal norms."³²⁹ Whilst being initially "imposed on the individual by the exercise of authority over him; [...] to a large extent the values gradually become 'internalized' and are incorporated into the psychology and attitudes of the individual participant."³³⁰ Thereby, the bureaucrat "acquires an attachment or loyalty to the organization that automatically [...] guarantees that his decisions will be consistent with the organization objectives."³³¹

And even in cases when bureaucratic actors do not personally support a policy position and thus do not internalize it, they might adopt the position nevertheless in order to protect and enforce their respective ministerial position against the position of a bureaucratic representative of another ministry.³³²

Historical Institutionalism has been influenced by this understanding of the relationship between organizations and bureaucrats. Institutions are understood as "provid[ing] moral or cognitive templates for interpretation and action. The individual is seen as an

³²⁶ Allison and Zelikow, p. 307.

³²⁷ Douglas T. Stuart, 'Foreign-Policy Decision-Making', in *The Oxford Handbook of International Relations*, ed. by Christian Reus Smit and Duncan Snidal (Oxford: Oxford University Press, 2008), pp. 576–93 (p. 584) In this context 'spokesperson' is understood as representative and not as a press officer.

³²⁸ Allison and Zelikow, p. 153.

³²⁹ Allison and Zelikow, p. 145.

³³⁰ Herbert Simon, *Administrative Behavior. A Study of Decision-Making Processes in Administrative Organizations*, 4th edition (New York: Free Press, 1997), p. 278.

³³¹ Simon, p. 278.

³³² Morton H. Halperin, 'Why Bureaucrats Play Games', *Foreign Policy*, 2.Spring (1971), 70–90 (p. 73); Morton H. Halperin, Priscilla Clapp, and Arnold Kanter, *Bureaucratic Politics and Foreign Policy* (Washington, D.C.: Brookings Institution Press, 2006), p. 61; Auswärtiges Amt, *Selbsteinschätzung. Ist Der Höhere Auswärtige Dienst Das Richtige Für Mich?* (Berlin: Auswärtiges Amt, 2017), p. 1 <<http://www.auswaertiges-amt.de/cae/servlet/contentblob/373716/publicationFile/134001/Selbsteinschaetzung.pdf>> [accessed 2 February 2017] During the selection process of the German Federal Foreign Office, applicants are explicitly asked whether they could stand in for a policy position which they are not personally convinced of.

entity deeply imbricated in a world of institutions [...] which provide the filters for interpretation [...].”³³³ Consequently, “[t]he values and objectives that guide individual decisions in organizations are largely the organizational objectives [...].”³³⁴ This is why an actor’s policy preference can be predicted from his position in government.³³⁵ Thus, an organizational culture has an impact on the design and implementation of foreign policy.³³⁶

Generally speaking there are three main interests of organizations which bureaucrats aim to protect: the retention of the organization’s essence, the protection of areas of responsibility, and the ability to maintain an autonomous actorness.³³⁷ Closely connected to the last interest, are two additional rationales: to safeguard budget and staff (an organization’s capabilities), and the ability to maintain the staff’s motivation and morale.³³⁸

First, an organizational essence is “the view held by the dominant group in the organization of what the missions and capabilities should be.”³³⁹ Thus, the organizational essence defines the bureaucracy’s self-image, identity and mission.³⁴⁰ These features, according to Peters, are mainly developed from within the organization.³⁴¹ And they are extremely important for the organization’s viability. Without “focus and vision, an organization may not develop the special skill set needed to possess influence within the bureaucracy, and it may also lose its ability to instill morale in its members.”³⁴² Two aspects are important with regard to the influence of an organization’s essence on the definition of its interests: First, an organization prefers those policies that increase its importance, influence and relevance. Second, an

³³³ Hall and Taylor, p. 8.

³³⁴ Simon, p. 278.

³³⁵ Kevin Marsh, ‘Obama’s Surge. A Bureaucratic Politics Analysis of the Decision to Order a Troop Surge in the Afghanistan War’, *Foreign Policy Analysis*, 10.3 (2014), 265–88 (p. 269).

³³⁶ Drezner, ‘Ideas, Bureaucratic Politics, and the Crafting of Foreign Policy’, pp. 735–36.

³³⁷ Halperin, Clapp, and Kanter, pp. 25–27, 38–40; Brummer, *Die Innenpolitik Der Außenpolitik. Die Große Koalition, ‘Governmental Politics’ und Auslandseinsätze Der Bundeswehr*, p. 45.

³³⁸ Brummer, *Die Innenpolitik Der Außenpolitik. Die Große Koalition, ‘Governmental Politics’ und Auslandseinsätze Der Bundeswehr*, p. 45; Halperin, Clapp, and Kanter, pp. 25–27, 38–40.

³³⁹ Halperin, Clapp, and Kanter, p. 27.

³⁴⁰ Brummer, *Die Innenpolitik Der Außenpolitik. Die Große Koalition, ‘Governmental Politics’ und Auslandseinsätze Der Bundeswehr*, p. 45.

³⁴¹ Guy B. Peters, *The Politics of Bureaucracy. An Introduction to Comparative Public Administration*, 6th Edition (London and New York: Routledge, 2010), p. 152.

³⁴² Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 76.

organization is mainly engaged in preserving those capabilities that are seen as critical for the realization of its main policies or governmental tasks. As a consequence, an organization will fight mainly those policies that might result in a loss of tasks that then could endanger the organization's essence.³⁴³

Second, with regard to the protection of areas of responsibility, two points have to be kept in mind. First, most organizations have an exclusive area of responsibility – even though the lines between different issue areas as well as between domestic and international affairs are increasingly blurred (see 2.1.1, page 30). Thus, they have particular roles and missions.³⁴⁴ Consequently, an organization's main goal is to protect its own turf – “the substantive and skill domains in which the organization believes it has a primary claim to influence and expertise within the national bureaucracy.”³⁴⁵ Therefore, one of the main organizational goals is to avoid a loss of exclusive competencies. This is especially the case when it is about areas that touch upon an organization's essence. In other cases, when the issue at hand is less central to an organization's core interest bureaucratic competition is less likely.³⁴⁶ Second, organizations tend to act imperialistically, according to Allison and Zelikow understood as the attempt to extend its area of responsibility, when it is in line with the organization's essence and the deduced organizational interests.³⁴⁷ According to Holden, “[b]ureaucratic imperialism seems pre-eminently a matter of inter-agency conflict in which two or more agencies try to assert permanent control over the same jurisdiction, or in which one agency actually seeks to take over another agency as well as the jurisdiction of that agency.”³⁴⁸

Autonomy is the third main organizational interest. It is understood as an organization's independent mandate on financial and human resources as well as the rather independent design and implementation of policies.³⁴⁹ Autonomy reduces – even though organizational overlaps are inescapable – the necessity to cooperate and to coordinate

³⁴³ Brummer, *Die Innenpolitik Der Außenpolitik. Die Große Koalition, 'Governmental Politics' und Auslandseinsätze Der Bundeswehr*, p. 45; Halperin, Clapp, and Kanter, pp. 38–40.

³⁴⁴ Halperin, Clapp, and Kanter, p. 40.

³⁴⁵ Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 78.

³⁴⁶ Peters, pp. 24, 46; Halperin, Clapp, and Kanter, p. 214.

³⁴⁷ Allison and Zelikow, p. 181; Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 78.

³⁴⁸ Matthew Jr. Holden, 'Imperialism in Bureaucracy', *American Political Science Review*, 60.4 (1966), 943–51 (p. 943).

³⁴⁹ Halperin, Clapp, and Kanter, p. 51; Peters, p. 214.

with other bureaucratic actors and rivals.³⁵⁰ In case of overlapping areas of responsibility or undefined competencies regarding policy measures between bureaucracies, each organization favours the option that allows for a maximum of autonomy in pursuing the organization's respective interest. Thus, autonomy is not negotiable.³⁵¹ In reality this often leads to a lack of coordination of policies.³⁵²

Fourth, resources in terms of budget and staff are an important indicator of an organization's power vis-à-vis other bureaucracies. The larger the budget of an institution "and the larger the scope of its expertise and turf, the more likely that the organization will have veto power over other organizations in interagency working groups."³⁵³

Fifth, a core organizational interest is to maintain the motivation and morale of its staff. Three aspects are of particular relevance. First, in order to strengthen morale and motivation, bureaucrats have to believe that their work makes a difference and serves the national interest. Second, the organization's work has to be acknowledged by others. Third, the organization's significance has to be maintained vis-à-vis other organization's significance.³⁵⁴

2.3.3.2 The "Bargaining" Proposition

Bargaining is the main characteristic of a decision-making process when conflicting organizational interests of the involved bureaucratic actors emerge. Such a development is not unusual as "internal political conflicts over roles and missions arise constantly within the government."³⁵⁵ The reasons for this are twofold. First, "[n]o preponderant individual or organization exists [...] Therefore for any single issue, no participant involved is dominant [in absolute terms]."³⁵⁶ As "foreign policy institutions rarely have monopoly control over an issue [they have to] cooperate with each other in order to implement policy."³⁵⁷ Second, an overarching governmental ideology, strategy or

³⁵⁰ James Wilson, *Bureaucracy. What Government Agencies Do and Why They Do It* (New York: Basic Books, 1989), p. 183.

³⁵¹ Wilson, p. 192.

³⁵² Halperin, Clapp, and Kanter, pp. 52–53.

³⁵³ Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 79.

³⁵⁴ Halperin, Clapp, and Kanter, pp. 56–57.

³⁵⁵ Halperin, Clapp, and Kanter, p. 40.

³⁵⁶ Rosati, 'Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective', p. 237.

³⁵⁷ Drezner, 'Ideas, Bureaucratic Politics, and the Crafting of Foreign Policy', p. 735.

philosophy that could offer guidance when areas of responsibility between organizations are diffuse, overlapping and the respective organizational interests are contradictory is often lacking. As a result, bureaucratic or ministerial “ideologies, rather than integrating the activities of government, tend to fragment government and render it in a set of competing, or at least not cooperating, fiefdoms.”³⁵⁸ There are two main factors that shape the bargaining process: different organizational interests and unequal power potentials.

Different Organizational Interests

As elaborated above most bureaucrats act in the name of “a department or agency along with the interests and constituencies their organization serves. Because their preferences and beliefs are related to the different organizations they represent, their analyses yield conflicting recommendations.”³⁵⁹ Consequently, governmental actors aim to protect and to promote their organizational interests and their organizational courses of action against those of other organizations. The moves of these actors “are thus to be explained in terms of bargaining among players with separate and unequal power over particular pieces and with separable objectives in distinguishable subgames.”³⁶⁰ This bargaining can be best understood as pulling and hauling between actors.³⁶¹ It includes political manoeuvres such as coalition building³⁶² or logrolling³⁶³, resulting in a final decision reflecting a compromise between all involved actors.³⁶⁴

Unequal Power Potentials

In addition to different organizational interests, organizations also possess unequal power potentials in a bargaining process. Bargaining power is understood as “effective influence on government decisions and actions.”³⁶⁵ The power position is influenced by international and domestic developments (for a detailed discussion about the influence

³⁵⁸ Peters, p. 210.

³⁵⁹ Allison and Zelikow, p. 256.

³⁶⁰ Allison and Zelikow, p. 295.

³⁶¹ Allison and Zelikow, p. 255.

³⁶² ‘Coalition building is an important element of pulling and hauling [...] Coalitions are the natural result of actors attempting to use maneuvers to achieve their desired results.’ (Marsh, 2014, p. 267).

³⁶³ ‘Logrolling refers to political quid pro quos where actors exchange favors or promises to secure support for a policy.’ (Marsh, 2014, p. 267).

³⁶⁴ Marsh, p. 267.

³⁶⁵ Allison and Zelikow, p. 300; Juliet Kaarbo, ‘Power Politics in Foreign Policy. The Influence of Bureaucratic Minorities’, *European Journal of International Relations*, 4.1 (1998), 67–97 (pp. 74–77).

of international aspects on organizational power, see chapter 2.3.3.4, page 66). Four domestic aspects of power are of particular relevance: advantages of an actor in decision-making processes, the ability and the willingness to use these advantages, the perception of these advantages by the other bureaucratic actors involved in the decision-making process and the structure of the bargaining process.³⁶⁶

First, an actor's bargaining advantages stem from two sources. First, an actor generates power from his position in government. This includes formal competencies and decision-making authority. Allison and Zelikow speak of "formal authority and responsibility (stemming from positions)."³⁶⁷ Second, besides of these more structural factors, an actor generates power from agential sources, too. These include expert knowledge, the ability to control information or access to influential actors that he can convince of his policy position.³⁶⁸ Second, an actor must be able and willing to use these advantages in a bargaining process. Third, as with all perceptions, in order to have an actual impact these bargaining advantages have to be recognized by others. Fourth, the bargaining process comprises of institutionalized action channels. These channels are defined as "regularized means of taking governmental action on a specific kind of issue."³⁶⁹ They determine the main actors in the decision-making process. An actor's relevance is deduced a) from his position in government and b) the relevance his institution plays for the policy issue at hand. Action channels also determine which actor at which stage enters the decision-making process. Thus not all actors are involved in every stage of the process.³⁷⁰ The importance of action channels in the bureaucratic decision-making process can be summarized as follows: "Where participants sit in relation to channels of action strongly biases what kind of issues come to seem important to them and on which they are likely to take a stand and get involved."³⁷¹ The main motivation of all actors involved in the "bargaining games" is the protection and realization of their respective organizational interests as the bargaining process takes place.³⁷² The action channels and the bargaining games are regulated by the rules of the

³⁶⁶ Allison and Zelikow, p. 300.

³⁶⁷ Allison and Zelikow, p. 300.

³⁶⁸ Allison and Zelikow, p. 300.

³⁶⁹ Allison and Zelikow, p. 300.

³⁷⁰ Allison and Zelikow, pp. 300–301.

³⁷¹ Halperin, Clapp, and Kanter, p. 94.

³⁷² Allison and Zelikow, p. 255.

game.³⁷³ Rules of the game include a country's constitution, a government's rules of internal procedure or the respective national political culture. In addition, they include formal and informal rules. Altogether these factors determine the different positions the actors take, the power the respective position fills in, and the ability to access the "action channel". They furthermore define the respective leadership role of an institution in a particular decision-making process and what kind of role other institutions play in that process. Thus, not all involved actors are on an equal standing in a decision-making process. This has consequences for the respective power position of the various actors and on the final result of the decision-making process. Even though "rules" define the scope of action they do not indicate the result of the decision-making process.³⁷⁴ As outlined by Halperin, "the rules do not dominate the process, although, to the extent that they structure the game, they do make a difference. This still leaves considerable room for participants to maneuver."³⁷⁵ Thus a government's decision is not based on a rational decision but the result of "the pulling and hauling that is politics".³⁷⁶

2.3.3.3 The "Resultant" Proposition

Due to the diverging policy preferences and unequal power relations of the involved actors, the final decision of a bargaining process mostly reflects a political resultant instead of the most logical or rational position.³⁷⁷ This decision is the result of the "pulling and hauling" among the various participants as they attempt to advance their concepts of personal, group, organizational, and national interests.³⁷⁸ It is political "in the sense that the activity from which decisions and actions emerge is best characterized as bargaining along regularized channels among individual members of government."³⁷⁹ It is a resultant "in the sense that what happens is not chosen as a solution to a problem but rather results from compromise, conflict, and confusion of officials with diverse interests and unequal influence."³⁸⁰ In the end this leads to a compromise of

³⁷³ Allison and Zelikow, p. 302; Halperin, Clapp, and Kanter, pp. 105–18.

³⁷⁴ Halperin, Clapp, and Kanter, pp. 105–18; Allison and Zelikow, pp. 302–3.

³⁷⁵ Halperin, Clapp, and Kanter, p. 118.

³⁷⁶ Allison and Zelikow, p. 255.

³⁷⁷ Rosati, 'Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective', p. 237; Allison and Zelikow, p. 294; Allison and Halperin, pp. 53–54.

³⁷⁸ Rosati, 'Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective', p. 237.

³⁷⁹ Allison and Zelikow, p. 295.

³⁸⁰ Allison and Zelikow, pp. 294–95.

governmental behavior that none of the actors anticipated or preferred at the beginning of the decision-making process.³⁸¹ Thus a government’s final decision mostly is not the result of a coherent and consistent calculus of strategic interests but the outcome of pulling and hauling of various bureaucrats who often differ about the definition of a national interest and act according to their organizational and personal interests.³⁸²

Figure 2 - The Bureaucratic Politics Model (BPM)



2.3.3.4 The Impact of International Developments on Bureaucratic Politics

As outlined in the ontological discussion (chapter 2.1.1), domestic and international factors shape foreign policy decision-making processes. Thus, bureaucratic bargaining does not take place in a vacuum. Instead it is influenced by the operational environment – international developments that take place outside the respective nation state but are perceived by national decision makers to have an influence on the country’s domestic situation. Hence “[t]he influence of one nation’s actions on another result from the actions’ impact on the stands, or on the power of players in decision or action games in the other nation.”³⁸³ Along these lines, “it is not that actions of other nations do not matter, but rather they matter if and when they influence domestic struggles”.³⁸⁴ To sum up, actions taken by one nation “can affect the stands players (in another nation) take, and thereby affect decisions and actions”.³⁸⁵ In order to influence the actions of nation A, the other nations’ (nation B) actions have to be reported to the decision-makers in nation A by the respective foreign office and intelligence agencies.³⁸⁶ These reports then

³⁸¹ Allison and Halperin, pp. 70–71.
³⁸² Allison and Halperin, pp. 53, 57.
³⁸³ Allison and Halperin, p. 57.
³⁸⁴ Allison and Halperin, p. 58.
³⁸⁵ Allison and Halperin, p. 59.
³⁸⁶ Allison and Halperin, p. 59.

might influence the perceptions and standings of officials in a particular decision-making process and thus influence the decision outcome of nation A.

Against this background, the operational environment shapes two important aspects of the decision-making process. First, it determines the participants and “whose images count.”³⁸⁷ Second, it influences the structure of the decision unit and thus “affects the selection and formation of images.”³⁸⁸

What seems evident based on the dissertation’s theoretical assumptions, is that there exists a clear link of causal mechanisms (in this case perceptions and bureaucratic politics) between the decision context (in this case the operational environment) and political decisions and actions (in this case the Arctic Policy Guidelines). This logic follows Rosati according to whom „[i]t is through the interaction of context, structure, participants, and process that a decision outcome is produced.”³⁸⁹

Based on these theoretical considerations it is possible to design a multi-causal and multi-dimensional analytical framework that links the operational environment, perceptions thereof and resulting interests, bureaucratic politics as well as foreign policy decisions or actions. This framework is based on the assumption that in order to understand the nature of the decision-making process and to explain subsequent foreign policy decisions or actions, it is imperative to take into consideration the operational environment’s influence on the perceptions and interests of the participants within the bargaining and decision-making process (for a more detailed discussion of the analytical framework, see chapter 2.5).³⁹⁰

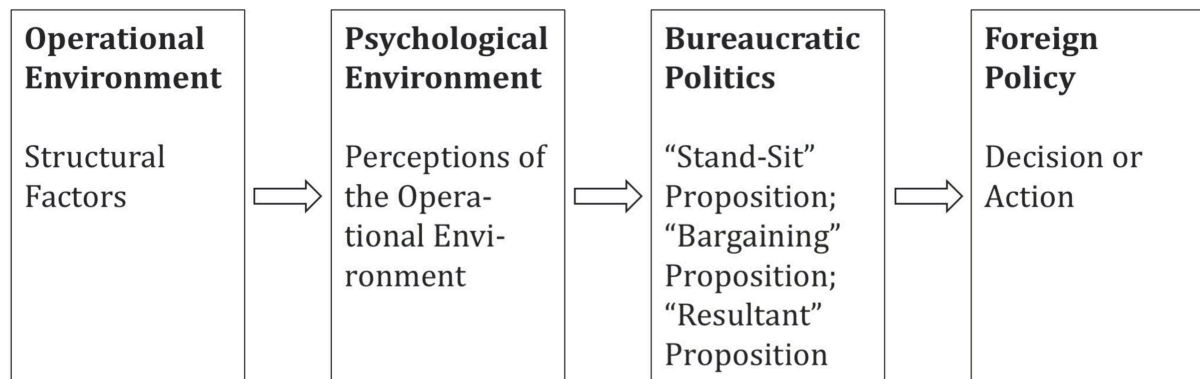
³⁸⁷ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 248.

³⁸⁸ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 248.

³⁸⁹ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 251.

³⁹⁰ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 251.

Figure 3 - The Relationship between External Factors, Perceptions, Bureaucratic Politics, and Foreign Policy



2.3.4 Applying Analytical Eclecticism

Whilst the theoretical concepts of International Order and Complex Interdependence enable the researcher to analyze and understand the decision context, the perceptions approach and the BPM help to explain the bargaining and formulation process of the Arctic Policy Guidelines. Whilst the former two are structure-oriented IR concepts, the latter two are agent-centered FPA approaches. It will be shown below how these theoretical concepts and their respective causal mechanisms can be connected based on their respective ontological and epistemological tenets.

In ontological and epistemological terms, Complex Interdependence and International Order aim to explain foreign policy behavior of nation-states by structural causes (focus on structures and processes) in the first place.³⁹¹ However, Keohane and Nye, the founding fathers of the concept of Complex Interdependence, have in retrospect also acknowledged their failure to focus on agents and “to theorize about domestic politics of interest formation [by individual actors].”³⁹² Thus, in order to ameliorate this limitation, they have called for an integrated analysis of international and domestic factors: “[W]e have paid too little attention to how a combination of domestic and international processes shapes preferences.”³⁹³ Therefore they suggest “to concentrate now on the interplay between the constraints and opportunities of the international system, including both its structure and its process, and the perceptions of interests held by

³⁹¹ Keohane and Nye, p. 271.

³⁹² Keohane and Nye, p. 271.

³⁹³ Keohane and Nye, p. 281.

influential actors within states.”³⁹⁴ Their focus on the role of national decision-makers’ perceptions in the process of domestic interest formation processes then paves the epistemological way for a combination of explanation and understanding.

In ontological and epistemological terms the BPM aims to explain foreign policy behavior of nation-states primarily by focusing on agential factors (actors’ perceptions and interests). At the same time, however, representatives of the BPM approach acknowledge, however, that actors do not act in a vacuum. Instead, decision-making groups – and a nation’s foreign policy behavior – are also influenced by structural forces of the operational environment.³⁹⁵ Thus, in order to arrive at richer explanations of nation-state behavior, structural forces and their influence on policy-making have to be understood as well.

To sum up, the concepts of International Order and Complex Interdependence as well as the BPM approach and the concept of Perceptions aim to explain nation-state behavior from their respective ontological perspectives – with a view on either structural or agential factors. However, they also acknowledge the necessity to incorporate the respective other perspective in the analysis. In epistemological terms, all approaches assume the possibility to explain – via causal mechanisms – nation-state behavior by either structural or agential factors. At the same time, they also call for the necessity to understand the shaping power of the respective other factor (structure or agency) on nation-state foreign policy behavior. In so doing all concepts can be subsumed under a foundationalist ontology (see chapter 2.1.1, page 30) and a scientific realist epistemology (see chapter 2.1.2, page 34). Moreover, these ontological and epistemological positions call for a methodological pluralism (see chapter 2.1.3, page 37). To conclude, the chosen theoretical approaches are ideally suited to be combined into a single analytical framework.

³⁹⁴ Keohane and Nye, p. 281.

³⁹⁵ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 248; Allison and Halperin, pp. 57–59; Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 2.

2.4 Considerations About Methods

In terms of research strategies or methods, this dissertation, based on the previous ontological, epistemological, and methodological considerations (see chapter 2.1, page 29), combines several methods – a single case study, process tracing and structured, focused comparison.

2.4.1 Single-Case Study

The dissertation follows a single-case (embedded) research design, also known as a single in-depth case study, consisting of several sub-cases.³⁹⁶ Case study analysis is understood as the detailed analysis of a “phenomenon, or an event, chosen, conceptualized and analyzed empirically as a manifestation of a broader class of phenomena or events.”³⁹⁷ Here the bargaining process prior to the adoption and publication of Germany’s Arctic Policy Guidelines is understood as an example or phenomenon of a broader class of phenomena, namely of foreign policy decision-making. The process as well as the context (domestic and international) in which the process took place shall be analyzed in detail in order to be able to understand the context conditions and to explain the final outcome of the process. An in-depth case study approach seems appropriate for four reasons. First, as outlined before no comprehensive analysis of Germany’s Arctic engagement exists so far (see chapter 1.3, page 14). Thus, this analysis represents a unique or crucial case study.³⁹⁸ Second, the BPM’s explanatory power shall be tested. As the concept to explain foreign policy decision-making processes already exists, this dissertation seeks to test its underlying propositions.³⁹⁹ Third, to a certain degree, this case study also represents a revelatory case, as the dissertation’s author was able to attend semi-official inter-ministerial Arctic gatherings as well as semi-public Arctic conferences organized by federal government representatives or with their participation.⁴⁰⁰ The author’s privileged access to the

³⁹⁶ Alexander L. George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (Cambridge, Massachusetts: MIT Press, 2004), p. 18; Robert K. Yin, *Case Study Research. Design and Methods*, 4th edn (Los Angeles: Sage Publications, 2009), pp. 46–47.

³⁹⁷ Pascal Vennesson, ‘Case Studies and Process Tracing. Theories and Practices’, in *Approaches and Methodologies in the Social Sciences. A Pluralist Perspective*, ed. by Donatella Della Porta and Michael Keating (Cambridge: Cambridge University Press, 2008), p. 382 (p. 226); George and Bennett, p. 5.

³⁹⁸ Yin, p. 47; George and Bennett, p. 33.

³⁹⁹ Yin, p. 47; George and Bennett, p. 115.

⁴⁰⁰ Yin, p. 48.

broader decision-making process and to the crucial decision makers within the ministerial bureaucracies allowed for important and helpful insights into bureaucratic bargaining and decision-making processes that are otherwise difficult to gain. It was mainly because of these insights that it became possible to plausibly interpret the other empirical findings. Fourth, to better understand a complex topic, it is necessary to go into a detailed and in-depth analysis of a single case or a small number of phenomena.⁴⁰¹ The newly acquired knowledge is of particular relevance as it can be used to refine or further develop existing theories by generating new hypotheses – one of the most important academic tasks in IR and FPA.⁴⁰²

Against the background of the dissertation's research questions the aim in applying a case study analysis is twofold. First, the accuracy of the chosen theoretical concepts shall be tested.⁴⁰³ By doing so it is also possible to more specifically define the scope conditions that activated the causal mechanism.⁴⁰⁴ Second, the in-depth analysis might allow as well to develop further the chosen existing theoretical models. Based on newly acquired insights and knowledge, new generalizations or hypotheses can be inductively generated. These hypotheses then shed light on some broader tendencies, form the basis for future research and can be used to develop and formulate more general theoretical models.⁴⁰⁵

2.4.2 Process Tracing

Perceptions and bureaucratic politics are assumed to be the main explanatory factors for the particular development of Germany's Arctic engagement. Two analytic strategies

⁴⁰¹ Bent Flyvbjerg, 'Five Misunderstandings About Case Study Research', *Qualitative Inquiry*, 12.2 (2006), 219–45 (p. 219).

⁴⁰² Vennesson, p. 226; Brecher, 'International Studies in the Twentieth Century and Beyond. Flawed Dichotomies, Synthesis, Cumulation. ISA Presidential Address', pp. 213, 216–17; Eun, p. 728; Mearsheimer and Walt, p. 429.

⁴⁰³ George and Bennett, p. 115; Flyvbjerg, p. 229.

⁴⁰⁴ George and Bennett, p. 21.

⁴⁰⁵ George and Bennett, pp. 20, 111; Vennesson, pp. 226–27; Flyvbjerg, pp. 226, 229, 236; Andrew Bennett and Jeffrey T. Checkel, *Process Tracing. From Philosophical Roots to Best Practices* (School for International Studies: Simon Fraser University, 2012), p. 48 (p. 10) <<http://www.sfu.ca/content/dam/sfu/internationalstudies/documents/swp/WP21.pdf>> [accessed 29 April 2014]; Andrew Bennett and Jeffrey T. Checkel, 'Process Tracing. A Bayesian Perspective', in *The Oxford Handbook of Political Methodology*, ed. by Janet M. Steffensmeier, Henry E. Brady, and Collier (Oxford: Oxford University Press, 2008), p. 896 (p. 704); Andrew Bennett and Colin Elman, 'Case Study Methods', in *The Oxford Handbook of International Relations*, ed. by Christian Reus-Smit and Duncan Snidal (Oxford: Oxford University Press, 2008), p. 772 (pp. 503–4).

are applied to allow the testing and refinement of the employed theoretical models. Via *pattern matching* the empirical findings are compared to the theoretically predicted ones.⁴⁰⁶ *Explanation building* helps to interpret the empirical against the background of the existing and chosen theoretical models in order to subsequently – in an inductive way – refine the models.⁴⁰⁷ Both strategies rely on a process-tracing approach, understood as „a procedure for identifying steps in a causal process leading to the outcome of a given dependent variable of a particular case in a particular historical context.“⁴⁰⁸ According to Bennett and Checkel it is “a key technique for capturing causal mechanisms in action.”⁴⁰⁹ It allows to “trace the links between possible causes and observed outcomes” for both a deductive and an inductive reasoning.⁴¹⁰ Thus it allows to test hypothesized causal mechanisms and to assess a theory’s explanatory power by “identifying the causal chain(s) that link the independent and dependent variables.”⁴¹¹ In addition, it renders possible to uncover additional causal chains that then form the basis of inductively generated new hypotheses that can refine or advance existing theories.⁴¹² This means that a researcher can “explore both the causal ‘what’ and the causal ‘how’”.⁴¹³ This important stance is linked to Brecher’s claim that FPA has two interrelated goals, namely „to explain the *sources of decision*, that is, the pressures flowing from the real and perceived environments leading to a choice among policy options [and] to explain the *outcomes of decision*, that is, the consequences of choice, both for the particular issue and for the foreign policy system as a whole.“⁴¹⁴

2.4.3 Structured, Focused Comparison

In order to guide the analysis and to allow for a comparison and generalization of empirical findings, a structured, focused comparison approach is applied. According to George and Bennett, “[t]he method [...] is structured in that the researcher writes

⁴⁰⁶ Yin, p. 136.

⁴⁰⁷ Yin, pp. 141, 143–44.

⁴⁰⁸ Vennesson, p. 231.

⁴⁰⁹ Bennett and Checkel, *Process Tracing. From Philosophical Roots to Best Practices*, p. 12 For a definition of ‘causal mechanism’ see chapter 2.2.

⁴¹⁰ George and Bennett, pp. 6–7.

⁴¹¹ Bennett and Checkel, *Process Tracing. From Philosophical Roots to Best Practices*, p. 5; Vennesson, p. 231.

⁴¹² Bennett and Checkel, ‘Process Tracing. A Bayesian Perspective’, p. 704.

⁴¹³ Vennesson, p. 232.

⁴¹⁴ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, pp. 14–15.

general questions that reflect the research objective and that these questions are asked of each case under study to guide and standardize data collection, thereby making systematic comparison and cumulation of the findings of the cases possible. The method is 'focused' in that it deals only with certain aspects of the historical cases examined."⁴¹⁵ A structured focused comparison helps to avoid that process-tracing becomes a mere descriptive exercise. By focusing only on certain aspects of a phenomenon that are key in explaining a causal mechanism and by structuring the analytical framework to ensure comparability of cases, the researcher's focus is artificially but consciously confined. This allows to avoid an "everything matters" approach to case study analysis which is of particular relevance in a multi-causal and multi-dimensional analysis.⁴¹⁶

The combination of methods follows the arguments of George and Bennett who claim that "there is a growing consensus that the strongest means of drawing inferences from case studies is the use of a combination of within-case analysis and cross-case comparisons within a single study or research program."⁴¹⁷

2.4.4 The Application of the Chosen Methods to the Four Analytical Steps

In line with the multi-causal and multi-dimensional analytical framework, the case study consists of four sections:

In the first part, based on the method of structured, focused comparison, the operational environment in the three issue areas of environmental, economic and political affairs is analyzed. The analytical focus lies on the structural (see the theoretical discussions on *International Order*) and process-related (see the theoretical discussion on *Complex Interdependence*, both in chapter 2.3.1, page 45) characteristics of the global, regional and functional orders as well as their interdependencies with Germany's domestic situation.

In the second part, the ministerial perceptions of the operational environment are analyzed and compared in a structured and focused way. Here the analytical focus lies on how the German ministries perceive the structural and process-related characteristics of the global, regional, and functional orders as well as their interactions with Germany.

⁴¹⁵ George and Bennett, p. 67.

⁴¹⁶ Vennesson, p. 235; Eun, pp. 777-78.

⁴¹⁷ George and Bennett, p. 18.

The perceptions are identified, categorized and analyzed according to various narratives. Narratives are understood as cognitive frameworks for interpretation and understanding of real world events.⁴¹⁸ They structure our understanding by offering particular stories. As a matter of fact, narratives are highly selective and focus only on particular aspects of a perceived reality. By simplifying a complex reality some other aspects are ignored.⁴¹⁹ Consequently, narratives are not primarily about truth, objectivity, or reality, but first and foremost about giving meaning to political actions.⁴²⁰ Thus, it is “through narrativ[es] that we [...] make sense of the world.”⁴²¹ And they influence not only how we see the world and political events but they also shape our political behavior as we react to what we perceive.⁴²² Hence narratives play a particularly important role in the policymaking process: “security narratives help to establish a discursive connection between the articulation of a country’s national interests, the identification of specific security threats to these interests and how potential risks to the broader international environment are understood.”⁴²³ By so doing they also empower some bureaucratic actors over others and thereby have the power to enable and constrain particular paths for political action in an inter-ministerial bargaining process.⁴²⁴

Narratives present stories that are structured along a time component and a problem or exception component.⁴²⁵ The time component allows to make sense of the current

⁴¹⁸ Molly Patterson and Kristen Monroe, ‘Narrative in Political Science’, *Annual Review of Political Science*, 1 (1998), 315–31 (p. 321).

⁴¹⁹ Roberto Franzosi, ‘Narrative Analysis. Or Why (and How) Sociologists Should Be Interested in Narrative’, *Annual Review of Sociology*, 1998, 24, 517–54; Elana Wilson Rowe and Helge Blakkisrud, ‘A New Kind of Arctic Power? Russia’s Policy Discourses and Diplomatic Practices in the Circumpolar North’, *Geopolitics*, 19.1 (2014), 66–85 (p. 70).

⁴²⁰ Thomas E. Ricks, *Narratives Are About ‘Meaning’, Not Truth* (Washington, D.C.: Foreign Policy, 3 December 2015) <<http://foreignpolicy.com/2015/12/03/narratives-are-about-meaning-not-truth/>> [accessed 26 September 2016]; Jelena Subotic, ‘Narrative, Ontological Security, and Foreign Policy Change’, *Foreign Policy Analysis*, 2014.0 (2014), 1–18 (p. 4).

⁴²¹ Margaret R. Somers, ‘The Narrative Constitution of Identity. A Relational and Network Approach’, *Theory and Society*, 1994, 605–49 (p. 606).

⁴²² Patterson and Monroe, p. 321.

⁴²³ Alexandra Homolar, ‘Rebels without a Conscience. The Evolution of the Rogue States Narrative in US Security Policy’, *European Journal of International Relations*, 17.4 (2010), 705–27 (p. 706).

⁴²⁴ Homolar, pp. 706–7.

⁴²⁵ Patterson and Monroe, pp. 316, 320–21; Corinne Squire, Molly Andrews, and Maria Tamboukou, ‘Introduction. What Is Narrative Research?’, in *Doing Narrative Research*, ed. by Molly Andrews, Corinne Squire, and Maria Tamboukou (Los Angeles: Sage Publications, 2008), pp. 1–26 (p. 11); Jan Wilkens, Maren Hofius, and Antje Wiener, “‘A Meaningful World Among Others’”. Contending Narrations of Legitimate Orders’ (presented at the Peregrine Lunchtime Talk Series, Cambridge, 2016), pp. 1–17 (pp. 8, 10, 13) <<https://www.wiso.uni-hamburg.de/fachbereich-sowi/professuren/wiener/dokumente/publiclectures/lcil2016wienerwilkenshofius.pdf>> [accessed 14

situation by chronologically ordering events from the past to the present and into the future.⁴²⁶ The problem or exception component further allows to identify a particular problem or uncommon situation that calls for an intervention by actors in order to change the status quo.⁴²⁷ Hence, the time and the problem component's function is to enable agents to frame a story about what should or needs to be done, in order to achieve a more appropriate (or less problematic) situation.⁴²⁸ To conclude, "the link between intention and execution is always rendered in narrative form. [...] and [i]n this way storytelling becomes a prerequisite of action."⁴²⁹

The analytical focus lies on how current events and situations are linked to past processes as well as on what should be done to achieve a preferred end-state in the future.

In the third part, based on their respective perceptions, the ministries' political interests are deduced. The analysis focuses on explicit and implicit policy options the respective ministries advocate against the background of the perceived structural and process-related characteristics of the global, regional and functional orders as well as their interactions with Germany.

In the fourth part, the bargaining and decision-making process prior to the publication of Germany's Arctic policy guidelines is analyzed. A process-tracing approach was chosen to analyze the actual decision-making process. Three analytical steps help to structure and focus the process tracing. First, all relevant actors that take part in the decision-making process are identified. Second, the ministerial preferences of the involved actors are identified. Third, the relative influence of participating actors on the intra-governmental bargaining and decision-making process is analyzed.⁴³⁰

By tracking the interactions between a) developments in the operational environment/decision context, b) ministerial perceptions thereof, c) ministerial interests, and d) the inter-ministerial bargaining process prior to the Arctic Policy

January 2017]; Andrew R. Hom, 'Time, Narrative, and IR Theory' (presented at the 6th ECPR General Conference, University of Iceland, 2011), pp. 1-24 (pp. 5-6) <<https://ecpr.eu/filestore/paperproposal/0ff1d1f2-7f7d-4b0f-a278-a4a0b7966562.pdf>> [accessed 14 January 2017].

⁴²⁶ Patterson and Monroe, pp. 316, 319-20; Wilkens, Hofius, and Wiener, pp. 9-10.

⁴²⁷ Wilkens, Hofius, and Wiener, pp. 10, 13; Hom, p. 6.

⁴²⁸ Patterson and Monroe, pp. 320-21; Wilkens, Hofius, and Wiener, p. 10.

⁴²⁹ Hom, p. 7.

⁴³⁰ Jäger, Oppermann, and Siedschlag, pp. 115-19; Allison and Halperin; Rosati, 'Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective', p. 251.

Guidelines' publication, the chosen approach allows to scrutinize the relationship between context and causal mechanisms in order to explain a particular phenomenon or outcome.⁴³¹ The first three parts of the case study are analyzed in chapters three to five. The fourth part of the case study is analyzed in chapter six.

2.4.5 Use of Sources

Following a Bayesian logic of explanation, this thesis relies on the accumulation and critical analysis of different and independent sources and data streams (official documents, secondary literature, interviews with government officials and experts, newspapers, data bases etc.), both quantitative and qualitative in nature, which is known as triangulation.⁴³²

Due to the interaction with German officials responsible for Germany's Arctic engagement, the author of this dissertation was able to conduct semi-structured in-depth interviews with involved bureaucrats. Background conversations with government officials during official meetings, workshops and conferences provided deep knowledge and additional information about ministerial perceptions, interests and the inter-ministerial bargaining process. This interaction provided important insights for the research undertaken. Against this background it is fair to describe the dissertation at hand as a revelatory case study (see chapter 2.4.1, page 70). Such an 'embedded' research approach is in line with Allison and Zelikow, who argue that in order to analyze perceptions, interests and bureaucratic politics „[w]hat is required, ideally, is access by an analyst attuned to the players and interested in governmental politics to a large number of the participants in a decision before their memories fade or become too badly discolored.“⁴³³

A semi-structured, open-ended interview approach allowed to use the same set of questions for interviews with all government officials.⁴³⁴ This enabled a structured,

⁴³¹ Tulia G. Falleti and Julia F. Lynch, 'Context and Causal Mechanisms in Political Analysis', *Comparative Political Studies*, 42.9 (2009), 1143–66 (p. 1144); Gary Goertz, *Contexts of International Politics*, Cambridge Studies in International Relations (Cambridge, Massachusetts: Cambridge University Press, 1994), p. 28.

⁴³² Bennett and Checkel, *Process Tracing. From Philosophical Roots to Best Practices*, p. 21; Vennesson, p. 227.

⁴³³ Allison and Zelikow, pp. 312–13.

⁴³⁴ Margaret C. Harrell and Melissa A. Bradley, *Data Collection Methods. Semi-Structured Interviews and Focus Groups* (Santa Monica: RAND Corporation, 2009), p. 148 (p. 27)

focused comparison of ministerial perceptions and interests. It also made possible to trace the inter-ministerial bargaining process prior to the publication of the Arctic Policy Guidelines. The open-ended character of the interviews, on the other side, gave the interviewer the necessary flexibility to ask further questions that might be only relevant for particular interviewees, but adding value to gain insights into particular details of the perceptions regarding the Arctic and the decision-making processes leading to Germany's Arctic engagement. The representatives of the institutions were chosen for interviews because of their knowledge in Arctic related issues and their involvement in the decision-making processes of Germany's Arctic engagement. Additional knowledge was generated through semi-structured interviews with government officials, private sector representatives as well as academic experts in Germany and Norway. They were selected due to their work-related know-how on Arctic affairs and because the interviews allowed to gain particular insights into various aspects of Arctic affairs in the three issue areas' operational environment.

To understand the external part and the domestic dimension of the operational environment official governmental documents, reports of national, regional, and international organizations as well as think tank reports have been analyzed.

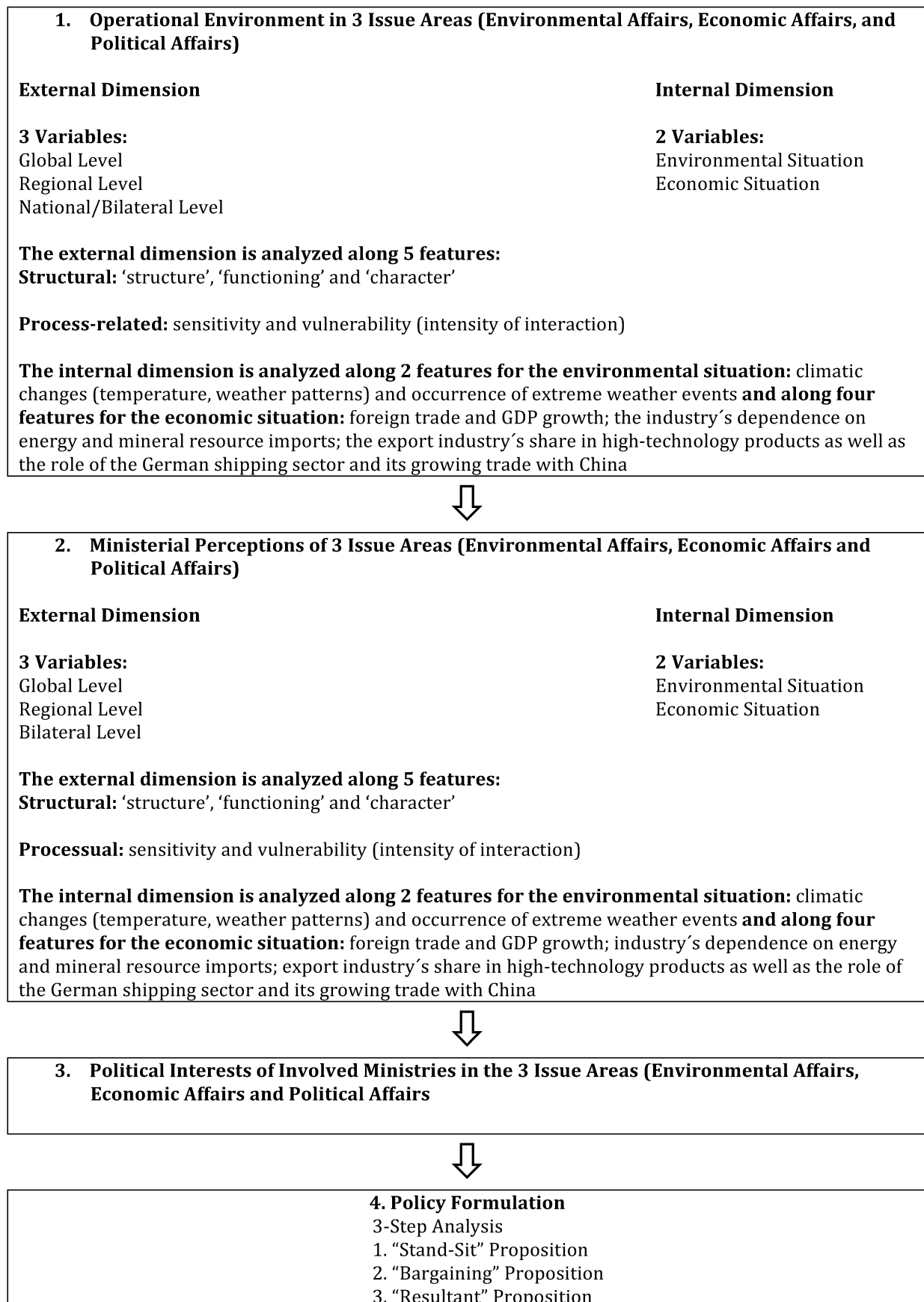
For the qualitative analysis of conducted interviews, official government documents, and the above mentioned reports, the coding software F4 has been used. The aim of the content analysis of the gathered data (official government documents and speeches) was a) to identify and categorize patterns in the analyzed data and b) to compare the perceptions of ministries and subordinated agencies.

2.5 Analytical Framework and Operationalization

Four analytical aims drove this dissertation. First, the operational environment in the three issue areas should be understood, as these contextual factors had an impact on ministerial perceptions of the changing Arctic, the global drivers of it and the respective interdependencies with Germany and ministerial interests. Second, the ministries' perceptions thereof needed to be uncovered. Third, this was intended to enable the researcher to deduce ministerial (political and bureaucratic) interests. Taken together, these steps were designed to understand and to explain why a decision was made to

<http://www.rand.org/content/dam/rand/pubs/technical_reports/2009/RAND_TR718.pdf> [accessed 6 December 2016].

Figure 4 - Analytical Framework



formulate an explicit and coherent German Arctic policy approach. Fourth, the Arctic Policy Guidelines focus on geo-economic opportunities was sought to be explained by investigating the inter-ministerial bargaining process.

In line with this, a four-step analytical framework was developed. It allows (1) to analyze the operational environment, (2) to investigate the ministerial perceptions thereof, (3) to deduce the political interests of the involved ministries and (4) to trace the decision-making process that led to the formulation of the Arctic Policy Guidelines.

2.5.1 Analytical Step No. 1: The Operational Environment

The first step aims to offer a comprehensive analysis of the operational environment (external and domestic dimension). This includes the global, the regional (Arctic), and the national level (Germany) in the three issue areas of environmental, economic, and political affairs. It also analyzes the interdependencies between these issue areas on all three levels. A proper analysis of all three levels is important to be able to better understand the international and domestic context in which Germany's Arctic engagement developed over time.

The global and the Arctic level are analyzed along three structural features: 'structure', 'functioning' and 'character'. 'In addition, the interdependencies between the global level, the Arctic level and Germany are analyzed along the two process-related features 'sensitivity' and 'vulnerability'. On the bilateral level the focus is on the relationships between Germany and Norway and Russia. The latter two are chosen a) for their central role in Arctic affairs (Norway as a policy entrepreneur with regard to the "High North" and Russia as a country heavily dependent on its northern resources for economic reasons) and b) for their already close relationships with Germany.

The domestic situation of Germany in the three issue areas is analyzed along six features: (1) Climatic changes (temperature, weather patterns) and (2) the occurrence of extreme weather events are analyzed to assess the 'domestic' environmental situation and the interdependence with the environmental situation on the global and Arctic level. (3) Foreign trade and GDP growth, (4) the industry's dependence on energy and mineral resource imports, (5) the export industry's share in high-technology products as well as (6) the role of the German shipping sector and its growing trade with China are analyzed to assess the 'domestic' economic situation and the interdependence with the economic situation on the global and Arctic level. Taken together, these features also give an indication of their political implications and thus their impact on the 'domestic' political

situation. By contrasting the global and Arctic level with the domestic level in Germany, it is possible to explicate – with the help of the concepts of sensitivity and vulnerability – the interdependence between the Arctic’s transformation and Germany and thus the impact of the former on the latter.

The analysis in step one is guided by the following questions:

(1) What do the ‘structure’, ‘functioning’ and ‘character’ of the global level and the Arctic level look like? The ‘structure’ is analyzed by a comparison of national economic (GDP), military (defense budget), and political (willingness and ability to shape political developments) power. The ‘functioning’ is analyzed by stocktaking of the existencing governance architecture. To analyze the ‘character’ it is differentiated between the two characteristics of ‘conflict’ and ‘cooperation’.

(2) What do the interdependencies between the global level and the Arctic level look like? Here it is distinguished between the two categories of ‘sensitivity’ and ‘vulnerability’.

(3) What do the interdependencies between the global level and the Arctic level on the one side and Germany on the other look like? Again, a difference is made between ‘sensitivity’ and ‘vulnerability’.

(4) What are the impacts of these environmental, economic, and political developments at the global and Arctic level on Germany?

To answer these questions official government documents, reports of national, regional, and international organizations as well as think tank reports have been analyzed.

2.5.2 Analytical Step No. 2: Ministerial Perceptions of the Operational Environment

The second step studies how the interdependencies between developments in the decision context (on a global and regional (Arctic) level) and Germany are perceived by the ministries to have an impact on Germany (domestic dimension) in the three issue areas of environmental, economic, and political affairs. It also uncovers the interdependencies between these issue areas on all three levels.

The ministerial perceptions of the operational environment are the key input factor for foreign policy decision-making. According to Brecher, it is “[t]he task of the foreign policy analyst [...] to construct from words and deeds the operative élite perceptions of

their environment, along with their views of the desirable (or proper) roles for their state at the three levels of foreign policy interaction – global, [regional], and bilateral.”⁴³⁵ Thus, to better understand Germany’s Arctic engagement, it is important to analyze how the Arctic and Arctic-related narratives are portrayed in official ministerial policy documents and statements.

To grasp these perceptions and narratives official government documents and statements of decision-makers that target developments in the three issue areas have been analyzed.⁴³⁶ Additional interviews with government officials were conducted. The analysis was done along the same line of theoretically deduced analytical categories as developed for the operational environment. In addition, and based on the time component and problem component of narratives, the analysis is complemented by the following questions:

- (1) How do the involved ministries perceive the interdependencies between the developments in the operational environment and Germany – as an opportunity or as a challenge for Germany and their respective area of responsibility?
- (2) How do the involved ministries perceive Germany and their respective area of responsibility to be affected by interdependencies with developments in the operational environment– direct or indirectly?
- (3) How do the involved ministries perceive Germany and their respective area of responsibility to be affected by the interdependencies with developments in the operational environment – in the short-term or in the long-term?
- (4) How do the involved ministries perceive Germany and their respective area of responsibility to be affected – in terms of sensitivity or in terms of vulnerability?

2.5.3 Analytical Step No. 3: Ministerial Interests Linked to the Perceptions of the Operational Environment

The ministerial perceptions then influence individual actors’ ‘stands’ in the inter-ministerial bargaining process. Based on the identified perceptions explicit ministerial interests are deduced in a third step. The analysis is guided by three questions:

- (1) What are the deduced ministerial interests in the Arctic – the realization of opportunities or the defense against challenges?

⁴³⁵ Brecher, *The Foreign Policy System of Isarel. Setting, Images, Process*, p. 12.

⁴³⁶ For an overview of all analyzed ministerial documents, see Table 46, page 347.

(2) What are the deduced ministerial interests focusing on – on short-term or on long-term developments?

(3) What are the deduced ministerial interests focusing on – on developments that have a direct or an indirect impact on Germany?

The deduction of interests is based upon examination of ministerial documents (see Table 46, page 347), official speeches by ministerial representatives and interviews with ministerial bureaucrats.

2.5.4 Analytical Step No. 4: The Arctic Policy Guidelines Bargaining Process

The fourth step analyzes the inter-ministerial bargaining process that resulted in the publication of the country's Arctic Policy Guidelines. In particular, it focuses on the influence of ministerial interests and bargaining power in the decision-making process. Empirical research is based mainly on interviews with bureaucrats in the involved ministries and their subordinated agencies. It is complemented by the analysis of official government documents that help to clarify certain questions (e.g. the "Stand-Sit" Proposition).

The analysis of bureaucratic bargaining and the decision-making process follows a three-step approach, based upon the "Stand-Sit" Proposition, the "Bargaining" Proposition and the "Resultant" Proposition.⁴³⁷ Based on Marsh, Allison and Halperin, as well as Allison and Zelikow, it is guided by six questions:

(1) Who were the relevant actors in the decision-making process, and what were their associated bureaucratic roles?⁴³⁸

(2) What were the policy preferences of these actors?

(3) Were actors' policy preferences influenced by their bureaucratic role?

(4) Did actors employ bargaining advantages, and did these bargaining advantages augment the actors' influence in the decision-making process?

(5) Was government action taken through action channels?

(6) Did political pulling and hauling produce a final decision outcome that was a political resultant or compromise?⁴³⁹

⁴³⁷ Jäger, Oppermann, and Siedschlag, pp. 115–19; Allison and Halperin; Rosati, 'Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective', p. 251; Marsh.

⁴³⁸ Allison and Halperin, p. 45.

After the analysis of the inter-ministerial bargaining process, a final qualitative content analysis of the adopted Arctic Policy Guidelines was undertaken in order to identify the government's perceptions and interests on specific issues and topics. This analysis can then be taken as a first indicator about Arctic policy "stands" in future decision-making processes.

3 Environmental Affairs: Germany's Fight Against Global Climate Change

This chapter analyzes Germany's Arctic engagement in environmental affairs consisting of the fight against global climate change, environmental protection, and polar research. In a first step, the operational environment is analyzed (3.1). The focus is on climatic changes on the global level, in the Arctic region, and the region's interdependence with developments in other parts of the world. In addition, the German government's fight against global climate change on the global level as well as German polar research activities in the Arctic are subject to scrutiny. It furthermore explores the impacts of global and Arctic-driven climate change on Germany.⁴⁴⁰ The next chapter focuses on ministerial perceptions with regard to global and Arctic climate change, environmental protection in the Arctic, and German polar research activities (3.2). This sub-chapter structures these perceptions into frames. Finally, ministerial interests with regard to climate change, environmental protection, and polar research are deduced from the identified ministerial perceptions (3.3). It is resorted to these interests in chapter 6 for the identification of the "Stand-Sit" Proposition.

3.1 Operational Environment

In order to uncover the operational environment, the focus is on the global and Arctic environmental orders, on the interdependencies between both levels and, on their interdependencies with Germany.

⁴³⁹ Marsh, p. 270; Allison and Halperin, pp. 46–47; Allison and Zelikow, pp. 296–310.

⁴⁴⁰ As global climate change is more of a process instead of a condition, not all of the analytical categories developed to describe and analyze the operational environment are applied in this chapter.

3.1.1 External Global Level: Global Climate Change

Accelerating global Climate change is the first global driver of the Arctic's transformation. Global climate change is defined as „a change in the state of the climate that can be identified [...] by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity.”⁴⁴¹ In this context human economic activity is fundamentally changing the earth's atmosphere and thus its climate (see also chapter 4.1.1, page 127).⁴⁴² The world is entering a new epoch of earth history called “Anthropocene” as humans have become a decisive factor in the current and future biogeophysical development of planet earth.⁴⁴³ Mainly driven by an increase of global economic activities and population growth global greenhouse gas emissions (GHG) (carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O)) output has increased since the industrial revolution.⁴⁴⁴ This human-driven climate change manifests itself in global warming. While CO₂ emissions have generally increased since 1750, half of all emissions occurred in only the last 40 years.⁴⁴⁵ Due to fossil fuel-based economic activities global GHG emissions increased by 70% compared to-pre-industrial levels between 1970 and 2004.⁴⁴⁶ According to the IPCC, it is “[e]xtremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcings together.”⁴⁴⁷ Holocene, the previous epoch, was the most stable climate phase of earth history in the last 400.000 years with variations in temperature on an amplitude of only 1°C. Due to the large increase of global GHG emissions,⁴⁴⁸ however, a significant temperature increase is

⁴⁴¹ IPCC, *Climate Change 2007. Synthesis Report*, p. 30.

⁴⁴² IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers* (Geneva: Intergovernmental Panel on Climate Change, 2014), p. 32 (p. 2) <http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf> [accessed 22 September 2015].

⁴⁴³ Revkin; Jan Zalasiewicz and others, ‘Are We Now Living in the Anthropocene?’, *GSA Today*, 18.2 (2008), 4–8; Steffen Will, Paul J. Crutzen, and John McNeill, ‘The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature’, *AMBIO: A Journal on the Human Environment*, 36.8 (2007), 614–21; Steffen, Grinevald, and others.

⁴⁴⁴ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, pp. 4–5.

⁴⁴⁵ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, pp. 4–5.

⁴⁴⁶ IPCC, *Climate Change 2007. Synthesis Report*, pp. 36–37.

⁴⁴⁷ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 5.

⁴⁴⁸ Greenhouse gases include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), CFC's

expected during the 21st century.⁴⁴⁹ The IPCC anticipates a temperature increase between 2°C and 4°C at the end of this century.⁴⁵⁰ By the end of the 21st century, global mean surface temperature is expected to increase between 0.3°C and 1.7°C in the most optimistic scenarios and between 2.6°C and 4.8°C in the most pessimistic scenarios.⁴⁵¹ Nowhere else on earth are the signs of the “Anthropocene” more visible than in the Arctic, a region that is warming twice as fast as the rest of the globe.⁴⁵² To sum up: Global climate change, driven by economic activities, transforms not only the environment, but the very geography of parts of the globe, like the polar North.⁴⁵³

3.1.1.1 Manifestations of Global Climate Change

As global climate change proceeds, it manifests itself in four major developments: rising air and ocean temperatures, changing precipitation patterns, melting of snow and ice, and rising sea-levels.⁴⁵⁴

1. Temperature Increase

First, the world’s air temperature rose from 1906 to 2005 by about 0.74°C.⁴⁵⁵ Between 1998 and 2015 16 of the warmest years (1880-2015) ever recorded occurred.⁴⁵⁶ And the time from 1983 to 2012 appears to be likely the northern hemisphere’s warmest 30-year period in 1,400 years.⁴⁵⁷ These temperature extremes are very likely a consequence of human activities.⁴⁵⁸ As a result, a decrease in the number of cold days and nights and an increase in the number of warm days and nights on a global scale are very likely. In large parts of Asia, Australia, and Europe, the frequency of heat waves likely

⁴⁴⁹ Zalasiewicz and others; Steffen, Grinevald, and others.

⁴⁵⁰ Intergovernmental Panel on Climate Change (IPCC), p. 18.

⁴⁵¹ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 10; Intergovernmental Panel on Climate Change (IPCC), p. 18.

⁴⁵² IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 10.

⁴⁵³ Keith Johnson, *The Meltdown of the Global Order* (Washington, D.C.: Foreign Policy, 2015) <<http://foreignpolicy.com/2015/07/23/the-meltdown-of-the-global-order-geopolitics-south-china-sea/>> [accessed 11 January 2016].

⁴⁵⁴ IPCC, *Climate Change 2007. Synthesis Report*, p. 30; IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, pp. 2, 5.

⁴⁵⁵ IPCC, *Climate Change 2007. Synthesis Report*, p. 30.

⁴⁵⁶ National Centers for Environmental Information (NOAA), *Global Analysis. Annual 2015* (Asheville, NC: National Centers for Environmental Information (NOAA), 2015) <<https://www.ncdc.noaa.gov/sotc/global/201513>> [accessed 7 December 2016].

⁴⁵⁷ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 2.

⁴⁵⁸ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, pp. 7–8.

increased.⁴⁵⁹

2. Changing Precipitation Patterns

Second, from 1900 to 2005 precipitation patterns changed in both hemispheres. Precipitation increased in the eastern parts of North and South America, northern Europe as well as northern and central Asia. It decreased in the Mediterranean, the Sahel region, southern Africa as well as parts of southern Asia.⁴⁶⁰ In absolute numbers, it is likely that more land regions were exposed to heavy precipitation events, resulting in “[g]reater risks of flooding at regional scale.”⁴⁶¹

3. Snow and Ice Melting

Third, snow and ice is melting in parallel to the globe’s warming. Since 1978, the Arctic’s annual average sea-ice has decreased by 3.5 to 4.1%.⁴⁶² In both hemispheres, mountain glaciers and snow-covered areas declined, and permafrost temperatures increased.⁴⁶³ From 1992 to 2011 the ice sheets in Greenland and Antarctica have been losing mass. This speed of melting appears to have increased from 2002 to 2011.⁴⁶⁴ Since the early 1980s permafrost temperatures have increased in almost all world regions as a result of global warming and reduced snow cover.⁴⁶⁵ Reductions in year-round Arctic sea-ice are likely to result in an almost ice-free Arctic Ocean in the summer before mid-century. Between 15% and 85% of global glacial volume (excluding Greenland and Antarctic ice sheets) is expected to decrease in the 21st century.⁴⁶⁶ Finally, the near-surface (upper 3.5m) permafrost area is estimated to decrease by 37% to 81% between 2081 and 2100 compared to the time period 1986-2005.⁴⁶⁷

4. Sea-Level Rise

⁴⁵⁹ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 8.

⁴⁶⁰ IPCC, *Climate Change 2007. Synthesis Report*, p. 30; IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 4.

⁴⁶¹ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 8.

⁴⁶² IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 4.

⁴⁶³ IPCC, *Climate Change 2007. Synthesis Report*, p. 30; IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 4.

⁴⁶⁴ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 4.

⁴⁶⁵ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 4.

⁴⁶⁶ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 12.

⁴⁶⁷ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 12.

Fourth, from 1901 to 2010 global average sea-level rose by 0.19 meters.⁴⁶⁸ From 1961 to 2003 global average sea-level rose at an annual rate of 1.8 mm.⁴⁶⁹ This has been a larger rate than during the last 2000 years.⁴⁷⁰ Since 1993 the melting of glaciers and sea-ice contributed 28% to the sea-level rise.⁴⁷¹ Global sea-level is expected to rise throughout the 21st century in more than 95% of the global ocean area. Projections range from 0.26m to 0.55m in the optimistic scenarios and to 0.45m to 0.82m in the pessimistic scenarios.⁴⁷²

3.1.1.2 Process-related Implications of Global Climate Change in Environmental and Economic Affairs

Due to growing interdependencies between the accelerating economic globalization (and a related rise in global GHG emissions) on the one side and the earth's atmosphere on the other side, the global climate has already become more sensitive and will become more vulnerable, too (see the four developments of rising air and ocean temperatures, changing precipitation patterns, melting of snow and ice and rising sea-levels, chapter 3.1.1.1, page 85).⁴⁷³ It has become more sensitive as the existing framework of economic globalization has not changed during the last couple of decades. As a result, the costly effects of these economic cross-border flows on the global climate are growing. However, the earth's atmosphere, the global climate and environment as well as the human population will become even more vulnerable as the already existing and irreversible climatic changes result in tremendous environmental, economic and political costs to adjust to this new climatic reality. And the environmental, economic and political implications have additional security consequences. Taken together global climate change has the potential to change the international order's existing power distribution. Obviously, the consequences of global climate change will vary between world regions and nations. There will be winners and losers in the short- to medium

⁴⁶⁸ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 4.

⁴⁶⁹ IPCC, *Climate Change 2007. Synthesis Report*, p. 30.

⁴⁷⁰ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 4.

⁴⁷¹ IPCC, *Climate Change 2007. Synthesis Report*, p. 30.

⁴⁷² IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 13.

⁴⁷³ As elaborated sensitivity is understood as 'costly effects of cross-border flows on societies and governments within an unchanged framework of basic policies.' [...] Vulnerability 'refers to costs of adjusting to change indexed by sensitivity, by changing one's own policies.' Keohane and Nye, pp. 232-33.

term.⁴⁷⁴ In the long run, however, global climate change has serious repercussions for the entire world.

In terms of environmental affairs, global climate change will be a stress factor for nations as it will “increase security challenges and [...] reduce the resources that would otherwise be available [...] for dealing with them.”⁴⁷⁵ As a result of a warming climate, the severity and frequency of extreme weather events are increasing.⁴⁷⁶ These weather extremes include heat waves, droughts, floods, cold snaps, cyclones, heavy rain, hurricanes and wildfires.⁴⁷⁷ The number of extreme weather events rose from 743 (between 1970 and 1980) to 3,496 (between 2000 and 2010).⁴⁷⁸ Flooding and storms have been responsible for about 80% of these extreme weather events between 2000 and 2010.⁴⁷⁹

Floodings, storms and droughts will have serious security implications for nature and humans alike. Flooding, driven by a global sea-level rise and storms, will significantly affect global population centers along coastal areas. Already today, 45% of the world population are located in mega-cities in coastal zones.⁴⁸⁰ A trend that is likely to continue. Low-lying countries like Bangladesh, Vietnam or Singapore or island nations like the Maldives are under threat of complete flooding.⁴⁸¹ In Africa extreme weather events like heat waves, droughts or heavy rain will be one of the main reasons for crop yield reduction.⁴⁸² In both cases the consequences of these extreme weather events will probably lead to an increased competition for dwindling resources, to an increase of

⁴⁷⁴ In economic and political terms all Arctic states – at least in the short to medium term – will be winners. Reduced Arctic ice allows for easy access to natural resources and more broadly speaking generates economic opportunities that then might be translated into new political weight. Scott G. Borgerson, ‘The Coming Arctic Boom. As the Ice Melts, the Region Heats Up’, *Foreign Affairs*, 2013 <<https://www.foreignaffairs.com/articles/global-commons/2013-06-11/coming-arctic-boom>> [accessed 2 June 2016] Obviously low-lying countries will be losers as they are the most affected states concerning global sea-level rise.

⁴⁷⁵ IISS, ‘Strategic Policy Issues’, *Strategic Survey*, 107.1 (2007), 33–84 (p. 53).

⁴⁷⁶ IPCC, *Climate Change 2007. Synthesis Report*, p. 30.

⁴⁷⁷ IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 8; IISS, p. 54.

⁴⁷⁸ Suzanne Goldenberg, ‘Eight Ways Climate Change Is Making the World More Dangerous’, *The Guardian* (London, 14 July 2014) <<https://www.theguardian.com/environment/blog/2014/jul/14/8-charts-climate-change-world-more-dangerous>> [accessed 6 January 2015].

⁴⁷⁹ Goldenberg.

⁴⁸⁰ Lloyd’s Register, QinetiQ, and University of Strathclyde Glasgow, p. 44.

⁴⁸¹ Lloyd’s Register, QinetiQ, and University of Strathclyde Glasgow, p. 44; IISS, p. 62.

⁴⁸² IISS, p. 55.

climate refugees and potentially state failure.⁴⁸³ Global climate change acts as a risk multiplier in many already volatile world regions and the above described developments have the potential to negatively impact security and stability in other parts of the world.⁴⁸⁴

In terms of economic affairs, the global economy and globalization have become more vulnerable to global climate change. There are two main economic vulnerabilities.

First, as a result of global climate change extreme weather events could negatively affect some of the global economy's key production sites and critical infrastructure. Ports, some of the key hubs of connectivity of the ship-based global economy are particularly vulnerable. To cope with infrastructure damage at the world's 136 major port cities, attributable to storms, sea level rise and flooding, the costs will rise from \$6 billion in 2005 to \$60 billion in 2050.⁴⁸⁵ Thus global climate change impacts are costly (e.g. costs of repairing damage on economic infrastructure). To cope with the negative impacts involves large amounts of money that are not available for actual economic activities. Consequently, economic growth and development prospects are negatively affected.

Second, in October 2006 the so-called "Stern Review" was published. It outlined the economic costs of the international community's inaction regarding the fight against global climate change and underlined that the long-term costs of adaption are much higher than today's investments in climate change mitigation.⁴⁸⁶ But even immediate climate change mitigation would not prevent more frequent and severe extreme weather events in the coming decades.

⁴⁸³ IISS, p. 55; Khanna and Lindsay; Chatham House, *The London Conference 2014. Globalization and World Order* (London: Chatham House, 2014), p. 44 (p. 33) <http://www.chathamhouse.org/sites/files/chathamhouse/field/field_document/20141013LondonConference.pdf> [accessed 18 February 2014]; Chad Michael Briggs, 'Climate Security, Risk Assessment and Military Planning', *International Affairs*, 88.5 (2012), 1049-64; Cleo Paskal, 'From Constants to Variables. How Environmental Change Alters the Geopolitical and Geo- Economic Equation', *International Affairs*, 85.6 (2009), 1143-56.

⁴⁸⁴ CNA Military Advisory Board, *National Security and the Threat of Climate Change* (Virginia: The CNA Corporation, 2007), p. 35 <https://www.cna.org/CNA_files/pdf/National%20Security%20and%20the%20Threat%20of%20Climate%20Change.pdf> [accessed 11 January 2016]; CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change*.

⁴⁸⁵ Chatham House, p. 33.

⁴⁸⁶ Stern Review, *The Economics of Climate Change*, 2006, p. 662 (p. vi) <http://mudancasclimaticas.cptec.inpe.br/~rmclima/pdfs/destaques/sternreview_report_complete.pdf> [accessed 19 February 2014].

It follows that many national economies are becoming more vulnerable to global climate change due to growing interdependencies between national economies, the global economy and the negative consequences of global climate change.

3.1.1.3 Structural Implications of Global Climate Change in Political Affairs

‘Structure’ as defined above (see chapter 2.5) cannot be completely applied to the issue area of environmental affairs as states do not directly possess any ‘environmental power’ that could be measured. However, it is a useful category to highlight the interdependencies between environmental and political affairs as global climate change has the potential to fundamentally change the existing international political order in terms of structure, functioning and nature. As elaborated above, global climate change will empower some nations whilst weakening others. Thus, it will influence the existing distribution of power in economic and military terms.

The broad range of new or aggravated security challenges (in environmental, economic and political terms) calls for new or adjusted “rules of the game” (e.g. international law, treaties, international organizations, norms) in order to effectively combat the growing challenges arising from climate change and to ensure the functioning of the international political order. The failure of the international community to create an effective governance mechanism or framework on a binding limit on carbon emissions in order to tackle the danger from climate change, however, is emblematic for the existence of fundamental global governance deadlocks.⁴⁸⁷ Thus, in environmental affairs, the ‘functioning’, understood as the international community’s ability to design an effective governance framework or mechanism in order to tackle global climate change, has to be called into question. And as the pace of global climate change is expected to quicken in coming decades – even after policies to fight global climate change might eventually have been implemented – the international political order is expected to become more vulnerable, too.

Finally, the environmental, economic, and political implications of global climate change and their respective security consequences have the potential to put enormous stress on the character of international relations and thus the ‘nature’ of the international political order. The more global climate change affects a nation-state’s power in economic and military terms, the more likely some states will try to change the existing balance of

⁴⁸⁷ Chatham House, p. 12.

power for their benefit. Consequently, international political affairs could become more conflictual instead of cooperative. Thus, interdependencies between environmental affairs and political affairs exist on the global level as global climate change increases the international political order's sensitivity and potentially also its vulnerability.

3.1.2 External Regional Level: The Arctic

The interdependencies between global climate change and Arctic climate change are manifold. The Arctic has proven to be very vulnerable to climatic changes on the global level. Driven by global climate change, the Arctic environment experiences a rapid and significant environmental transformation.⁴⁸⁸ Global climate change will have more profound consequences in the Arctic than in most other world regions, thereby underlining the Arctic's vulnerability to it.⁴⁸⁹

The growing vulnerability is clearly depicted in Arctic warming. As a result of global warming, the Arctic witnesses a dramatic temperature increase. Compared to the global average temperature increase during the last 100 years (1906 to 2006), the Arctic's annual average temperature increased at almost twice the rate (1-2°C).⁴⁹⁰ In some land areas temperature increased by up to 5°C.⁴⁹¹ Many of the years from 2006 to 2013 belong to the warmest years in recorded weather history.⁴⁹² Up until the year 2100, predicted Arctic warming will range between 2°C and 9°C.⁴⁹³ Arctic warming is mainly

⁴⁸⁸ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, p. 8; Peter Lemke, 'Arctic Processes and the Global Climate', in *Arctic Science, International Law and Climate Change*, ed. by Susanne Wassum-Rainer, Ingo Winkelmann, and Kathrin Tiroch, Beiträge Zum Ausländischen Öffentlichen Recht Und Völkerrecht, 235 (Berlin and Heidelberg: Springer, 2012), pp. 45-53 (p. 45).

⁴⁸⁹ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)* (Cambridge: Intergovernmental Panel on Climate Change (IPCC), 2007), pp. 653-85 (p. 656) <<https://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter15.pdf>> [accessed 4 January 2016].

⁴⁹⁰ Lemke, pp. 45, 48; IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 656; Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, p. 10; IPCC, *Climate Change 2007. Synthesis Report*, p. 30.

⁴⁹¹ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 656.

⁴⁹² Eric Holthaus, *El Nino May Make 2014 the World's Hottest Year Yet, 2013* <<http://qz.com/147455/el-nino-may-make-2014-the-worlds-hottest-year-yet/>> [accessed 19 February 2014].

⁴⁹³ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 662; IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, p. 10.

the result of global warming. Both processes are the result of increasing global greenhouse gas emissions, linked to growing economic activities.⁴⁹⁴

3.1.2.1 Manifestations of Arctic Warming

Arctic warming has four grave and direct environmental consequences for the region: sea-ice reduction, glacial melting, the potential thawing of permafrost, and snow cover reduction on land.⁴⁹⁵

1. Arctic Sea-Ice Reduction

First, Arctic sea ice is declining and thinning at a faster rate than predicted only a few years ago.⁴⁹⁶ From 1979, the start of satellite measurements, to 2012, the Arctic minimum sea-ice extent (measured by the end of summer in September each year) has shrunk by 50%.⁴⁹⁷ From 2007 to 2009, the Arctic witnessed annual record sea-ice losses. This was a shocking development for climate scientists as their models had expected such a development only 2035 and 2050.⁴⁹⁸ 2012 saw the latest record of sea-ice loss, dropping down to 3.41 million square kilometers.⁴⁹⁹ The 2012 record minimum of sea-ice extent was 3.29 million square kilometers below the average minimum sea-ice extent in the timeline of 1979-2000. From 2006 to 2015 the average minimum sea-ice extent shrunk from 5.77 to 4.47 million square kilometers.⁵⁰⁰ The fact that the six largest sea-ice losses, resulting in seasonal sea-ice minimum records, appeared between 2007

⁴⁹⁴ IPCC, *Climate Change 2007. Synthesis Report*, pp. 36–37; IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*; IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 655.

⁴⁹⁵ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 657; Lemke, p. 52.

⁴⁹⁶ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, pp. 656–57.

⁴⁹⁷ Alfred-Wegener-Institut, *Fact Sheet Climate* (Bremerhaven: Alfred-Wegener-Institut, 2013), p. 3 (p. 1) <http://epic.awi.de/35187/1/AWI_Factsheet_Klima_Europa_english.pdf> [accessed 16 September 2015].

⁴⁹⁸ Laurence C. Smith, *The World in 2050. Four Forces Shaping Civilization's Northern Future* (New York: Penguin Group, 2011), pp. 130–31.

⁴⁹⁹ U.S. National Snow & Ice Data Center, *Arctic Sea Ice Extent Settles at Record Seasonal Minimum* (Boulder: University of Colorado, 19 September 2012) <<http://nsidc.org/arcticseaicenews/2012/09/arctic-sea-ice-extent-settles-at-record-seasonal-minimum/>> [accessed 20 June 2013].

⁵⁰⁰ U.S. National Snow & Ice Data Center, *Arctic Sea Ice Extent* (Boulder: University of Colorado, 2016) <<http://nsidc.org/arcticseaicenews/charctic-interactive-sea-ice-graph/>> [accessed 13 September 2016].

and 2012 is quite alarming.⁵⁰¹ Latest projections expect the annual average sea-ice to be further reduced by about 30% by 2080 – 2100.⁵⁰²

Even more dramatically than the mere reduction in sea-ice extent is the rapidly declining sea-ice thickness. In the Central Arctic it has decreased by 40% since 1958.⁵⁰³ Whilst in 1985 multi-year ice (one year and older) counted for 75% of total ice, it fell down to 35% in 2011.⁵⁰⁴

The lowest monthly average was measured in September 2011 when sea-ice volume was about 70% below the average of the time period 1979 to 1990. At that time, it was even 50% below the then record low of 2005.⁵⁰⁵ Whilst summer sea-ice thickness in the 1960's was about 3 meters, it fell down to 2 meters in the 1990's and 0.9 meters in 2013.⁵⁰⁶

In consequence, the Arctic today encompasses more one-year sea-ice in contrast to previous decades. The thinner the sea-ice is, the more prone it becomes to the warming effects in the Arctic, meaning that during summer months when solar irradiation is most powerful the remaining sea-ice will melt faster, resulting in longer ice-free periods during summer. Sea-ice decline also reduces the so-called Albedo effect. The massive ice sheets in the Arctic and Antarctica so far have reflected incoming sunlight back into the atmosphere. This resulted in a stable temperature on earth. Now, as the ice melts more and more of this sunlight is absorbed by water. The more sunlight is absorbed the more the water heats up and thus the warmer the globe becomes. Recent studies indicate that already 52% of all sunlight is now absorbed by water.⁵⁰⁷ Scientific models expect a summer ice-free Arctic within the next two decades.⁵⁰⁸

⁵⁰¹ U.S. National Snow & Ice Data Center.

⁵⁰² IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 662.

⁵⁰³ Lemke, p. 45.

⁵⁰⁴ James Maslanik and others, 'Distribution and Trends in Arctic Sea Ice Age Through Spring 2011', *Geophysical Research Letters*, 38.13 (2011), 1–6 (p. 3).

⁵⁰⁵ Malte Humpert, *Interactive Graphs for Arctic Sea Ice Extent and Volume 1979-2011*, 2011.

⁵⁰⁶ Alfred-Wegener-Institut, *Fact Sheet Meereis* (Bremerhaven: Alfred-Wegener-Institut, 2013), p. 4 (pp. 1–2) <http://epic.awi.de/34090/1/AWI_Factsheet_Meereis.pdf> [accessed 21 September 2015].

⁵⁰⁷ Der Spiegel, 'Klimawandel. Schwindende Strahlkraft Der Arktis', *Der Spiegel* (Hamburg, 18 February 2014) <<http://www.spiegel.de/wissenschaft/natur/arktis-rueckgang-der-albedo-staerker-als-vermutet-a-954020.html>> [accessed 18 February 2014].

⁵⁰⁸ The Economist, 'The Melting North', *The Economist* (London, 16 June 2012) <<http://www.economist.com/node/21556798>> [accessed 6 October 2016].

Taken together reducing sea-ice thickness and declining sea-ice extent are strong indicators for a general loss of Arctic sea-ice.⁵⁰⁹

Table 2 - Arctic Sea-Ice Extent

Year	Minimum Ice Extent (in millions square kilometers)
2006	5.77
2007	4.15
2008	4.59
2009	5.12
2010	4.61
2011	4.34
2012	3.39
2013	5.05
2014	5.03
2015	4.41

2. Glacial Melting

Second, as a result of the region’s warming, the glaciers are also melting at an increasing rate since 1987.⁵¹⁰ Greenland’s ice sheet is of particular relevance as it is the world’s second largest glacial ice mass behind Antarctica.⁵¹¹ It covers an iced area of 1.7 million square kilometers.⁵¹² The Western parts of the Greenlandic ice sheets tripled their speed of melting from five to six kilometers per year in the 1990’s to almost 16 kilometers per year in 2012.⁵¹³ The fastest melting spot is the west-Greenlandic Jakobshavn-Isbrae glacier with a top speed of 46 meters per day.⁵¹⁴ From the 1980s to 2013 multi-year ice

⁵⁰⁹ Alfred-Wegener-Institut, *Fact Sheet Meereis*, p. 2.
⁵¹⁰ Lemke, p. 51; IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, pp. 656–57.
⁵¹¹ M. Tedesco and others, *Greenland Ice Sheet*, Arctic Report Card: Update for 2015 (Washington, D.C.: National Oceanic and Atmospheric Administration, 2015) <http://www.arctic.noaa.gov/reportcard/greenland_ice_sheet.html> [accessed 21 September 2015].
⁵¹² U.S. National Snow & Ice Data Center, *Quick Facts on Ice Sheets* (Boulder: U.S. National Snow & Ice Data Center, 2016) <<https://nsidc.org/cryosphere/quickfacts/icesheets.html>> [accessed 6 October 2016].
⁵¹³ Alfred-Wegener-Institut, *Fact Sheet Eisschilde* (Bremerhaven: Alfred-Wegener-Institut, 2013), p. 4 (p. 1) <http://epic.awi.de/34091/1/AWI_Factsheet_Eisschilde.pdf> [accessed 21 September 2015].
⁵¹⁴ Phys.Org, *Greenland’s Fastest Glacier Reaches Record Speeds* (Phys.Org, 3 February 2014) <<http://phys.org/news/2014-02-greenland-fastest-glacier.html>> [accessed 6 October 2016].

declined from 60% to 30%.⁵¹⁵ As with Arctic sea-ice multi-year ice on glaciers is not only shrinking but also thinning.⁵¹⁶

3. Prospect of Permafrost Thawing

Third, Arctic warming also holds the prospect of large-scale thawing of permafrost. Permafrost thawing will result in the release of large amounts of methane, which is more than 20 times as powerful as carbon dioxide and thus one of the greenhouse gases fuelling global warming most gravely.⁵¹⁷ Permafrost is defined as sub-surface earth materials that remain at or below 0°C for two or more years.⁵¹⁸ Since the 1980s “[t]emperature at the top of the permafrost layer has increased in the Arctic by up to 3°C.”⁵¹⁹ As a consequence, terrestrial permafrost decreased.⁵²⁰ Significant and rapid permafrost warming is already taking place in Alaska, Canada, Europe and Siberia.⁵²¹ It is expected that the Arctic permafrost area will probably shrink by 20 to 35% by 2050.⁵²² Permafrost thawing has two serious consequences. First, as the formerly frozen soil warms the infrastructure built upon it becomes unstable. Second, there is the potential that large volumes of greenhouse gases are released. This would further accelerate global warming.⁵²³

4. Snow Cover Reduction on Land

⁵¹⁵ U.S. National Snow & Ice Data Center, *Spring Has Sprung in the Arctic* (Boulder, Colorado: U.S. National Snow & Ice Data Center, 2 April 2014) <<http://nsidc.org/arcticseaicenews/tag/multiyear-ice/>> [accessed 8 December 2016].

⁵¹⁶ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 657.

⁵¹⁷ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, p. 38; IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 662.

⁵¹⁸ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 660.

⁵¹⁹ Lemke, p. 51.

⁵²⁰ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, pp. 656–57.

⁵²¹ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 661.

⁵²² IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 663.

⁵²³ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, pp. 661–62.

Fourth, snow cover on land decreased.⁵²⁴ During the last 30 years the duration of snow-free episodes increased by five to six days per decade.⁵²⁵ As this trend is expected to continue, it is likely that the snow cover reduction results in darker land areas. Thus, the region becomes less able to reflect incoming sunlight. Instead it will absorb it and as a consequence the Arctic's warming continues. Consequently, these processes will accelerate global warming, too.⁵²⁶

3.1.2.2 Process-related Implications of Arctic Climate Change in Environmental Affairs

Due to climatic interdependencies between global climate change and Arctic climate change the Arctic's environmental vulnerability has increased significantly in recent years. This vulnerability manifests itself in Arctic sea-ice reduction, glacial melting, permafrost thawing and snow cover reduction on land. And as the Arctic's capacity to adapt to the continuing economic and climatic frameworks and processes is limited its vulnerability is expected to increase.

At the same time the global climate and global environment are expected to become more vulnerable to the Arctic's climatic and environmental transformation, too. The Arctic's climatic and environmental transformation also triggers global and regional feedback loops. It accelerates global warming and shapes global environmental change in terms of a rising sea-level, thereby increasing the global climate's and environment's vulnerability.⁵²⁷

1. Accelerating Global Warming

First, the more Arctic sea-ice and snow disappear (and thus the darker the region's surface becomes, e.g. because of blue water), the more solar radiation or sunlight is absorbed by the Arctic Ocean and the less able the remaining ice is to reflect sunlight

⁵²⁴ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 656.

⁵²⁵ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 662.

⁵²⁶ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, pp. 662, 667.

⁵²⁷ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 655.

into the atmosphere - the so-called Albedo effect. More absorbed sunlight then accelerates the earth's warming.⁵²⁸

In addition, global warming is accelerated by the release of methane and carbon dioxide from the Arctic's permafrost. This self-reinforcing cycle of global warming impacting on Arctic warming which then accelerates again global warming is expected to increase in speed in coming decades.⁵²⁹

2. Global Sea Level Rise

Second, the melting of Arctic glaciers is expected to have significant impacts on global sea-level rise.⁵³⁰ From 2005 to 2010 melting glaciers in Greenland and Antarctica have been responsible for more than 50% of global sea-level rise (about 1 millimeter per year).⁵³¹ Both are expected to be the main drivers of global sea-level rise in the 21st century.⁵³²

The main sources of this rise are an increased discharge of Eurasian rivers to the Arctic Ocean and a decline of ice volume of Arctic glaciers and the Greenlandic ice sheet.⁵³³ Models project that Arctic glacial melt will contribute four to six centimeters to global sea-level rise by 2100.⁵³⁴ In Greenland, the annual loss of glacial ice doubled from 2009 to 2015 to 375 cubic kilometers.⁵³⁵ If Greenland loses all its ice-sheet, global sea-level would rise by about seven meters.⁵³⁶ Already today, first signs of a global sea-level rise

⁵²⁸ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, pp. 655–56; Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, pp. 34–35; Alfred-Wegener-Institut, *Fact Sheet Meereis*, p. 2; Lemke, p. 46.

⁵²⁹ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, pp. 26–27, 34–35, 38–39; IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, pp. 661–62.

⁵³⁰ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 663.

⁵³¹ Alfred-Wegener-Institut, *Fact Sheet Eisschilde*, p. 1.

⁵³² Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, pp. 40–43; Alfred-Wegener-Institut, *Fact Sheet Eisschilde*, p. 1.

⁵³³ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 655.

⁵³⁴ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, p. 41.

⁵³⁵ V. Helm, A. Humbert, and H. Miller, 'Elevation and Elevation Change of Greenland and Antarctica Derived from CryoSat-2', *The Cryosphere*, 8 (2014), 1–21 (p. 12); Jonathan Amos, 'Greenland Ice Sheet Losses Double', *BBC* (London, 20 August 2014) <<http://www.bbc.com/news/science-environment-28852980>> [accessed 7 October 2016].

⁵³⁶ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, p. 41.

are apparent. In the last couple of decades prior to 1990, the global sea-level rose by about two millimeters per year. In the 1990s it rose by three millimeters. Already this rather modest rise is 10 to 20 times faster compared to the estimated rise over the past few thousand years. However, global sea-level is expected to rise between 10 and 90 centimeters until the end of the century.⁵³⁷ The impact will be most severe in low-lying islands in the Pacific Ocean (Marshall, Kiribati, Tuvalu, Tonga, Line, Micronesia, Cook), the Atlantic Ocean (Antigua, Nevis), the Indian Ocean (Maldives) as well as in coastal areas near or below the sea-level. In Southeast Asia, this affects whole countries like Bangladesh and cities like Bangkok, Bombay, Calcutta, Dhaka, or Manila). In North America Florida and Louisiana would be most affected.⁵³⁸

3. Cold Snaps in Europe

In addition, the Arctic's climatic and environmental transformation also triggers regional feedback loops. Hence, the climatic and environmental interdependencies between a changing Arctic and other world regions increase. First research findings indicate that weather patterns in Europe, North America and Asia are particularly affected by changing Arctic climatic and environmental conditions.⁵³⁹ A decline of Arctic sea-ice and thus a warming Arctic is linked to colder winters in Europe, North America and Asia. Thus, it is likely that "[t]he extreme cold snaps that all three world regions have experienced in recent years are [...] a result of these changing atmospheric circulation patterns, driven by Arctic environmental changes."⁵⁴⁰ In particular, the climatic and environmental interdependencies between the Arctic and Central Europe are increasing. The Arctic's sea-ice loss results in more oceanic heat absorption and changing atmospheric circulation patterns. As a consequence, more cold air from Russia is pushed to Europe. Compared to Central European winters in the period from 1960 to 1990, the winters in 2005/06, 2009/10 and 2012/13 have been some of the coldest since the 1960s.⁵⁴¹

⁵³⁷ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, p. 42.

⁵³⁸ Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*, p. 43.

⁵³⁹ Alfred-Wegener-Institut, *Fact Sheet Climate*, p. 1.

⁵⁴⁰ Polar Research Expert, Interview 1, 2014, p. 2.

⁵⁴¹ Alfred-Wegener-Institut, *Fact Sheet Climate*, pp. 1-2.

3.1.2.3 Structural Implications of Arctic Climate Change in Political Affairs

‘Structure’ as defined above (see chapter 2.3.1) cannot be completely applied to environmental affairs as states do not directly possess any ‘environmental power’ that could be measured. Nevertheless, global climate change and the climatic and environmental consequences in the Arctic will empower the Arctic rim nations, at least in the short to medium term, as natural resources extraction becomes an easier endeavour. It might hence influence the existing distribution of power in economic and military terms.

In terms of functioning, various regional and international political frameworks exist in the Arctic. Michael Gorbachev’s famous Murmansk speech in 1987 paved the way for the institutional development of Arctic governance. The International Arctic Science Committee (IASC) and the Arctic Environmental Protection Strategy (AEPS) that later culminated in the creation of the Arctic Council (AC) are the key institutional developments that resulted from the Murmansk speech.⁵⁴²

IASC was founded in 1990 by the eight Arctic states. However, non-Arctic states were granted full membership, too.⁵⁴³ In 1991 AEPS was founded by the eight Arctic states. Already at this early stage Germany was an observer to AEPS and helped in the preparation of the strategy.⁵⁴⁴

IASC, a permanent observer in the AC, was first located in Oslo (Norway) from 1991 to 2006. Then it was relocated for two years (2006 to 2008) to Stockholm (Sweden), before it moved in 2008 to Potsdam (Germany).⁵⁴⁵ This was a unique move as it was for the first time, that a non-Arctic country was granted the possibility to host the IASC. It serves as a reminder of Germany’s international standing in polar research. In Germany IASC is organizationally linked to a German polar research institution called Alfred-Wegener-Institut (AWI).⁵⁴⁶ Half of IASC’s budget is provided by AWI and the other half by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG).⁵⁴⁷

⁵⁴² Polar Research Expert, p. 1.

⁵⁴³ Polar Research Expert, p. 1.

⁵⁴⁴ ‘Arctic Environmental Protection Strategy’, ed. by Canada, Denmark, Finland, Sweden, and others, 1991, p. 1 <http://library.arcticportal.org/1542/1/artic_environment.pdf> [accessed 12 November 2014].

⁵⁴⁵ Polar Research Expert, p. 1.

⁵⁴⁶ International Arctic Science Committee, *Secretariat* (Potsdam: International Arctic Science Committee, 2014) <<http://iasc.info/iasc/organization/secretariat>> [accessed 5 September 2016].

⁵⁴⁷ Polar Research Expert, p. 1.

Various international environmental arrangements or parts thereof are also applicable to the Arctic. These include the Convention on Biodiversity, the Framework Convention on Climate Change, the OSPAR Convention for the Protection of the Marine Environment in the Northeast-Atlantic, or the Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries.⁵⁴⁸

However, two challenges for Arctic environmental governance exist. First, as Arctic climate change and the region's environmental transformation are largely driven by global climate change, what is needed is a more effective global governance framework to fight climate change. Second, and this point is closely connected to the 'nature' of regional affairs, whilst more environmental protection in the region would be possible to achieve with new regional regulations (e.g. by establishing new environmental protection zones), such a move would interfere with economic activities. As long as there exists an agreement between Arctic states on balancing economic and environmental interests, as is currently the case, the character of inter-state relations with regard to environmental affairs is rather cooperative.

3.1.3 Germany's Interdependence with Global and Arctic Environmental Affairs

This section focuses on the climatic and environmental interdependencies between Germany and global as well as Arctic affairs. In addition, the government's international engagement in the fight against global climate change (climate change adaptation and climate change mitigation), with regard to environmental protection and in polar research is analyzed as well.

Already today, Germany is affected by global climate change. And even though Germany adopted new policies in order to better cope with global climate change impacts, climatic and environmental interdependencies have increased. Today, Germany is not only sensitive but also vulnerable to the impacts of these interdependencies – a trend that is likely to intensify in coming decades.

⁵⁴⁸ Hoel, p. 51.

3.1.3.1 Manifestations of Germany's Vulnerability to Global Climate Change

Deduced from the manifestations of global climate change (chapter 3.1.1.1, page 85), and in addition to Arctic-driven cold snaps in Europe, four indicators highlight Germany's growing climatic and environmental vulnerability to global climate change: a temperature increase, changing precipitation patterns, changing snow ice cover, and an increase in extreme weather events.⁵⁴⁹

1. Temperature Increase

First, since the 1970's Germany witnessed an evolving and rapid temperature increase. The 1990's were the warmest decade in the 20th Century.⁵⁵⁰ In general, the temperature increase was largest in southern and south-west Germany and during winter time the temperature increase is larger (2.3°C) than during summer (0.7°C).⁵⁵¹ Germany is expected to experience a temperature increase of about 2°C in winter and 1°C in summer in the time period 2031-2060 compared to the time period 1981-2010.⁵⁵² And until 2080, models predict an average temperature increase of 1.6°C to 3.8°C.⁵⁵³ The south-western part and the outermost eastern part of Germany are expected to see the largest temperature increases.⁵⁵⁴

2. Changing Precipitation Patterns

Second, precipitation significantly increased across Germany during winter in the last 30 years.⁵⁵⁵ The mostly affected region is southern Germany. During summer time rain falls decreased all across Germany. In south-west Germany and in the central parts of east Germany precipitation decreases the most.⁵⁵⁶ This development is directly linked to the temperature increase (see above). Compared to the time period 1981-2010 the number of days without precipitation will increase from 181 to 198 days in the time period

⁵⁴⁹ Marc Zebisch and others, *Klimawandel in Deutschland. Vulnerabilität Und Anpassungsstrategien Klimasensitiver Systeme* (Potsdam: Potsdam-Institut für Klimafolgenforschung, June 2005), p. 12 (p. 6) <<https://www.umweltbundesamt.de/sites/default/files/medien/publikation/short/k2947.pdf>> [accessed 11 May 2016].

⁵⁵⁰ Zebisch and others, p. 6.

⁵⁵¹ Zebisch and others, p. 6.

⁵⁵² Friedrich-Wilhelm Gerstengarbe and others, 'Ensemble Simulations for the RCP8.5-Scenario', *Meteorologische Zeitschrift*, 24.2 (2015), 147-56 (p. 154).

⁵⁵³ Zebisch and others, p. 6.

⁵⁵⁴ Zebisch and others, p. 6.

⁵⁵⁵ Zebisch and others, pp. 6-7.

⁵⁵⁶ Zebisch and others, p. 7.

2031-2060.⁵⁵⁷ In the same time period, during summer the number of days without precipitation decreases by 45% whilst in winter there is an increase of 26.3%.⁵⁵⁸

3. Changing Snow Ice Cover

Third, in terms of snow ice cover, global climate change led to a decrease of snow ice cover of 30-40% below 300 meter and to a decrease of 10-20% in the middle reaches (300-800 meter).⁵⁵⁹

4. Increase of Extreme Weather Events

Fourth, extreme weather events like heat waves, very hot days, showers and storms have increased, too. Especially during the last 20 years the probability of very hot days increased considerably. Likewise, during the last 40 years, showers have increased in frequency and intensity.⁵⁶⁰

To sum up, Germany's interdependence with global climate change in terms of climatic and environmental vulnerability increased in recent years. The highest vulnerability is seen in South-West Germany, in the central part of East Germany, in the Alps, and in urban areas.⁵⁶¹ In south-west and east Germany, this vulnerability is characterized by a low level of water disposability and the threat of droughts during summer – especially against the background of decreasing summer precipitation.⁵⁶² Mostly affected are farming, forestry and maritime traffic in economic terms and humans due to heat strains in health terms.⁵⁶³ Similarly in urban areas, humans are strongly affected by increasing heat strains.⁵⁶⁴ In terms of biodiversity, animals and plants in the Alps are vulnerable to the consequences of global climate change.⁵⁶⁵

⁵⁵⁷ Gerstengarbe and others, p. 154.

⁵⁵⁸ Gerstengarbe and others, p. 152.

⁵⁵⁹ Zebisch and others, p. 6.

⁵⁶⁰ Zebisch and others, p. 6.

⁵⁶¹ Zebisch and others, pp. 7, 9.

⁵⁶² Zebisch and others, pp. 7, 9.

⁵⁶³ Zebisch and others, p. 7.

⁵⁶⁴ Zebisch and others, p. 9.

⁵⁶⁵ Zebisch and others, p. 7.

In general, the coastal areas are the least affected. Still there is a high vulnerability due to storm floods and rising sea-levels. On the other side, there are sectors like tourism and farming that could profit from rising temperatures.⁵⁶⁶

3.1.3.2 Background Information: Germany's Polar Research Activities

Germany is a long-established player in polar research. Its polar research activities are organized and executed primarily by the Alfred-Wegener-Institut (AWI), which falls within the remit of the Federal Ministry of Education and Research, and the Federal Agency for Geoscience and Resources (Bundesanstalt für Geowissenschaften und Rohstoffe, BGR), a subordinated agency of the Federal Ministry for Economic Affairs and Energy. Whilst the AWI focuses on marine polar research and earth system analysis the BGR focuses on terrestrial polar research activities and the geological analysis of land areas as well as the appraisal of polar resources.⁵⁶⁷ Mainly due to the activities of the Alfred-Wegener-Institut and the country's research infrastructure and capabilities (two research stations in the region (one in Svalbard and one in Samoilov) as well as the vessel "Polarstern"), Germany is an acknowledged "Arctic player" in polar research.⁵⁶⁸ In Germany the AWI is the dominant polar research player.⁵⁶⁹ Founded in 1980 the institute has more than 1,000 employees and an annual budget of more than 100 million Euros.⁵⁷⁰ Only the Russian Arctic and Antarctic Research Institute in St. Petersburg is larger than AWI.⁵⁷¹ The fact that several Arctic coastal states do not possess a polar research institute (e.g. Canada and the USA) and only two Arctic coastal states, namely

⁵⁶⁶ Zebisch and others, p. 9.

⁵⁶⁷ Alfred-Wegener-Institut, *Das Alfred-Wegener-Institut* (Bremerhaven: Alfred-Wegener-Institut, 2015) <<https://www.awi.de/ueber-uns/organisation/profil.html>> [accessed 5 September 2016]; Bundesanstalt für Geowissenschaften und Rohstoffe, *Tätigkeitsbericht 2011* (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2012), p. 152 (p. 128) <http://www.bgr.bund.de/DE/Gemeinsames/Produkte/Downloads/Taetigkeitsberichte/taetigkeitsbericht_2011.pdf?__blob=publicationFile&v=2> [accessed 13 January 2016]; Federal Ministry of Education and Research (BMBWF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 14.

⁵⁶⁸ Haftendorn, 'Zaungast in Der Arktis. Deutschlands Interessen an Rohstoffen Und Umweltschutz', p. 72; Polar Research Expert, p. 1.

⁵⁶⁹ Polar Research Expert, p. 1.

⁵⁷⁰ Alfred-Wegener-Institut, *Das Alfred-Wegener-Institut; Alfred-Wegener-Institut, 2014 Annual Report. Facts and Figures* (Bremerhaven: Alfred-Wegener-Institut, 2014), p. 27 (p. 16) <<https://epic.awi.de/41055/1/BusinessReport2014Web.pdf>> [accessed 7 October 2016]; Konsortium Deutsche Meeresforschung, *Alfred-Wegener-Institut, Helmholtz-Zentrum Für Polar Meeresforschung* (Berlin: Konsortium Deutsche Meeresforschung, 2016) <<http://www.deutsche-meeresforschung.de/de/awi>> [accessed 7 October 2016].

⁵⁷¹ Polar Research Expert, p. 1.

Russia and Sweden, possess polar research ice-breakers underlines Germany's strong standing in polar research.⁵⁷²

The second important polar research player in Germany is the Federal Agency for Geoscience and Resources (Bundesanstalt für Geowissenschaften und Rohstoffe, BGR).⁵⁷³ It has been active in the Arctic since 1992.⁵⁷⁴ According to the agency, "[w]ith its polar research activities, BGR assists the German federal government in [...] giving Germany a stronger voice in decisions relating to economic, environmental and research policy in the Arctic."⁵⁷⁵

Already since 1992, Germany's polar research activities are embedded in the two main international polar research institutions, the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Committee (IASC).⁵⁷⁶

Germany's polar research activities are deeply embedded in international research cooperation frameworks. Two of the key cooperation partners are Norway and Russia. Together with France, Germany operates the French-German Arctic research base AWIPEV in Ny Ålesund on Spitsbergen. Another focus area in Norway is the Fram Strait.⁵⁷⁷ According to the Norwegian Senior Arctic Official (SAO) Eikeland, "there is a strong and long collaboration between Norway and Germany on polar research and Norway would like to work even closer with Germany on polar science."⁵⁷⁸ Germany works closely with Russia in polar research, too, amongst others in the Laptev Sea and the Lena delta, where the Samoylov research station is located.⁵⁷⁹ This cooperation exists since 1991 and allows German polar researchers to access to Siberian land and sea areas.⁵⁸⁰ In addition to polar research, there exists a bilateral cooperation with Russia on environmental issues.⁵⁸¹ Altogether, German polar research is carried out on

⁵⁷² Polar Research Expert, p. 1.

⁵⁷³ Polar Research Expert, p. 1.

⁵⁷⁴ Bundesanstalt für Geowissenschaften und Rohstoffe, *Tätigkeitsbericht 2011*, p. 128.

⁵⁷⁵ Bundesanstalt für Geowissenschaften und Rohstoffe, *Tätigkeitsbericht 2011*, p. 128.

⁵⁷⁶ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 15.

⁵⁷⁷ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 15.

⁵⁷⁸ Norwegian Ministry of Foreign Affairs Arctic Official, Interview 2, 2014, p. 1.

⁵⁷⁹ Polar Research Expert, p. 3; Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 16.

⁵⁸⁰ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 16.

⁵⁸¹ Federal Ministry of the Environment, Nature Conservation and Nuclear Safety Official, Statement 12, 2013, p. 6.

land and on sea in Spitsbergen, the Fram Strait, the Laptev Sea, Yakutia, the Polar Ural, the Kamtchatka Peninsula, north-eastern Siberia, Greenland, the Canadian part of the Arctic, and the central Arctic Ocean.⁵⁸² The fact that Germany's polar research expeditions have increased in recent years shows the growing importance Germany attaches to this region.⁵⁸³

Finally, the international dimension of Germany's polar research activities can also be seen in the fact that the International Arctic Science Committee's (IASC) secretariat is located at the Alfred-Wegener-Institut (AWI) in Germany.⁵⁸⁴

3.1.3.3 Background Information: Germany's Engagement in the Fight against Global Climate Change

The country also receives worldwide recognition for its leadership role in the fight against global climate change. It is the result of ambitious domestic and international policy initiatives, partly dating back to the 1980s.⁵⁸⁵ Already in 1987, then Chancellor Kohl declared the climate question as the most important environmental problem.⁵⁸⁶ Chancellor Merkel described climate change as one of the big challenges of the 21st century.⁵⁸⁷ Consequently, German chancellors, environment ministers, and delegations played prominent and instrumental roles during international negotiations and conferences.⁵⁸⁸ Also due to its role as one of the main advocates in the fight against global climate change Germany is strongly interested in Arctic environmental affairs.⁵⁸⁹ In addition, Germany also sees a link between a changing climate and security developments on the global level. Therefore, Germany – as one of the first nations – lobbied to acknowledge the close relationship between both phenomena during its

⁵⁸² Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', pp. 15–16.

⁵⁸³ Federal Foreign Office Official, Interview 3, 2014, p. 1.

⁵⁸⁴ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 16.

⁵⁸⁵ Helmut Weidner and Lutz Mez, 'German Climate Change Policy. A Success Story with Some Flaws', *The Journal of Environment & Development*, 17.4 (2008), 356–78 (pp. 356–57, 361, 363–64).

⁵⁸⁶ Helmut Weidner, *Klimaschutzpolitik. Warum Ist Deutschland Ein Vorreiter Im Internationalen Vergleich? Zur Rolle von Handlungskapazitäten Und Pfadabhängigkeit* (Berlin: Wissenschaftszentrum Berlin (WZB), 2008), p. 106 (p. 6) <<https://bibliothek.wzb.eu/pdf/2008/iv08-303.pdf>> [accessed 8 December 2016].

⁵⁸⁷ Die Bundeskanzlerin, *Weltweites Klimaschutzabkommen Weiter Entwickeln* (Berlin: Die Bundeskanzlerin, 3 November 2006) <<https://www.bundeskanzlerin.de/ContentArchiv/DE/Archiv17/Reiseberichte/gb-weltweites-klimaschutzabkommen-weiter-entwickeln.html>> [accessed 8 December 2016].

⁵⁸⁸ Weidner, p. 7.

⁵⁸⁹ Haftendorn, 'Zaungast in Der Arktis. Deutschlands Interessen an Rohstoffen Und Umweltschutz', p. 72.

chairmanship of the UN Security Council in 2011.⁵⁹⁰ The German government emphasized in a response to the parliament “that climate change-related developments entail the possibilities of political and security risks which could touch upon European interests.”⁵⁹¹

3.2 Psychological Environment

Against the background of developments in the operational environment, this chapter analyzes official ministerial documents and statements of ministerial representatives in order to better understand how the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Ministry of Education and Research, the Federal Foreign Office, the Federal Ministry of Defence, and the Federal Ministry for Economic Affairs and Energy have perceived these developments. The analysis and categorization of ministerial narratives focus on opportunities and challenges, direct and indirect interdependencies, short-term and long-term impacts as well as sensitivities and vulnerabilities.

3.2.1 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

The ministry’s perceptions of the main developments in the operational environment, as described in chapter 3.1, correlate to what is actually taking place globally and – to a lesser degree – in the Arctic. The various identified perceptions are merged along four narratives.

Narrative No. 1: Global Climate Change as a Challenge

Global climate change is perceived by the ministry as a main global challenge with potential consequences in environmental, economic and political affairs across the globe. In addition, it is assumed that climate change will have adverse effects against

⁵⁹⁰ Auswärtiges Amt, *Klima Und Sicherheit* (Berlin: Auswärtiges Amt, 2011) <http://www.auswaertiges-amt.de/DE/Aussenpolitik/GlobaleFragen/Klima/KlimaUndSicherheit_node.html> [accessed 5 September 2016]; Neil MacFarquhar, ‘U.N. Deadlock on Assessing Climate Shift’, *New York Times* (New York, 20 July 2011) <<http://www.nytimes.com/2011/07/21/world/21nations.html>> [accessed 8 September 2016].

⁵⁹¹ Bundesregierung, ‘Antwort Der Bundesregierung Auf Die Kleine Anfrage Der Abgeordneten Alexander Ulrich, Monika Knoche, Dr. Lothar Bisky, Weiterer Abgeordneter Und Der Fraktion Die Linke - Drucksache 16/8804-, Klimawandel Und Sicherheit, Deutscher Bundestag, 16. Wahlperiode, Drucksache 16/9136’, 2008, p. 1 <<http://dip21.bundestag.de/dip21/btd/16/091/1609136.pdf>> [accessed 5 September 2016].

which Germany needs to protect itself.⁵⁹² Growing sensitivities and vulnerabilities in various parts of the globe as a result of global climate change are perceived to exist already today.

Within the framework of Germany's national climate protection programme, the ministry in 2005 stated that "the fight against global warming [...] is one of the main challenges of the 21st century."⁵⁹³ A number of growing vulnerabilities on the global level have been identified. These include a global temperature increase and as a result of it an increase in extreme weather events, melting glaciers, rising sea-levels and the shifting of vegetation zones."⁵⁹⁴ The challenges of global climate change and linked growing global vulnerabilities were restated in 2010 in the "Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply":

Climate change, with its far-reaching effects, has become one of the greatest challenges facing humankind today. More frequent natural disasters and weather extremes, increased water scarcity, inundated coastal zones and the accelerating extinction of species are just some of its direct consequences in developing and industrialized countries.⁵⁹⁵

As a result of perceived growing short-term vulnerabilities, the ministry called for urgent action in 2010. As "[t]he impacts of climate change are already being felt all over the world"⁵⁹⁶, [...] "[c]limate action is needed now, because time is running out."⁵⁹⁷

Also, the climate change paradox according to which less developed nations are most strongly affected by the effects of a changing climate, whilst it is the complete opposite

⁵⁹² Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), 'Combating Climate Change. The German Adaption Strategy', 2009, p. 6 <http://www.germany.info/contentblob/2293498/Daten/426241/Adaptation_DD.pdf> [accessed 18 May 2016].

⁵⁹³ „Die Bekämpfung der globalen Erwärmung der Erdatmosphäre und die Minderung der Folgen des Klimawandels gehören zu den zentralen Herausforderungen des 21. Jahrhunderts.“ Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, 'Nationales Klimaschutzprogramm. Sechster Bericht Der Interministeriellen Arbeitsgruppe "CO₂-Reduktion"', 2005, p. 4 <<http://dip21.bundestag.de/dip21/btd/15/059/1505931.pdf>> [accessed 18 May 2016].

⁵⁹⁴ Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, 'Nationales Klimaschutzprogramm. Sechster Bericht Der Interministeriellen Arbeitsgruppe "CO₂-Reduktion"', p. 4.

⁵⁹⁵ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, 'Climate Challenges. Germany's International Approach', 2010, p. 4 <http://www.bmz.de/en/publications/archiv/type_of_publication/information_flyer/information_brochures/Materialie192_Climate_Challenges.pdf> [accessed 19 May 2016].

⁵⁹⁶ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety/Federal Ministry for Economic Cooperation and Development, 2010: 8

⁵⁹⁷ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, p. 4.

for developed nations, has been acknowledged by the ministry (see also the discussion about winners and losers of global climate change, page 87): “The countries around the world which are suffering most from the impacts of climate change only produce a relatively small proportion of global greenhouse gas emissions themselves.”⁵⁹⁸

Regarding the Arctic’s central role in global climate change and the growing vulnerabilities between the global and the Arctic level, the ministry stated in the 2009 document “Combating Climate Change. The German Adaption Strategy”:

Warming will probably be greatest over the continents and in the polar regions. The ice in the Arctic is continuing to melt, and some models expect it to disappear almost completely during the summer season in the second half of this century. Partly as a result of this, there could be a rise in sea level of between 18 and 59 centimetres by the year 2100.⁵⁹⁹

With respect to the interdependencies between global climate change and Germany, the ministry remained rather vague. In 2009 it stated that as a result of a changing climate, the world’s living conditions will change. It foresees significant environmental, economic, and societal consequences.⁶⁰⁰ And yet, as outlined in the climate paradox above, Germany is not perceived by the ministry to be one of the countries most strongly affected by global climate change – at least not in terms of direct impacts in the short-term.⁶⁰¹ Only a few growing environmental vulnerabilities are identified by the ministry. Regarding temperatures, a warming – especially in south-west and east Germany is perceived. Also, an increase of precipitation in Germany is acknowledged, mostly during winter.⁶⁰² The most severe impacts, however, are only expected to be felt in the medium to long term. Temperatures are expected to increase by 0.5 to 1.5°C up to 2050 and by 1.5 to 3.5°C up to the end of the 21st century. Rainfall is expected to decrease during summer by up to 40% - especially in south-west Germany. In winter, a 40% precipitation increase is considered possible. Mote than this, extreme weather events like the number of days with over 30°C are expected to increase.⁶⁰³ The most concrete

⁵⁹⁸ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, p. 19.

⁵⁹⁹ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 13.

⁶⁰⁰ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 6.

⁶⁰¹ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, p. 19.

⁶⁰² Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 14.

⁶⁰³ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 16.

and direct link between global climate change and Germany is made with regard of marine transport, as rising sea levels pose a threat to maritime infrastructure:

The effects of climate change on marine transport in the North Sea and Baltic Sea have to be considered not only in regional terms, but also on larger scale, since the ports have worldwide links [...] The predicted rise in sea levels has a direct impact on seaports.⁶⁰⁴

However, as these serious effects are only expected to occur in the medium to long term, it comes as no surprise that the ministry concludes that “[f]or most people in Europe, climate change is still an abstract concept.”⁶⁰⁵

Therefore, it is also understandable that the ministry in the 2010 document “Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply” did not rule out the necessity to rely on a reliable and economically viable supply of energy – a formulation that keeps the door open for the use of hydrocarbon resources.⁶⁰⁶ This supply of traditional energy resources is seen as “necessary for Germany to remain a competitive industrial base in the long term.”⁶⁰⁷ By using this formulation, the ministry tries to square the circle between taking over responsibility to combat climate change and protect the environment on the global level whilst at the same time also acknowledging the necessity to continue with the consumption of fossil fuels for domestic economic reasons.

Closely linked to the first narrative of global climate change being a challenge – mainly in environmental terms – is a second narrative highlighting the security implications of global climate change as a particular challenge.

Narrative No. 2: The Climate Change-Security Nexus

⁶⁰⁴ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 40.

⁶⁰⁵ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, p. 19.

⁶⁰⁶ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, ‘Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply’, 2010, p. 3 <https://www.germany.info/contentblob/3043402/Daten/1097719/BMUBMWi_Energy_Concept_DD.pdf> [accessed 5 August 2014].

⁶⁰⁷ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

As a consequence of accelerating global climate change, the ministry perceives the threat of an increasing destabilization of entire regions as climate change could act as a risk multiplier. According to a 2010 document entitled “Climate Challenges. Germany’s International Approach” the ministry sees strong interdependencies between global climate change and the social conditions in large parts of the world:

Climate change plays a key role in the worsening of poverty and social tensions worldwide. Due to their poorer adaptive capacities, developing countries are affected to a very significant extent by climate change impacts such as drought, floods and storms.⁶⁰⁸

And as stated in “Combating Climate Change. The German Adaptation Strategy”, the ministry realizes that the worsening of social conditions is a source for conflicts:

[T]he effects of climate change are already fueling conflicts. If deserts spread, drinking water is subject to regional shortages, harvests dry up, storms become more frequent or entire coastal regions are threatened by the rise in sea level, people will leave their homes.⁶⁰⁹

In order to cope with global climate change and to design effective adaptation and mitigation strategies, the ministry is aware of the necessity to strengthen climate research.

Narrative No. 3: More Climate Research Needed

Against the background of the complexity of global climate change and the still existing knowledge gaps, the ministry calls for more research activities in climate system research, climate impact research and adaptation research.⁶¹⁰ This is perceived as an urging issue:

[T]o plan precautionary measures and economically relevant investment projects with their planning, financing and implementation periods there is a need for more detailed information about climate developments in the next ten years, i.e. medium-term forecasts.⁶¹¹

And whilst global climate change is mainly recognized as a challenge – for the world and for Germany -, the ministry also sees particular economic opportunities arising out of the necessity to combat climate change.

⁶⁰⁸ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, p. 18.

⁶⁰⁹ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 58.

⁶¹⁰ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), pp. 50–51, 53.

⁶¹¹ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 51.

Narrative No. 4: The Economic Opportunities of Global Climate Change for Germany

Already in 2005, the ministry saw the possibility to square the circle of environmental protection and economic growth by the development of new technologies:

Climate protection steps [...] can give important impulses for the development of existing and new technologies and their market entrance. Thus climate protection is not only ecologically indispensable but can also make an effective contribution to permanent economic growth, the protection and development of the German economy's position in the global economy and the preservation and creation of jobs in Germany.⁶¹²

In 2010 this point of view was restated: "The development and piloting of innovative technologies [...] will help to create an ecologically sustainable and profitable global economy. It will also reduce dependency on fossil fuels, create jobs and support efforts to combat poverty."⁶¹³

3.2.2 Federal Ministry of Education and Research

Against the background of Germany's long-standing polar research tradition (see chapter 3.1.3.2, page 103) it comes as no surprise that in 2012 the Federal Ministry of Education and Research was the first German ministry publishing an explicit Arctic policy document. Contrary to the almost exclusive focus on the global dimension of climate change maintained by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety the Federal Ministry of Education and Research focuses stronger and more explicit on the Arctic dimension. The ministerial perceptions are categorized along five narratives.

Narrative No. 1: The Challenge of Arctic-driven Global Climate Change

The ministry recognizes mutual vulnerabilities between global climate change and Arctic climate change as well as their respective grave climatic and environmental consequences:

⁶¹² 'Klimaschutzmaßnahmen können zur Steigerung der Energieeffizienz in allen Sektoren und zur Verringerung der Importabhängigkeit beitragen. Sie können wichtige Impulse für die Entwicklung bestehender und neuer Technologien und deren Markteinführung geben. Klimaschutz ist insoweit nicht nur ökologisch unverzichtbar, sondern kann darüber hinaus einen wirksamen Beitrag für ein dauerhaftes Wirtschaftswachstum, zur Sicherung und zum Ausbau der Position der deutschen Wirtschaft an den internationalen Märkten und zur Erhaltung und Schaffung von Arbeitsplätzen in Deutschland leisten.' Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, 'Nationales Klimaschutzprogramm. Sechster Bericht Der Interministeriellen Arbeitsgruppe "CO₂-Reduktion"', p. 4.

⁶¹³ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, p. 8.

Global warming could [...] lead to the irreversible overstepping of critical limits in some parts of the global system, with consequences such as [...] the melting of parts of the Polar regions or the thawing of the permafrost regions, releasing large quantities of methane.⁶¹⁴

Arctic warming has been very high over the last few decades and the amount of ice on land and in the sea has declined significantly in that time. This not only affects the Arctic ecosystem [...] but also the development of global climate patterns [as the] threatening rise in the sea level.⁶¹⁵

On the regional level, the ministry seems to be alarmed by the rapid environmental transformation underway: “The Arctic sea ice is receding faster than climate models have predicted.”⁶¹⁶ This is seen as “one of the strongest climate signals in the world.”⁶¹⁷ At the same time it is realized that the Arctic’s fundamental transformation has serious global repercussions:

Given its capacity to reflect sunlight, Arctic sea ice [decline] has a large effect on the radiation budget of the Earth. It also plays a critical role for the heat and gas exchange between the ocean and the atmosphere. The decline in sea ice therefore has consequences for the oceanic and atmospheric circulation far beyond the Arctic.⁶¹⁸

The melting of ice is seen as a key contributor to global sea-level rise. Greenland plays a key role in this regard:

The Greenland ice sheet and the Arctic glaciers and ice caps have lost mass at an accelerated rate over the last several years. This loss of ice mass contributes to an increasing but hardly predictable sea level rise. The loss can be attributed to stronger melting processes on the surface of the ice masses as well as to the higher flow rate in most of the outlet glaciers that drain the ice sheet.⁶¹⁹

Thus, the ministry perceives a growing direct and short-term vulnerability of the Arctic to the consequences of global climate change as well as a growing vulnerability of the global climate to the Arctic’s transformation. And whilst the ministry apprehends a

⁶¹⁴ Federal Ministry of Education and Research (BMBF), ‘The High-Tech Strategy on Climate Protection’, 2008, p. 7 <http://www.cfi21.org/fileadmin/user_upload/the_high-tech_strategy_for_climate_protection.pdf> [accessed 24 May 2016].

⁶¹⁵ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 5.

⁶¹⁶ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 4.

⁶¹⁷ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 7.

⁶¹⁸ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 7.

⁶¹⁹ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 6.

reciprocal direct and already existing link between Arctic warming and global climate change and its effects (e.g. sea-level rise), it remains rather vague with regard to interdependencies between the Arctic's environmental transformation and Germany. There is only one reference to Europe and thus to Germany:

The changes in the ocean ice and current conditions of the Arctic are affecting the global climate and Europe in particular. The processes at work are the result of a complex interplay of different subsystems such as land, ocean, biosphere, ice sheets and atmosphere.⁶²⁰

Yet it remains unclear how Europe and Germany are affected (direct or indirectly), and if these effects are supposed to be felt in the short or medium term. From the perspective of the ministry, it remains unclear whether Germany is sensitive or vulnerable to the Arctic's environmental transformation and Arctic-driven global climate change. Only with regard to developing and emerging countries a growing direct and short-term vulnerability to the consequences of global climate change is explicitly seen: "Crises occur mainly in developing and newly industrialised countries due to their low economic and social resilience."⁶²¹

Nevertheless, the challenge of global climate change is identified as an urgent issue that has to be dealt with swiftly: "Extreme worldwide weather and climatic events such as heavy rainfall, storms, spring tides, heat waves and droughts illustrate that action is required."⁶²²

Narrative No. 2: More Polar and Climate Research as a Precondition for Effective Policy Solutions and Sustainable Economic Development in the Arctic

Against the background of existing knowledge gaps, the ministry calls for more research activities to better understand global and Arctic-related global climate change processes. A more solid knowledge base is seen as the only way to enable a) politicians to find more

⁶²⁰ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. Foreword.

⁶²¹ Federal Ministry of Education and Research (BMBF), 'The High-Tech Strategy on Climate Protection', p. 9.

⁶²² Federal Ministry of Education and Research (BMBF), 'The High-Tech Strategy on Climate Protection', p. 9.

effective policy solutions to the various challenges of a changing climate and b) the private sector to ensure a sustainable economic development.⁶²³

In this regard, polar research is seen as the precondition for more accurate scenarios of future developments:⁶²⁴

In light of current changes, it is clear that we need to gain a greater understanding of the dynamics of these natural processes. Only then will we be able to precisely determine the anthropogenic influence on current developments and more accurately predict future changes.⁶²⁵

Regarding global climate change, the ministry saw the necessity to close knowledge gaps already in its 2008 “High-Tech Strategy on Climate Protection”: “We need a sound understanding of the system in order to be able to describe and predict the complex climate processes and interactions between atmosphere, land and oceans in even greater detail.”⁶²⁶

Polar research is also seen as a precondition for the sustainable economic development of the region:

Ensuring sustainable development requires comprehensive basic knowledge and a deep understanding of the key processes at work. This is critical since the risks for the Arctic ecosystem and society arising from climate change and commercial exploitation are largely unknown. The same applies to the feedback effects on the global climate.⁶²⁷

Narrative No. 3: The Opportunity to Present Germany as an Arctic Player with Regard to Polar Research Activities

Due to its long polar research tradition, the ministry sees Germany to be in a good position to contribute to research activities that help close existing knowledge gaps with regard to Arctic and global climate change.⁶²⁸ Thus, science diplomacy is considered an important aspect of Germany’s Arctic engagement: “Thanks to decades of excellent

⁶²³ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, pp. 4–5, 11–12.

⁶²⁴ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 5.

⁶²⁵ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 5.

⁶²⁶ Federal Ministry of Education and Research (BMBF), ‘The High-Tech Strategy on Climate Protection’, p. III.

⁶²⁷ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 4.

⁶²⁸ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, pp. 14, 18.

scientific work in this area, German polar research enjoys an outstanding international reputation.”⁶²⁹ Due to its unquestioned expertise, Germany is regarded as a key player in polar research:

German marine and polar science will contribute to the understanding of climate change mechanisms and their effects and to the creation of a knowledge base that will help ensure that political decisions are both forward-looking and sustainable.⁶³⁰

At the same time, however, the ministry is eyeing to new research areas. These include societal questions based on political and legal issues: „Sustainable use also means resolving conflicts of interests, which is why responsible research must also address the political and legal mechanisms of mediation and their efficacy.“⁶³¹ Also in this context, Germany is perceived of having an added value: „German Arctic research is able to make significant contributions and to help overcome the new scientific and social challenges facing the Arctic region.“⁶³²

Narrative No. 4: The Need for new Technology to Close Knowledge Gaps

New technology is identified as a key enabler for polar research.⁶³³ According to the ministry, a large number of knowledge gaps regarding climatic changes in the Arctic as well as the region’s interdependence with global climate change exist. In order to close these gaps, “[i]nnovative technologies [...] are necessary to explore the Arctic.”⁶³⁴ These include, amongst others, new technological applications for extraction, for autonomous measurement activities, or for remote sensing and monitoring.⁶³⁵ Especially the latter is seen as critical for polar research as it allows “to more accurately predict future climatic

⁶²⁹ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 4.

⁶³⁰ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. Foreword.

⁶³¹ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 12.

⁶³² Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 18.

⁶³³ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, pp. 18–20.

⁶³⁴ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 21.

⁶³⁵ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 21.

conditions. The collected data will provide the basis for suitable adaption strategies and guidelines aimed at ensuring a sustainable exploitation of the Arctic region.”⁶³⁶

Narrative No. 5: The Economic Opportunities of Developing new Technologies

In order to close knowledge gaps in polar research, more research activities in the Arctic are deemed necessary but also quite challenging due to the harsh climatic conditions. Therefore “advanced technologies and high safety standards” are a precondition for polar research.⁶³⁷ And at the same time, the ministry sees the development of new polar and environmentally friendly technologies as a short-term economic opportunity for Germany.⁶³⁸

The development of new methods and applications is of course not only relevant to climate protection – it also opens up excellent opportunities for German companies [...] Already, nearly one fifth of the environmental technology sold worldwide originates from Germany. Our climate-friendly technologies must remain export hits in the future, so that their success ensures Germany’s long-term security as an industrial nation.⁶³⁹

Narrative No. 6: Germany’s Responsibility in the Fight Against Global Climate Change

Finally, the ministry recognizes that Germany holds a particular responsibility to fight global climate change and thus to protect the global environment.⁶⁴⁰ Polar research is seen as one particular way to live up to this responsibility. Research results will provide policymakers with necessary knowledge to adopt policies that allow a sustainable and environmental friendly global development.⁶⁴¹

3.2.3 Federal Foreign Office

The Federal Foreign Office (FFO) is also aware of the opportunities and challenges emanating from global climate change and the Arctic’s climatic and environmental transformation. The ministry’s perceptions are merged along five narratives.

⁶³⁶ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 18.

⁶³⁷ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 20.

⁶³⁸ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 20.

⁶³⁹ Federal Ministry of Education and Research (BMBF), ‘The High-Tech Strategy on Climate Protection’, p. 39.

⁶⁴⁰ Federal Ministry of Education and Research (BMBF), ‘The High-Tech Strategy on Climate Protection’, pp. 3, 38.

⁶⁴¹ Federal Ministry of Education and Research (BMBF), ‘Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility’, p. 5.

Narrative No. 1: The Challenge of Arctic-driven Global Climate Change

Global climate change is perceived as a fundamental challenge for the world:

Climate Change confronts us with a global challenge. [T]he threats we face may result in the collapse of entire ecosystems, with tangible consequences for the foundations of our lives and economies [...]. Even now, climate change as it advances is jeopardizing the existence of some countries, such as the world's small island states.⁶⁴²

Similarly, a reciprocal vulnerability between global climate change and the Arctic's environmental transformation is a source of concern for the FFO:

Risks emerging in the Arctic as well as effects of climate change do not only have a regional impact; the special vulnerability of the Arctic ecosystem is perceived as a global challenge.⁶⁴³

Therefore, according to then foreign minister Westerwelle, "the Arctic is a subject that will be of crucial significance for the long-term survival of mankind."⁶⁴⁴

Whilst a growing vulnerability between global climate change processes and the Arctic has been noticed by the FFO, the ministry remains rather vague with regard to potential direct consequences for Germany. Instead, Arctic-driven global climate change and its potential consequences are mainly depicted as a global challenge that threatens mankind in the long-term. Short-term consequences for Germany are apparently not felt.

Narrative No. 2: The Climate Change-Security Nexus

As a consequence of accelerating global climate change, the ministry is aware of the risk of growing global instability. In 2007, then foreign minister Steinmeier highlighted this

⁶⁴² Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', 2012, p. 49 <<https://www.auswaertiges-amt.de/cae/servlet/contentblob/616584/publicationFile/190262/Gestaltungsmaechtekonzep%20engl.pdf>> [accessed 18 May 2016].

⁶⁴³ Stephan Auer, 'The Role and Priorities of Germany in an EU Arctic Policy', in *The EU as an Arctic Actor? Interests and Governance Challenges*, ed. by Andreas Maurer and others (Berlin: Stiftung Wissenschaft und Politik, 2012), p. 45 (p. 12) <https://www.swp-berlin.org/fileadmin/contents/products/projekt_papiere/Mrr_GeoNor_Conference_Report_1212.pdf> [accessed 5 September 2016].

⁶⁴⁴ Guido Westerwelle, 'Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean', in *Science, International Law and Climate Change*, ed. by Susanne Wasum-Rainer, Ingo Winkelmann, and Kathrin Tiroch, Beiträge Zum Ausländischen Öffentlichen Recht Und Völkerrecht (Max-Planck-Institut Für Ausländisches Öffentliches Recht Und Völkerrecht), 235 (Heidelberg, New York, Dordrecht, London: Springer, 2012), pp. 1-3 (p. 1).

nexus: “Increasing water shortages, a harvest decline and extreme weather events can lead to grave social and political tensions. Existing threats to international security might be aggravated by climate change.”⁶⁴⁵ As a result, “weak states and their fragile institutions are in danger to break apart, new struggles for distribution of resources have to be worried about, pressures due to migration are growing.”⁶⁴⁶ The minister reiterated the nexus in 2012: “Conflicts may be exacerbated by the security impact of various global challenges, such as [...] climate change [...]”⁶⁴⁷

Narrative No. 3: The Importance of Unrestricted Polar and Climate Research Activities

According to the FFO, only a solid scientific understanding of the rapid and complex environmental changes underway in the Arctic can form the basis of effective political action.⁶⁴⁸ Therefore, the freedom of research is of utmost importance. As stated by then foreign minister Westerwelle “[r]esearch must in principle be open to all, because the challenges of climate change affect us all. [...] Solutions require the firm basis in fact provided by research.”⁶⁴⁹ In order to close existing knowledge gaps FFO officials see the necessity for increased polar research cooperation:

It is rather obvious that the research challenges in the Arctic get more and more complex. The speed of changes is overwhelming. The more crucial is coordinated international research cooperation [...] We cannot but fully support the scientific collaboration on climate and environmental issues as it has developed over recent years. Whether it is bilateral Norwegian-German research or joint projects in a broader context.⁶⁵⁰

Three aspects are interesting here. First, the FFO apparently saw the necessity to underline its understanding that the freedom of research must be preserved in the

⁶⁴⁵ „zunehmende Wasserknappheit, Ernterückgänge und extreme Wetterereignisse können zu erheblichen sozialen und politischen Spannungen führen. Bestehende Bedrohungen der internationalen Sicherheit können sich durch den Klimawandel weiter verschärfen.“ Frank Walter Steinmeier, “Sicherheitsrisiko Klimawandel”. Rede Des Bundesaußenministers Anlässlich Des 17. Forum Global Fragen, 14.06.07’ (presented at the 17. Forum Global Fragen, Berlin, 2007) <<http://www.auswaertigesamt.de/DE/Infoservice/Presse/Reden/2007/070614-BMKlimawandel.html>> [accessed 24 May 2016].

⁶⁴⁶ „Schwache Staaten und ihre fragilen Institutionen laufen Gefahr, vollends auseinander zu brechen, neue Verteilungskonflikte sind zu befürchten, der Migrationsdruck steigt.“ Steinmeier.

⁶⁴⁷ Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 21.

⁶⁴⁸ Auswärtiges Amt, *Deutschland Und Der Arktische Rat* (Berlin: Auswärtiges Amt, 25 October 2013) <http://www.auswaertigesamt.de/DE/Aussenpolitik/InternatRecht/Einzelfragen/Arktis/Arkt_Rat_DE_node.html> [accessed 5 September 2016].

⁶⁴⁹ Westerwelle, ‘Climate Change, International Law and Arctic Research - Legal Aspects of Marine Research in the Arctic Ocean’, p. 2.

⁶⁵⁰ Federal Foreign Office Official, Statement 13, 2013, p. 1.

Arctic. Thus, there must have been a perceived threat to that freedom. Second, as the challenges of global climate change are seen as affecting the whole world, the ministry acknowledged a direct link between these processes and Germany. However, it is not elaborated on the exact kind of interdependence – short-term or medium-term, direct or indirect. Third, a perceived sense of growing urgency to act is seen in the FFO against the background of the fast pace of the Arctic's transformation (see quotation above).

Narrative No. 4: The Opportunity to Present Germany as an Arctic (Research) Player

Due to its long polar research tradition (see chapter 3.1.3.2, page 103) the ministry seems convinced that Germany has to be seen as an Arctic player. It is eager to promote this image to a larger international audience, as has been done during an international conference at the FFO on “Arctic Science, International Law and Climate Change” in March 2011: “Germany has for decades been involved in Arctic activities. We are proud of our successful research in the polar region.”⁶⁵¹

Narrative No. 5: The Challenge and Responsibility to Protect the Arctic's Fragile Ecosystem

According to former foreign minister Westerwelle, the Arctic is also becoming increasingly vulnerable to human activities. Therefore, it is important to “ensur[e] that the strictest environmental standards are observed” and “that responsibility is taken for any environmental damage that occurs.”⁶⁵² In the context of the fight against global climate change and environmental protection any kind of exploration and exploitation of hydrocarbon resources was rejected by those FFO officials responsible for climate change aspects of foreign policy:

Concerning hydrocarbon resources [...] [w]e [...] are not starting at a neutral point. Our greenhouse gas account is already full of debts. And we cannot get rid of these debts by promoting a direction that will only lead to increasing debts of the same kind. Therefore, the urgent question is: Is it reasonable, is it justifiable, is it in the range of globally responsible political behavior to advocate the exploitation of additional fossil resources in the Arctic? Can this be brought in line with the 2° goal in international climate protection signed by all of our governments? We think: The honest answer is no!⁶⁵³

⁶⁵¹ Westerwelle, ‘Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean’, p. 1.

⁶⁵² Guido Westerwelle, *Bundesaußenminister Westerwelle Zur Eröffnung Der Internationalen Konferenz “Klimawandel, Völkerrecht Und Arktisforschung – Rechtliche Aspekte Der Meeresforschung Im Arktischen Ozean* (Berlin: Auswärtiges Amt, 17 March 2011) <http://www.auswaertiges-amt.de/DE/Infoservice/Presse/Reden/2011/110317-BM_Arktiskonferenz.html> [accessed 16 June 2012].

⁶⁵³ Federal Foreign Office Official, ‘Statement 13’, p. 2.

Consequently, the exploitation of Arctic hydrocarbon resources was rejected by those FFO representatives in 2013: “A sustainable future of our own societies demands an unmistakable transformation to the use of renewable energy sources. This is possible without exploiting the remote fossil deposits of the Arctic.”⁶⁵⁴

3.2.4 Federal Ministry of Defence

Narrative No. 1: The Climate Change-Security Nexus

Climate change is perceived as a fundamental challenge that has the potential to negatively affect questions of international security.⁶⁵⁵ The implications of global climate change are seen as a challenge. Indirectly Germany could be affected by the adverse effects of global climate change:

Climate Change is already threatening the livelihood of many people in certain states. Desertification, water and land shortages, uneven population densities, and enormous prosperity gaps in connection with social disparity are leading to worldwide migration flows to economically better developed regions and causing considerable conflict potential for the regions in question. In the future this can have further consequences for the stability of government and regional structures and thus for our security too.⁶⁵⁶

This observation was reiterated in the 2012 document “Umweltdimensionen von Sicherheit” of the planning office of the federal armed forces:⁶⁵⁷ “climate change has serious potential for destabilization of countries and societies, especially when they do possess only marginal problem solving capacity (resilience) to cope with the consequences of climate change.”⁶⁵⁸

⁶⁵⁴ Federal Foreign Office Official, ‘Statement 13’, p. 3.

⁶⁵⁵ Planungsamt der Bundeswehr, Dezernat Zukunftsanalyse, *Future Report. Umweltdimensionen von Sicherheit* (Berlin: Planungsamt der Bundeswehr, Dezernat Zukunftsanalyse, 2012), p. 9 <[http://www.planungsamt.bundeswehr.de/portal/a/plgabw/!ut/p/c4/TY3RCsMgDEW_pT9gWsOc7G1fsbVvtmYSsFps2v7-9GEwDpxLuAmBCSrjnRyccE4uwhvGhR_zpbYYXI2dyskLqV0Oz5Tg1S48qSUnkmahJFwdipNc1JaLxNYcpdRGSYcRB7yh1YSIurpNWN0gxv4fY--DITO3PWPNR_c_2tMYYPQE27ra69l1X-5ST6g!/> \[accessed 18 January 2016\]; Federal Ministry of Defence, ‘Defence Policy Guidelines’, 2011, p. 1 <\[http://www.nato.diplo.de/contentblob/3150944/Daten/1318881/VM_deMaiziere_180511_eng_DLD.pdf\]\(http://www.nato.diplo.de/contentblob/3150944/Daten/1318881/VM_deMaiziere_180511_eng_DLD.pdf\)> \[accessed 19 May 2016\].](http://www.planungsamt.bundeswehr.de/portal/a/plgabw/!ut/p/c4/TY3RCsMgDEW_pT9gWsOc7G1fsbVvtmYSsFps2v7-9GEwDpxLuAmBCSrjnRyccE4uwhvGhR_zpbYYXI2dyskLqV0Oz5Tg1S48qSUnkmahJFwdipNc1JaLxNYcpdRGSYcRB7yh1YSIurpNWN0gxv4fY--DITO3PWPNR_c_2tMYYPQE27ra69l1X-5ST6g!/)

⁶⁵⁶ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 3.

⁶⁵⁷ According to the planning office of the federal armed forces the report does not present an official policy position of the Ministry of Defence. However, considering the fact that the planning office’s are the only official documents from the ministry’s sphere, the analysis of ministerial perceptions takes the planning office’s reports into account.

⁶⁵⁸ “Der Klimawandel birgt ernstzunehmende Destabilisierungspotenziale für Staaten und Gesellschaften, insbesondere wenn diese über eine geringe Problemlösungskapazität (Resilienz) verfügen, um mit Klimafolgen umzugehen.“ Planungsamt der Bundeswehr, Dezernat Zukunftsanalyse, p. 17.

The challenge to tackle global climate change is marked by a sense of urgency that underlines the perceived potential of short-term implications:

The longer the challenges are not taken seriously and effective courses of action are delayed, the more serious the future could turn out to be – including concrete security-political implications. Climate change could contribute to the destabilization of countries – especially during times of [societal and political] transformation.⁶⁵⁹

Whilst a growing vulnerability of international security to global climate change is perceived no link between global climate change, international security and Germany seems to be seen - at least not in the publicly available documents.

3.2.5 Federal Ministry for Economic Affairs and Energy

The ministry is not very outspoken with regard to climate change. In the analysed documents the most concrete narrative is the perceived challenge to square the circle in terms of a stable but also environmental friendly energy supply:

Securing a reliable, economically viable and environmentally sound energy supply is one of the great challenges of the 21st century [...] a high level of energy security, effective environmental and climate protection and the provision of an economically viable energy supply are necessary for Germany to remain a competitive industrial base in the long term.⁶⁶⁰

3.3 Political Interests

Based on the identified ministerial perceptions in chapter 3.2, the respective political interests or policy preferences of the involved ministries are identified.⁶⁶¹

3.3.1 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Against the background of the ministry's perceptions of global climate change and existing knowledge gaps as challenges three main political interests can be deduced: a significant reduction of global GHG emissions, taking adaption steps in Germany to be

⁶⁵⁹ Je länger die Herausforderungen nicht ernst genommen und effektive Handlungsansätze verschleppt werden, umso gravierender könnte sich die Zukunft gestalten – auch mit konkreten sicherheitspolitischen Implikationen. Der Klimawandel könnte zur Destabilisierung von Staaten – besonders in politischen Transformationsphasen – beitragen.“ Planungsamt der Bundeswehr, Dezernat Zukunftsanalyse, p. 9.

⁶⁶⁰ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

⁶⁶¹ For an overview of ministerial interests, see Table 42 (chapter 6.1, page 256).

able to better cope with the adverse effects of climate change (thereby reducing German vulnerabilities), and increasing research efforts to better understand the processes under way in order to develop more targeted policies to fight global climate change.

The first political interest is to slow the pace of global climate change and thus to protect the environment. The ministry in 2009 stated, that “climate-relevant emissions of greenhouse gases must be reduced worldwide [...]”.⁶⁶² In 2010 this goal was specified:

In order to limit global warming to less than two degrees Celsius above the pre-industrial level, global greenhouse gas emissions will need to be at least halved by 2050. This means decoupling economic growth from greenhouse gas emissions in order to create a sustainable, low-carbon economy.⁶⁶³

The second political interest is to take precautionary measures in order to reduce Germany’s vulnerabilities to global climate change. Therefore, the ministry announced that „[t]o minimise the adverse effects [of climate change], we first need to step up climate protection. Secondly, we need to take precautions in the form of adaption.“⁶⁶⁴ It went on that „[t]o this extent there is an inextricable connection between climate protection and adaption: they are two sides of the same coin, and form the two pillars on which Germany’s climate policy is built.“⁶⁶⁵

Thus, the fight against global warming and the mitigation of its consequences are two key political interests.⁶⁶⁶ The third political interest is to strengthen research endeavours in order to better understand global climate change processes:

The interconnections are extremely complex. How the climate develops does not depend solely on the atmosphere. Oceans and land surfaces are also central factors – and frequently there are complicated interactions. Finding these out is the task of climate system research.⁶⁶⁷

⁶⁶² Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 6.

⁶⁶³ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Ministry for Economic Cooperation and Development, p. 8.

⁶⁶⁴ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 6.

⁶⁶⁵ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 7.

⁶⁶⁶ Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, ‘Nationales Klimaschutzprogramm. Sechster Bericht Der Interministeriellen Arbeitsgruppe “CO₂-Reduktion”’, p. 4.

⁶⁶⁷ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 50.

3.3.2 Federal Ministry of Education and Research

Against the background of the ministry's perceptions, three closely linked political interests are deduced:

First, to slow the pace of global climate change and thus to protect the environment global GHG emissions have to be reduced significantly: "Our aims are the reduction of greenhouse gas emissions, higher energy efficiency and a higher percentage of renewable energies."⁶⁶⁸

Second, additional research activities are the main political priority for the ministry:⁶⁶⁹

The research is intended to inform society and policy makers so that the potential local and global consequences of climate change in the Arctic can be appraised. This will form the basis for sustainable development strategies on the national and international – and especially the European – level.⁶⁷⁰

The third political interest is to strengthen Germany's position as one of the world's leading polar research nations. This interest gains particular relevance against the background of a growing number of new players in Arctic research from Asia (e.g. China, India and South Korea).⁶⁷¹

3.3.3 Federal Foreign Office

Based on the FFO's perceptions three political interests can be deduced: the reduction of global GHG emissions, the preservation of the international norm of freedom of polar research, and the enforcement of the highest environmental standards for all activities in the Arctic.

The first political interest is a significant reduction of global GHG emissions:

If we are to achieve the objective agreed at the 2010 Climate Change Conference in Cancún, of capping the global rise in temperature at 2° maximum, global greenhouse gas emissions

⁶⁶⁸ Federal Ministry of Education and Research (BMBF), 'The High-Tech Strategy on Climate Protection', p. II.

⁶⁶⁹ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 4.

⁶⁷⁰ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 4.

⁶⁷¹ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 4.

need to start going down in 2020 at the latest. By 2050, they need to have been reduced by at least 50% compared to 1990 levels.⁶⁷²

In this context, FFO officials responsible for the environmental aspects of foreign policy called for a stop of hydrocarbon exploitation activities in the Arctic:

A sustainable future of our own societies demands an unmistakable transformation to the use of renewable energy sources. This is possible without exploiting the remote fossil deposits of the Arctic. With the current trends of growth of renewables in many countries around the world [...] the clear vision for 2030 or 2035 is an energy landscape that does not need fossil resources of such remote origin as the Arctic ones any more.⁶⁷³

Freedom of research is the second political interest as polar research is seen as a precondition to better understand global climate change and to design effective policies to address the challenge.⁶⁷⁴ This position was underlined by then foreign minister Westerwelle in 2011. He called for free and open research activities in the Arctic as „the challenges of climate change affect us all.“⁶⁷⁵ He went on to say that “[t]he first goal is to ensure the greatest possible freedom of research. [...] I therefore call on all those who exercise sovereignty in the High North, in the Arctic Ocean, to seek research-friendly solutions.”⁶⁷⁶

A third political interest is to protect the Arctic environment. As the region’s pristine eco-system is perceived of becoming increasingly vulnerable to various human activities (in the region and in far away parts of the globe) a main interest is to enforce the highest environmental standards for all regional activities. This interest was highlighted by then foreign minister Westerwelle in 2012:

The [...] goal is ensuring that the strictest environmental standards are observed. [...] This context also reveals the limits of the traditional concept of sovereignty, which views

⁶⁷² Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 49.

⁶⁷³ Federal Foreign Office Official, ‘Statement 13’, p. 3.

⁶⁷⁴ Auswärtiges Amt, *Staatsminister Für Europa Günter Gloser Bei Der Internationalen Arktiskonferenz, März 2009* (Berlin: Auswärtiges Amt, 12 March 2009) <<http://www.auswaertiges-amt.de/DE/Infoservice/Presse/Reden/2009/090312-ArktisKonferenzGloser.html>> [accessed 4 May 2016].

⁶⁷⁵ Auswärtiges Amt, *Zukunft Der Arktis Sichern* (Berlin: Auswärtiges Amt, 17 March 2011) <http://www.auswaertiges-amt.de/DE/Aussenpolitik/GlobaleFragen/110317_arktiskonferenz.html?nn=382590> [accessed 4 May 2016].

⁶⁷⁶ Westerwelle, ‘Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean’, p. 2.

sovereignty above all as a right. This concept of sovereignty has long since been complemented by the idea of sovereignty as a duty.⁶⁷⁷

Derived from this, “[t]he [...] goal of German Arctic policy is to ensure that responsibility is taken for any environmental damage that occurs. This means there must be clear rules on liability which are effectively enforced.”⁶⁷⁸ He concluded that “[p]reserving the common heritage of mankind must be a paramount goal of any policy concerning the Arctic Ocean.”⁶⁷⁹

3.3.4 Federal Ministry of Defence

Against the background of the perception of global climate change as a fundamental security challenge, the ministry’s central political interest is the reduction of fossil fuels in energy consumption in order to slow down the pace of global climate change. The transformation of energy systems and climate protection are seen as a precondition to prevent the worst-case security implications of global climate change:

Climate change and the sustainable transformation of our energy systems take centre stage. Only when we succeed to significantly reduce the world’s CO₂ emissions and to reduce the modern society’s dependence of oil, the gravest consequences of peak oil and climate change can be averted.⁶⁸⁰

3.3.5 Federal Ministry for Economic Affairs and Energy

No political interest with regard to Arctic environmental affairs was identified. Yet identified perceptions indicate the awareness of the political necessity to find a balance between the need to protect the global environment whilst also ensuring a stable and secure energy supply for Germany. In this context the ministry acknowledged the long-term goal of global environmental and climate protection.⁶⁸¹

⁶⁷⁷ Westerwelle, ‘Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean’, p. 2.

⁶⁷⁸ Westerwelle, ‘Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean’, p. 2.

⁶⁷⁹ Westerwelle, ‘Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean’, p. 3.

⁶⁸⁰ “Der Klimaschutz und die nachhaltige Transformation unserer Energiesysteme stehen dabei im Mittelpunkt. Nur wenn es gelingt, die weltweiten CO₂-Emissionen deutlich zu senken und die Abhängigkeit moderner Gesellschaften vom Erdöl zu vermindern, können die gravierendsten Folgen von Peak Oil und Klimawandel abgewandt werden.“ Planungsamt der Bundeswehr, Dezernat Zukunftsanalyse, p. 9.

⁶⁸¹ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

4 Economic Affairs: Germany's Geo-Economic Engagement

This chapter analyzes the operational environment of economic affairs on a global level, in the Arctic as well as their respective interdependencies with Germany's domestic economic situation and with each other (4.1). The economic focus is on natural resources (oil, gas, metals, and minerals), shipping developments and linked patterns of trade. The internal part of the analysis of the operational environment focuses on German foreign trade and GDP growth, the industry's dependence on natural resource imports, the export industry's share in high-technology products as well as the role of the German shipping sector and its growing trade with China. The second part focuses on ministerial perceptions about global dynamics and with regard to the Arctic's geo-economic relevance for the German economy (4.2). Finally, respective ministerial policy interests are deduced from the above identified perceptions (4.3). It is resorted to these interests in chapter 6 for the identification of the "Stand-Sit" Proposition.

4.1 Operational Environment

When analyzing the operational environment of economic affairs, the focus is on the global and Arctic economic orders as well as on the interdependencies between both levels and with the German economy.

4.1.1 External Global Level: Economic Globalization

Ongoing fossil fuel-based economic globalization and according overall GDP growth is the second global driver of the Arctic's transformation. Economic globalization is understood as "the increasing integration of economies around the world, particularly through the movement of goods, services, and capital across borders."⁶⁸² Global population growth is driving the economic modernization of societies and thereby accelerates economic globalization. From 1950 to 2000 the world population grew from 2.5 billion to 6.1 billion.⁶⁸³ According to the United Nations (UN), world population will

⁶⁸² IMF, *Globalization. A Brief Overview*, International Monetary Fund Issues Brief (Washington, D.C.: International Monetary Fund, May 2008), pp. 1-8 (p. 2) <<https://www.imf.org/external/np/exr/ib/2008/pdf/053008.pdf>> [accessed 9 February 2016].

⁶⁸³ United Nations Department of Economic and Social Affairs, Population Division, *World Population to 2300* (New York: United Nations, 2004), p. 240 (p. 5) <<https://www.un.org/esa/population/publications/longrange2/WorldPop2300final.pdf>> [accessed 19 March 2014].

grow to 8.9 billion in 2050 and peak at 9.22 billion in 2075.⁶⁸⁴ In recent years, the world has witnessed a new era of trade interdependence, manifested amongst others in unprecedented levels of economic connectivity and integration.⁶⁸⁵ The spread of global supply chains is emblematic of the rise of international trade.⁶⁸⁶ Global supply chains are captured as “networks of suppliers, manufacturers, transportation service providers, storage facility managers, retailers, and consumers at the demand markets.”⁶⁸⁷ Between 1985 and 2011, global trade on average grew by 5.6% annually while global GDP growth on average was 3.1% per year.⁶⁸⁸ The spread of global supply chains has been one of the main reasons for the rise in global trade and GDP growth. Global cargo shipping is the symbol of economic globalization and the underlying supply chains infrastructure. Roughly 90% of global trade is transported by sea.⁶⁸⁹ And whilst economic globalization brought huge socio-economic benefits, lifting millions of people out of poverty, it is closely linked as well to environmental degradation and global climate change (see chapter 3.1.1, page 84).⁶⁹⁰ The economic globalization’s underlying economic order, measured in ‘structure’, ‘functioning’, and ‘character’, experienced a profound change. This changing economic order resulted in growing interdependencies between environmental, economic and political affairs on a global and Arctic level. Likewise, it had an impact on Germany.

4.1.1.1 The Global Economic Order’s Structure

The global economic order’s underlying ‘structure’, understood as the distribution of power, measured in both GDP and GDP growth, has been multipolar for already over a

⁶⁸⁴ United Nations Department of Economic and Social Affairs, Population Division, p. 1.

⁶⁸⁵ Goldin and Mariathan, p. 9.

⁶⁸⁶ David Hummels, Jun Ishii, and Kei-Mu Yi, ‘The Nature and Growth of Vertical Specialization in World Trade, *Journal of International Economics*’, *Journal of International Economics*, 54 (2001), 75–96 (p. 88); Chatham House, p. 24.

⁶⁸⁷ Anna Nagurney, ‘Supply Chains and Transportation Networks’, in *Handbook of Regional Science*, ed. by Manfred M. Fischer and Peter Nijkamp (Heidelberg, New York, Dordrecht, London: Springer, 2014), pp. 787–810 (p. 788).

⁶⁸⁸ World Trade Organization, *Factors Shaping the Future of World Trade* (Geneva: World Trade Organization, 2013), p. 336 (p. 56) <https://www.wto.org/english/res_e/booksp_e/world_trade_report13_e.pdf>.

⁶⁸⁹ Pablo Kaluza and others, ‘The Complex Network of Global Cargo Ship Movements’, *Interface*, 2010.7 (2010), 1093–1103 (p. 1093).

⁶⁹⁰ Chatham House, p. 23; IPCC, *Climate Change 2014 Synthesis Report. Summary for Policymakers*, pp. 2, 4–5.

decade.⁶⁹¹ In recent years, however, the world has witnessed a dramatic redistribution of economic power from West to East and, to a lesser degree, from North to South.⁶⁹² There are mainly four reasons for this economic power shift, namely (1) different economic growth paths, (2) changing global trade patterns (as a result of the changing distribution of economic power), (3) a growing demand for natural resources that empowered exporting states whilst making importing countries more vulnerable, and (4) the impacts of the global financial and economic crisis. These four trends have altered the existing global economic order in recent years and have the potential to continue to do so in the years to come.

Driver No. 1: Different Economic Growth Paths

In 2000, 71% of world GDP was held by the US (31%), the EU (26%), and Japan (14%). At the same time, China, the Association of Southeast Asian Nations (ASEAN) as well as Latin America and the Caribbean, were responsible for only 11.8% of world GDP (3.7%, 1.5% and 6.6% respectively). In the meantime, the relative share in global GDP by world region has changed fundamentally. Forecasts for 2018 expect the combined GDP of the US, the EU, and Japan, and the EU to shrink to 47.7% (21.6%, 20%, and 6% respectively) whilst the combined GDP of China, ASEAN, Latin America and the Caribbean will rise to 26.9% (1.3%, 3.3%, and 8.3% respectively).⁶⁹³ China’s rise is of particular importance. From 1978 to 2011, China’s share of global GDP grew from 5% to 17% and the country is expected to become the world’s largest economy in the near future.⁶⁹⁴ In 2030, China will contribute 20% of global GDP.⁶⁹⁵

Table 3 - GDP Development of World Regions: 2008 - 2012⁶⁹⁶

Year/GDP by World Region in billion \$	2005	2010	2011	2012	2013
Africa	1.104	1.925	2.120	2.281	2.344

⁶⁹¹ Joseph S. Nye Jr., *The Future of Power* (New York: PublicAffairs Books, 2011), p. xv.
⁶⁹² OECD, *Balance of Economic Power Will Shift Dramatically over the next 50 Years, Says OECD* (Paris: Organisation for Economic Co-operation and Development, 9 November 2012) <<http://www.oecd.org/newsroom/balanceofeconomicpowerwillshiftdramaticallyoverthenext50yearsessaysoecd.htm>> [accessed 15 January 2016]; Chatham House, p. 17.
⁶⁹³ Chatham House, pp. 19–20.
⁶⁹⁴ Chatham House, p. 23.
⁶⁹⁵ Lloyd’s Register, QinetiQ, and University of Strathclyde Glasgow, p. 23.
⁶⁹⁶ Bundeszentrale für politische Bildung, *Welt-Bruttoinlandsprodukt* (Bonn: Bundeszentrale für politische Bildung (BPB), 11 June 2016) <<http://www.bpb.de/nachschlagen/zahlen-und-fakten/globalisierung/52655/welt-bruttoinlandsprodukt>> [accessed 10 December 2016].

Asia	10.337	17.263	19.820	20.930	21.127
Central America and the Caribbean	1.095	1.386	1.541	1.578	1.675
Europe	15.049	17.980	19.540	18.463	19.205
Middle East	1.632	2.805	3.369	3.526	3.607
North America	14.352	16.687	17.416	18.107	18.720
Oceania	900	1.467	1.736	1.792	1.760
South-America	1.677	3.808	4.294	4.262	4.301
South-East Europe and Commonwealth of Independent States (CIS)	1.059	2.109	2.606	2.761	2.902

Driver No. 2: Changing Global Trade Patterns

The changing GDP development in various world regions also has consequences for global trade patterns. In 2005, 46% of global trade was “North-North” trade, 37% was “North-South” trade and 16% was “South-South” trade. Already in 2011, “North-North” trade had shrunk to 36% whilst “North-South” trade and “South-South” trade rose to 38% and 24% respectively.⁶⁹⁷ Moreover in 2010, 30% of global trade in resources was “South-South” trade, thereby overtaking the volume of “South-North” trade.⁶⁹⁸

Driver No. 3: Growing Global Demand for Natural Resources that Empowered Exporting States whilst Making Importing Countries more Vulnerable

The quest for social and economic development in emerging countries results in a dramatic industrialization process. To a very large degree, the modernization of emerging countries depends on the sufficient availability of natural resources in order to enable industrialization processes. Natural resources are understood as “stocks of materials that exist in the natural environment that are both scarce and economically useful in production or consumption.”⁶⁹⁹ The global demand for natural resources (hydrocarbons, metals, and minerals) has risen sharply between 2005 and 2013 and is expected to grow even further. From 2012 to 2030, global energy demand is expected to increase by 40 to 50%.⁷⁰⁰ The single largest driver of growing global natural resources

⁶⁹⁷ World Trade Organization, *Factors Shaping the Future of World Trade*, p. 65.

⁶⁹⁸ Chatham House, p. 24.

⁶⁹⁹ World Trade Organization, *World Trade Report 2010. Trade in Natural Resources* (Geneva: World Trade Organization, 2010), p. 256 (p. 46) <https://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report10_e.pdf> [accessed 16 March 2016].

⁷⁰⁰ National Intelligence Council, p. 34; Lloyd’s Register, QinetiQ, and University of Strathclyde Glasgow, p. 36.

demand is China’s accelerating consumption of these resources.⁷⁰¹

Accelerating economic globalization manifests itself in growing global energy demand and increasing energy interdependencies.⁷⁰² Global oil developments are of particular importance for the world economy.⁷⁰³ Increasing resource prices and unprecedented price volatility between 2005 and 2012, when the oil price in summer 2008 spiked to \$147 per barrel, were of concern for the global economy.⁷⁰⁴ Between 2005 and 2013, the global oil price rose from \$54.5 to \$108.7. To a large degree, the rise in oil prices was the result of (actual and projected) increasing demand from Asia, mainly due to China’s and India’s rapid economic modernization and industrialization.⁷⁰⁵ Whilst the most developed countries (e.g. the US, Japan and the EU) in 2000 accounted for about 60% of all global oil imports, their share dropped to 50% in 2010.⁷⁰⁶ Due to growing global demand global annual oil production grew from 81.963 million tons in 2005 to 86.579 million tons in 2013.⁷⁰⁷

Table 4 - World oil production (in million tons): 2005-2013

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Energy Production	81.9	82.4	82.2	82.8	81.1	83.1	83.9	86.1	86.5

At the same time, global oil consumption grew from 84.411 million tons in 2005 to 91.243 million tons in 2013.⁷⁰⁸

Table 5 - World oil consumption (in million tons): 2005-2013

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Oil Consumption	84.4	85.3	86.7	86.1	85.0	87.8	88.9	89.8	91.2

⁷⁰¹ Malte Humpert, *The Future of Arctic Shipping. A New Silk Road for China?* (Washington, D.C.: Arctic Institute, November 2013), p. 20 (p. 8) <https://issuu.com/thearcticinstitute/docs/the_future_of_arctic_shipping_-_a_n> [accessed 6 May 2016].

⁷⁰² Chatham House, p. 15.

⁷⁰³ Nye, *The Future of Power*, p. 64.

⁷⁰⁴ Claes and Moe, p. 97; Chatham House, p. 31.

⁷⁰⁵ Nye, *The Future of Power*, p. 68.

⁷⁰⁶ Bernice Lee and others, *Resources Futures. A Chatham House Report* (London: Chatham House, 2012), p. 213 (p. 32) <http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/1212r_resourcesfutures.pdf> [accessed 8 March 2013].

⁷⁰⁷ This includes crude oil, shale oil, oil sands and NGL’s (Natural Gas Liquids) BP, *BP Statistical Review of World Energy June 2015* (London: British Petroleum, 2015), p. 48 (p. 8) <<https://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf>> [accessed 20 January 2016].

⁷⁰⁸ BP, *BP Statistical Review of World Energy June 2015*, p. 9.

Table 6 - Global oil price (Brent) per year (in US dollars per Barrel): 2005-2013⁷⁰⁹

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Global Oil Price	54.52	65.14	72.39	97.62	61.67	79.50	111.26	111.67	108.66

The global gas production increased from 2.789 to 3.408 billion cubic metres between 2005 and 2013.

Table 7 - Global gas production (in billion cubic metres): 2005-2013

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Gas Production	2.789	2.892	2.968	3.073	2.989	3.202	3.315	3.380	3.408

Table 8 - Global gas consumption (in billion cubic metres): 2005-2013

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Gas Consumption	2.775	2.856	2.964	3.048	2.969	3.194	3.265	3.345	3.381

The global gas price increased as well from 7.38 \$ in 2005 to 10.63 \$ in 2013.

Table 9 - Global gas price (Heren NBP Index) p.a. (in US dollars per million Btu): 2005-2013⁷¹⁰

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Global Gas Price	7.38	7.87	6.01	10.79	4.85	6.56	9.04	9.46	10.63

Table 10 - The world's 10 largest oil exporters (in millions tons per year): 2005-2013

Country/ Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
	711	712	713	714	715	716	717	718	719

⁷⁰⁹ BP, *BP Statistical Review of World Energy June 2014* (London: British Petroleum, 2014), p. 48 (p. 15).

⁷¹⁰ BP, *BP Statistical Review of World Energy June 2015*, p. 27.

⁷¹¹ International Energy Agency, *Key World Energy Statistics 2006* (Paris: International Energy Agency, 2006), p. 82 (p. 11) <<http://www.env-edu.gr/Documents/Key%20World%20Energy%20Statistics%202006.pdf>> [accessed 15 March 2016].

⁷¹² International Energy Agency, *Key World Energy Statistics 2007* (Paris: International Energy Agency), p. 82 (p. 11) <http://www.coprocem.com/documents/key_stats_2007.pdf> [accessed 15 March 2016].

⁷¹³ International Energy Agency, *Key World Energy Statistics 2008* (Paris: International Energy Agency, 2008), p. 82 (p. 11) <http://www.indiaenvironmentportal.org.in/files/key_stats_2008.pdf> [accessed 15 March 2016].

⁷¹⁴ International Energy Agency, *Key World Energy Statistics 2009* (Paris: International Energy Agency, 2009), p. 82 (p. 11) <<http://www.observatoire-du-nucleaire.org/IMG/pdf/2009-keyworld-aie.pdf>> [accessed 15 March 2016].

Saudi Arabia	346	364	358	339	355	313	333	353	371
Russia	258	253	248	256	241	247	246	247	239
Norway	132	115	109	97	90	87	78	-	-
Nigeria	123	119	119	112	102	114	129	121	124
Iran	122	132	130	130	120	124	126	122	-
Mexico	105	100	99	89	-	-	71	-	66
United Arab Emirates	95	97	106	105	108	100	105	114	118
Venezuela	94	97	89	-	74	85	87	93	93
Canada	87	84	93	-	-	-	-	82	90
Iraq	75	-	-	81	88	94	94	108	119
Kuwait	-	84	88	82	89	68	-	89	103
Angola	-	-	-	83	92	89	84	79	84

Table 11 - The world's 10 largest oil importers (in million tons per year): 2005 - 2013

Country / Year	2005 <small>720</small>	2006 <small>721</small>	2007 <small>722</small>	2008 <small>723</small>	2009 <small>724</small>	2010 <small>725</small>	2011 <small>726</small>	2012 <small>727</small>	2013 <small>728</small>
United States	577	582	587	573	564	510	513	500	442
Japan	206	213	203	206	199	179	181	177	179
China	123	127	145	159	175	199	235	251	269
Korea	114	115	120	118	116	115	119	125	128
Germany	110	112	110	106	105	98	93	90	93

⁷¹⁵ International Energy Agency, *Key World Energy Statistics 2010* (Paris: International Energy Agency, 2010), p. 82 (p. 11) <http://ua-energy.org/upload/files/key_stats_2010.pdf> [accessed 15 March 2016].

⁷¹⁶ International Energy Agency, *Key World Energy Statistics 2011* (Paris: International Energy Agency, 2011), p. 82 (p. 11) <<http://www.observatoire-du-nucleaire.org/IMG/pdf/2011-keyworld-aie.pdf>> [accessed 15 March 2016].

⁷¹⁷ International Energy Agency, *Key World Energy Statistics 2012* (Paris: International Energy Agency, 2012), p. 82 (p. 11) <http://alofatuvalu.tv/FR/12_liens/12_articles_rapports/IEA_rpt_2012_us.pdf> [accessed 15 March 2016].

⁷¹⁸ International Energy Agency, *Key World Energy Statistics 2013* (Paris: International Energy Agency, 2013), p. 82 (p. 11) <<http://www.observatoire-du-nucleaire.org/IMG/pdf/2013-keyworld-aie.pdf>> [accessed 15 March 2016].

⁷¹⁹ International Energy Agency, *Key World Energy Statistics 2014* (Paris: International Energy Agency, 2014), p. 82 (p. 11) <<http://www.fossilfuelsreview.ed.ac.uk/resources/Evidence%20-%20Climate%20Science/IEA%20-%20Key%20World%20Energy%20Statistics.pdf>> [accessed 15 March 2016].

⁷²⁰ International Energy Agency, *Key World Energy Statistics 2006*, p. 11.

⁷²¹ International Energy Agency, *Key World Energy Statistics 2007*, p. 11.

⁷²² International Energy Agency, *Key World Energy Statistics 2008*, p. 11.

⁷²³ International Energy Agency, *Key World Energy Statistics 2009*, p. 11.

⁷²⁴ International Energy Agency, *Key World Energy Statistics 2010*, p. 11.

⁷²⁵ International Energy Agency, *Key World Energy Statistics 2011*, p. 11.

⁷²⁶ International Energy Agency, *Key World Energy Statistics 2012*, p. 11.

⁷²⁷ International Energy Agency, *Key World Energy Statistics 2013*, p. 11.

⁷²⁸ International Energy Agency, *Key World Energy Statistics 2014*, p. 11.

India	96	99	111	122	128	159	164	172	185
Italy	93	95	94	94	88	80	84	77	74
France	85	84	82	81	83	72	64	64	57
United Kingdom	63	-	59	-	-	-	-	-	-
Netherlands	60	62	-	58	57	57	60	57	57
Spain	-	60	61	59	61	56	-	-	60
Singapore	-	-	-	-	-	-	57	58	

Table 10 (page 131), Table 11 (page 132) as well as Table 6 (page 131) show how a steadily and significantly increasing oil price has made the major oil exporting countries more powerful, whilst those countries heavily dependent on the import of oil have become more vulnerable to a) the increasing oil price and b) the threat of supply disruptions. Oil importing countries had to pay higher prices for their imports and faced a (perceived) energy supply congestion as no energy alternative on par with oil was available. The clear winners were mainly countries from the Middle East, namely Saudi Arabia, the United Arab Emirates, Iraq, and Kuwait who all increased their export numbers. In addition, Iran kept a stable position. Three Arctic coastal states played important roles as exporters, too. Russia was the main winner and kept its place as the world's second largest oil exporter. Canada maintained a stable position whilst Norway lost some ground in absolute terms. Broadly speaking, however, the increasing oil price extended the oil exporting countries economic and political 'room for manoeuvre'.

On the oil importing states side of the equation, some fundamental trends have appeared. Even though the US remained the world's largest importer of oil, it reduced its import dependency in absolute terms. China, on the other, significantly increased its import dependency. Whilst Japan has become slightly less dependent on imports, Korea and India have displayed a significantly higher need on imports. All European countries became less dependent on oil imports. Even though Germany's import dependency in absolute numbers decreased, it remained constantly in the top five or top six of the world's largest oil importing nations.

Taken together, a picture emerged in which the European continent's share of global oil imports decreased whilst Asia's share of global oil imports increased significantly. This picture is closely connected to the two drivers outlined above, i.e. different economic growth paths and changing global trade patterns (see page 128). By and large, these trends underline the changing economic balance of power.

Table 12 - The world's 10 largest gas exporters 2005-2013 (in billion cubic metres)

Country/ Year	2005 729	2006 730	2007 731	2008 732	2009 733	2010 734	2011 735	2012 736	2013 737
Russia	203	202	191	187	160	169	196	185	203
Canada	106	102	106	88	76	72	63	57	54
Norway	82	86	85	96	100	101	99	109	103
Algeria	68	64	62	58	55	55	49	48	45
Netherlands	52	54	55	36	30	34	33	34	40
Turkmenistan	49	50	51	51	27	24	29	37	45
Indonesia	36	34	33	34	36	42	46	37	35
Malaysia	32	31	32	22	24	25	22	21	-
Qatar	27	31	38	58	67	97	119	120	121
United States	22	20	22	-	-	-	-	-	-
Nigeria	-	-	-	21	-	24	26	27	22
Trinidad and Tobago	-	-	-	-	21	-	-	-	-
Australia	-	-	-	-	-	-	-	-	26

Table 13 - The world's 10 largest gas importers 2005-2013 (in billion cubic metres)

Country/ Year	2005 738	2006 739	2007 740	2008 741	2009 742	2010 743	2011 744	2012 745	2013 746
United States	121	118	130	84	76	74	55	43	37
Germany	90	93	88	79	83	83	68	70	76
Japan	80	88	95	95	93	99	116	122	123
Italy	73	77	73	77	69	75	70	68	62
Ukraine	62	50	50	53	38	37	44	32	-

729 International Energy Agency, *Key World Energy Statistics 2006*, p. 13.

730 International Energy Agency, *Key World Energy Statistics 2007*, p. 13.

731 International Energy Agency, *Key World Energy Statistics 2008*, p. 13.

732 International Energy Agency, *Key World Energy Statistics 2009*, p. 13.

733 International Energy Agency, *Key World Energy Statistics 2010*, p. 13.

734 International Energy Agency, *Key World Energy Statistics 2011*, p. 13.

735 International Energy Agency, *Key World Energy Statistics 2012*, p. 13.

736 International Energy Agency, *Key World Energy Statistics 2013*, p. 13.

737 International Energy Agency, *Key World Energy Statistics 2014*, p. 13.

738 International Energy Agency, *Key World Energy Statistics 2006*, p. 13.

739 International Energy Agency, *Key World Energy Statistics 2007*, p. 13.

740 International Energy Agency, *Key World Energy Statistics 2008*, p. 13.

741 International Energy Agency, *Key World Energy Statistics 2009*, p. 13.

742 International Energy Agency, *Key World Energy Statistics 2010*, p. 13.

743 International Energy Agency, *Key World Energy Statistics 2011*, p. 13.

744 International Energy Agency, *Key World Energy Statistics 2012*, p. 13.

745 International Energy Agency, *Key World Energy Statistics 2013*, p. 13.

746 International Energy Agency, *Key World Energy Statistics 2014*, p. 13.

France	46	45	42	44	45	46	41	43	43
Spain	33	34	34	39	34	36	34	-	30
Korea	29	32	33	36	33	43	47	48	53
Turkey	26	30	35	36	35	37	43	45	45
Netherlands	23	25	-	-	-	-	-	-	-
United Kingdom	-	-	30	26	29	37	37	37	39
China	-	-	-	-	-	-	-	36	49

Table 9 (page 131), Table 12 (page 134) as well as Table 13 (page 134) show how an increasing gas price strengthened the economic power position of exporting countries whilst weakening the position of importing countries as they have become more sensitive and vulnerable to a) growing prices and b) the threat of supply disruptions. Again, gas importing countries had to pay higher prices for their imports and faced a (perceived) energy supply congestion as no energy alternative on par with gas was available. The two biggest winners were Russia and Qatar. Between 2005 and 2013, Russian gas exports remained stable at 203 billion cubic metres and Qatar's exports grew significantly from 27.99 to 122 billion cubic metres.⁷⁴⁷ Norway, another Arctic coastal state, also significantly increased its economic power position due to growing gas exports from 82.8 billion cubic metres in 2005 to 103 billion cubic metres in 2013.⁷⁴⁸

On the importing side of the equation, some fundamental trends appeared, too. The US, due to the shale gas revolution, significantly reduced its share of gas imports. So did the European states. Germany's imports declined from 90.7 to 76 billion cubic metres.⁷⁴⁹ Asian states, however, significantly increased their gas imports. Japan is the most prominent case with an increase from 80.9 to 123 billion cubic metres.⁷⁵⁰

As in the case of global oil developments (see page 130), global gas developments are closely linked to two drivers outlined above, different economic growth paths and

⁷⁴⁷ International Energy Agency, *Key World Energy Statistics 2006*, p. 13; International Energy Agency, *Key World Energy Statistics 2014*, p. 13.

⁷⁴⁸ International Energy Agency, *Key World Energy Statistics 2006*, p. 13; International Energy Agency, *Key World Energy Statistics 2014*, p. 13.

⁷⁴⁹ International Energy Agency, *Key World Energy Statistics 2006*, p. 13; International Energy Agency, *Key World Energy Statistics 2014*, p. 13.

⁷⁵⁰ International Energy Agency, *Key World Energy Statistics 2006*, p. 13; International Energy Agency, *Key World Energy Statistics 2014*, p. 13.

changing global trade patterns (see page 128), that underline a changing economic balance of power.

Similar developments to those in the energy markets also took place in the metals and minerals markets as accelerating economic globalization has manifested itself also in a growing global demand for these raw materials. The global demand for metals and minerals has risen sharply between 2000 and 2010. This development led to new natural resource trade interdependencies on a global scale, and implied a changing economic power distribution.⁷⁵¹ Whilst in 2000 advanced economies (e.g. the US, Japan, and the EU) imported 80% of globally available metal resources, their share in 2010 had sunk to less than 40%.⁷⁵² One of the main reasons for this trend is China's growing demand. Between 2002 and 2008, China bought more than half of all iron ore exports, and prices quadrupled.⁷⁵³ In 2009, China was also responsible for 44.4% of global steel and 40.5% of global aluminium consumption.⁷⁵⁴ Against this background, the prices for minerals and metals increased significantly, more concretely by 285% between 2002 and 2008.⁷⁵⁵ The price of a ton of copper increased from 1,683 US Dollar in 2003 to 9,554 US Dollar in 2011.⁷⁵⁶ In a similar fashion, the price of a ton of iron ore increased from 12.68 US Dollar to 187.18 US Dollar during the same period.⁷⁵⁷ Consequently, the extraction of metals and minerals increased.

⁷⁵¹ Lee and others, p. 20.

⁷⁵² Lee and others, p. 53.

⁷⁵³ Nye, *The Future of Power*, pp. 62–63.

⁷⁵⁴ Bundesanstalt für Geowissenschaften und Rohstoffe, *Bundesrepublik Deutschland. Rohstoffsituation 2009*, Rohstoffwirtschaftliche Länderstudien (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), November 2009), p. 212 (p. 14) <https://www.bgr.bund.de/DE/Themen/Min_rohstoffe/Downloads/Rohsit-2009.pdf;jsessionid=4C5BC8DF25E14FB2007111FC2A8EC344.1_cid292?_blob=publicationFile&v=3> [accessed 29 March 2016].

⁷⁵⁵ Mildner Mildner Stormy-Annika, Solveig Richter, and Gitta Lauster, *Resource Scarcity. A Global Security Threat?* (Berlin: Stiftung Wissenschaft und Politik und The German Marshall Fund of the United States, March 2011), p. 30 (p. 5) <https://www.swp-berlin.org/fileadmin/contents/products/research_papers/2011_RP02_lag_mdn_rsv_ks.pdf> [accessed 13 June 2016].

⁷⁵⁶ Hanns Günther Hilpert and Stormy-Annika Mildner, *Nationale Alleingänge Oder Internationale Kooperation? Analyse Und Vergleich Der G20-Staaten*, SWP-Studie (Berlin: Stiftung Wissenschaft und Politik, 2013), p. 229 (p. 11) <https://www.swp-berlin.org/fileadmin/contents/products/studien/2013_S01_hlp_mdn.pdf>.

⁷⁵⁷ Hilpert and Mildner, pp. 11–12; International Monetary Fund, *Commodity Special Feature from World Economic Outlook* (Washington, D.C.: International Monetary Fund, October 2015), p. 15 (p. 41) <<https://www.imf.org/external/np/res/commod/pdf/WEOSpecialOCT15.pdf>> [accessed 16 March 2016].

The two main reasons are the growing demand for these resources from emerging countries (China, in particular) and the growing role of metals (rare earth elements, in particular) in high-tech economic sectors from information technology (IT) to environmental or defence products.⁷⁵⁸ As high-tech products are expected to play a more crucial economic role in the future, global mineral demand could rise by up to 60% between 2007 and 2050.⁷⁵⁹ According to projections of the Organisation for Economic Cooperation and Development (OECD), global metals demand could even increase by 250% from 2005 to 2030. Trends for minerals point to a similar direction. Global annual ore extraction is expected to increase from 6 billion tons to 11 billion tons between 2002 and 2020.⁷⁶⁰ Global steel consumption, of which iron ore is the main component, is expected to increase from 1,386 million tons in 2010 to 3,016 to 3,854 million tons in 2030.⁷⁶¹

Table 14 - Global iron and steel as well as metals and ores trade: 2005-2010 (in million tons)⁷⁶²

Year	2005	2006	2007	2008	2009	2010
Iron and Steel	1,250.2	1,333.6	1,439.2	1,485.1	1,387.0	1,614.1
Metals and Ores	1,462.0	1,564.2	1,677.0	1,710.3	1,573.2	1,825.1

As outlined at the beginning of this chapter maritime trade is *the* symbol of

⁷⁵⁸ Hanns Günther Hilpert and others, *Metals. The Case of Rare Earths* (Berlin: Stiftung Wissenschaft und Politik und The German Marshall Fund of the United States, March 2011), p. 30 (p. 25) <https://www.swp-berlin.org/fileadmin/contents/products/research_papers/2011_RP02_lag_mdn_rsv_ks.pdf> [accessed 16 March 2016]; Hilpert and Mildner, p. 7; Stormy-Annika Mildner and Gitta Lauster, *Einleitung. Immer Teurer, Immer Knapper* (Berlin: Stiftung Wissenschaft und Politik, February 2011), p. 228 (p. 148) <https://www.swp-berlin.org/fileadmin/contents/products/studien/2011_S05_mdn_ks.pdf> [accessed 29 March 2016]; Hanns-Günther Hilpert and Antje Elisabeth Kröger, *Seltene Erden. Die Vitamine Der Industrie* (Berlin: Stiftung Wissenschaft und Politik, February 2011), pp. 159-67 (p. 160) <https://www.swp-berlin.org/fileadmin/contents/products/studien/2011_S05_mdn_ks.pdf> [accessed 29 March 2016].

⁷⁵⁹ Kesler, p. 58; Gerhard Angerer and others, *Rohstoffe Für Zukunftstechnologien. Einfluss Des Branchenspezifischen Rohstoffbedarfs in Rohstoffintensiven Zukunftstechnologien Auf Die Zukünftige Rohstoffnachfrage* (Karlsruhe und Berlin: Fraunhofer Institut für System- und Innovationsforschung ISI und Institut für Zukunftsstudien und Technologiebewertung IZT gGmbH, 15 May 2009), p. 403 (pp. XII-XIII) <http://www.isi.fraunhofer.de/isi-wAssets/docs/n/de/publikationen/Schlussbericht_lang_20090515_final.pdf> [accessed 29 March 2016].

⁷⁶⁰ Lee and others, p. 15; Ellen McArthur Foundation, *Towards the Circular Economy: Economic and Business Rationale for an Accelerated Transition* (Ellen McArthur Foundation, 2011), p. 15 <<https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf>> [accessed 8 September 2016].

⁷⁶¹ Lloyd’s Register, QinetiQ, and University of Strathclyde Glasgow, p. 40.

⁷⁶² Lee and others, p. 158.

globalization. Roughly 90% of global trade is transported by sea.⁷⁶³ Total seaborne cargo grew from 7.109 millions of tons in 2005 to 9.514 millions of tons in 2013.⁷⁶⁴ As outlined above the global demand for natural resources (e.g. oil, gas, iron ore) is likely to increase significantly in the next couple of decades. Most of these resources will be transported by sea and thus global shipping is expected to increase, too.⁷⁶⁵ Therefore, in 2030, global seaborne trade is expected to grow to 22 millions of tons.⁷⁶⁶

At the same time global market prices for metals and minerals have proven to be rather volatile, amongst others due to real and perceived supply shortages.⁷⁶⁷ Growing demand for natural resources and a significant price increase for these resources fundamentally shifted the existing economic balance of power between exporting and importing countries. Importing countries became more sensitive and vulnerable to economic policies of exporting countries (see also chapter 4.1.1.3, page 142). The price volatility was a particular challenge for resource poor countries.⁷⁶⁸

Table 15 - Bilateral Metal Trade (in millions of dollars) in 2002⁷⁶⁹

Country	China	Germany	Japan	Korea	United States
Australia	1,043	63	2,309	1,067	181
Brazil	605	360	700	179	754
Canada	90	270	353	212	4,232
Chile	784	197	768	541	687
Russia	196	161	716	93	1,061

Table 16 - Bilateral Metal Trade (in millions of dollars) in 2014⁷⁷⁰

Country	China	Germany	Japan	Korea	United States
Australia	52,153	53	10,985	6,283	268
Brazil	12,851	1,194	3,004	1,368	1,207
Canada	2,496	311	1,522	1,074	8,815
Chile	15,249	415	4,875	3,252	2,349
Peru	5,621	593	1,030	856	351

⁷⁶³ Kaluza and others, p. 1093.

⁷⁶⁴ United Nations Conference on Trade and Development (UNCTAD), *Review of Maritime Transport* (United Nations, 2015), p. 108 (p. 6) <http://unctad.org/en/PublicationsLibrary/rmt2015_en.pdf> [accessed 20 January 2016].

⁷⁶⁵ Lloyd's Register, QinetiQ, and University of Strathclyde Glasgow, pp. 52-77.

⁷⁶⁶ Lloyd's Register, QinetiQ, and University of Strathclyde Glasgow, p. 28.

⁷⁶⁷ Hilpert and Mildner, p. 11; Mildner and Lauster, p. 137.

⁷⁶⁸ Mildner and Lauster, p. 139.

⁷⁶⁹ International Monetary Fund, p. 44.

⁷⁷⁰ International Monetary Fund, p. 44.

Table 15 and Table 16, displaying the bilateral metal trade, including aluminium, copper, iron ore, lead, nickel, tin, uranium, and zinc in 2002 and 2014, clearly underline again how different economic growth paths and changing global trade patterns (see page 128), have changed the economic balance of power.⁷⁷¹ Due to faster consumption and economic growth, the demand of metals shifted from West to East.⁷⁷² China is the main driving force behind this shift as its share of imports increased from 10% in 2002 to 46% in 2014.⁷⁷³ The supply, on the other side, shifted from North to South.⁷⁷⁴

As the increasing prices for metals and minerals (see page 136) and the development of bilateral trade patterns between 2002 and 2014 show, countries that are extracting and exporting metals and minerals strengthened their economic power whilst the position of importing countries has weakened as they have become more vulnerable to a) growing prices and b) the threat of supply disruptions.

Driver No. 4: The Impacts of the Global Financial and Economic Crisis

The global financial crisis quickly developed into a global economic crisis as global trade contracted by 9% in 2009 – the first decline in the global economy’s total production since the 1930’s.⁷⁷⁵ While countries all across the globe were affected by the two crises, emerging countries returned more quickly to economic growth paths than Western countries.⁷⁷⁶ Consequently, global economic power shifted further from West to East in general and from the US to China in particular.⁷⁷⁷

All four trends, the changing GDP growth rates, changing global trade patterns, the empowerment of natural resources exporting countries at the expense of natural

⁷⁷¹ International Monetary Fund, p. 44.

⁷⁷² International Monetary Fund, pp. 42, 44.

⁷⁷³ International Monetary Fund, pp. 43–44.

⁷⁷⁴ International Monetary Fund, p. 42.

⁷⁷⁵ World Trade Organization, *WTO Sees 9% Global Trade Decline in 2009 as Recession Strikes* (Geneva: World Trade Organization, 23 March 2009) <https://www.wto.org/english/news_e/pres09_e/pr554_e.htm> [accessed 24 October 2016].

⁷⁷⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, *Strategic Survey*, 2010 (2010), p. 413; Stephen Fidler and Alexander Nicoll, ‘Out of Balance. The Fragile World Economy’, *Survival*, 52.6 (2010), 89–106 (pp. 92–93).

⁷⁷⁷ Eric Helleiner, ‘A Bretton Woods Moment? The 2007–2008 Crisis and the Future of Global Finance’, *International Affairs*, 86.3 (2010), 619–36 (p. 629); Harold James, ‘International Order after the Financial Crisis’, *International Affairs*, 87.3 (2011), 525–37 (p. 530); Aaron L- Friedberg, ‘Implications of the Financial Crisis for the US-China Rivalry’, *Survival*, 52.4 (2010), 31–54 (pp. 32–33).

resources importing countries, and the impacts of the global financial and economic crisis indicate that the West's economic superiority can no longer be taken for granted. This changing economic balance of power also has political consequences as it is shown in the following paragraphs on 'the functioning of the economic order' and 'the nature of the economic order'.

4.1.1.2 The Functioning of the Global Economic Order

The functioning of an order is defined as "the 'rules of the game' that delineate how states act toward each other."⁷⁷⁸ Global economic governance has become increasingly dysfunctional as governance deadlocks and governance gaps emerged. Governance deadlocks, for example, became apparent in global trade. The World Trade Organization (WTO) became less relevant as global economic players failed to agree on new global trade arrangements in the framework of the Doha Round. Instead, countries tried to forge regional trade agreements (e.g. the Trans-Pacific Partnership (TPP), the Trans-Atlantic Trade and Investment Partnership (TTIP), or the Regional Comprehensive Economic Partnership (RCEP)).⁷⁷⁹ Thus national and regional trade calculations trumped global trade considerations. And these regional trade initiatives were increasingly driven by political calculations, which underlines the politicized character of global economic relations.⁷⁸⁰

In addition, global economic governance gaps emerged. The growing political relevance of natural resources did not translate into the establishment of more effective governance frameworks for the trade of natural resources – be it oil and gas or metals and minerals. Instead, existing resource governance gaps aggravated whilst global perceptions of growing threats to the security of supply of key natural resources

⁷⁷⁸ Hanagan, p. 124.

⁷⁷⁹ Max Brem and Deanne Leifso, *An Unfinished House. Filling the Gaps in International Governance* (Waterloo, Canada: The Centre for International Governance Innovation, 28 October 2011), p. 37 (p. 12) <<https://www.cigionline.org/publications/unfinished-house-filling-gaps-international-governance>> [accessed 16 March 2016]; Andy Morimoto, *Should America Fear China's Alternative to the TPP?* (Tokyo: The Diplomat, 17 March 2016) <<http://thediplomat.com/2016/03/should-america-fear-chinas-alternative-to-the-tpp/>> [accessed 12 December 2016].

⁷⁸⁰ Gabor Steingart, *Weltkrieg Um Wohlstand* (Hamburg: Der Spiegel, 11 September 2006) <<http://www.spiegel.de/spiegel/print/d-48826315.html>> [accessed 12 December 2006]; Marcel Humuza, *TTIP. Fortsetzung Der Geopolitik Mit Anderen Mitteln* (Berlin: Internationale Politik und Gesellschaft (IPG), 3 March 2015) <<http://www.ipg-journal.de/rubriken/europaeische-integration/artikel/ttip-fortsetzung-der-geopolitik-mit-anderen-mitteln-815/>> [accessed 12 December 2006].

increased.⁷⁸¹

Currently, globally accepted rules and institutions for natural resource governance (e.g. minerals and energy) do not exist.⁷⁸² Until today global energy governance is characterized by a mosaic of governance institutions and structures.⁷⁸³ The two most important institutions are the International Energy Agency (IEA) and the Organisation of Petroleum Exporting Countries (OPEC). The IEA's mandate, however, is limited to industrialized energy consumers. Thus, it excludes emerging countries such as Brazil, China, or India.⁷⁸⁴ OPEC, on the other side, comprises of the most important oil exporting countries in the MENA region, West Africa, and Latin America. But again, emerging global players are not included.⁷⁸⁵ What is lacking is a forum that includes developed and emerging nations as well as producer and consumer countries.⁷⁸⁶ Neither the WTO, which only deals with import but not export restrictions, nor any other international body possesses a legal framework to cope with export restrictions or the build-up of cartels.⁷⁸⁷ As a result, some of the most important energy governance questions are handled on a bilateral and informal basis rather than through multilateral and official channels.⁷⁸⁸

⁷⁸¹ Chatham House, p. 34.

⁷⁸² Chatham House, pp. 31, 34; Barry Carin and others, *An Unfinished House. Filling the Gaps in International Governance* (Ontario, Canada: The Centre for International Governance Innovation, 2011), p. 32 (p. 16) <<https://www.cigionline.org/publications/cigi11-unfinished-house-filling-gaps-global-governance>> [accessed 16 March 2016]; Brem and Leifso, p. 14.

⁷⁸³ Han Cheng and others, *Energy Governance Outlook. Global Scenarios and Implications* (Berlin, Beijing and Washington: Global Public Policy Institute, September 2013), p. 30 (p. 5) <http://www.ggfutures.net/fileadmin/user_upload/publications/130826_GG2022_Energy_Report_web.pdf> [accessed 16 March 2016]; Neil Hirst and Antony Froggatt, *The Reform of Global Energy Governance* (Grantham Institute for Climate Change in Partnership with Chatham House: Chatham House, December 2012), p. 16 (p. 7) <https://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Energy,%20Environment%20and%20Development/1212granthamreport_energygovernance.pdf> [accessed 16 March 2016].

⁷⁸⁴ Chatham House, p. 34; Hirst and Froggatt, p. 2.

⁷⁸⁵ Hanns Maull, *Global Shift. The Challenges of Energy Interdependence and Climate Change*, Transatlantic Academy Paper Series (Washington, D.C.: Transatlantic Academy, 8 September 2011), p. 33 (pp. 7–8) <<http://www.gmfus.org/publications/global-shift-challenges-energy-interdependence-and-climate-change>> [accessed 16 March 2016].

⁷⁸⁶ Hirst and Froggatt, p. 9.

⁷⁸⁷ Chatham House, p. 34; Jaakko Kooroshy, Felix Preston, and Sian Bradley, *Cartels and Competition in Minerals Markets. Challenges for Global Governance* (London: Chatham House, 2014), p. 58 (pp. 2–3) <https://www.chathamhouse.org/sites/files/chathamhouse/field/field_document/20141219CartelsCompetitionMineralsKooroshyPrestonBradley.pdf> [accessed 13 September 2016].

⁷⁸⁸ Maull, *Global Shift. The Challenges of Energy Interdependence and Climate Change*, p. 7.

The situation is even worse for the global governance of metals and minerals markets. Multilateral governance approaches basically do not exist, and the few existing ones are no longer fit for the purpose of 21st century global raw materials governance.⁷⁸⁹ At present, the Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development (IGF) is the only intergovernmental body at hand to discuss governance questions for raw materials. Yet it is more a policy-shaping instead of a policy-making body, without any rules enforcing capabilities.⁷⁹⁰

Finally, there is still no framework to govern maritime choke points and strategic Sea Lanes of Communication (SLOC).⁷⁹¹ Taken together, governance deadlocks and governance gaps undermined the functioning of the existing economic order resulting in a growing global competition for access to and control over natural resources.

4.1.1.3 The Nature of the Global Economic Order

The 'nature of an order' "refers to its content or character."⁷⁹² As already touched upon above, the nature of the global economic order has become more competitive, especially with regard to the security of supply of key natural resources and with regard to global trade. Consequently, perceptions of a growing global competition for access to and control over natural resources and thus resource scarcity have turned into a major issue in international political discourses in recent years.⁷⁹³

As a reaction to this growing competition and in order to ensure sufficient security of supply, many governments adopted national resource strategies.⁷⁹⁴ Thus, governments in many countries took over a more prominent role in natural resource affairs.⁷⁹⁵ This resulted in two developments, namely the return of state capitalism and an increasing resource nationalism, which is one aspect of the former.

First, state capitalism, understood as "a system in which the state functions as the

⁷⁸⁹ Hilpert and Mildner, pp. 7, 13.

⁷⁹⁰ Hilpert and Mildner, p. 14.

⁷⁹¹ Chatham House, p. 34.

⁷⁹² Hanagan, p. 124.

⁷⁹³ Chatham House, p. 15; Hilpert and Mildner; Bram Buijs and Henrike Sievers, *Resource Security Risks in Perspective. Complexity and Nuance* (The Hague: Clingendael, 2011), p. 42 <http://www.clingendaelenergy.com/inc/upload/files/Resource_security_risks.pdf> [accessed 8 March 2013]; Lee and others.

⁷⁹⁴ Hilpert and Mildner, p. 5.

⁷⁹⁵ Hilpert and Mildner, p. 11.

leading economic actor and uses markets primarily for political gain,”⁷⁹⁶ has been the answer to this growing competition for natural resources in many parts of the world.⁷⁹⁷ State capitalism manifests itself in the rise of nationalized oil companies, the increase of state-owned enterprises and the more prominent role of sovereign wealth funds.⁷⁹⁸ In energy-exporting countries like Russia or Venezuela, for instance, national oil and gas champions have been founded.⁷⁹⁹ As a consequence of this consolidating state-ownership of national energy companies, national oil companies (NOC) now control 95% of world oil reserves whilst the big international oil companies (IOC) control only the remaining 5%. From 1998 to 2007, the IOC’s existing oil reserves, oil production and the Reserve-to-Production (RP) ratio declined (see Table 17).⁸⁰⁰ One main example of this development is the Russian energy sector.⁸⁰¹ In addition, Chinese and Indian state-owned enterprises follow mercantilist approaches in order to enhance their control of foreign energy supplies. Finally, sovereign wealth funds like Dubai World have also appeared as potent economic players. All of these state-owned or state-backed actors have become more active all across the world, thereby complicating existing governance frameworks and market behaviors.⁸⁰²

Table 17 - Decline of IOC’s oil reserves (in billion bbl), oil production (in million bpd) and RP ratio (in years)⁸⁰³

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Oil Reserves	40.6	40.9	41.1	38.6	39.9	38.9	34.7	33.3	32.5	30.7
Oil Pro-	10.5	9.4	10.2	10.1	10.4	10.4	10.7	10.4	10.3	10.1

⁷⁹⁶ Ian Bremmer, ‘State Capitalism Comes of Age. The End Fo the Free Market?’, *Foreign Affairs*, 88.3 (2009), 40–46 (p. 40).

⁷⁹⁷ Hilpert and others, p. 25.

⁷⁹⁸ Ian Bremmer, ‘The Return of State Capitalism’, *Survival*, 50.3 (2008), 55–64 (pp. 55–60).

⁷⁹⁹ Bremmer, ‘The Return of State Capitalism’, p. 55; Vlado Vivoda, *Resource Nationalism, Bargaining and International Oil Companies. Challenges and Change in the New Millenium* (Adelaide: University of South Australia, School of International Studies, Centre for International Risk, 2009), p. 17 (pp. 3–4) <http://www98.griffith.edu.au/dspace/bitstream/handle/10072/36408/65345_1.pdf?se> [accessed 14 September 2016].

⁸⁰⁰ Vivoda, p. 7 Due to this development IOC’s have become more willing in recent years to expand their activities to more challenging environments. This is one of the reasons for the increased interest in the Arctic. .

⁸⁰¹ Nye, *The Future of Power*, pp. 66, 69.

⁸⁰² Nye, *The Future of Power*, pp. 58, 68, 80; CNN, ‘Discussing State-Backed Capitalism on CNN’s Global Exchange’, *CNN Global Exchange* (Atlanta, Georgia, 2012) <<http://www.paragkhanna.com/home/discussing-state-backed-capitalism-on-cnns-global-exchange>> [accessed 25 October 2016].

⁸⁰³ Vivoda, p. 7.

duction										
RP Ratio	10.6	12.0	11.1	10.5	10.5	10.2	8.9	8.8	8.6	8.3

Second, resource nationalism, understood as “efforts by resource-rich nations to shift political and economic control of their energy and mining sectors from foreign and private interests to domestic and state-controlled companies”,⁸⁰⁴ has risen, too. This trend manifests itself in increasing export restrictions.⁸⁰⁵ Often, this has gone along with more confrontational foreign policies.⁸⁰⁶ In some cases, this even led to the use of “resource weapons” as producer countries employed their control over natural resources as leverage for political or economic concessions. Examples for this kind of policy are Russia’s suspension of energy deliveries to Ukraine in 2005/06 and 2008/09 or China’s decision to restrict its export of rare earth minerals in 2010 after a conflict with Japan over the Senkaku/Diaoyutai islands.⁸⁰⁷ Since 2005, this kind of state interventions has increased significantly.⁸⁰⁸ To sum up, “the politicization of resources has been a key contributor to a lack of trust between producer and consumer countries and a perceived resource insecurity.”⁸⁰⁹ As access to key natural resources is restricted by a handful of countries, the global supply with these resources is more a question of accessibility instead of actual physical scarcity.⁸¹⁰ As energy deliveries via pipelines are expected to become more important in the years to come in order to meet growing energy demand, supply disruptions are of growing concern, too.⁸¹¹

⁸⁰⁴ Ian Bremmer and Robert Johnston, ‘The Rise and Fall of Resource Nationalism’, *Survival*, 51.2 (2009), 149–58 (p. 149); Chatham House, p. 32.

⁸⁰⁵ Mildner and Lauster, p. 143.

⁸⁰⁶ Hilpert and Mildner, p. 13.

⁸⁰⁷ Kirsten Westphal, *Russisches Erdgas, Ukrainische Röhren, Europäische Versorgungssicherheit. Lehren Und Konsequenzen Aus Dem Gasstreit* (Berlin: Stiftung Wissenschaft und Politik, 2009), p. 41 <http://www.swp-berlin.org/de/publikationen/swp-studien-de/swp-studien-detail/article/gasstreit_2009_konsequenzen.html> [accessed 14 September 2016]; Marc Humphries, *Rare Earth Elements. The Global Supply Chain* (Congressional Research Service, 2012), p. 31 <<http://www.fas.org/sgp/crs/natsec/R41347.pdf>> [accessed 8 March 2013]; Tom Miles and Krista Hughes, ‘China Loses Trade Dispute over Rare Earth Exports’, 26 March 2014 <<http://www.reuters.com/article/2014/03/26/us-china-wto-rareearths-idUSBREA2P0ZK20140326>> [accessed 29 July 2014]; Nye, *The Future of Power*, pp. 63, 69–70; Lee and others, p. 11; Mildner, Richter, and Lauster, pp. 5, 26–27; Mildner and Lauster, pp. 143–44, 148; Hilpert and Kröger, p. 164.

⁸⁰⁸ Hilpert and Mildner, p. 11.

⁸⁰⁹ Chatham House, pp. 31–32.

⁸¹⁰ Chatham House, p. 32.

⁸¹¹ Paul Stevens, *Transit Troubles. Pipelines as a Source of Conflict* (London: Chatham House, 2009), p. 42 (p. 2) <https://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Energy,%20Environment%20and%20Development/r0309_pipelines.pdf> [accessed 16 March 2016].

4.1.1.4 Structural Implications of the Changing Global Economic Order

As a result of economic power shifts, the increasing multipolar 'structure' (see chapter 4.1.1.1, page 127) had significant impacts on the 'functioning' and 'character' of the global economic order. First, global economic affairs became increasingly dysfunctional due to emerging governance deadlocks and gaps as it became impossible to forge a global political consensus on the advancement of existing global economic governance frameworks. Second, the 'character' of global economic affairs became increasingly confrontational as states have turned into more prominent actors in global economic affairs due to the re-emergence of state capitalism and an increase in resource nationalism (see chapter 4.1.1.3, page 142). All these structural changes also had an impact on global political affairs as these economic developments accelerated the change of the international political order (see chapter 5.1.1, page 201).

4.1.1.5 Process-Related Implications of Ongoing Economic Globalization in Environmental, Economic and Political Affairs

Environmental, economic, and political affairs closely interacted on the global level. Ongoing modernization of societies worldwide contributed to increasing demand for natural resources like oil, gas, or minerals. As a consequence, global seaborne trade grew as well. Whilst global economic integration led to global economic growth, thereby lifting people out of poverty, the growing demand for natural resources has had severe climatic and environmental consequences. Rising CO₂ emissions are the result of an increasing exploitation of natural resources, which is the foundation for the rapid economic development and modernization of nations. Consequently, the global climate became more vulnerable to global economic growth (for a more detailed discussion see chapter 3.1.1, page 84). At the same time, the world economy became more vulnerable to climate change-driven natural disasters. The economic costs of natural disasters increased global perceptions of supply vulnerability (see chapter 3.1.1.2, page 89).⁸¹² In addition, economic affairs became increasingly vulnerable to political affairs, thereby highlighting the interdependencies between economic and political developments. Driven by competing political calculations, global economic governance deadlocks and gaps emerged or aggravated (see chapter 4.1.1.2, page 140). Furthermore, state capitalism and resource nationalism became more prominent phenomena.

⁸¹² Goldin and Mariathan, pp. 79–81; Chatham House, p. 33.

Political events additionally destabilized economic affairs. The Middle East and North Africa (MENA) region, for instance, one of the world's richest energy regions (more than 66% of global proven oil reserves) has become increasingly unstable.⁸¹³ Moreover, security along traditional maritime trading routes (e.g. in the Indian Ocean) significantly deteriorated. There was at least a perceived increasing vulnerability of disruptions at energy choke points – partly due to impacts of global climate change (for a more detailed discussion of political developments see chapter 5.1.1, page 201).⁸¹⁴ All these developments resulted in a growing global perception of natural resource insecurity.

Besides the growing interdependencies between environmental, economic, and political affairs on the global level there were mainly three developments that had an impact upon the Arctic. First, economic globalization allowed for a stronger integration of the Arctic into global economic flows, especially in terms of natural resource extraction (oil, gas, metals, and minerals) and shipping. Second, the growing economic interest in the Arctic was not only the result of economic developments. Instead the above-mentioned developments of the global economic order ('structure', 'functioning', and 'character') and the interaction with environmental and political affairs led to a perceived natural resources insecurity. As markets became more vulnerable to disruptions and thus more unpredictable, the interest in the Arctic increased as it offered an economic alternative to existing resource bases. Thus, Arctic economic developments have been sensitive to global trends. Third, the global economy's GDP growth has not only called for the extraction of more natural resources, which are partly available in the Arctic, but also increased the global GHG emissions output. As a result, global warming has accelerated and has increased the Arctic's climatic and environmental vulnerability in particular (see chapter 3.1.1, page 84 and 3.1.2, page 91). To conclude, interdependencies between the global level and the Arctic level increased, too.

4.1.2 External Regional Level: The Arctic

Ongoing economic globalization and the changes in the global economic order (in terms of 'structure', 'functioning', and 'character') had important consequences for the Arctic's

⁸¹³ Nye, 2011: 64; Chatham House, 2014: 32

⁸¹⁴ Charles Emmerson and Paul Stevens, *Maritime Choke Points and the Global Energy System. Charting a Way Forward* (London: Chatham House, January 2012), p. 12 (p. 2) <<https://www.chathamhouse.org/publications/papers/view/181615>> [accessed 16 March 2016].

economic development. Growing economic interdependence between global trends and Arctic developments can be seen in the region’s increasing economic sensitivity and partly also vulnerability to global market developments with regard to natural resources and shipping.

Arctic economic development, measured in Gross Regional Product (GRP) growth rates and in the Arctic economy’s share of the global economy’s GDP rose significantly between 2000 and 2010. From 2000 to 2010, Arctic GRP grew annually by 3.5% - from \$311,036 billion to \$442,810 billion.⁸¹⁵ The Arctic’s economic growth rate was twice the size of the overall growth rate of the Arctic countries.⁸¹⁶ In 2010, the Arctic contributed 0.6% of world GDP – equal to the GDP contributions of countries like Malaysia or Columbia. This equals \$45,360 per capita, and is comparable to the US and the richest European countries.⁸¹⁷ As Table 18 shows, GRP growth decreased after the downturn of the global economy in the second half of the decade, thereby implying a strong vulnerability of the Arctic’s economy to global economic developments.⁸¹⁸

Table 18 - Arctic GRP (in billions US Dollar): 2000-2010⁸¹⁹

Year	GRP Arctic Region	Arctic Region Growth Rate
2000	311,036	n.a.
2001	329,729	6%
2002	340,444	3.2%
2003	357,991	5.2%
2004	378,967	5.9%
2005	399,748	5.5%
2006	421,678	5.5%
2007	435,637	3.3%
2008	446,983	2.6%
2009	428,364	-4.2%
2010	442,810	3.4%

⁸¹⁵ *Arctic Human Development Report. Regional Processes and Global Linkages* (Copenhagen: Nordic Council of Ministers, 2014), p. 504 (pp. 157-58) <<http://norden.diva-portal.org/smash/get/diva2:788965/FULLTEXT03.pdf>> [accessed 23 January 2016].

⁸¹⁶ *Arctic Human Development Report. Regional Processes and Global Linkages*, p. 158.

⁸¹⁷ *Arctic Human Development Report. Regional Processes and Global Linkages*, p. 157.

⁸¹⁸ *Arctic Human Development Report. Regional Processes and Global Linkages*, p. 158.

⁸¹⁹ *Arctic Human Development Report. Regional Processes and Global Linkages*, p. 158.

4.1.2.1 Structure of the Regional Economic Order

The GRP is rather unequally distributed among the Arctic states. Russia, for instance, dominates the regional productivity being responsible for 70% of Arctic economic activity in 2005.⁸²⁰

Thus, the Arctic economic order's underlying structure, understood as the distribution of economic power, has been rather unipolar. Yet, in many Arctic states their northern regions have become more important in recent years. Following this development, a certain rebalance towards a larger share of regional GRP by other Arctic states than Russia is underway. In addition, new Arctic stakeholders like China are strengthening their economic presence in the region.⁸²¹ In the mid- to long-term, this development could further change the existing balance of economic power.

Table 19 - GRP of Arctic States as Share of the Arctic Total in 2005⁸²²

Country	GRP Share of the Arctic Total
Russia	70%
Finland	5%
Sweden	5%
Norway	4%
Iceland	2%
Denmark	1%
Canada	2%
United States	11%

To a large part, Arctic growth rates are the result of growing global natural resources demand (see chapter 4.1.1) and the region's (perceived) potential for natural resource extraction and shorter maritime trading routes. Arctic states' GDP growth is driven mainly by developments in three sectors: oil and gas; metals and minerals; and shipping.

Economic Growth Driver No. 1: Arctic Oil and Gas

Oil and gas extraction has a long tradition in the Arctic. First onshore drilling started in 1920 in the Canadian Arctic.⁸²³ The development of Arctic offshore petroleum resources

⁸²⁰ Ilmo Mäenpää, 'Comparative Analysis of Arctic Economies at Macro-Level', in *The Economy of the North 2008*, ed. by Solveig Glomsrød and Iulie Aslaksen (Oslo: Statistics Norway, 2009), pp. 27-35 (p. 27) <https://www.ssb.no/a/publikasjoner/pdf/sa112_en/sa112_en.pdf> [accessed 24 January 2016].

⁸²¹ Marc Lanteigne, *China's Emerging Arctic Strategies. Economics and Institutions* (Reykjavik: Institute of International Affairs and the Centre for Small State Studies, 2014), p. 42 <http://ams.hi.is/wp-content/uploads/2014/11/ChinasEmergingArcticStrategiesPDF_FIX2.pdf> [accessed 26 October 2016].

⁸²² Mäenpää, p. 27.

began in the 1970s in the US (Alaska), the Soviet Union (western Siberia) and Norway. Canada and Greenland followed in the early 1980s.⁸²⁴

The Soviet Union started on-shore Arctic gas production in the 1970s. At the same time it undertook geological off-shore explorations on its Arctic continental shelf in the Barents Sea, culminating in first exploration drillings in 1982.⁸²⁵ In the 1990s, Russia started with the development of Arctic oil production in the Nenets autonomous district in Northern Russia.⁸²⁶ Today, however, Russia’s on-shore super-giant fields are generally declining and so far they have not sufficiently been replaced by new fields coming on stream.⁸²⁷ That’s why the country intends to heavily invest in the development of its Arctic resource base.⁸²⁸ Despite the high development costs, this was made possible in the 2000s against the background of rising global energy prices.

Due to rising global energy prices Arctic coastal states gradually developed their energy resources to serve international markets. Already in 2000, Arctic petroleum production of oil and gas accounted for 10.5% and 25% of global oil and gas production respectively. Taking together Arctic petroleum production was 16.2% of global petroleum production.⁸²⁹

Table 20 - Arctic share of global petroleum production (2002)⁸³⁰

Oil	Gas	Total Petroleum
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⁸²³ The Economist, ‘Hidden Treasure. High Commodity Prices, Receding Ice and Better Technology Are Spurring a Hunt for Arctic Resources’, *The Economist* (London, 16 June 2012) <<http://www.economist.com/node/21556800>> [accessed 24 January 2016].

⁸²⁴ Rolf Tamnes and Sven Holtsmark, ‘The Geopolitics of the Arctic in Historical Perspective’, in *Geopolitics and Security in the Arctic. Regional Dynamics in a Global World*, ed. by Rolf Tamnes and Kristine Offerdal, Routledge Global Security Studies (London and New York: Routledge, 2014), pp. 12–48 (pp. 42–43); Claes and Moe, p. 106.

⁸²⁵ Claes and Moe, pp. 106, 108; Helge Ole Bergesen, Arild Moe, and Willy Ostreng, *Soviet Oil and Security Interests in the Barents Sea* (London: Pinter Publishers, 1987), pp. 32–33.

⁸²⁶ Claes and Moe, p. 107.

⁸²⁷ Claes and Moe, p. 107; Kamrul Hossain, Timo Koivurova, and Gerald Zojer, ‘Understanding Risks Associated with Offshore Hydrocarbon Development’, in *Arctic Marine Governance. Opportunities for Transatlantic Cooperation*, ed. by Elizabeth Tedsen, Sandra Cavalieri, and Andreas R. Kraemer (Heidelberg: Springer, 2014), pp. 159–78 (p. 162).

⁸²⁸ Juha Käpylä, Harri Mikkola, and Toivo Martikainen, *Moscow’s Arctic Dreams Turned Sour? Analysing Russian Policies in the Arctic* (Helsinki: The Finish Institute of International Affairs, 11 March 2016), pp. 3–4 <http://www.fiia.fi/en/publication/575/moscow_s_arctic_dreams_turned_sour/> [accessed 12 December 2016].

⁸²⁹ Lars Lindholt, ‘Arctic Natural Resources in a Global Perspective’, in *The Economy of the North*, ed. by Solveig Glomsrød and Iulie Aslaksen (Oslo: Statistics Norway, 2002), pp. 27–40 (p. 27) <http://www.ssb.no/a/english/publikasjoner/pdf/sa84_en/kap3.pdf> [accessed 2 June 2015].

⁸³⁰ Lindholt, p. 27.

10.5%	25.5%	16.2%
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Against the background of a rising global demand for energy resources and skyrocketing global energy prices (see chapter 4.1.1, page 130), the Arctic was seen by Arctic coastal states (the exporting countries) and energy-hungry states across the world (the importing countries) as an important alternative or additional resource base for the world economy's growing appetite for oil and gas.⁸³¹ In 2008, the USGS published a report on the Arctic's oil and gas resources potential. The findings indicated that the region holds about 90 billion barrels of oil (about 12% of global undiscovered oil) and 1,699 trillion cubic feet of natural gas (about 30% of global undiscovered gas).⁸³² Taken together, the Arctic possesses roughly 22% of the world's undiscovered but recoverable petroleum resources.⁸³³

Table 21 - Arctic Share of World Conventional Oil Resources in 2008 (billion barrels of oil)⁸³⁴

	Arctic	World	Arctic Share
Undiscovered	90	732	12.3
Discovered	60	1,579	3.8
Total	150	2,311	6.5

Table 22 - Arctic Share of World Conventional Natural Gas Resources in 2008 (trillion cubic feet)⁸³⁵

	Arctic	World	Arctic Share
Undiscovered	1,669	5,196	32.1
Discovered	1,615	8,453	19.1
Total	3,284	13,649	24.1

Key for the future development of Arctic hydrocarbon projects is the global price for oil and gas. In 2030, based on a base case scenario with an oil price of \$80 per barrel, 81% of total Arctic oil production will come from Russia and 14% will come from Alaska.

⁸³¹ Lindholt, p. 27; Tamnes and Offerdal, p. 1; The Economist, 'Hidden Treasure. High Commodity Prices, Receding Ice and Better Technology Are Spurring a Hunt for Arctic Resources'; Lars Lindholt and Solveig Glomsrød, 'Future Production of Petroleum in the Arctic under Alternative Oil Prices', in *The Economy of the North 2008*, ed. by Solveig Glomsrød and Iulie Aslaksen (Oslo: Statistics Norway, 2009), pp. 69-73 (p. 69) <https://www.ssb.no/a/publikasjoner/pdf/sa112_en/sa112_en.pdf> [accessed 24 January 2016].

⁸³² Bird and others.

⁸³³ Bird and others.

⁸³⁴ Claes and Moe, p. 102.

⁸³⁵ Claes and Moe, p. 103.

Regarding natural gas production, the scenario predicts Russia to produce 94%.⁸³⁶

Russia, the US, and Norway account for 52%, 20%, and 12% respectively of estimated Arctic petroleum resources. Taken together, these three largest petroleum reserves represent 84% of all resources.⁸³⁷ In terms of production, the concentration on Russia and the US is even bigger. In 2008, both countries were responsible for 97% of total Arctic oil and gas onshore production.⁸³⁸

Table 23 - Territorial Distribution of Estimated Arctic Petroleum Resources in 2008⁸³⁹

Rank	Country	Total estimated resources in oil and gas equivalent (billion barrels)	Percentage
1	Russia	215.94	52%
2	United States	83.31	20%
3	Norway	47.46	12%
4	Denmark (Greenland)	44.49	11%
5	Canada	22.08	5%
	Total	413.28	100%

Historically, Russia has been the major oil and gas producer in the Arctic. It is also one of the world’s leading oil and natural gas producers, and this position is directly linked to its Arctic resource base. But according to analysts, “Russia’s oil production seems to have peaked its high in traditional oil fields.”⁸⁴⁰ As a result, these “resource bases are depleting.”⁸⁴¹ In order to maintain current production levels, companies had to move into new Arctic territories where about 80% of its natural gas and 70% of its oil reserves are expected to be found.⁸⁴²

Already today, about 60% of Russia’s total petroleum production is produced in the Russia part of the Arctic, accounting for 11% of the country’s GNP and 22% of its total volume of exports.⁸⁴³ Keeping in mind that roughly 50% of Russian public revenues are directly linked to energy exports, implies that the Arctic is also of utmost political

⁸³⁶ Lindholt and Glomsrød, pp. 72-73.
⁸³⁷ Keil, ‘Cooperation and Conflict in the Arctic. The Cases of Energy, Shipping and Fishing’, p. 84.
⁸³⁸ Claes and Moe, p. 105.
⁸³⁹ Keil, ‘Cooperation and Conflict in the Arctic. The Cases of Energy, Shipping and Fishing’, p. 84.
⁸⁴⁰ Ingerid Opdahl, Interview 4, 2014, p. 1.
⁸⁴¹ Russia Expert, Interview 5, 2014, p. 1.
⁸⁴² Neill Melvin and Ekaterina Klimenko, ‘Russia’s Arctic Strategy in the Context of Its Eurasian Security Policies. Paper Presented at the Panel “Comparing Arctic Strategies: The Sources of National Policies for the High North”’ (presented at the International Studies Association (ISA) Annual Conference, San Diego, 2012), pp. 8-9.
⁸⁴³ Claes and Moe, p. 105; Melvin and Klimenko, p. 8.

importance for Russia.⁸⁴⁴ Against the background of growing resource nationalism worldwide it therefore comes as no surprise that “new off-shore developments are labeled a ‘strategic matter’, [and] only Gazprom and Rosneft are allowed to take the lead in these new projects.”⁸⁴⁵ In order to keep this level of revenues from energy exports, Russia will have to expand its activities in the Arctic. According to the USGS the largest part of Arctic hydrocarbon resources is located on Russian territory.⁸⁴⁶ The exploitation of these resources would enable Russia to maintain its position as one of the world’s biggest oil and gas suppliers.⁸⁴⁷ Therefore, the share of Arctic oil and gas resources in Russia’s total amount of energy exports is expected to increase significantly in the coming decades. According to Claes, “gas exports from within Russia’s Arctic territories to EU member states, and thus to Germany, are expected to increase, as Russian gas, so far earmarked for Europe will be sent to China, instead.”⁸⁴⁸

Norway started its off-shore oil and gas exploration in the 1970s. Since then, the export of hydrocarbon resources is the central driver of the Norwegian economy.⁸⁴⁹ In 2012 the Norwegian State’s total petroleum income amounted to NOK 401 billion which is a third of the State’s total income.⁸⁵⁰ In 2012 the ‘Government Pension Fund – Global’ was valued for the first time with more than NOK 400 billion.⁸⁵¹ Since then it has risen to approximately \$885.18 billion.⁸⁵² Traditional oil fields off the country’s west coast have been in decline, however, since 2002. In order to postpone peak Norwegian oil production into the future the country had to move into its Arctic waters. According to the USGS, 6,704 Million Barrels of Oil Equivalent (MMboe) are expected to lie in the

⁸⁴⁴ Jakub Gudzmirski, Interview 6, 2014, p. 1.

⁸⁴⁵ Opdahl, p. 1.

⁸⁴⁶ Bird and others; D.L. Gautier and others, ‘Assessment of Undiscovered Oil and Gas in the Arctic’, *Science*, 324.5931 (2009), 1175–79; Loe, p. 4.

⁸⁴⁷ Hossain, Koivurova, and Zojer, p. 162; Claes and Moe, p. 108.

⁸⁴⁸ Dag Harald Claes, Interview 7, 2014, p. 1.

⁸⁴⁹ Hossain, Koivurova, and Zojer, p. 163.

⁸⁵⁰ Norwegian Ministry of Petroleum and Energy, *Facts 2014. The Norwegian Petroleum Sector* (Oslo: Norwegian Ministry of Petroleum and Energy, 2014), p. 77 (p. 12) <https://www.regjeringen.no/globalassets/upload/oed/pdf_filer_2/faktaheftet/fakta2014og/facts_2014_net.pdf> [accessed 13 December 2016].

⁸⁵¹ Keil, ‘Cooperation and Conflict in the Arctic. The Cases of Energy, Shipping and Fishing’, p. 92.

⁸⁵² SWFI, *Norway Government Pension Fund Global* (Las Vegas, 2016) <<http://www.swfinstitute.org/swfs/norway-government-pension-fund-global/>> [accessed 13 December 2016].

Barents Sea.⁸⁵³ Exploration drilling in the Barents Sea started in 1980.⁸⁵⁴ Since then, Norway's first offshore LNG plant Snøhvit came on stream in 2007.⁸⁵⁵ In 2000, the Goliat oil field was discovered.⁸⁵⁶ Production started in 2016.⁸⁵⁷ And in 2011, Statoil, ENI Norge, and Petoro made the largest oil discovery in a decade on the Skrugard prospect further North of the other two fields in the Barents Sea.⁸⁵⁸ The sheer volume of estimated resources could trigger the development of the fields.⁸⁵⁹ Thus, Russia, Norway and the U.S. dominate the economic balance of power in terms of energy.

Economic Growth Driver No. 2: Arctic Minerals

Mineral exploitation has a long history in the Arctic, dating back to the gold rush in North America at the end of the 19th century.⁸⁶⁰ The Arctic holds mineral resources on a global scale.⁸⁶¹

Against the background of growing global demand for metals and minerals for the development of high-tech products and a growing competition for access to and control of these resources (see chapter 4.1.1.1, page 136) the Arctic came into the spotlight of global resource politics as the region was perceived as an alternative supplier region for

⁸⁵³ Hossain, Koivurova, and Zojer, p. 163; Norwegian Ministry of Petroleum and Energy, *Norway's Oil History in 5 Minutes* (Oslo: Norwegian Ministry of Petroleum and Energy, 9 October 2013) <<https://www.regjeringen.no/en/topics/energy/oil-and-gas/norways-oil-history-in-5-minutes/id440538/>> [accessed 13 December 2016].

⁸⁵⁴ Hossain, Koivurova, and Zojer, p. 163.

⁸⁵⁵ Statoil, *Snøhvit* (Stavanger: Statoil, 10 September 2007) <<http://www.statoil.com/en/OurOperations/ExplorationProd/ncs/snoehvit/Pages/default.aspx>> [accessed 13 December 2016].

⁸⁵⁶ Claes and Moe, p. 115.

⁸⁵⁷ ENI Norge, *Goliat on Stream* (Stavanger: ENI Norge, 2016) <<http://www.eninorge.com/en/field-development/goliat/>> [accessed 13 December 2016].

⁸⁵⁸ Statoil, *Major Oil Discovery in the Barents Sea* (Stavanger: Statoil, 1 April 2011) <<http://www.statoil.com/en/NewsAndMedia/News/2011/Pages/01AprSkrugard.aspx>> [accessed 13 December 2016].

⁸⁵⁹ Claes and Moe, p. 115.

⁸⁶⁰ Harald Elsner and others, *Das Mineralische Rohstoffpotenzial Der Arktis*, Commodity Top News (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 6 January 2014), p. 12 (p. 3) <http://www.bgr.bund.de/DE/Gemeinsames/Produkte/Downloads/Commodity_Top_News/Rohstoffwirtschaft/41_mineralisches-rohstoffpotenzial-arktis.html> [accessed 7 May 2016].

⁸⁶¹ Deutsche Rohstoffagentur, *Das Mineralische Rohstoffpotenzial Grönlands* (Hannover: Deutsche Rohstoffagentur (DERA), 2010), p. 82 <http://www.deutsche-rohstoffagentur.de/DE/Gemeinsames/Produkte/Downloads/DERA_Rohstoffinformationen/rohstoffinformationen-01.pdf?__blob=publicationFile&v=6> [accessed 15 June 2012]; Melvin and Klimenko, p. 9; Bundesanstalt für Geowissenschaften und Rohstoffe, *Die Rohstoffindustrie Der Russischen Föderation* (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2009), p. 46 <http://www.bgr.bund.de/DE/Themen/Min_rohstoffe/Downloads/2009_03_27_Kurzstudie_Rohstoffe_Russische_Foederation.pdf?__blob=publicationFile&v=3> [accessed 15 June 2012].

many countries.⁸⁶² Already today most Arctic states are important mineral players on the global market due to their Arctic resources. Consequently, these countries are important suppliers for European and German companies and enhance the European and German security of supply.⁸⁶³

In recent years, rare earth metals have become a critical component for many high-tech products (e.g. wind turbines, batteries, etc.; see chapter 4.1.1.1, page 137). Greenland and Russia possess the largest proven and expected reserves in rare earth elements. The Greenlandic deposits alone could supply the current global demand for 150 years.⁸⁶⁴ On the Russian Kola Peninsula and in Siberia are also large reserves. In 2012, 2,131 tons were won on the Kola Peninsula.⁸⁶⁵ Additional 154 million tons are estimated to lay in Siberia.⁸⁶⁶

Large volumes of copper and nickel are found in the region, too – especially in Greenland, Finland, Sweden, and Russia.⁸⁶⁷ The Russian Norilsk region is the most important deposit for copper and nickel. About 90% of Russian platinum exports come from this region. The deposits are developed by Norilsk Nickel – the world’s largest platinum producer.⁸⁶⁸ Large deposits also are found on the Kola Peninsula. According to Norilsk Nickel the Kola Peninsula reserves in 2011 accounted to 1,024 million tons.⁸⁶⁹

Another important Arctic mineral is iron ore. According to estimates Norway possesses 451 million tons of ore.⁸⁷⁰ The two largest deposits in Sweden lay in Kiruna and Malmberget with 2,000-4,500 million tons and 840 million tons respectively.⁸⁷¹ 1,107 million tons are expected to lay in Greenland.⁸⁷² The Russian Kola Peninsula holds deposits of approximately 1,342 million tons of iron ore.⁸⁷³ The most important Canadian iron ore reserves are located in the May-River area, composing of 365 million

⁸⁶² Elsner and others, pp. 1, 10.

⁸⁶³ Elsner and others, pp. 2-3.

⁸⁶⁴ Elsner and others, p. 3.

⁸⁶⁵ Elsner and others, p. 3.

⁸⁶⁶ Elsner and others, p. 3.

⁸⁶⁷ Elsner and others, pp. 7-8.

⁸⁶⁸ Elsner and others, p. 4.

⁸⁶⁹ Elsner and others, p. 7.

⁸⁷⁰ Elsner and others, p. 5.

⁸⁷¹ Elsner and others, pp. 5-6.

⁸⁷² Elsner and others, p. 6.

⁸⁷³ Elsner and others, p. 6.

tons.⁸⁷⁴ To conclude, regarding minerals Russia is the dominant player in the economic order.

Economic Growth Driver No. 3: Arctic Shipping

Shipping has a long history in the Arctic.⁸⁷⁵ In 2009, already 6,000 ships moved along the Arctic Ocean.⁸⁷⁶ So far most of the shipping is destinational instead of trans-Arctic. But all shipping activities are generally expected to increase.⁸⁷⁷

Arctic shipping is closely connected, and thus vulnerable, to the Arctic's environmental transformation. In addition, it is vulnerable to growing global demand for natural resources (and the perception of the Arctic as an additional resource base) as well as growing trade between Europe and Asia (and the perception of shorter transit routes between both regions via the Arctic).⁸⁷⁸

The extent and thickness of Arctic sea ice is decreasing constantly since the 1950s.⁸⁷⁹ Based on sea-ice model simulations an ice-free Arctic Ocean during short periods of summer is expected before 2050 (for further details see chapter 3.1.2.1, page 93).⁸⁸⁰

The ongoing warming of the Arctic and expanding ice-free summer periods offer more marine access within the region. Consequently, it becomes easier to extract marine resources (e.g. oil and gas) and to transport these resources to global markets. Against the background of growing global demand for natural resources and perceived shortages in supply of some of them, the Arctic's resource potential is of strategic significance. Shorter shipping routes between the Atlantic and the Pacific, connecting two of the world's most dynamic economic regions, are another looming economic opportunity (for further details about shifting global economic growth and global trade patterns see chapter 4.1.1.1, page 128).⁸⁸¹ Compared to the use of traditional sea routes

⁸⁷⁴ Elsner and others, p. 6.

⁸⁷⁵ Arctic Council, *Arctic Marine Shipping Assessment* (Arctic Council, 2009), p. 194 (pp. 36–49) <http://www.arctic.noaa.gov/detect/documents/AMSA_2009_Report_2nd_print.pdf> [accessed 5 May 2016].

⁸⁷⁶ Arctic Council, *Arctic Marine Shipping Assessment*, p. 4.

⁸⁷⁷ Arctic Council, *Arctic Marine Shipping Assessment*, pp. 4–5, 12.

⁸⁷⁸ Malte Humpert and Andreas Raspotnik, 'The Future of Arctic Shipping Along the Transpolar Sea Route', in *Arctic Yearbook 2012*, ed. by Lassi Heininen (Akureyri: Northern Research Forum, 2012), p. 350 (p. 282) <<http://www.arcticyearbook.com/ay2012/>> [accessed 5 May 2016]; Margaret Blunden, 'Geopolitics and the Northern Sea Route', *International Affairs*, 88.1 (2012), 115–29.

⁸⁷⁹ Arctic Council, *Arctic Marine Shipping Assessment*, pp. 4, 35.

⁸⁸⁰ Arctic Council, *Arctic Marine Shipping Assessment*, p. 35.

⁸⁸¹ Tamnes and Holtsmark, p. 13; Arctic Council, *Arctic Marine Shipping Assessment*, pp. 4–5, 25, 35; Humpert and Raspotnik, 'The Future of Arctic Shipping Along the Transpolar Sea Route', pp. 282–83, 295.

like the Suez and Panama Canals shipping times between Europe and Asia could be reduced by up to 40% along the Northern Sea Route (NSR)⁸⁸² from Rotterdam to Yokohama and 33% along the North West Passage (NWP)⁸⁸³ from St. Johns to Yokohama.⁸⁸⁴ It is projected that until mid-century the NSR will have favourable navigation conditions (less than 75% sea-ice cover) for 125 days per year. This would allow ice-strengthened vessels to navigate the route.⁸⁸⁵ In 2009, for the first time two German ships from the Beluga company passed along the NSR from South Korea to Rotterdam. In addition, ship-based tourism has significantly increased in recent years.⁸⁸⁶ In times of an entire ice-free Arctic, even the Transpolar Sea Route (TSR) might become a future corridor of marine traffic. In a similar manner, the Arctic Bridge, a shipping route connecting Canada and Russia via the ports of Churchill and Murmansk, might become a reality.⁸⁸⁷

Table 24 - Arctic Shipping Routes (in kilometers)⁸⁸⁸

Shipping Route	Northern Sea Route	North West Passage	Transpolar Sea Route	Arctic Bridge
Length	5,169	9,324	6,960	7,135

Table 25 - Comparison of Shipping via the NSR, the NWP, the Panama Canal and the Suez Canal⁸⁸⁹

Port of Origin	Port of Destination	Traditional Route Distance (in Nautical Miles)	Alternative Route	Distance (in Nautical Miles)	Distance Savings Compared to Traditional Route
Rotterdam	Shanghai	10,525 (Suez Canal)	TSR	7,300	31%
			NSR	8,200	22%

⁸⁸² The NSR, according to Russian law, is defined as the marine routes between the Kara Gate and the Bering Strait. Arctic Council, *Arctic Marine Shipping Assessment*, p. 23.

⁸⁸³ The NWP is defined as the marine routes between the Atlantic Ocean and the Pacific Ocean along the Canadian archipelago. Arctic Council, *Arctic Marine Shipping Assessment*, p. 20.

⁸⁸⁴ Liu and Kronbak; Saran Somarathan, Peter Flynn, and Josef Szymanski, 'The Northwest Passage. A Simulation', *Transportation Research Part A: Policy and Practice*, 43.2 (2009), 127-34.

⁸⁸⁵ IPCC, *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 15 Polar Regions (Arctic and Antarctic)*, p. 676.

⁸⁸⁶ Hoel, p. 50.

⁸⁸⁷ Humpert and Raspotnik, 'The Future of Arctic Shipping Along the Transpolar Sea Route', p. 282.

⁸⁸⁸ Humpert and Raspotnik, 'The Future of Arctic Shipping Along the Transpolar Sea Route', p. 288.

⁸⁸⁹ Badari Narayana Srinath, 'Arctic Shipping. Commercial Viability of the Arctic Sea Routes' (unpublished Dissertation in Partial Fulfilment of the Degree of MSc. in Maritime Operations and Management, City University London, School of Engineering and Mathematical Science, 2010), pp. 2-3 <<http://repository.tudelft.nl/view/ir/uuid%3A2da3ee1c-12be-4ab3-ab6f-b0bc1a4e54a2/>> [accessed 6 May 2016].

			NWP	8,900-9,500	15%
New York	Shanghai	10,582 (Panama Canal)	TSR NWP	9,800 9,450	8% 11%

Table 26 - Comparison of Shipping via the NSR and the Suez Canal⁸⁹⁰

Rotterdam	Tokyo	Yokohama	Shanghai	Hong Kong	Singapore
NSR	6,600	7,019	8,026	8,000	9,300
Suez Canal	11,192	11,339	11,990	9,748	8,288
Savings in Nautical Miles	+41%	+39%	+32%	+17%	-10%

Table 27 - Comparison of Shipping via the TSR and the Suez Canal⁸⁹¹

Port of Origin	Port of Destination	Distance in nautical miles		Days at Sea at 17 Knots		Distance Savings in %
		Via Suez Canal	Via TSR	Via Suez Canal	Via TSR	
Tokyo	Rotterdam	11,192	6,600	27,4	16,1	-41%
Shanghai	Rotterdam	10,525	7,200	25,8	17,6	-32%
Hong Kong	Rotterdam	9,748	8,000	23,9	19,6	-18%
Singapore	Rotterdam	8,288	9,300	20,3	22,7	+12%

Table 28 - NSR Transit Numbers 2011-2015

Year	Number of Ships	Intra-Russian Voyage	Transit
2011⁸⁹²	41	23	18
2012⁸⁹³	46	20	26
2013⁸⁹⁴	71	44	27
2014⁸⁹⁵	53	-	-

⁸⁹⁰ Andreas Raspotnik and Bettina Rudloff, *The EU as a Shipping Actor in the Arctic* (Berlin: Stiftung Wissenschaft und Politik, December 2012), p. 46 (p. 46) <http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/FG2_2012Nr4_rff_raspotnik.pdf> [accessed 3 May 2016].

⁸⁹¹ Humpert and Raspotnik, 'The Future of Arctic Shipping Along the Transpolar Sea Route', p. 291.

⁸⁹² Northern Sea Route Information Office, *NSR Transit 2011* (Murmansk: Northern Sea Route Information Office, 2011), p. 2 (pp. 1-2) <http://www.arctic-lio.com/docs/nsr/transits/Transits_2011.pdf> [accessed 6 May 2016].

⁸⁹³ Northern Sea Route Information Office, *NSR Transits 2012* (Murmansk: Northern Sea Route Information Office, 20 November 2012), p. 6 (pp. 1-6) <http://www.arctic-lio.com/docs/nsr/transits/Transits_2012.pdf> [accessed 6 May 2016].

⁸⁹⁴ Northern Sea Route Information Office, *NSR Transit 2013* (Murmansk: Northern Sea Route Information Office, 2013), p. 7 (pp. 1-7) <http://www.arctic-lio.com/docs/nsr/transits/Transits_2013_final.pdf> [accessed 6 May 2016].

All sea-ice models indicate that the NSR will be ice-free and navigable for longer seasons than the NWP (not to mention the TSR). In addition, the Norwegian coast at the southern entrance of the NSR is even easier to access due to lesser sea-ice. Because of this, already today most shipping activities in the Arctic take place along the Norwegian and Russian coastlines.⁸⁹⁷ This comes as no surprise as both countries are also the main players with regard to Arctic offshore and on-shore energy exploration. Hydrocarbon resources then have to be transported by sea to global markets. For the time being, Arctic shipping mostly consists of destination shipping, importing supplies for economic activities in the region and exporting the region's natural resources to global markets.⁸⁹⁸ China might be the most important non-Arctic regional stakeholder. Against the background of its growing demand for natural resources (see chapter 4.1.1.1) and its dependency on a limited number of SLOC's, China's interest in diversifying its maritime trading activities via Arctic sea routes has grown significantly in recent years.⁸⁹⁹ Some observers estimate that between 5 and 15% of China's international trade could pass the NSR by 2020.⁹⁰⁰ First signs of China's growing economic profile in the region are emerging. In 2015, the Chinese shipping company China Ocean Shipping (Group) Co. (COSCO) announced to launch regular sailings between Asia and Europe through the Arctic.⁹⁰¹ Recently, China and its state-owned companies signed cooperation agreements with Russia on the use of the NSR and on the exploitation and shipment of natural resources as well as with

⁸⁹⁵ Northern Sea Route Information Office, *List of NSR Transit Voyages in 2014 Navigational Season* (Murmansk: Northern Sea Route Information Office, 2014), p. 2 (pp. 1–2) <http://www.arctic-lio.com/docs/nsr/transits/Transits_2014.pdf> [accessed 6 May 2016].

⁸⁹⁶ Northern Sea Route Information Office, *Vessels Transite NSR in Y2015* (Murmansk: Northern Sea Route Information Office, 2015), p. 1 (p. 1) <http://www.arctic-lio.com/docs/nsr/transits/Transits_in_2015.pdf> [accessed 6 May 2016].

⁸⁹⁷ Arctic Council, *Arctic Marine Shipping Assessment*, pp. 32–33, 73.

⁸⁹⁸ Humpert, *The Future of Arctic Shipping. A New Silk Road for China?*, p. 15.

⁸⁹⁹ Humpert and Raspotnik, 'The Future of Arctic Shipping Along the Transpolar Sea Route', p. 284; The Guardian, 'China Sets Its Sights on the Northwest Passage as a Potential Trade Boon', *The Guardian* (London, 20 April 2016) <<http://www.theguardian.com/world/2016/apr/20/china-northwest-passage-trade-route-shipping-guide>> [accessed 5 May 2016].

⁹⁰⁰ Alister Doyle, 'China Plans First Commercial Trip Through Arctic Shortcut in 2013', *Reuters* (New York, 12 March 2013) <<http://www.reuters.com/article/shipping-china-idUSL6N0C4F9720130312>> [accessed 6 May 2013]; Robin McKie, 'China's Voyage of Discovery to Cross the Less Frozen North', *The Guardian* (London, 18 August 2013) <<http://www.theguardian.com/world/2013/aug/18/china-northeastern-sea-route-trial-voyage>> [accessed 6 May 2016].

⁹⁰¹ Costas Paris and Joanne Chiu, 'Chinese Shipping Group Cosco Planning Regular Trans-Arctic Sailings', *The Wall Street Journal* (New York, 29 October 2015) <<http://www.wsj.com/articles/chinese-shipper-cosco-to-schedule-regular-trans-arctic-sailings-1446133485>> [accessed 6 May 2016].

Iceland on Arctic cooperation. Most significantly, Iceland and China signed a free-trade agreement in 2013, which makes it the first European country to sign such a deal with China. Iceland's strategic location at the entrance of the Arctic Ocean makes it a potential Arctic shipping hub that connects Europe and Asia.⁹⁰² Therefore the country invests in the construction of a new deep-water port in the north-east of Iceland. The port is planned to be constructed by the German company bremenports.⁹⁰³ The EU has a growing interest in Arctic shipping, too. Against the background of the EU importing and exporting 90% of its global trade by sea, it comes as no surprise that the EU Commission already in 2008 identified maritime transport as one of its four main interests in the Arctic.⁹⁰⁴

Thus, Norway, Russia, and potentially China are the main shipping players in the economic balance of power while the EU has at least the potential to become a major player in this respect.

4.1.2.2 The Functioning of the Economic Order

As has been stated above (see chapter 2.3.1, page 45) the functioning of an order is understood as “the ‘rules of the game’ that delineate how states act toward each other.”⁹⁰⁵ No overarching Arctic economic governance framework exists. As circumpolar maritime economic activities bear the largest potential for regional governance the analytical focus lies on international governance frameworks that apply to the Arctic. In

⁹⁰² Marc Lanteigne, ‘Northern Exposure. Cross-Regionalism and the China-Iceland Preferential Trade Negotiations’, *The China Quarterly*, 202.June 2010 (2010), 362–80 (pp. 362–80); Humpert and Raspotnik, ‘The Future of Arctic Shipping Along the Transpolar Sea Route’, p. 288; David Jolly, ‘Iceland and China Enter a Free Trade Agreement’, *New York Times* (New York, 15 April 2013) <<http://www.nytimes.com/2013/04/16/business/global/16iht-iceland16.html>> [accessed 5 May 2016]; Arthur Guschin, *Understanding China's Arctic Policies* (Tokyo: The Diplomat, 14 November 2013) <<http://thediplomat.com/2013/11/understanding-chinas-arctic-policies/>> [accessed 5 May 2016]; Arthur Guschin, *China, Iceland and the Arctic. Iceland Is Playing a Growing Role in China's Arctic Strategy* (Tokyo: The Diplomat, 20 May 2015) <<http://thediplomat.com/2015/05/china-iceland-and-the-arctic/>> [accessed 5 May 2016].

⁹⁰³ bremenports, *Iceland Intends to Build a New Port on the Arctic Ocean and Wishes to Cooperate with the Planning Experts at Bremenports* (Bremen/Bremerhaven: bremenports, 25 June 2013) <http://www.bremenports.de/1267_2&template=print> [accessed 6 May 2016]; The Arctic Journal, ‘Viability Studies of Northern Iceland Port Moving Forward’, *The Arctic Journal* (Nuuk, 23 September 2013) <<http://arcticjournal.com/business/124/viability-studies-northern-iceland-port-moving-forward>> [accessed 6 May 2016]; Barents Observer, ‘Germany, Iceland Cooperate on New Port for Transpolar Shipping’, *Barents Observer* (Kirkenes, 17 October 2015) <<http://barentsobserver.com/en/arctic/2015/10/germany-iceland-cooperate-new-port-transpolar-shipping-17-10>> [accessed 6 May 2016].

⁹⁰⁴ Raspotnik and Rudloff, p. 11.

⁹⁰⁵ Hanagan, p. 124.

addition existing regional frameworks are discussed. Even though it is not very Arctic specific the United Nations Convention on the Law of the Sea (UNCLOS) is the most fundamental legal framework for Arctic shipping (for a more detailed discussion see chapter 5.1.2.3, page 232).⁹⁰⁶ For safety and security the IMO's *International Convention on Safety of Life at Sea* (SOLAS) is the central mandatory framework.⁹⁰⁷ In addition the IMO has adopted the *Polar Code*. It came into force in 2017.⁹⁰⁸ Until then the IMO's voluntary *Guidelines for Ships Operating in Arctic Ice-Covered Waters* has been applied.⁹⁰⁹ The main marine environmental protection framework is the IMO's *International Convention for the Prevention of Pollution from Ships* (MARPOL).⁹¹⁰

Two shipping-related AC agreements on SAR and oil spill prevention have been signed in 2011 and 2013 (see also chapter 5.1.2.3, page 237).⁹¹¹

Finally, in order to strengthen circumpolar economic cooperation, the Arctic Economic Council (AEC) has been launched in 2014 under the auspices of the Canadian AC chairmanship in Nunavut (Canada).⁹¹²

4.1.2.3 The Nature of the Regional Economic Order

As has been stated above the 'nature' of an order "refers to its content or character."⁹¹³ Regional economic cooperation is the declared goal of all Arctic states. It is the precondition to attract necessary foreign investment in order to shoulder the high costs for the exploration and exploitation of natural resources.⁹¹⁴ In the period between 2005 and 2013, the economic order's nature clearly reflected a spirit of cooperation between

⁹⁰⁶ Arctic Council, *Arctic Marine Shipping Assessment*, p. 4; Humpert and Raspotnik, 'The Future of Arctic Shipping Along the Transpolar Sea Route', p. 288 For a detailed description and analysis of the applicability of UNCLOS to the Arctic see: Arctic Council, 2009: 51-54 .

⁹⁰⁷ Arctic Council, *Arctic Marine Shipping Assessment*, p. 55.

⁹⁰⁸ International Maritime Organization, *Shipping in Polar Waters. Adoption of an International Code of Safety for Ships Operating in Polar Waters (Polar Code)*, 2016 <<http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx>> [accessed 5 May 2016].

⁹⁰⁹ Arctic Council, *Arctic Marine Shipping Assessment*, p. 4.

⁹¹⁰ Arctic Council, *Arctic Marine Shipping Assessment*, p. 59.

⁹¹¹ Svein Vigeland Rottem, 'A Note on the Arctic Council Agreements', *Ocean Development & International Law*, 46.1 (2015), 50-59 (pp. 50-59).

⁹¹² Arctic Economic Council, *Arctic Economic Council* (Tromsø: Arctic Economic Council, 30 September 2014), p. 2 (p. 1) <<http://arcticeconomiccouncil.com/wp-content/uploads/2015/01/AEC-Backgrounder.pdf>> [accessed 6 May 2016].

⁹¹³ Hanagan, p. 124.

⁹¹⁴ Maria Morgunova and Kirsten Westphal, *Offshore Hydrocarbon Resources in the Arctic* (Berlin: Stiftung Wissenschaft und Politik, 2016), p. 30 (pp. 5-6) <https://www.swp-berlin.org/fileadmin/contents/products/research_papers/2016RP03_Morgunova_wep.pdf> [accessed 12 December 2016].

the Arctic states. However, since the Ukraine crisis and the sanctioning of Russian off-shore activities in the Arctic by the West, the pendulum is swinging more towards confrontation.⁹¹⁵

4.1.2.4 Structural Implications of Arctic Economic Developments in Economic and Political Affairs

Arctic economic developments clearly had structural implications in economic and political affairs. In the Arctic the economic structure remained rather unipolar with Russia being the most dominant player in hydrocarbon resources, minerals and shipping. Russia's growing economic engagement in the Arctic also allowed the country to strengthen its economic and political position in global affairs. The greater the global demand for natural resources, the greater the country's geo-economic and political leverage. The other Arctic states were additional important economic players with regard to particular hydrocarbon or mineral resources. Hence, they also strengthened their global geo-economic and political standing. Iceland serves as a case in point. The country not only signed a free-trade deal with China but also became the center of gravity for global political discussions about the future of the Arctic with the launch of the Arctic Circle conferences.⁹¹⁶ As economic activities in all Arctic territories are expected to intensify, due to growing global demand for Arctic resources, non-Arctic actors like China and the EU are expected to play a more prominent role in Arctic economic affairs. Especially in the case of China, the country's more prominent role in the Arctic also strengthens its global strategic clout.⁹¹⁷ In terms of 'functioning', the more prominent economic role of the Arctic in global economic calculations resulted in the publicly declared aim of all Arctic states to strengthen political and economic governance frameworks in order to safeguard the peaceful 'character' of Arctic affairs.

⁹¹⁵ Juha Käpylä and Harri Mikkola, *On Arctic Exceptionalism* (Helsinki: The Finish Institute of International Affairs, April 2015), p. 22 (p. 16) <http://www.fii.fi/en/publication/502/on_arctic_exceptionalism/> [accessed 6 May 2016].

⁹¹⁶ Lanteigne, 'Northern Exposure. Cross-Regionalism and the China-Iceland Preferential Trade Negotiations'; Guschin, *China, Iceland and the Arctic. Iceland Is Playing a Growing Role in China's Arctic Strategy*; Arctic Circle Secretariat, *The Arctic Circle Assembly in Reykjavik, Iceland* (Reykjavik, 2016) <<https://vimeo.com/152251225>> [accessed 18 January 2017].

⁹¹⁷ Humpert and Raspotnik, *From Great Wall to Great White North. Explaining China's Politics in the Arctic*.

4.1.2.5 Process-related Implications of Arctic Economic Developments in Environmental, Economic, and Political Affairs

Arctic economic developments also clearly had an impact on environmental and political affairs in the region. First, the Arctic became vulnerable to growing regional economic development in terms of environmental pollution. In addition, Arctic oil and gas exploitation fueled global climate change processes. These dynamics then accelerated Arctic warming and put additional pressure on the region's ecosystem. At the same time, Arctic economic developments also influenced global environmental and economic dynamics. Growing economic activities in the Arctic and the increasing global consumption of Arctic fossil fuels further fuelled global climate change. The growing economic interest also led to increased political attention. At the same time, however, growing economic activities and linked political interests also triggered new military activities in the region.⁹¹⁸ Hence, Arctic states became more aware of the necessity to protect their territories as well as their economic activities. These developments have the potential to challenge the peaceful 'character' of relations between Arctic states (for a more detailed discussion see chapter 5.1.2).

4.1.3 Germany's Economic Interdependence with Global and Arctic Economic Affairs

Germany is Europe's biggest exporter, the EU's largest economy and has the largest population within the EU.⁹¹⁹ In terms of global flows of goods, services, finance, peoples, and data communication Germany is the most connected country in the world.⁹²⁰ Due to this high level of global integration the German economy is linked to Arctic economic developments as well as Arctic-related global economic dynamics. Deduced from the drivers of the changing global economic order (chapter 4.1.1) and from the Arctic economic drivers (chapter 4.1.2), four indicators highlight Germany's growing economic vulnerability: foreign trade and GDP growth; the economy's dependence on energy and

⁹¹⁸ Elina Brutschin and Samuel R. Schubert, 'Icy Waters, Hot Tempers, and High Stakes. Geopolitics and Geoeconomics of the Arctic', *Energy Research & Social Science*, 16.June 2016 (2016), 147–59.

⁹¹⁹ Lothar Rühl, 'Russland Als Strategischer Partner Oder Als Strategische Herausforderung. Europa Und Die Energiegroßmacht Im Osten', in *Energieversorgung Als Sicherheitspolitische Herausforderung*, ed. by Reinhard C. Meier-Walser, Berichte Und Studien, 88 (München: Hanns Seidel Stiftung, 2007), pp. 107–22 (p. 119) <http://www.hss.de/downloads/Berichte_Studien_88_Energie.pdf> [accessed 11 June 2012].

⁹²⁰ James Manyika and others, *Global Flows in a Digital Age. How Trade, Finance, People, and Data Connect the World Economy* (McKinsey Global Institute, April 2014) <http://www.mckinsey.com/insights/globalization/global_flows_in_a_digital_age> [accessed 15 May 2014].

mineral resource imports – with a particular focus on Norway and Russia; the export sector’s share in medium and high-technology products; and the role of the German shipping sector in the economy and the growing maritime-based trade with China.

1. German Foreign Trade and GDP Growth

The German economy is highly export-oriented and export-dependent.⁹²¹ Almost 25% of all jobs are linked to the export sector.⁹²² The key variable to a better understanding of the export-oriented character of Germany’s economy is its trade ratio, which is understood as „the percental share of imports and exports in a country’s GDP.“⁹²³ Worldwide, the trade ratio grew from 19.7% in 1970 to 53.1% in 2008.⁹²⁴ For many years, Germany’s trade ratio has been above the global average. In 2007, Germany’s trade surplus reached its highest level so far with €195.3 billion. This correlated with a trade ratio of 72.6% in 2008. 2012 saw the second highest level with €188.3 billion.⁹²⁵ Altogether the German economy transformed its trade deficit of 1.7% in 2000 into a trade surplus of 7.4% in 2007.⁹²⁶

Table 29 - The Development of Germany’s Foreign Trade (in billion €)⁹²⁷

Year	‘02	‘03	‘04	‘05	‘06	‘07	‘08	‘09	‘10	‘11	‘12
Import	519	535	575	628	734	770	806	665	797	903	909
Export	651	664	732	786	893	965	984	803	952	1.061	1.097
Export Surplus	133	130	156	158	159	195	178	139	155	159	188

Alongside the growing trade surplus, the export sector’s share in Germany’s GDP increased from 33% to 48% between 2000 and 2010.⁹²⁸ As a result, German exports “have driven its [Germany’s] GDP per capita to increase faster than that of any other

⁹²¹ Bundeszentrale für politische Bildung, *Entwicklung Des Deutschen Außenhandels* (Bonn: Bundeszentrale für politische Bildung (BPB), 2013) <<https://www.bpb.de/nachschlagen/zahlen-und-fakten/globalisierung/52842/aussenhandel>> [accessed 19 March 2014].

⁹²² Statistisches Bundesamt der BRD, *Deutscher Außenhandel. Export Und Import Im Zeichen Der Globalisierung* (Wiesbaden: Statistisches Bundesamt der BRD, 4 March 2015), p. 35 (p. 5) <https://www.destatis.de/DE/Publikationen/Thematisch/Aussenhandel/Gesamtentwicklung/AussenhandelWelthandel5510006139004.pdf;jsessionid=56E98EE78000BA3FBF323B4ABABBAEAB.cae1?__blob=publicationFile> [accessed 13 December 2016].

⁹²³ Bundeszentrale für politische Bildung, *Entwicklung Des Deutschen Außenhandels*.

⁹²⁴ Bundeszentrale für politische Bildung, *Entwicklung Des Deutschen Außenhandels*.

⁹²⁵ Bundeszentrale für politische Bildung, *Entwicklung Des Deutschen Außenhandels*.

⁹²⁶ Kundnani, *The Paradox of German Power*, p. 76.

⁹²⁷ Bundeszentrale für politische Bildung, *Entwicklung Des Deutschen Außenhandels*.

⁹²⁸ Kundnani, *The Paradox of German Power*, p. 76.

major industrialized country.”⁹²⁹ The fact that roughly 50% of Germany’s GDP and two-thirds of its GDP growth are driven by the export sector underline its strategic importance for the country’s economic wellbeing.⁹³⁰ At the same time it shows the economic growth model’s vulnerability, as the economy is clearly one-sided oriented towards exports and has no equivalent growth alternative at hand.

Table 30 - GDP per capita Growth in Germany and the Global Average⁹³¹

Year	2004	2006	2008	2010	2012	2013
Germany	33,040	35,237	44,132	40,408	42,597	45,084
Global Average	6,696	7,663	9,245	9,377	10,351	10,512

2. The German Economy’s Dependence on Natural Resource Imports – With a Particular Focus on Norway and Russia

Germany is a resource-poor country and thus highly dependent on the import of oil, gas and minerals.⁹³² The economy’s import dependency on natural resources has been increasing. Between 1995 and 2008, the amount of oil and gas imports rose from 4.3% to 10% of total German imports.⁹³³ In the years from 2001 to 2012, the share of oil and gas in the country’s overall import portfolio rose from 6.1% to 10.7%.⁹³⁴ Whilst Germany’s energy import dependency has been increasing, energy prices have also been on the rise. In 2000, Germany spent €59 billion on energy imports. In 2011, this number climbed to €124 billion. Thus, spending on energy has practically doubled over the past

⁹²⁹ Steven Rattner, ‘The Secrets of Germany’s Success’, *Foreign Affairs*, 2011.July/August (2011) <<https://www.foreignaffairs.com/articles/germany/2011-06-16/secrets-germanys-success>> [accessed 14 September 2016].

⁹³⁰ Kundnani, ‘Germany as a Geo-Economic Power’, p. 41; Torsten Riecke, ‘Von Politikern Und Kaufleuten’, *Handelsblatt* (Düsseldorf, 24 September 2014) <<http://www.genios.de/presse-archiv/artikel/HB/20140924/von-politikern-und-kaufleuten/2AB20877-3131-4B61-AD85-4CED0FC7130E.html>> [accessed 14 September 2016].

⁹³¹ The World Bank, *GDP per Capita* (Washington, D.C.: The World Bank, 2014) <<http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>> [accessed 20 August 2014].

⁹³² Bundeszentrale für politische Bildung, *Entwicklung Des Deutschen Außenhandels*.

⁹³³ Statistisches Bundesamt der BRD, *Export, Import, Globalisierung. Deutscher Außenhandel Und Welthandel 1990 Bis 2008* (Wiesbaden: Statistisches Bundesamt der BRD, 2010), p. 48 (p. 18) <https://www.destatis.de/DE/Publikationen/Thematisch/Aussenhandel/Gesamtentwicklung/AussenhandelWelthandel5510006099004.pdf?__blob=publicationFile> [accessed 11 June 2012].

⁹³⁴ Statistisches Bundesamt der BRD, *Statistisches Jahrbuch. Deutschland Und Internationales 2013* (Wiesbaden: Statistisches Bundesamt der BRD, 2013), p. 689 (p. 411) <https://www.destatis.de/DE/Publikationen/StatistischesJahrbuch/StatistischesJahrbuch2013.pdf?__blob=publicationFile> [accessed 28 October 2016]; Statistisches Bundesamt der BRD, *Statistisches Jahrbuch 2002 Für Die Bundesrepublik Deutschland* (Wiesbaden: Statistisches Bundesamt der BRD, 2002), p. 714 (p. 277) <http://www.digizeitschriften.de/dms/toc/?PID=PPN635628112_2002> [accessed 28 October 2016].

decade. The price spike for oil and gas is primarily attributable to growing global demand for these resources by emerging countries (see chapter 4.1.1, page 129).⁹³⁵ And Germany's energy import dependency is expected to rise even further. In 2012, about 75% of Germany's total energy demand was sourced by imports – 97% of oil, 90% of natural gas and 66% of coal.⁹³⁶ By 2030, about 85% of the total energy demand is projected to be met by imports.⁹³⁷ As traditional energy reservoirs in Europe (e.g. in the North Sea) are decreasing, Germany and EU member states have to look for alternative import regions.⁹³⁸ As a country that is extremely dependent on natural resource imports for its economic wellbeing, Germany has become increasingly concerned about the security of supply of natural resources for its economy.⁹³⁹

One key partner in terms of security of supply of hydrocarbon resources is Russia.⁹⁴⁰ From 2000 to 2013, Germany's oil imports from Russia grew from 28.8% to 34% of the country's overall imports.⁹⁴¹ Gas imports from Russia slightly decreased from 46.7% to 39.8% between 2000 and 2011.⁹⁴² By 2030, however, German gas imports from Russia could further increase to more than 60% of its global demand.⁹⁴³ If current trends continue and as long as Germany sees Russia as a key energy supplier Germany's dependence on Arctic energy resources will likely increase as Russia in coming decades

⁹³⁵ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', 2012, pp. 10–11 <<http://www.bmwi.de/English/Redaktion/Pdf/germanys-new-energy-policy,property=pdf,bereich=bmwi2012,sprache=en,rwb=true.pdf>> [accessed 5 August 2014].

⁹³⁶ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', pp. 6, 49.

⁹³⁷ Heinrich Kreft, *Die Geopolitische Dimension Der Energiesicherheit Aus Deutscher Und Europäischer Sicht*, Berichte Und Studien (München: Hanns Seidel Stiftung, 2007), pp. 31–50 (p. 34) <http://www.hss.de/downloads/Berichte_Studien_88_Energie.pdf> [accessed 11 June 2012].

⁹³⁸ Kreft, *Die Geopolitische Dimension Der Energiesicherheit Aus Deutscher Und Europäischer Sicht*, p. 39.

⁹³⁹ Hilpert and Mildner, p. 16.

⁹⁴⁰ Rühl, pp. 109–10, 119; Bundeszentrale für politische Bildung, *Import Und Export Nach Waren* (Bonn: Bundeszentrale für politische Bildung (BPB), 2010) <<http://www.bpb.de/nachschlagen/zahlen-und-fakten/globalisierung/52848/im-und-export-nach-waren>> [accessed 19 March 2014]; Statistisches Bundesamt der BRD, *Export, Import, Globalisierung. Deutscher Außenhandel Und Welthandel 1990 Bis 2008*, p. 24; Caroline Dieckhöner and Tobias Rehbock, *Energie Aus Russland Und Die Alternativen*, Fokus Volkswirtschaft (Frankfurt am Main: Kreditanstalt für Wiederaufbau (KfW), 14 April 2014), p. 4 (p. 1) <<https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-Fokus-Volkswirtschaft/Fokus-Nr.-52-April-2014.pdf>> [accessed 31 October 2016].

⁹⁴¹ Bundesministerium für Wirtschaft und Technologie, *Energie in Deutschland. Trends Und Hintergründe Zur Energieversorgung* (Berlin: Bundesministerium für Wirtschaft und Technologie, 2013), p. 62 (p. 15) <<http://www.bmwi.de/BMWi/Redaktion/Bilder/Service/Publikation/energie-in-deutschland,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>> [accessed 13 December 2016]; Dieckhöner and Rehbock, p. 1.

⁹⁴² Bundesministerium für Wirtschaft und Technologie, *Energie in Deutschland. Trends Und Hintergründe Zur Energieversorgung*, p. 15.

⁹⁴³ Kreft, *Die Geopolitische Dimension Der Energiesicherheit Aus Deutscher Und Europäischer Sicht*, p. 33.

will explore and exploit more resources from within its Arctic territories, like the Barents Sea. This trend is anticipated by some of Germany's key energy companies (BASF Wintershall, BayernGas, EON Ruhrgas, and DEA Deutsche Erdöl AG) who participate in the exploration and exploitation of Arctic energy resources.⁹⁴⁴ BASF Wintershall cooperates with Gazprom in the exploration of several gas fields in the region while E.ON Ruhrgas is strongly engaged in the gas field Yuzhno-Russkoye.⁹⁴⁵ Both companies also participate in the North Stream pipeline project. The pipeline project is planned to transport gas from the Shtokman field to Greifswald via Murmansk and Vyborg.⁹⁴⁶ The start of the development of the project, however, has been delayed several times and is not expected to begin before 2019.⁹⁴⁷

Sceptics of a closer German-Russian energy partnership argue that this dependency will make Germany vulnerable and could have negative political consequences.⁹⁴⁸ The proponents argue that Russia is dependent on its energy exports, thus ensuring the stable supply of its energy resources to its customers.⁹⁴⁹ Therefore, leading German experts argue to further develop the energy partnership with Russia.⁹⁵⁰ This idea can be

⁹⁴⁴ Volkmar Damm and others, *Der Arktische Ozean Aus Rohstoffwirtschaftlicher Und Völkerrechtlicher Sicht*, Commodity Top News (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2016), p. 9 (p. 4) <http://www.bgr.bund.de/DE/Gemeinsames/Produkte/Downloads/Commodity_Top_News/Rohstoffwirtschaft/52_arktis.pdf?__blob=publicationFile> [accessed 13 December 2016].

⁹⁴⁵ Henning Riecke, 'Die Arktis Lockt. Deutsche Interessen Im Hohen Norden', in *Die Arktis. Ressourcen, Interessen Und Probleme*, ed. by Bernd Rill, Berichte Und Studien, 91 (München: Hanns Seidel Stiftung, 2010), p. 111 (p. 101) <http://www.hss.de/uploads/tx_ddceventsbrowser/Berichte_und_Studien_91_Inntel.pdf> [accessed 11 June 2012].

⁹⁴⁶ Shtokman Development AG, *Here Lives the Energy* (Zug: Shtokman Development AG, 2016 2013) <<http://www.shtokman.ru/en/>> [accessed 14 June 2012].

⁹⁴⁷ Dmitry Zhdanikov, 'Gazprom Delays Shtokman Gas Field 3 Years', *The Globe and Mail* (Toronto, 23 August 2012) <<http://m.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/gazprom-delays-shtokman-gas-field-3-years/article1457832/?service=mobile>> [accessed 28 March 2013]; Arctic-Info, *Shtokman Development Postponed until 2019* (Moscow: Arctic-Info, 11 February 2013) <<http://www.arctic-info.com/news/11-02-2013/shtokman-development-postponed-until-2019/>> [accessed 31 October 2016].

⁹⁴⁸ Helmut Hubel, *Energie-Interdependenz Mit Russland. Deutschland Zwischen Bilateraler Sonderbeziehung Und Solidarität Mit Seinen EU- Und Nato-Partnern*, Berichte Und Studien (München: Hanns Seidel Stiftung, 2007), pp. 123-34 (p. 125) <http://www.hss.de/downloads/Berichte_Studien_88_Energie.pdf> [accessed 12 September 2016]; Rühl, pp. 107, 118.

⁹⁴⁹ Dag Harald Claes and Oystein Harsem, *Arctic Energy Resources. Curse or Blessing for European Energy Security?* (Oslo: University of Oslo and University of Tromsø, 2010), p. 28 <http://www.geopoliticsnorth.org/images/stories/attachments/claes_harsem.pdf> [accessed 16 June 2012].

⁹⁵⁰ See amongst others: Kreft, *Die Geopolitische Dimension Der Energiesicherheit Aus Deutscher Und Europäischer Sicht*, p. 42; Rühl, p. 119; Ulrich Weisser, 'Don't Ignore Russia', *Internationale Politik, Global Edition*, 2007.Spring (2007), 56-61.

traced back to the 1970s when Germany developed its “Ostpolitik”. The aim of this policy was not only to develop economic relations but also to gain a certain political influence on the leadership in Moscow.⁹⁵¹ Therefore, subsequent German administrations have tried to develop further the “strategic partnership” with Russia.⁹⁵²

From the Russian perspective, Germany is an important partner for economic cooperation due to the technological capabilities and know-how of German companies in the field of offshore drilling operations. As Eckhard Cordes, chairman of the Ostausschuss der deutschen Wirtschaft, put it: „The economic relations between Germany and Russia are beneficial for both sides. Also both sides possibly lose [when the relations deteriorate]. We [Germany] import oil and gas and the Russians need our technology.”⁹⁵³ As a consequence of this existing strong bilateral relationship, Russia’s then president Medvedev in 2010 offered the German chancellor Merkel a privileged access to Russian Arctic resources. Yet chancellor Merkel rejected this offer.⁹⁵⁴

Germany also has a close bilateral energy relationship with Norway. From 2000 to 2011, Germany’s oil imports from Norway sank from 18% to 8,2%. In the same period, its gas imports from Norway rose from 26.1% to 34.4%.⁹⁵⁵ In 2013, Germany imported 20% of its global gas and 12% of its global oil demand from Norway.⁹⁵⁶

Norwegian energy imports to Germany are important for both sides. According to former Norwegian minister of foreign affairs Tore Godal, “the country’s Arctic energy resources are very important for the future economic wellbeing of the country.”⁹⁵⁷ Therefore, in 2007 then Norwegian minister of foreign affairs Gahr Store invited the German minister of foreign affairs Steinmeier to visit the Snøhvit field in the Norwegian

⁹⁵¹ Hubel, p. 129.

⁹⁵² Hubel, p. 129.

⁹⁵³ “Die wirtschaftlichen Beziehungen zwischen Deutschland und Russland nutzen beiden Seiten, also verlieren auch beide Seiten. Wir importieren Öl und Gas, die Russen benötigen unsere Technologie.” Eckhard Cordes, *China Profitiert von Der Ukrainekrise* (Berlin: Focus, 27 September 2014) <<http://www.ost-ausschuss.de/node/700>> [accessed 6 September 2016].

⁹⁵⁴ Haftendorn, ‘Schatzkammer Arktis. Deutschlands Interessen an Rohstoffen Aus Dem Hohen Norden’, p. 95.

⁹⁵⁵ Bundesministerium für Wirtschaft und Technologie, *Energie in Deutschland. Trends Und Hintergründe Zur Energieversorgung*, p. 15.

⁹⁵⁶ Dieckhöner and Rehbock, p. 1.

⁹⁵⁷ Björn Tore Godal, Interview 8, 2014, p. 1.

part of the Barents Sea, the world's first off-shore Liquefied Natural Gas (LNG) plant. According to Tore Godal,

It was the aim of the visit to show Germany the opportunities of closer energy cooperation between Norway and the EU.⁹⁵⁸

As Godal puts it: "Norway needs continuing interest in its energy development projects. Thus it is a good sign that German energy companies increase their licenses in Norway."⁹⁵⁹ According to Godal, "the energy partnership is extremely important for Germany and Norway."⁹⁶⁰ He further expects a growing link between Germany and Arctic developments:

German interdependence on Arctic developments will increase as Germany's dependence on Norwegian energy exports remains high and Norway explores new resources in its northern territories.⁹⁶¹

A strong economic partnership is also welcomed by the Norwegian industry. As Haaland, member of Statoil's Arctic unit puts it:

Germany is one of the largest customers of Statoil when it comes to gas and we recognize a strong and long relationship between Norway and Germany with that regard. And of course we want that to continue [...] From that perspective, having a steady supply from Statoil or Norway, having a steady need for import from Germany would be important.⁹⁶²

Besides of oil and gas, technology plays an important part in the economic equation for both sides. As Hansen, head of Statoil's Arctic unit, explains:

[Y]ou can absolutely make the link between Norway and Germany with regard to technology in the Arctic. So in technology development Germany is very strong and we are buying technology from and have very good connections to German technology contractors when we are developing the oil industry and then we are producing the oil and gas and then again selling it to Germany as our biggest customer. So the link is very close.⁹⁶³

The bilateral relationship is also important for Germany as Norway is the second largest import market for German energy demand. Therefore, it is not surprising that Germany started an energy partnership with Norway in 2010. In 2013, German chancellor Merkel, during a visit in Oslo, underlined the importance of the German-Norwegian energy

⁹⁵⁸ Godal, p. 1.

⁹⁵⁹ Godal, p. 1.

⁹⁶⁰ Godal, p. 2.

⁹⁶¹ Godal, p. 2.

⁹⁶² Runi Hansen and Erik Haaland, Interview 15, 2014, p. 12.

⁹⁶³ Hansen and Haaland, p. 12.

partnership and hinted on a possible intensification of the bilateral energy cooperation.⁹⁶⁴

Against the background of Germany's growing energy imports and rising energy prices on global markets, the government became more active in organizing Germany's energy policy. In the past the German government has seen energy supply only as a matter of economics and environmental politics. In recent years, however, the topic has become important for the government as well in terms of foreign and security policy.⁹⁶⁵ The German government defined three main criteria of a sustainable national energy policy: security of supply, economic viability, and environmental sustainability.⁹⁶⁶ Despite this, a comprehensive political concept on how to react on the scarcity and price increase of energy resources, growing geopolitical dependencies, and the implications for climate change has not been framed yet.⁹⁶⁷

With regard to hydrocarbon resources, Germany's import dependency on Russia and Norway has been rising in recent years. To assess a country's vulnerability it is necessary to assess whether alternative import countries or substitutes are available."⁹⁶⁸ At least in the short-term this is not the case as both countries are the two single largest energy suppliers for Germany (see Table 31 and Table 32). The United Kingdom (UK), the Netherlands, and Libya follow. As the energy resources of the UK and the Netherlands are depleting and Libya is drifting into Chaos, thereby questioning the country's secure supply of energy exports, Germany cannot easily replace Norwegian and Russian energy imports. As the MENA region has destabilized in recent years and global energy demand is growing, the competition for these resources increases (for a more detailed discussion see chapter 4.1.2.3, page 142 and chapter 5.1.1). This situation

⁹⁶⁴ Trude Pettersen, 'Norway and Germany Talk Energy', *Barents Observer* (Kirkenes, 20 February 2013) <<http://barentsobserver.com/en/energy/2013/02/norway-and-germany-talk-energy-20-02>> [accessed 8 March 2013]; Bundesregierung, *Deutschland/Norwegen. Stippvisite Bei Guten Freunden* (Berlin, 2013) <<https://www.bundesregierung.de/ContentArchiv/DE/Archiv17/Reiseberichte/2013-02-20-oslo.html>> [accessed 10 January 2014].

⁹⁶⁵ Christian Hacke, *Deutsche Energiesicherheit Als Nationale Und Zugleich Gemeinsame Aufgabe Im Zeichen Neuer Unsicherheit*, Berichte Und Studien (München: Hanns Seidel Stiftung, 2007), p. 360 (p. 21) <http://www.hss.de/downloads/Berichte_Studien_88_Energie.pdf> [accessed 12 June 2012].

⁹⁶⁶ Reinhard C. Meier-Walser, *Energieversorgung Als Sicherheitspolitische Herausforderung*, Berichte Und Studien (München: Hanns Seidel Stiftung, 2007), p. 360 (p. 14) <http://www.hss.de/downloads/Berichte_Studien_88_Energie.pdf> [accessed 12 September 2016].

⁹⁶⁷ Hacke, p. 24.

⁹⁶⁸ Nye, *The Future of Power*, p. 63.

makes it even harder to find alternative energy suppliers for Germany. Consequently, Germany's vulnerability with regard to Norwegian and Russian energy supplies from the Arctic increased in recent years and is expected to continue to do so.

Table 31 - Germany's Most Important Oil Import Countries⁹⁶⁹

Year/Country	1991	1995	2000	2005	2010	2011
Russia	15.8%	20.5%	28.8%	34.1%	36.3%	38.2%
Norway	9.8%	21.1%	18.0%	15.4%	9.4%	8.2%
United Kingdom	15.8%	17.8%	12.5%	13.0%	14.0%	14.0%

Table 32 - Germany's Most Important Gas Import Countries⁹⁷⁰

Year/Country	1991	1995	2000	2005	2010	2011
Russia	43.6%	46.8%	46.7%	41.7%	37.8%	39.8%
Norway	16.5%	18.2%	26.1%	22.1%	36.6%	34.4%
Netherlands	38.3%	32.7%	21.2%	21.5%	20.4%	22.1%

Besides oil and gas, Germany's economy is also highly dependent on imports of minerals and metals.⁹⁷¹ In general, the German economy needs these resources to produce high-technology products, which are then shipped to global markets⁹⁷² In particular rare earth minerals are needed for the development of "green technologies" (e.g. the production of wind turbines or electric cars).⁹⁷³ As Table 33 shows, imports of metals and minerals increased from €34 billion in 2006 to €41 billion in 2013.⁹⁷⁴

⁹⁶⁹ Bundesministerium für Wirtschaft und Technologie, *Energie in Deutschland. Trends Und Hintergründe Zur Energieversorgung*, p. 15.

⁹⁷⁰ Bundesministerium für Wirtschaft und Technologie, *Energie in Deutschland. Trends Und Hintergründe Zur Energieversorgung*, p. 15.

⁹⁷¹ DERA, *DERA Rohstoffinformationen. Rohstoffsituation Deutschland 2010* (Hannover: Deutsche Rohstoffagentur (DERA), 2011), p. 176 (pp. 19–20) <https://www.bgr.bund.de/DE/Gemeinsames/Produkte/Downloads/DERA_Rohstoffinformationen/rohstoffinformationen-07.pdf?_blob=publicationFile&v=10> [accessed 6 September 2016]; Hilpert and Mildner, p. 59.

⁹⁷² Bundesanstalt für Geowissenschaften und Rohstoffe, *Deutschland. Rohstoffsituation 2014* (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2015), p. 162 (p. 12) <https://www.bgr.bund.de/DE/Themen/Min_rohstoffe/Downloads/Rohsit-2014.pdf?_blob=publicationFile&v=3> [accessed 31 October 2016].

⁹⁷³ Haftdorn, 'Der Traum Vom Ressourcenreichtum Der Arktis', p. 455; Harald Elsner, *Kritische Versorgungslage Mit Schweren Seltenen Erden. Entwicklung „grüner Technologien“ Gefährdet?*, Commodity Top News (Hannover: Deutsche Rohstoffagentur (DERA), 15 September 2011), p. 8 <http://www.deutsche-rohstoffagentur.de/DE/Gemeinsames/Produkte/Downloads/Commodity_Top_News/Rohstoffwirtschaft/36_kritische-versorgungslage.html;jsessionid=ED5686D3A5514C583611E9E7B760FC87.1_cid284?nn=1542132> [accessed 8 March 2013].

⁹⁷⁴ Deutsche Rohstoffagentur, *DERA Rohstoffinformationen. Deutschland Rohstoffsituation 2011* (Berlin: Deutsche Rohstoffagentur (DERA), 2012), p. 156 (p. 23)

Table 33 - The Development of German Resource Imports⁹⁷⁵

Year	2006	2007	2008	2009	2010	2011	2012	2013
Energy (in billion € / million tons)	70 / 245	65 / 240	89 / 230	60 / 215	70 / 219	89 / 222	104 / 233	101 / 248
Minerals and Metals (in billion € / million tons)	34 / 65	37 / 70	38 / 71	23 / 55	38 / 64	46 / 64	44 / 62	41 / 63

Yet, whilst the volume of all imports remained largely the same, the prices for them increased by 12.2% annually during that time period.⁹⁷⁶ This increase was largely the result of growing global demand for these resources.⁹⁷⁷

In order to better coordinate its resource politics, the government initiated the inter-ministerial committee “Resources” in 2007.⁹⁷⁸ The Federal Ministry for Economic Affairs and Energy has the leading political competence for the security of supply of natural resources.⁹⁷⁹ In 2010, the government adopted its resource strategy.⁹⁸⁰ Subsequently, the government launched the German Resource Agency (Deutsche Rohstoffagentur, DERA) in order to better coordinate German companies’ presence and activities in the international resource business.⁹⁸¹ In February 2011, a sub-division “Resource Politics” was established at the Federal Ministry for Economic Affairs and Energy.⁹⁸² With regard to the resource economy, this agency is the center of excellence and the central platform for information and consulting for the German economy. Interestingly, the first major

<http://www.bgr.bund.de/DE/Gemeinsames/Produkte/Downloads/DERA_Rohstoffinformationen/rohstoffinformationen-13.pdf?_blob=publicationFile&v=3> [accessed 11 March 2013]; Bundesanstalt für Geowissenschaften und Rohstoffe, *Deutschland. Rohstoffsituation 2014*, p. 18.

⁹⁷⁵ Deutsche Rohstoffagentur, *DERA Rohstoffinformationen. Deutschland Rohstoffsituation 2011*, p. 23.

⁹⁷⁶ Bundesanstalt für Geowissenschaften und Rohstoffe, *Deutschland. Rohstoffsituation 2012* (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2013), p. 155 (p. 17) <https://www.bgr.bund.de/DE/Themen/Min_rohstoffe/Downloads/Rohsit-2012.pdf?_blob=publicationFile&v=11> [accessed 31 October 2016].

⁹⁷⁷ Deutsche Rohstoffagentur, *DERA Rohstoffinformationen. Deutschland Rohstoffsituation 2011*, p. 22.

⁹⁷⁸ Stormy-Annika Mildner and Julia Howald, ‘Deutschland’, in *Nationale Alleingänge Oder Internationale Kooperation? Analyse Und Vergleich Der Rohstoffstrategien Der G20-Staaten*, ed. by Hanns Günther Hilpert and Stormy-Annika Mildner, SWP-Studien, SWP-Studie 2013/S 01 (Berlin: Stiftung Wissenschaft und Politik, 2013), pp. 59–68 (p. 61).

⁹⁷⁹ Haftendorn, ‘Der Traum Vom Ressourcenreichtum Der Arktis’, p. 456.

⁹⁸⁰ Bundesministerium für Wirtschaft und Technologie, ‘Rohstoffstrategie Der Bundesregierung. Sicherung Einer Nachhaltigen Rohstoffversorgung Mit Nicht-Energetischen Mineralischen Rohstoffen’, 2010 <<http://www.bmwi.de/Dateien/BMWi/PDF/rohstoffstrategie-der-bundesregierung>> [accessed 6 September 2016]; Hilpert and Mildner, p. 60.

⁹⁸¹ Bundesverband der Deutschen Industrie, *Aufbau Der Allianz Zur Rohstoffsicherung Beginnt* (Berlin: Bundesverband der Deutschen Industrie (BDI), 2012) <http://www.bdi.eu/pressemitteilungen_pressemitteilung_allianz_zur_rohstoffsicherung_30_01_2012.htm> [accessed 11 March 2013].

⁹⁸² Mildner and Howald, p. 61.

publications of the agency have been about the resource potential of different parts of the Arctic.⁹⁸³ These political activities can be understood as a reaction to a perceived growing vulnerability of the German economy to an increasingly unstable and competitive global natural resources market.

As Table 34 shows, the German economy's import dependency on oil and gas (including chemical products) and metals rose between 1995 and 2008. The picture looked similar in 2013. Oil and gas (€96 billion), data processing machines, electronic and optical products (€84 billion), automobiles/automobile parts (€81 billion), chemical products (€72 billion), and machines (€68 billion) were the five most important import goods. Together they made up a share of 45% of all imports. Metals scored sixth with €53 billion.⁹⁸⁴

Table 34 - The Five Most Important Import Goods⁹⁸⁵

Year	1995	2008
Chemical Products	9.3%	11.6%
Oil and Gas	4.3%	10.0%
Automobile/Automobile Parts	8.6%	9.0%
Iron and Steel Products	6.8%	7.7%
Machines	7.1%	7.1%

3. The Export Sector's Share in Medium-High-Technology and High-Technology Products

The German manufacturing industry generates 25% of Germany's GDP. A large part of manufactured products is earmarked for export to global markets. In general, these

⁹⁸³ Deutsche Rohstoffagentur, *Das Mineralische Rohstoffpotenzial Grönlands*; Deutsche Rohstoffagentur, *Das Mineralische Rohstoffpotenzial Der Nordamerikanischen Arktis* (Hannover: Deutsche Rohstoffagentur (DERA), 2012), p. 44 <http://www.bgr.bund.de/DE/Gemeinsames/Produkte/Downloads/DERA_Rohstoffinformationen/rohstoffinformationen-02.pdf;jsessionid=E8C24FCA2B9BFCA87DC8E20CDC177529.1_cid321?__blob=publicationFile&v=7> [accessed 6 September 2016]; Deutsche Rohstoffagentur, *Das Mineralische Rohstoffpotenzial Der Nordeuropäischen Arktis* (Hannover: Deutsche Rohstoffagentur (DERA), 2012), p. 184 <http://www.deutsche-rohstoffagentur.de/DE/Gemeinsames/Produkte/Downloads/DERA_Rohstoffinformationen/rohstoffinformationen-03.pdf?__blob=publicationFile&v=5> [accessed 7 September 2016].

⁹⁸⁴ Statistisches Bundesamt der BRD, *Deutscher Außenhandel. Export Und Import Im Zeichen Der Globalisierung*, p. 15.

⁹⁸⁵ Statistisches Bundesamt der BRD, *Export, Import, Globalisierung. Deutscher Außenhandel Und Welthandel 1990 Bis 2008*, p. 16.

goods are increasingly characterized as medium and high-technology products.⁹⁸⁶ High-technology products are understood as “goods that are marked by a high intensity in research and development.”⁹⁸⁷ From 2005 to 2010, the export of these products increased by 11%.⁹⁸⁸ In 2009, 14% of all German exports were high-technology products. Globally this equals the third rank after China and the US.⁹⁸⁹

The export sector’s share in medium high-technology products has been constantly high, mainly due to Germany’s strong position in the export of automobiles and automobile parts.⁹⁹⁰ The share in high-technology products and services has been growing. One of the main drivers of this growth trend is the German Energiewende, the transition plan to a CO₂-neutral economy. On the one side, this process leads to a growing demand for natural resources (e.g. rare earth minerals) in order to built the high-tech products for CO₂-neutral energy production.⁹⁹¹ On the other side, these products are then exported to the global market.⁹⁹² What all these products have in common is the large amount of natural resources (hydrocarbons, metals and minerals) necessary for their production.

In 2008, automobiles and machines were the prime export goods with a share of 17.5% and 14.8%, respectively.⁹⁹³ Both sectors are dependent on high-technology products that very often include minerals. A prime example are so-called „rare earth minerals“ that are needed also for high-technology products like hybrid cars, wind turbines,

⁹⁸⁶ Bundesministerium für Bildung und Forschung, *Wirtschaftsstrategische Rohstoffe Für Den Hightech-Standort Deutschland* (Bonn: Bundesministerium für Bildung und Forschung, 2012), p. 53 (pp. 2, 5–6) <https://www.fona.de/mediathek/pdf/Wirtschaftsstrategische_Rohstoffe_barrierefrei_neu.pdf> [accessed 14 December 2016]; *Rohstoffe Für Zukunftstechnologien 2016*, DERA Rohstoffinformationen (Berlin: Deutsche Rohstoffagentur (DERA), 2016), p. 353 (p. 13).

⁹⁸⁷ Alexander Loschky and Elena Triebkorn, *Globalisierung Des Fortschritts. Außenhandel Mit Hochtechnologieprodukten Und Technologischen Dienstleistungen* (Wiesbaden: Statistisches Bundesamt der BRD, 2011), pp. 920–32 (p. 921) <https://www.destatis.de/DE/Publikationen/WirtschaftStatistik/Aussenhandel/Globalisierung_92011.pdf?__blob=publicationFile> [accessed 14 December 2016].

⁹⁸⁸ Loschky and Triebkorn, p. 925.

⁹⁸⁹ Loschky and Triebkorn, p. 929.

⁹⁹⁰ Automobiles are defined as medium-high-technology as the sector is less research intense with regard to sales Loschky and Triebkorn, p. 925.

⁹⁹¹ Haftendorn, ‘Der Traum Vom Ressourcenreichtum Der Arktis’, pp. 455–56; Ulrike Dorner and Maren Liedtke, *Mineralische Rohstoffe Für Die Energiewende*, Commodity Top News (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2016), p. 8 (pp. 1–2) <http://www.bgr.bund.de/DE/Gemeinsames/Produkte/Downloads/Commodity_Top_News/Rohstoffwirtschaft/50_rohstoffe-energiewende.pdf?__blob=publicationFile&v=1> [accessed 14 December 2016].

⁹⁹² Bundesministerium für Bildung und Forschung, *Wirtschaftsstrategische Rohstoffe Für Den Hightech-Standort Deutschland*, p. 2; Haftendorn, ‘Der Traum Vom Ressourcenreichtum Der Arktis’, p. 456.

⁹⁹³ Bundeszentrale für politische Bildung, *Import Und Export Nach Waren*.

catalyzers or magnets.⁹⁹⁴

Table 35 - The Five Most Important Export Goods in Processing Trade⁹⁹⁵

Year	1995	2008	2013
Automobile/Automobile Parts	15%	18%	14%
Machines	16%	15%	8%
Chemical Products	13%	14%	4%
Machines for Electricity Generation /Distribution	6%	5%	4%

The share of high-technology products in German exports has been growing and thus the export-oriented economy has become more dependent on natural resource imports as they increasingly become critical components in high-technology products. Against the background of a price spike for these resources and increased competition for access to and control of these resources the German export sectors has become more vulnerable to supply disruptions.

4. The Role of the Shipping Sector for the German Economy and the Growing Trade with Asia

As 60% of Germany's imported natural resources and exported goods are transported by sea it becomes evident how dependent Germany is on the maritime domain and on well-functioning global sea-based supply chains.⁹⁹⁶ Between 2004 and 2013, sea-based German imports and exports have increased significantly.

Table 36 - Sea-based Trade⁹⁹⁷

Year	Value in billion €		Amount in million tons	
	Exports	Imports	Exports	Imports
2004	127	86	55	121
2013	275	177	77	165

For Germany being one of the world's largest trading and shipping nations, Arctic

⁹⁹⁴ Haftendorn, 'Der Traum Vom Ressourcenreichtum Der Arktis', p. 455.

⁹⁹⁵ Statistisches Bundesamt der BRD, *Export, Import, Globalisierung. Deutscher Außenhandel Und Welthandel 1990 Bis 2008*, p. 16.

⁹⁹⁶ Flottenkommando, *Marinekommando Jahresbericht 2014. Fakten Und Zahlen Zur Maritimen Abhängigkeit Der Bundesrepublik Deutschland* (Rostock: Deutsche Marine, 2014), p. 256 (p. 8) <[http://www.marine.de/portal/a/marine/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP3I5EyrpHK93MQivdzSnJLM3NSUzES9lPzyvJz8xJRivbTE7JLUPP2CbEdFAlz5uRY!/> \[accessed 28 December 2013\]; Lutz Feldt and others, 'Kein Land in Sicht?', *Frankfurter Allgemeine Zeitung* \(Frankfurt am Main, 1 April 2013\) <<http://www.faz.net/aktuell/politik/die-gegenwart/sicherheitspolitik-kein-land-in-sicht-12133854.html>> \[accessed 13 September 2016\].](http://www.marine.de/portal/a/marine/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP3I5EyrpHK93MQivdzSnJLM3NSUzES9lPzyvJz8xJRivbTE7JLUPP2CbEdFAlz5uRY!/)

⁹⁹⁷ Flottenkommando, p. 103.

shipping routes are expected to become even more important in coming years. For an export-oriented country like Germany maritime trade routes are of crucial importance. As the NSR becomes ice-free during the summer months, transport time from the Atlantic through the Arctic towards the Pacific could be reduced by up to 30% compared to traditional maritime transport routes like the Suez and Panama canals.⁹⁹⁸

The development of German foreign trade and Germany's GDP growth are closely related to Germany's growing trade with Asia in general and China in particular. Between 2005 and 2013 imports from China and exports to China grew significantly.

Table 37 - German Trade with China (in billion €)⁹⁹⁹

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Imports	41	50	56	61	57	77	80	79	75
Exports	21	27	30	34	37	54	65	67	67

Since 2005, the Chinese-German trade increased significantly. This process accelerated against the background of the global financial and economic crisis. As a result, Germany became economically more independent of trade with the EU partner countries and the US. At the same time, the economy became more dependent for its GDP growth on exports to China. Since 2000, German exports to China octuplicated.¹⁰⁰⁰ In 2011, China became the most important country for German exports outside of the EU.¹⁰⁰¹ In 2012, already 6.1% of Germany's global exports went to China. In turn, 8.5% of Germany's global imports came from China.¹⁰⁰² In 2014, 6.6% of Germany's global exports went to China. Vice versa, Germany imported 8.7% of its global imports from China (compared

⁹⁹⁸ Liu and Kronbak; Somarathan, Flyn, and Szymanski.

⁹⁹⁹ Statista, *Wert Der Deutschen Importe Aus Und Exporte Nach China von 2001 Bis 2015 (in Milliarden Euro)* (Hamburg: Statista, 2016) <<https://de.statista.com/statistik/daten/studie/73860/umfrage/deutschland-import--exporthandel-mit-china-seit-2006/>> [accessed 15 December 2016].

¹⁰⁰⁰ Auswärtiges Amt, *Beziehungen Zwischen Der Volksrepublik China Und Deutschland* (Berlin: Auswärtiges Amt, 2016) <http://www.auswaertiges-amt.de/DE/Aussenpolitik/Laender/Laenderinfos/China/Bilateral_node.html> [accessed 15 December 2016].

¹⁰⁰¹ Heinrich Kreft, 'Ostasien Und Deutschland. Der Aufstieg Ostasiens Als Strategische Herausforderung Und Chance', *Zeitschrift Für Außen- Und Sicherheitspolitik*, 4.3, 375-85 (p. 384).

¹⁰⁰² Bundesministerium für Wirtschaft und Technologie, *Fakten Zum Deutschen Außenhandel 2012* (Berlin: Bundesministerium für Wirtschaft und Technologie, 2012), p. 1 <<http://www.bmwi.de/BMWi/Redaktion/PDF/F/fakten-zum-deutschen-aussenhandel-2011>> [accessed 10 January 2014].

with 5.3% from the US).¹⁰⁰³ From 2013 to 2014, Germany saw the largest growth of exports towards Asia (0.5%). During that time period exports to China grew by 0.45% compared to 0.3% to the US.¹⁰⁰⁴ As the economy is so dependent for GDP growth on the export sector, it seems plausible to economically pivot to Asia.¹⁰⁰⁵

By 2030, Germany is expected to be one of only four European countries (France, the UK and the Netherlands) in China's list of Top 20 trade partners. And in the projected Top 10 Germany would be the only beneficiary of new maritime routes through the Arctic.¹⁰⁰⁶

As 50% of Germany's GDP and two-thirds of its GDP growth are provided by exports,¹⁰⁰⁷ the possibility of open and shorter Arctic sea routes towards Asian boom regions is of particular importance for Germany. Stronger integration with this region could offer new economic dynamics for Germany and Europe.¹⁰⁰⁸ Against this background, it comes as no surprise that two German merchant vessels were the first non-Russian ships allowed and able to navigate the NSR in 2009.

As outlined above, the German economy is highly dependent on its export sector to generate GDP growth. In recent years, China has become an extremely important trading partner for Germany. This trend is expected to continue. As Germany will probably continue with its economic model of export-driven growth, it is likely to become more dependent on trade with China as the country cannot be easily replaced by an alternative partner. Thus, Germany's economic vulnerability towards trade with China is growing.

¹⁰⁰³ Bundesministerium für Wirtschaft und Energie, *Fakten Zum Deutschen Außenhandel 2014* (Berlin: Bundesministerium für Wirtschaft und Energie, 2015), p. 16 (p. 1) <<http://www.bmwi.de/BMWi/Redaktion/PDF/F/fakten-zum-deutschen-aussenhandel-2013>> [accessed 1 November 2016].

¹⁰⁰⁴ Bundesministerium für Wirtschaft und Energie, *Fakten Zum Deutschen Außenhandel 2014*, p. 8.

¹⁰⁰⁵ Kreft, 'Ostasien Und Deutschland. Der Aufstieg Ostasiens Als Strategische Herausforderung Und Chance'.

¹⁰⁰⁶ Humpert, *The Future of Arctic Shipping. A New Silk Road for China?*, p. 10.

¹⁰⁰⁷ Kundnani, 'Germany as a Geo-Economic Power', p. 41.

¹⁰⁰⁸ Blunden, 'Geopolitics and the Northern Sea Route'; Claudia Major and Stefan Steinicke, *EU Member States' Perceptions of the Security Relevance of the High North* (Berlin: Stiftung Wissenschaft und Politik, October 2011), p. 15 (pp. 8-9) <http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/wp_mjr_ste_Geonor_Oktober_2011.pdf> [accessed 3 May 2016]; Kreft, 'Ostasien Und Deutschland. Der Aufstieg Ostasiens Als Strategische Herausforderung Und Chance'.

4.2 Psychological Environment

Against the background of developments in the operational environment, this chapter analyzes official ministerial documents and statements of ministerial representatives in order to better understand how the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Ministry of Education and Research, the Federal Foreign Office, the Federal Ministry of Defence, and the Federal Ministry of Economic Affairs and Energy perceived these developments. The analysis and categorization of ministerial narratives focus on opportunities and challenges, direct and indirect interdependencies, short-term and long-term impacts as well as sensitivities and vulnerabilities.

4.2.1 Federal Ministry for Economic Affairs and Energy

The ministry's perceptions of the main developments in the operational environment, as described in chapter 4.1, correlate to what is actually taking place globally and – to a lesser degree – in the Arctic. The various identified perceptions are merged along six narratives.

Narrative No. 1: The Challenge to Ensure a Short- to Long-Term, Stable and Secure Supply of Hydrocarbon Resources

With regard to the security of supply of petroleum resources the ministry perceived a vulnerability of the German economy due to seven challenges with short- and long-term impacts. First, global energy demand is expected to grow.¹⁰⁰⁹ Second, global energy prices will presumably rise.¹⁰¹⁰ Third, conventional hydrocarbon resources are projected to decline.¹⁰¹¹ Fourth, some of the major energy producing regions are seen as increasingly unstable:

While global energy demand continues to grow, certain fossil fuel resources are declining. This presents long-term risks for supply security and energy prices. Furthermore, the

¹⁰⁰⁹ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 6.

¹⁰¹⁰ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 49.

¹⁰¹¹ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 6.

majority of fossil fuels are sourced from just a handful of regions in the world, some of which are politically unstable.¹⁰¹²

Emerging countries are expected to play a key role with regard to the world's future energy security:

Our dependence on energy imports is further exacerbated by the global increase in energy prices. This is attributable to growing global demand for energy, particularly in emerging economies like China and India, coupled with the dwindling supply of fossil fuels.¹⁰¹³

A fifth perceived direct and short-term challenge is the country's lack of sufficient domestic energy resources. The ministry acknowledged in 2012 that "Germany already relies on imports for some three-quarters of its energy needs. This dependence is set to increase in the future."¹⁰¹⁴ This high degree of import dependency was seen as a direct and short-term challenge for the German economy that could worsen in the future:

Given our limited domestic energy reserves, Germany relies on imports of energy from other countries [...] In light of depleting local energy reserves [...] this reliance is likely to increase further over the long term.¹⁰¹⁵

Sixth, the high dependency on a small number of energy suppliers makes Germany even more vulnerable to supply disruptions.¹⁰¹⁶ Seventh, the malfunctioning of international energy markets could further threaten the security of supply of energy.¹⁰¹⁷ This bundle of short- to long-term challenges strengthened the general perception of potential energy insecurity.

Narrative No. 2: The Extraction of Arctic Hydrocarbon Resources as an Opportunity to Improve a Stable and Secure Supply

¹⁰¹² Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 6.

¹⁰¹³ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 49.

¹⁰¹⁴ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 49.

¹⁰¹⁵ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 49.

¹⁰¹⁶ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 50.

¹⁰¹⁷ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', pp. 6, 45, 49-50, 52; Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

In the context of the above identified challenges, the ministry perceived the opening of the Arctic as a short- to medium-term opportunity to connect with a new major hydrocarbon producer region:

The global energy demand will rise by 50% until 2030. Oil and gas will keep their importance as fossil fuel in the energy mix, especially in emerging countries. The global demand can be met by an ecologically sensitive intensification of off-shore extraction. Deep and ultra-deep water reservoirs plus in ice and polar areas, that demand high technological efforts, come to the fore.¹⁰¹⁸

In the context of a perceived growing energy insecurity in Germany, the Arctic's warming driven by global climate change is explicitly framed as an economic opportunity:

Due to climate change the Arctic's sea-ice thickness and extent strongly decreased. Consequential new opportunities to extract oil gas and other raw material deposits and to remove these resources with ice-breaking ships are arising.¹⁰¹⁹

In 2009, the region was described to play a more important role in a rather long-term perspective role for Germany: "In the next decades oil and gas resources from ice-covered areas in the Arctic, especially from the Barents Sea, will play an increasing role for the energy supply of Europe and the U.S.."¹⁰²⁰

However, in 2011, the framing was a bit more precise. The formulation "long-term" was replaced with a reference to the word "future". And instead of playing "an increasing

¹⁰¹⁸ "Weltweit wird der Energiebedarf bis in das Jahr 2030 voraussichtlich um über 50% steigen. Die fossilen Energieträger Öl und Gas werden daher ihre hohe Bedeutung im Energiemix behalten, insbesondere auch in den Schwellenländern. Der globale Bedarf kann durch eine ökologisch sensible Intensivierung der Offshore-Förderung bedient werden. Reservoirs im Tief- oder Ultratiefwasser sowie in Eis- und Polargebieten, die bei der Erschließung einen hohen technologischen Aufwand erfordern, rücken zunehmend in den Fokus." Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', 2011, p. 6 <http://www.maritime-technik.de/dokumente/2011/BMWi_Nationaler-Masterplan-Maritime-Technologien-Druckversion.pdf> [accessed 5 September 2016].

¹⁰¹⁹ „Durch den Klimawandel haben die Eisdicken und die Eisausbreitung in der Arktis stark abgenommen. Daraus ergeben sich völlig neue Möglichkeiten, die dort lagernden Erdöl-, Erdgas- und andere Rohstoffvorkommen zu fördern und mit eisbrechenden Schiffen abzutransportieren.“ Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', p. 15.

¹⁰²⁰ „In den nächsten Jahrzehnten werden die Öl- und Gasressourcen aus eisbedeckten Gebieten der Arktis, vor allem in der Barentssee, eine zunehmende Rolle für die Energieversorgung in Europa und den USA spielen.“ Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, Vorne. Das Technologie- Und Innovationsmagazin (Berlin: Bundesministerium für Wirtschaft und Energie, 21 August 2009), p. 40 (p. 5) <<http://www.bmwi.de/DE/Service/veranstaltungen,did=306248.html>> [accessed 19 May 2016].

role” the region was meant to play a “significant role”: “Arctic oil and gas resources, especially those resources in the Barents Sea, will play a significant role for Europe’s energy supply.”¹⁰²¹

The perception of the Arctic’s growing importance also resonates with the following statement of BGR officials who are closely affiliated with the ministry:

Gas will probably become the most important fossil fuel (significantly less emissions of harmful substances compared to coal) and, against the background of turning away from energy of nuclear and coal plants, is indispensable – especially in order to meet CO2 emission targets. Currently Germany receives 70% of its gas imports (with 13% own supply) from Arctic states (Norway, Russia). Arctic gas is of great importance for Germany due to short transport routes and largely existing logistics (pipelines).¹⁰²²

This statement underlines the perceived direct link between Arctic energy developments and the German security of supply. Especially Arctic gas imports were seen as an economic opportunity. In this context, Russia plays a particularly important role:

Of all the countries supplying gas to Germany, a special status is afforded to Russia. Already roughly 40% of our gas imports are sourced in Russia, a figure that could even increase in the future given that our European neighbours (Netherlands, Great Britain, Norway) are facing declining gas production.¹⁰²³

Taken together, the Arctic’s transformation was increasingly seen by the ministry as an economic opportunity – not only in the long-term but also in the short-term.

Narrative No. 3: The Challenge of a Sustainable Energy Provision

While the ministry perceived the necessity to remain reliant on hydrocarbon resources, it was also aware of the nexus between growing fossil fuels demand, rising greenhouse gas emissions, and the resulting challenges of global warming:

The challenges of sustainable energy provision derive in part from long-term global trends. The world’s rising demand for energy will lead in the long term to a pronounced increase in

¹⁰²¹ „Die arktischen Öl- und Gasressourcen, insbesondere die Vorkommen in der Barentssee, werden in Zukunft eine bedeutende Rolle für die Energieversorgung Europas spielen.“ Bundesministerium für Wirtschaft und Technologie, ‘Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere’, p. 16.

¹⁰²² Two Officials from the Federal Agency for Geosciences and Natural Resources, Statement 8, 2013, p. 8.

¹⁰²³ Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, p. 50.

energy prices. Our country's dependence on energy imports would also continue to increase. Energy consumption currently causes 80% of greenhouse gas emissions.¹⁰²⁴

The path towards a sustainable energy provision was seen rather as a long-term project as one has to square the circle between the responsibility of environmental protection and the fight against climate change whilst at the same time ensuring a stable and secure energy supply:

Securing a reliable, economically viable and environmentally sound energy supply is one of the great challenges of the 21st century [...] a high level of energy security, effective environmental and climate protection and the provision of an economically viable energy supply are necessary for Germany to remain a competitive industrial base in the long term. We want to strengthen competition and market orientation on the energy markets.¹⁰²⁵

Narrative No. 4: The Challenge to Ensure a Stable and Secure Supply of Metals and Minerals

Next to conventional energy resources, the ministry also perceived a growing short- to medium-term sensitivity and even potentially a vulnerability of the German economy's secure supply of minerals and metals due to five potential challenges. First, the global demand for these resources is expected to increase. Second, emerging countries like China and India took more active and direct steps to ensure their security of supply with resources. A growing global competition for the access to and control of these resources was perceived to negatively affect Germany's ability to access certain resources in particular. Third, due to technological advancements and breakthroughs (e.g. in environmental technologies) additional German demand for these resources will arise. Fourth, the scarcity of these resources could hinder production and innovation in Germany. Fifth, distortions of competition on global resource markets (e.g. export duties or export quotas) could hinder the free flow of resources.¹⁰²⁶

¹⁰²⁴ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

¹⁰²⁵ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

¹⁰²⁶ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', 2010, pp. 7, 9, 21, 26 <<http://www.bmwi.de/English/Redaktion/Pdf/raw-materials-strategy,property=pdf,bereich=bmwi2012,sprache=en,rwb=true.pdf>> [accessed 19 May 2016]; Mildner and Howald, p. 62.

The ministry was particularly concerned about growing resource nationalism that poses a challenge to the German economy's security of supply:

Where market conditions and fair world trade prevail, supply and demand will keep aligning themselves [...] functioning markets ensure stability and long-term security of supply. [However] serious market disturbances can cause disruption with a substantial impact on commerce, environment and employment.¹⁰²⁷

It further elaborated that scarcities of raw materials for the time being can only occur due to, amongst others, political intervention in the market.¹⁰²⁸ The ministry explicitly referred to China and India, which "have taken measures to meet their needs for raw materials, [which] can impact on German and European companies' access to sources of raw materials."¹⁰²⁹ It also pointed to the fact that

[T]he sharp rise in demand for numerous major raw industrial materials has caused various countries to adopt trade-policy measures (e.g. export tariffs, export quotas, preferential import agreements) which favour their domestic industry and thus distort international competition.¹⁰³⁰

For this reason, the government announced, in partnership with the EU, to fight against these practices.¹⁰³¹ The most prominent example is the ongoing WTO dispute between the U.S., Japan, and the EU on the one side and China on the other side with regard to China's export restrictions on rare earth minerals.¹⁰³² This can be understood as a critique in global phenomena described above as growing *state capitalism* and *resource nationalism* (chapter 4.1.2.3, page 142).

The ministry further underlined the growing importance of raw materials for the development of innovative new technologies, e.g. in the environmental sector. Especially for a country like Germany, such a sector offers the potential for future economic growth

¹⁰²⁷ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 6.

¹⁰²⁸ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 6.

¹⁰²⁹ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 9.

¹⁰³⁰ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 9.

¹⁰³¹ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 9.

¹⁰³² European Commission, *EU Challenges China's Rare Earth Export Restrictions* (Brussels: European Commission, 13 March 2012) <http://europa.eu/rapid/press-release_IP-12-239_en.htm> [accessed 2 November 2016].

and thus shall “not be impeded by a lack of availability of raw materials.”¹⁰³³ The ministry warned that “in the medium term, this can imperil growth and employment in Germany.”¹⁰³⁴ Taken together, the ministry saw growing challenges in the short- to medium-term for the German economy’s security of supply of metals and minerals.

To sum up, the ministry perceived the German economy to be directly affected in the short-term by economic and political developments at the global economic level:

To a large degree, Germany’s economic performance depends on the availability of key raw materials. For this reason, the safeguarding of the supply of raw materials needs to be backed by a committed foreign policy, external economic policy and development co-operation policy.¹⁰³⁵

In this context, according to a ministerial official, the Arctic was seen as a potential pathway to diversify resource imports and thereby strengthen the German economy’s resilience by reducing existing sensitivities and vulnerabilities: “Arctic energy and mineral resources already today play an important role for the European supply. Because of short- to medium-term continuing demand for these resources their significance will probably increase.”¹⁰³⁶ Hence, the import of Arctic resources was seen as an opportunity in the short-term to directly enhance the German economy’s security of supply.

Narrative No. 5: The Economic Opportunities of Arctic Shipping and Maritime Affairs

The ministry perceived mainly two economic opportunities with regard to Arctic marine affairs: to profit from increased shipping activities along the NSR towards Asia and to import more petroleum resources and raw materials from the Arctic due to new extraction technologies.¹⁰³⁷

¹⁰³³ Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 9.

¹⁰³⁴ Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 9.

¹⁰³⁵ Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 26.

¹⁰³⁶ ‘Arktische Energierohstoffe und mineralische Rohstoffe spielen schon heute eine bedeutende Rolle für die Versorgung Europas. Durch den kurz- und mittelfristig weiterhin bestehenden Bedarf an Rohstoffen wird diese Bedeutung voraussichtlich weiter zunehmen.’ Federal Ministry for Economic Affairs and Energy Official, Statement 9, 2013, p. 4.

¹⁰³⁷ Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, pp. 5, 24–25; Federal Ministry for Economic Affairs and Energy, *Maritimer Koordinator Beckmeyer Eröffnet 1. Fachtagung Eis- Und Polartechnik* (Berlin: Federal Ministry for Economic Affairs and Energy, 27 November 2014) <<http://www.bmwi.de/DE/Presse/pressemitteilungen,did=671858.html>> [accessed 27 January

Regarding the opportunity to make use of shorter transit towards East-Asia via the NSR, the ministry stated: “[T]he interest in the economic utilization of the northern sea route as the shortest connection between Europe and Asia is growing.”¹⁰³⁸

The melting of Arctic sea ice, as a result of global warming, was seen as a particular opportunity for the German economy:

The northern sea route opens opportunities for the maritime economy. Short routes are a big advantage in times of globalization. Germany as a strongly export-oriented economy is dependent on fast and secure connections to all parts of the world.¹⁰³⁹

These opportunities for increasing trade with East Asia seem to play an important role in the ministry’s calculations:

As a result of climate change Arctic, sea-ice is melting. Consequently, the shortest sea route between Germany and East Asia – via the North Pole becomes increasingly interesting economically speaking. The northern sea route (North East and North West Passage) arises as a new flow of trade and opens opportunities for the maritime economy.¹⁰⁴⁰

The opening of the Arctic is thus seen as an opportunity for Germany’s economic model as an exporting nation that has a direct impact on Germany’s maritime trade with East Asia and the country’s integration into global economic flows.

The development of new technologies to extract natural resources was considered an additional opportunity to enhance Germany’s security of supply. In 2011, the ministry published its National Masterplan Maritime Technologies. Maritime technologies, according to the ministry, can play a major role in securing the supply of hydrocarbon resources and raw materials:

2016]; Bundesministerium für Wirtschaft und Technologie, ‘Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere’, pp. 15–16.

¹⁰³⁸ „Gleichzeitig wächst das Interesse an einer wirtschaftlichen Nutzung des Nördlichen Seeweges als kürzester Verbindung zwischen Europa und Ostasien.“ Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, p. 9.

¹⁰³⁹ „Der Nördliche Seeweg eröffnet Chancen für die maritime Wirtschaft. Kurze Wege sind in Zeiten der Globalisierung von großem Vorteil. Deutschland ist als stark exportorientierte Wirtschaft auf schnelle und sichere Verbindungen in alle Teile der Welt angewiesen.“ Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, p. 24.

¹⁰⁴⁰ „Das Eis der Arktis schmilzt infolge des Klimawandels und macht den kürzesten Seeweg zwischen Deutschland und Ostasien über den Nordpol wirtschaftliche zunehmend interessant: Der Nördliche Seeweg (Nordost- und Nordwest-Passage) lässt neue Handelsströme entstehen und eröffnet Potenziale für die maritime Wirtschaft. Die Veränderung der klimatischen Bedingungen führt langfristig dazu, dass der Zugang zu den Erdgas- und Erdölvorkommen sowie zu den reichhaltigen Bodenschätzen der Arktis erleichtert wird.“ Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, p. 25.

In offshore technology, Germany possesses a broad industrial and scientific base. The industry has developed outstanding technological solutions and concepts in many areas. The further development and operation in demanding applications like [...] the development of deep sea oil and gas extraction can contribute to a better global security of supply and can improve environment protection.¹⁰⁴¹

As a consequence, offshore technology was also seen as a means to secure Germany's export-oriented economy model, which is highly dependent on the processing of natural resources:

In the medium- to long-term, offshore technology will play an important part in the reliable supply with raw materials. [...] Offshore technology can contribute to the security of supply of natural resources and thereby contribute significantly in the preservation of Germany's leading position as an export nation.¹⁰⁴²

Summing up, the development of new technologies was deemed an opportunity to explore so far untapped natural resources that will help to secure Germany's resource demand. But the development of new technologies is not only viewed as an opportunity to secure the sufficient supply with natural resources. As a high technology exporting nation, according to the ministry, Germany is also in a good position to export offshore technology to new areas like the Arctic.

Narrative No. 5: The Opportunity to Strengthen Germany's High-Technology Export Industry

As Arctic coastal states proceeded in developing offshore natural resources, the ministry perceived the opportunity to export German polar technologies, ice-breaking capabilities, offshore-platforms, oil terminals, information and communications technology, engineering services, the building and equipping of polar ships, and

¹⁰⁴¹ "In der Meerestechnik verfügt Deutschland über eine breite industrielle und wissenschaftliche Basis. In vielen Bereichen hat die Branche hervorragende technische Lösungen und Konzepte entwickelt. Deren Fortentwicklung und Einsatz in anspruchsvollen Anwendungen, wie [...] dem Ausbau der Öl- und Gasförderung in der Tiefsee, kann sowohl einen wertvollen Beitrag zur Erhöhung der globalen Versorgungssicherheit als auch zur Verbesserung des Schutzes der Umwelt leisten." Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', p. 2.

¹⁰⁴² "Mittel- bis langfristig wird die Meerestechnik einen wichtigen Beitrag zur verlässlichen Versorgung mit mineralischen Rohstoffen [...] Meerestechnik kann dazu beitragen, die Rohstoffversorgung des Industriestandortes Deutschland zu sichern und damit einen grundlegenden Beitrag zum Erhalt einer führenden Position als Exportnation zu leisten." Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', p. 2.

environmental-friendly technologies.¹⁰⁴³ The ministry acknowledged the German economy to be a world leader in the development of polar technologies and the Arctic's economic transformation was seen as a major opportunity to export German technology and expertise into the Arctic:¹⁰⁴⁴

German companies possess a remarkable know how in offshore technology and are in a position to face these challenges. With their technological core competencies, they can take the international lead and can thereby not only secure but even strengthen economic growth and employment. Significant market opportunities exist in offshore environment technology, polar technology, offshore technology for oil and gas exploration and deep-sea mining.¹⁰⁴⁵

Regarding the Arctic, Germany was seen as possessing high-valued knowledge in many key areas of Arctic economic activities:

Especially in the areas of polar technology, drilling engineering and conveyor technique Germany possesses core competencies. But also in the response to oil accidents and detection, sensor technology, underwater ice technology, robotics, hydrographics and swing technology Germany know-how is in demand.¹⁰⁴⁶

The ministry thus saw the Arctic as a potential export market for German high-technology products and services: "Germany is a global leader in polar technology. With regard to the economic and natural resources potential of the Arctic this leading position shall be kept by continuing research efforts."¹⁰⁴⁷

¹⁰⁴³ Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, p. 9; Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', pp. 15–16.

¹⁰⁴⁴ Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', pp. 4, 16.

¹⁰⁴⁵ "Deutsche Unternehmen verfügen über ein beachtliches meerestechnisches Know-how und sind in der Lage, sich diesen Herausforderungen zu stellen. Sie können mit ihren technologischen Kernkompetenzen international eine Schlüsselrolle übernehmen und so Wachstum und Beschäftigung in Deutschland sichern und weiter ausbauen. Große Marktchancen bestehen in der maritimen Umwelttechnik, der Polartechnik, der Offshore-Technik zur Öl- und Gasgewinnung sowie in der Gewinnung von mineralischen Rohstoffen am Meeresboden." Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, p. 8.

¹⁰⁴⁶ „Besonders in den Bereichen Polartechnik, Bohr- sowie Fördertechnik verfügt Deutschland über Kernkompetenzen, aber auch in den Bereichen Ölunfallbekämpfung und -detektierung, Sensorik, Unterwasser(eis)technik, Robotik, Hydrographie und Hubtechnik ist deutsches Know-how gefragt.“ Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, p. 25.

¹⁰⁴⁷ „Die deutsche Polartechnik nimmt weltweit eine führende Rolle ein. Diese gilt es, gerade im Hinblick auf das Wirtschafts- und Rohstoffpotenzial der Arktis, durch Kontinuität in der Forschung zu stabilisieren.“ Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', p. 15.

All these statements show the ministry's awareness of the direct and short- to medium-term opportunities for the German export economy and its high-technology products.

Also with regard to environmental protection (see also Narrative No. 3, page 180), the ministry ascribed an important role to new technologies: "An appropriate balance of a responsible economic use of maritime resources and the protection of the marine environment call for the development of new technologies and innovative ideas."¹⁰⁴⁸

What seems interesting is again the ministry's anticipation of growing global demand for particular high-technology applications; be it for the development of green technologies or the development of cutting-edge maritime technologies for natural resources extraction. In focusing on the development of these technologies that then can be offered on the global market, the ministry, again, follows a geo-economic logic (see also chapter 1.3, page 17) of viewing "the world almost exclusively [...] as a way of importing and exporting goods and services."¹⁰⁴⁹ Such an approach could be also described as a geo-technological strategy. In addition, the ministry seems to perceive the development of new technologies as a way to square the circle between environmental protection and economic activities.

4.2.2 Federal Ministry of Education and Research

While the ministry acknowledged growing economic activities in the Arctic, as a matter of fact it was not very explicit about it. However, it perceived a necessity to base all economic activities on a sound knowledge base:

Rapid climate changes [...] will accelerate the economic development of the region, including the opening of new transport routes and the exploitation of [...] resources [...]. In order to guide this development in a sustainable manner, knowledge of the location, accessibility and scope of these resources as well as the overarching socioeconomic and political conditions of the region is essential.¹⁰⁵⁰

¹⁰⁴⁸ "Ein angemessenes Gleichgewicht von verantwortungsvoller wirtschaftlicher Nutzung der Meeresressourcen und Schutz der Meeresumwelt erfordert die Entwicklung neuer Technologien und innovativer Ideen." Bundesministerium für Wirtschaft und Energie, *Vorne. Das Technologie- Und Innovationsmagazin*, p. 8.

¹⁰⁴⁹ Kundnani, *The Paradox of German Power*, pp. 103–4.

¹⁰⁵⁰ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', pp. 11–12.

4.2.3 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Altogether, the ministry was not supportive of the economic opportunities in the Arctic. Consequently, it was not very explicit about it. Instead, by focusing on the interdependence of global economic, climatic and environmental drivers in the operational environment, it pointed mainly to the challenge of reconciling the fight against global climate change with environmental protection on the one side and the necessity to secure a sufficient and economically viable energy supply in times of a growing global energy demand on the other.¹⁰⁵¹

Narrative No. 1: The Challenge to Ensure a Secure, Economically Viable and Environmentally Sound Energy Supply

The ministry identified the need to balance both demands as one of the great challenges:

Securing a reliable, economically viable and environmentally sound energy supply is one of the great challenges of the 21st century [...] a high level of energy security, effective environmental and climate protection and the provision of an economically viable energy supply are necessary for Germany to remain a competitive industrial base in the long term.¹⁰⁵²

The task to reconcile these challenges became even more pressing against the background of a growing global energy demand and a resulting growing global CO₂ output:

The challenges of sustainable energy provision derive in part from long-term global trends. The world's rising demand for energy will lead in the long term to a pronounced increase in energy prices. Our country's dependence on energy imports would also continue to increase. Energy consumption currently causes 80% of greenhouse gas emissions.¹⁰⁵³

Narrative No. 2: Shipping and Maritime Affairs

¹⁰⁵¹ Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, *Eckpunkte Für Ein Integriertes Energie- Und Klimaprogramm* (Berlin: Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 2007), p. 47 (p. 4) <http://www.bmub.bund.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/klimapaket_aug2007.pdf> [accessed 5 September 2016].

¹⁰⁵² Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

¹⁰⁵³ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

The Arctic was explicitly mentioned only with regard to new economic opportunities in shipping: “New sea routes to Arctic regions might open up. There is a need for timely investigation and coordination of the best ways of using them.”¹⁰⁵⁴

4.2.4 Federal Foreign Office

The FFO was aware of the consequences of global economic trends in the operational environment for Germany. It also realized existing and emerging economic opportunities for Germany in the opening of the Arctic. The identified perceptions are merged along five narratives.

Narrative No. 1: A Changing World Economy

Changing patterns of economic growth, according to the ministry, are changing the existing economic balance of power. Asia is seen as having the largest potential for economic development:

The new players’ contribution to world trade is increasing. Their economic growth rates are higher than average. While the OECD states accounted for some 60% of world GDP (gross domestic product) in the year 2000, and now contribute some 51%, it is estimated that their share will fall to 40% over the next 20 years. The new players’ growing significance in the world economy as well as their growing influence on the global trading and financial system are due to their economic growth and their potential for growth. According to forecasts, it is their trade relations with one another, and in particular intra-regional trade in Asia, that have the greatest potential for development of all worldwide trade.¹⁰⁵⁵

Narrative No. 2: Challenges to the Existing ‘Rules of the Game’ of the Global Economic Order

The ministry perceived the existing global economic order, based on multilateral rules, to be increasingly under pressure:

Increased global trade in goods and services is contributing to an increase in welfare around the world. One of the most significant factors here is the WTO’s (World Trade Organisation) multilateral trading system. [...] Bringing the Doha Round to a conclusion would be the best defence against unilateral protectionist activity and continue the process of integrating developing countries into the global economy.¹⁰⁵⁶

¹⁰⁵⁴ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 40.

¹⁰⁵⁵ Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 29.

¹⁰⁵⁶ Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 31.

Germany was seen of being particularly vulnerable to non-compliance with the existing “rules of the game” by other nations.

According to the ministry, the protection of the existing economic order was of particular importance for Germany as a resource poor country: “As mineral reserves and demand for resources are not distributed equally around the globe, all countries are better off with open and efficient raw materials markets whose rules are transparent.”¹⁰⁵⁷ Even though Germany is not mentioned explicitly, it is understood that Germany’s economy was perceived of being vulnerable to market distortions.

Narrative No. 3: The Challenge to Ensure a Stable and Secure Energy Supply and the Opportunity of Import Diversification via the Arctic

According to the ministry, natural resources “are the essential foundations of prosperity around the world.”¹⁰⁵⁸ Due to a global population growth and a parallel growing global energy demand, hydrocarbon resources are expected to run short:

The intensity with which oil, gas and coal supplies are being exploited not only affects our climate and ecosystems but is also making those resources increasingly scarce. If the rising demand for energy on the part of the new players and elsewhere causes soaring energy prices, there could be serious consequences for global economic development. The potential repercussions include conflicts about resources, with the inherent risks to peace and security.¹⁰⁵⁹

The challenge to ensure a stable and secure energy supply calls for a more active German foreign energy policy: “Against the background of a growing global energy demand, new regional economic cooperation and potentially unstable regions the security of energy supplies gains in importance for the formulation and implementation of foreign policy.”¹⁰⁶⁰ Thus, the ministry perceived a growing vulnerability of Germany’s economy to its energy supply security. It is against this background that the Arctic’s

¹⁰⁵⁷ Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 39.

¹⁰⁵⁸ Federal Foreign Office, 2012: 39

¹⁰⁵⁹ Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 39.

¹⁰⁶⁰ “Das Thema Energieversorgungssicherheit gewinnt angesichts international steigender Nachfrage an Energieträgern, neuen regionalen wirtschaftlichen Kooperationen und potenziell instabilen Regionen zunehmend an Bedeutung für die Formulierung und Gestaltung von Außenpolitik.” Auswärtiges Amt, *Energieaußenpolitik* (Berlin: Auswärtiges Amt, 2013) <http://www.auswaertiges-amt.de/DE/Aussenpolitik/GlobaleFragen/Energie/Energieau%C3%9Fenpolitik_node.html> [accessed 27 January 2016].

opening was characterized as an opportunity. According to former state secretary Braun it was seen as an alternative region for energy imports:

The Arctic has a high potential of precious [natural] resources. Experts assume that the region holds the world's largest oil and gas reserves. In addition it holds minerals that are of tremendous importance for the industry. German companies are interested in their exploitation, too.¹⁰⁶¹

Narrative No. 4: The Challenge to Ensure a Stable and Secure Metals and Minerals Supply and the Opportunity of Import Diversification via the Arctic

The ministry was aware of the fundamental and direct role minerals and metals play in the short- to long-term for economic development and societal prosperity.¹⁰⁶² In particular, the German economy was seen of being highly dependent on the import of metals and minerals to produce high-tech products that are then exported to global markets.¹⁰⁶³ As stated by the ministry: "A large number of mineral resources, such as rare earth elements, are fundamental requirements for important sectors of industry and innovative technology in, for instance, the field of renewables."¹⁰⁶⁴

And as the ministry was concerned about growing threats to the disruption of metals and minerals supplies (see. Narrative No. 2: *Challenges to the Existing 'Rules of the Game' of the Global Economic Order*, page 189), it saw the German economy and its high-technology export sector of becoming increasingly vulnerable in the short- to medium-term. Germany's economic model was thus regarded as being directly challenged by global economic developments in the operational environment.

It is against this background that the access to Arctic metals and minerals was seen as a direct opportunity to reduce the economy's vulnerability.¹⁰⁶⁵ It seems that there was a consensus within the FFO about the fact that it was necessary to exploit Arctic metals

¹⁰⁶¹ "So birgt die Arktis große Mengen an wertvollen Rohstoffen. Fachleute vermuten dort die größten Öl- und Gasreserven unseres Planeten. Außerdem gibt es Mineralien, die für die Industrie von immenser Bedeutung sind. Auch deutsche Unternehmen sind an deren Ausbeutung interessiert." Harald Braun, *Deutsch-Norwegische Zusammenarbeit in Der Arktis* (Berlin: Auswärtiges Amt, 21 March 2013) <<http://www.auswaertiges-amt.de/DE/Aussenpolitik/InternatRecht/Einzelfragen/Arktis/130321-Arktiskonferenz.html?nn=383202>> [accessed 5 September 2016].

¹⁰⁶² Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 39.

¹⁰⁶³ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', pp. 6, 39.

¹⁰⁶⁴ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 39.

¹⁰⁶⁵ Braun.

and minerals and that it was also possible to do this in a sustainable manner. Even an FFO official responsible for environmental foreign policy did not fundamentally oppose it:

Concerning the exploration and exploitation of mineral resources, we have to discuss the environmental risks. Which technologies does one need, which environmental standards should be implemented in order to strictly limit the environmental damage of such activities? While investing in new methods to take advantage of such resources, how can the oceanic environment and the biological diversity of the Arctic best be protected?¹⁰⁶⁶

Whilst he called for the highest environmental standards and the best technology available to protect the pristine Arctic environment, he did not rule out natural resource extraction per se.

Narrative No. 5: The Economic Opportunities of Arctic Shipping and Maritime Affairs

Finally, the ministry also saw large economic opportunities in terms of shorter maritime transit routes between Europe and Asia via the Arctic Ocean. These opportunities are of particular importance to Germany – one of the world’s largest sea-trading nations: “As a country possessing one of the world’s largest merchant fleets Germany has a natural interest in the economic opportunities offered by the Northern Sea Route (NSR).”¹⁰⁶⁷

In April 2014, the ministry even organized an Arctic conference titled “Sustainable Shipping in the Arctic – Prospects for International Cooperation“. At the conference, state secretary Böhmer stated: “As Germany has the third largest trading fleet in the world and the world’s largest fleet of container vessels, it has a particular interest in the opening of Arctic sea lanes.”¹⁰⁶⁸

Whilst the ministry acknowledged that a significant increase in Arctic shipping will take some time, it urged the international community to take precautionary steps already today to protect the environment:

¹⁰⁶⁶ Federal Foreign Office Official, ‘Statement 13’.

¹⁰⁶⁷ Federal Foreign Office Official, ‘Interview 3’, p. 2.

¹⁰⁶⁸ “Deutschland habe mit der drittgrößten Handelsflotte der Welt und der weltweit größten Containerschifflotte ein besonderes Interesse an sich öffnenden Seewegen in der Arktis.“ Auswärtiges Amt, *Internationale Arktis-Konferenz Im Auswärtigen Amt* (Berlin: Auswärtiges Amt, 10 April 2014) <http://www.auswaertiges-amt.de/DE/Aussenpolitik/InternatRecht/Einzelfragen/Arktis/140410_Arktis_Konferenz_B%C3%B6hmer.html> [accessed 4 May 2016].

From a German perspective, shipping interests have to be kept in mind as Germany has the world's third largest trading fleet. Whilst the intensification of shipping along the Arctic passages will take some time until it becomes a reality, Germany advocates to already today strict environmental regulations for Arctic shipping are put in place.¹⁰⁶⁹

According to state secretary Böhmer, Germany was well equipped to play a central role in environmental protection by exporting German technology to the region:

Germany possesses specialized maritime technologies that comply with high environmental protection standards. As a pioneer in environmental and climate protection and with its significant engagement in the areas of marine protection and polar research Germany can play an important role in the sustainable development of Arctic sea lanes.¹⁰⁷⁰

To sum up the ministry saw direct economic opportunities in the opening of the Arctic with regard to new shipping lanes. This could allow Germany's shipping fleet to increase its trade with Asian economic boom regions. And as the German economy possesses specialized maritime technologies that could be exported towards the region, the ministry also identified indirect economic opportunities for Germany.

4.2.5 Federal Ministry of Defence

Narrative No. 1: The Challenge to Ensure a Stable and Secure Supply with Hydrocarbon Resources

The ministry was increasingly concerned about a growing short- to medium-term vulnerability of the country's security of supply with hydrocarbon resources. Already in 2006 it warned about threats to German energy security:

A secure, sustained and competitive supply of energy is of strategic importance for the future of Germany and Europe. Global challenges result, such as the growing need for energy worldwide, the increasing regional and inter-regional trade in energy, proliferation risks, rising climatic protection requirements, and the necessity in developing countries to improve access to energy thereby opening up opportunities for economic development. Energy issues will play an ever more important role for global security in future. Germany's

¹⁰⁶⁹ „Auch Schifffahrtsbelange müssen aus Sicht Deutschlands als weltweit drittgrößte Handelsflottennation im Auge behalten werden: Zwar wird die Intensivierung der Schifffahrt durch die arktischen Passagen noch einige Zeit auf sich warten lassen; doch schon jetzt wirkt die Bundesrepublik darauf hin, dass strikte umweltrechtliche Vorgaben bei der Regelung von Arktis-Durchfahrten beachtet werden.“ Auswärtiges Amt, *Die Arktis*.

¹⁰⁷⁰ 'Deutschland verfügt über spezialisierte maritime Technologien, die hohe Umweltstandards erfüllen. International sind wir Vorreiter im Umwelt- und Klimaschutz und darüber hinaus auch aktiv im Meeresschutz und in der Polarforschung tätig. Aus diesem Grund könnte Deutschland einen wichtigen Beitrag für die nachhaltige Erschließung der Seewege in der Arktis leisten.' Auswärtiges Amt, *Internationale Arktis-Konferenz Im Auswärtigen Amt*; Maria Böhmer, *Internationale Arktis-Konferenz* (Berlin, 10 April 2014) <http://www.maria-boehmer.de/lokal_1_1_194_Internationale-Arktis-Konferenz.html> [accessed 3 November 2016].

and Europe's growing dependence on imported fossil energy resources calls for an intensification of the dialogue and cooperation between producer, transit and consumer countries, including trade and industry.¹⁰⁷¹

According to a 2010 statement of then defence minister zu Guttenberg, "[t]he growing demand from emerging countries for natural resources comes into conflict with our energy needs. This could lead to new frictions, crises and conflicts. Security policies need to consider these developments and develop answers."¹⁰⁷²

The perceived challenge to Germany's energy security was reiterated in the ministry's 2011 Defence Policy Guidelines (DPG's):

Free trade routes and a secure supply of raw materials are crucial for the future of Germany and Europe [...]. The scarcity of energy sources and other commodities required for high-technology products will have implications for the international community. Restricted access can trigger conflicts.¹⁰⁷³

According to the ministry, the security of supply with hydrocarbon resources and raw materials is of particular importance for the reliability of Germany's economic model: "German security interests are a result of [...] our resource dependency as a centre of high technology and an exporting nation with few natural resources."¹⁰⁷⁴

To conclude, a growing hydrocarbon resources demand was perceived as a direct challenge with short-term implications for Germany.

Narrative No. 2: Challenges to the Global Economy's Transport and Communications Infrastructure

¹⁰⁷¹ Federal Ministry of Defence, 'Germany. White Paper 2006. On German Security Policy and the Future of the Bundeswehr', 2006, p. 20 <<http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?id=156941>> [accessed 19 May 2016].

¹⁰⁷² Nina Paulsen, 'Guttenberg Tritt in Köhlers Fußstapfen', *Hamburger Abendblatt* (Hamburg, 10 November 2010) <<http://www.abendblatt.de/politik/deutschland/article1691013/Guttenberg-tritt-in-Koehlers-Fussstapfen.html>> [accessed 14 June 2012]; Berthold Kohler, 'Guttenberg Hat Recht', *Frankfurter Allgemeine Zeitung* (Frankfurt am Main, 9 November 2010) <<http://www.faz.net/aktuell/politik/sicherheitspolitik-guttenberg-hat-recht-11066744.html>> [accessed 14 June 2012]; Gordon Repinski, 'Guttenberg Auf Köhlers Spuren', *Die Tageszeitung* (Berlin, 10 November 2010) <<http://www.taz.de/1/archiv/digitaz/artikel/?ressort=in&dig=2010%2F11%2F10%2Fa0054&cHash=980463c57a>> [accessed 14 June 2012].

¹⁰⁷³ Federal Ministry of Defence, 'Defence Policy Guidelines', p. 3.

¹⁰⁷⁴ Federal Ministry of Defence, 'Defence Policy Guidelines', p. 4.

The security of the global economy's transport and communications infrastructure (e.g. (SLOC)) was increasingly seen as critical by the ministry. Already in its 2006 White Book on Defence, the ministry stated:

Germany has a particular interest in international stability and an unhindered exchange of goods because of its ever closer integration into the world economy. Like many other nations it is highly dependent on a secure supply of raw materials and safe transportation routes around the world, as well as reliant on functioning information and communication systems. Distortions in international relations, disruptions in the flows of raw materials and goods due to increasing piracy, for example, and interruptions in worldwide communications cannot fail in an interdependent world to have repercussions on the national economy, prosperity and social peace.¹⁰⁷⁵

Consequently, then defence minister zu Guttenberg stated in 2010: "The protection of trade routes and the energy infrastructure need to be seen from a military and global strategic viewpoint [...]."¹⁰⁷⁶

In the 2011 Defence Policy Guidelines, the ministry echoed this perceived challenge of an increasingly insecure infrastructure:

Disruptions of transport routes and the flow of raw materials and commodities, e.g. by piracy or the sabotage of air transport, pose a threat to security and prosperity. This is why transport and energy security and related issues will play an increasingly important role for our security.¹⁰⁷⁷

Narrative No. 3: Challenges to the Existing 'Rules of the Game' of the Global Economic Order

Finally, the ministry also became aware of challenges to the existing 'rules of the game' of the global economic order. In the 2006 White Book, the ministry underlined the importance of a well-functioning world trade system:

Germany, whose economic prosperity depends on access to raw materials, goods and ideas, has an elementary interest in peaceful competition of thoughts and views, an open world trade system and unrestricted transportation routes.¹⁰⁷⁸

In 2011, the ministry referred to global trends that might challenge the existing 'rules of the game' thereby complicating the German import of natural resources. In this context, the ministry points to a growing *resource nationalism* as a result of

¹⁰⁷⁵ Federal Ministry of Defence, 'Germany. White Paper 2006. On German Security Policy and the Future of the Bundeswehr', p. 19.

¹⁰⁷⁶ Paulsen; Kohler; Repinski.

¹⁰⁷⁷ Federal Ministry of Defence, 'Defence Policy Guidelines', p. 3.

¹⁰⁷⁸ Federal Ministry of Defence, 'Germany. White Paper 2006. On German Security Policy and the Future of the Bundeswehr', p. 17.

the returning phenomenon of *state capitalism*: “Around the globe, changes are taking place in markets, channels of distribution, and the ways in which natural resources are developed, secured and accessed.”¹⁰⁷⁹ The ministry further pointed out that German security interests include “free and unrestricted world trade”.¹⁰⁸⁰ This statement hints to the ministry’s perceptions that precisely this free and unrestricted world trade was in danger due to the described changes above. For Germany, according to the ministry, as a country that is highly dependent on a) the import of natural resources for the production and export of high technology products and b) functioning ‘rules of the game’ in global economic governance, a disruption of a) the transport routes (for the import of resources and the export of high-tech products) or b) existing global economic governance frameworks would have serious repercussions.¹⁰⁸¹

To conclude, challenges to the existing global economic order have been identified of posing a direct and short-term threat to the German economy, too.

4.3 Political Interests

Based on the identified ministerial perceptions in chapter 4.2, the respective political interests or policy preferences of the involved ministries are identified.¹⁰⁸²

4.3.1 Federal Ministry for Economic Affairs and Energy

Six political interests can be deduced from the identified perceptions above. First, the main aim is to ensure security of supply of petroleum resources as well as metals and minerals, as these natural resources are seen as a central precondition for economic growth and employment – two of the most fundamental political goals and tasks of the

¹⁰⁷⁹ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 3.

¹⁰⁸⁰ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 4.

¹⁰⁸¹ Federal Ministry of Defence, ‘Defence Policy Guidelines’, pp. 3–4.

¹⁰⁸² For an overview of ministerial interests, see Table 42 (chapter 6.1, page 256).

ministry.¹⁰⁸³ This shall be achieved by intensifying existing relationships with resource exporting nations:¹⁰⁸⁴

[T]he German government, together with German business, will step up dialogue with non-EU countries with regard to high technology raw materials and energy technologies. A primary focus of this dialogue will be to develop options for ensuring that Germany and the EU have long-term access to supplies of high technology raw materials and energy resources that are needed for technologies involving energy generation, energy transmission and energy storage. Our instrument here is bilateral and regional energy and resource partnerships.¹⁰⁸⁵

In addition, the ministry aimed to diversify its energy imports: “The diversification of energy sources, supplier countries and import routes is a key element of Germany’s foreign energy policy.”¹⁰⁸⁶

Second, in this context the ministry aims to safeguard the special energy-relationship with Russia. This is of particular relevance against the background of an expected growing demand for gas imports.¹⁰⁸⁷ Third, the ministry intends to preserve the functioning international resource markets and respective governance structures.¹⁰⁸⁸

Where market conditions and fair world trade prevail, supply and demand will keep aligning themselves, even as the market changes. In this way, functioning markets ensure stability and long term security. However, serious market disturbances can cause disruption with a substantial impact on commerce, environment and employment.¹⁰⁸⁹

¹⁰⁸³ Federal Ministry for Economic Affairs and Energy, *Tasks and Structure of the Federal Ministry for Economic Affairs and Energy* (Berlin: Federal Ministry for Economic Affairs and Energy, 2016) <<http://bmwi.de/EN/Ministry/tasks-and-structure.html>> [accessed 3 November 2016].

¹⁰⁸⁴ Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 6, 45, 49–50, 52; Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, pp. 3, 28; Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, pp. 7, 9, 21, 26; Mildner and Howald, p. 62.

¹⁰⁸⁵ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 31.

¹⁰⁸⁶ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 28.

¹⁰⁸⁷ Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, p. 50; Two Officials from the Federal Agency for Geosciences and Natural Resources, p. 5.

¹⁰⁸⁸ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3; Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 6; Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 2, 45, 49.

¹⁰⁸⁹ Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 6.

Fourth, the ministry seeks to realize economic opportunities in a thawing Arctic with regard to the security of supply of natural resources by intensifying existing resource partnerships and by diversifying existing resource imports.¹⁰⁹⁰ By strengthening the special relationships with Norway and Russia, two of Germany's main resource trading partners, the ministry aims to enhance its security of supply.

Fifth, the ministry is interested in exporting German polar technology, a market for future economic growth, into the Arctic. In addition, the ministry is interested in developing maritime technologies for exploiting natural resources that are key to many high-technology products that are then exported from Germany to world markets.¹⁰⁹¹

Sixth, the ministry wants to realize newly emerging shipping opportunities to increase the trade with Asian economic boom regions.¹⁰⁹²

4.3.2 Federal Ministry of Education and Research

No political interest with regard to Arctic economic affairs was identified. Yet identified perceptions indicate the awareness of the political necessity to intensify research efforts in order to close existing knowledge gaps.

4.3.3 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Two interests are deduced from the ministry's perceptions. First, the ministry is mainly interested in a sustainable energy provision.¹⁰⁹³ Second, it aims at identifying the best

¹⁰⁹⁰ Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', pp. 6, 15–16; Federal Ministry for Economic Affairs and Energy Official, 'Statement 9', p. 4.

¹⁰⁹¹ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 9; Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', pp. 2, 15–16; Federal Ministry for Economic Affairs and Energy, *Maritimer Koordinator Beckmeyer Eröffnet 1. Fachtagung Eis- Und Polartechnik*.

¹⁰⁹² Bundesministerium für Wirtschaft und Technologie, 'Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere', p. 15.

¹⁰⁹³ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3; Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, *Eckpunkte Für Ein Integriertes Energie- Und Klimaprogramm*, p. 4.

ways – in this case probably understood as the most sustainable way – on how to use new Arctic sea routes.¹⁰⁹⁴

4.3.4 Federal Foreign Office

Four interests can be deduced from the ministry's perceptions. First, the FFO intends to enhance Germany's security of supply with natural resources. This objective shall be achieved by diversifying imports and transport routes.¹⁰⁹⁵ Second, the aim is to establish and develop natural resources partnerships.¹⁰⁹⁶ The first two goals are summarized by the ministry as follows:

The Challenges for Germany and Europe include: diversification of sources of supply, routes of supply and energy sources to increase the security of supply and energy independence; upgrading the dialogue with supplier, transit and the big consumer countries – especially with the newly industrialized countries [...].¹⁰⁹⁷

Third, the ministry is interested in strengthening the global economic order's 'rules of the game' in general and in strengthening international resource markets in particular.¹⁰⁹⁸ Thus in order to counter the threat of a resurgence of nationalist economic policies, the ministry aimed for a rules-based international economic order: "We want to conduct active trade policy based on reliable multilateral rules which will contribute to growth, prosperity and consumer protection around the world."¹⁰⁹⁹ Fourth, the ministry is interested in realizing new economic opportunities in the Arctic with regard to natural resources import from the region as well as shipping through the region towards Asia.¹¹⁰⁰

4.3.5 Federal Ministry of Defence

Three interests are deduced from the ministerial perceptions. First, the security of supply with natural resources has to be ensured in order to generate economic growth

¹⁰⁹⁴ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 40.

¹⁰⁹⁵ Auswärtiges Amt, *Energieaußenpolitik*.

¹⁰⁹⁶ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 43.

¹⁰⁹⁷ Auswärtiges Amt, *Energieaußenpolitik*.

¹⁰⁹⁸ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', pp. 31, 36, 39, 42.

¹⁰⁹⁹ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 36.

¹¹⁰⁰ Braun; Auswärtiges Amt, *Internationale Arktis-Konferenz Im Auswärtigen Amt*; Böhmer; Auswärtiges Amt, *Die Arktis*; Federal Foreign Office Official, 'Interview 3', pp. 1–2.

and prosperity in Germany.¹¹⁰¹ Second, transit routes and energy infrastructure therefore have to be protected.¹¹⁰² Against this background the ministry declared: “This is why transport and energy security and related issues will play an increasingly important role for our security.”¹¹⁰³ The ministry went on:

To ensure energy supplies in the long term, it will be vital to have differentiated sources of energy, to develop indigenous forms of renewable energy and a balanced energy mix, and to reduce the demand for energy by using it economically and efficiently. It is also imperative to ensure the security of the energy infrastructure.¹¹⁰⁴

A third interest is the functioning of the global economic order’s ‘rules of the game’ in general and of international resources markets in particular:

Germany has a fundamental interest in a peaceful competition of thoughts, an open world trade system and free transport routes, as its prosperity depends on the access to natural resources, goods and ideas.¹¹⁰⁵

Consequently, one central political interest is to “facilitate[e] free and unrestricted world trade as well as free access to the high seas and to natural resources.”¹¹⁰⁶

5 Political and Security Affairs: German Considerations

This chapter analyzes Germany’s engagement in Arctic political and security affairs (including legal issues). In a first step (5.1), the operational environment on the global level, in the Arctic as well as their interdependencies with Germany and with each other are analyzed. The focus is on economic, military, and political power distributions, the reliability of global governance frameworks and the character of international and Arctic

¹¹⁰¹ Paulsen; Kohler; Repinski; Federal Ministry of Defence, ‘Defence Policy Guidelines’, pp. 3–4.

¹¹⁰² Paulsen; Kohler; Repinski.

¹¹⁰³ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 3.

¹¹⁰⁴ Federal Ministry of Defence, ‘Germany. White Paper 2006. On German Security Policy and the Future of the Bundeswehr’, p. 20.

¹¹⁰⁵ “Deutschland, dessen Wohlstand vom Zugang zu Rohstoffen, Waren und Ideen abhängt, hat ein elementares Interesse an einem friedlichen Wettbewerb der Gedanken, an einem offenen Welthandelssystem und freien Transportwegen.“ Bundesministerium der Verteidigung, ‘Weißbuch 2006 Zur Sicherheitspolitik Deutschlands Und Zur Zukunft Der Bundeswehr’, p. 19 <[¹¹⁰⁶ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 4.](https://www.bmvg.de/portal/a/bmvg!/ut/p/c5/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gnC58QHyNLI6MQb08LA08zc49gN0dnQw8fl6B8pFm8AQ7gaEBAt59Hfm6qfkFuRDkAal6udw!!/di3/d3/L0lJskKSUpKZ2tLQ2xFS0NsRUtDbEVLQ2xFSQSevWUtZTUFBQUFNURUFBUVFS0IBQUUNDQ0dHQ0NPQkpCSk9CRk5GTk9GRExETE9ESFBIUE9IQS80Qm40UklBbHF3RnRla1FZaVRJaEtRa21UQ1VJcE1sRW94U1pPSIFTLzZfQjhMVEwyOTIyRFVKNDBJNlI3SThVRjIwUTQvN19COExUTDI5MjJUNU13MEICQjhJUDNVMTA4NS9Xa2M0aDc3OT EwMDE4L3NpbXBsZS9zcGZfQWN0aW9uTmFtZS9zcGZfQWN0aW9uTGZldGVuZXIvc3BmX3N0cnV0c0FjdGlvbi8lMHRyaWdnZXJlZWFyY2guZG8vbGF5b3V0bm9kZS9idy5ibXZnLnguc3VjaGUuaC52MS5jMQ!!/> [accessed 5 September 2016].</p></div><div data-bbox=)

political affairs as well as their consequences for German political calculations. The second part (5.2) analyzes the perceptions of all these developments in the international political order held by the main bureaucratic actors in the German government. Finally, respective ministerial policy interests are deduced from the above identified perceptions (5.3). It is resorted to these interests in chapter 6 for the identification of the “Stand-Sit” Proposition.

5.1 Operational Environment

As in previous chapters, in order to analyze the operational environment, the focus is on the global and Arctic political orders, on the interdependencies between both levels, and on their interdependencies with Germany.

5.1.1 External Global Level

A fundamentally changing international political order is the third global driver of the Arctic’s transformation. The international political order is understood as “the structure, functioning, and nature of the international political system.”¹¹⁰⁷ The structure of an international order is defined primarily as “the distribution of power among states.”¹¹⁰⁸ Power, in turn, is conceptualised as “the capacity to do things and in social situations to affect others to get the outcomes we want.”¹¹⁰⁹ Based on these considerations, the focus is on three analytical categories, namely economic (measured in GDP growth), military (measured in defence expenditures), and political (measured in the willingness and ability to shape political developments) power. Over the past years, power shifted from West to East and, to a lesser degree, from North to South. In addition, power diffused from nation-states to a diverse group of actors (including terrorist networks, online ‘hacktivists’, pirates, NGO’s, and private companies). The functioning of an international order is defined as “rules of the game.”¹¹¹⁰ These governance arrangements describe how actors interact.¹¹¹¹ As the international political order’s structure oscillated between a multi-polar and a non-polar world, its underlying global governance architecture became increasingly dysfunctional. Due to more diverse political interests,

¹¹⁰⁷ Hanagan, p. 123.

¹¹⁰⁸ Hanagan, p. 124.

¹¹⁰⁹ Nye, *The Future of Power*, p. 6.

¹¹¹⁰ Hanagan, p. 124.

¹¹¹¹ Hanagan, p. 124.

a changing power distribution and the emergence of governance gaps and deadlocks, the nature of political relations between all involved actors, understood as “its content or character”¹¹¹² became more confrontational.

5.1.1.1 The Structure of the International Political Order

On the global level, the structure of the international order has experienced a constant transformation since the end of the Cold War. It quickly developed from a bi-polar stand-off between the former Soviet Union and the US in 1989 to a unipolar world in which the US became the sole global power. In the 2000’s, however, a fundamental transformation of the international order was put in motion due to two drivers of change: First, power was redistributed among a larger number of states. Generally speaking, national power shifted from West to East and to a smaller degree from North to South. Second, power diffused from states to non-state actors (e.g. terrorists, pirates, technologically-empowered citizens, NGO’s, private companies).¹¹¹³ The pace of power redistribution and power diffusion accelerated in recent years and has not yet come to an end. Today, the structure of the international order is in enormous flux and can be described in various ways. It is multipolar when characterized by the growing number of powerful players. And at the same time is non-polar when keeping in mind that no single actor is powerful enough to push through his own agenda.¹¹¹⁴ More recently, discussions pointed towards the emergence of a new bi-polar order between the US and China.¹¹¹⁵ For the time being, however, the US remains the largest power in “[t]his more plural order.”¹¹¹⁶

¹¹¹² Hanagan, p. 124.

¹¹¹³ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2007. The Annual Review of World Affairs’, *Strategic Survey*, 2007 (2007), p. 402; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, *Strategic Survey*, 2012 (2012), p. 402.

¹¹¹⁴ Richard N. Haas, ‘The Age of Nonpolarity. What Will Follow U.S. Dominance’, *Foreign Affairs*, 87.3 (2008) <<https://www.foreignaffairs.com/articles/united-states/2008-05-03/age-nonpolarity>> [accessed 7 April 2016]; Ian Bremmer and Nouriel Roubini, ‘A G-Zero World. The New Economic Club Will Produce Conflict, Not Cooperation’, *Foreign Affairs*, 2011.March/April (2011).

¹¹¹⁵ Hanns Maull, *Neue Bipolarität* (Berlin: Internationale Politik und Gesellschaft (IPG), 29 June 2015) <<http://www.ipg-journal.de/kolumne/artikel/neue-bipolaritaet-979/>> [accessed 19 December 2016]; Hanns Maull and Arno Bratz, *Report on the Conference ‘The Future of International Order’, November 29 - December 1, 2015* (Berlin: Stiftung Wissenschaft und Politik, 4 January 2016), p. 10 (pp. 8–9) <https://www.swp-berlin.org/fileadmin/contents/products/projekt_papiere/Conference_Report_HWM.pdf> [accessed 19 October 2016].

¹¹¹⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 400; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, *Strategic Survey*, 2009 (2009), p. 21.

Driver No. 1: A Power Shift from West to East

In economic, military, and political affairs power shifted from West to East. The relative decline of the US and the relative rise of China are the two most prominent examples of this global power shift.¹¹¹⁷

Economic Power Shift

From 2005 to 2013, a significant amount of global economic power, measured in GDP growth, shifted from West to East. This process was mainly the result of two factors: the emerging countries' economic race to catch up and the impacts of the global financial and economic crisis (for a more detailed analysis see chapter 4.1.1).

Driven by a significant population growth, the quest for social and economic development in emerging countries resulted in a dramatic industrialization process. This accelerated extensive bursts of GDP growth in these countries whilst Western GDP growth was significantly slower. This modernization process helped emerging countries to catch up with economically advanced countries in the West.

The global financial crisis, which started in the US, quickly developed into a global economic crisis and further accelerated the economic power shift (for a more detailed discussion, see chapter 4.1.1). Europe and the US were hit particularly hard by the global economic crisis and faced a long recession. As a consequence, then German finance minister Steinbrück questioned “[t]he United States['] [...] superpower status in the world financial system.”¹¹¹⁸ As the US had to put a stronger focus on domestic economic recovery, it could no longer pay the same amount of attention on international affairs, as it did after the end of the Cold War and in the first years of the 21st century.¹¹¹⁹ The new emerging powers in general and China in particular recovered from the global financial and economic crisis more quickly than Western states and returned to the economic

¹¹¹⁷ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, p. 381; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, p. 18.

¹¹¹⁸ Bertrand Benoit, ‘US “Will Lose Financial Superpower Status”’, *Financial Times* (London, 25 September 2008) <<https://www.ft.com/content/1d6a4f3a-8aee-11dd-b634-0000779fd18c>> [accessed 19 December 2016].

¹¹¹⁹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, p. 381.

growth path more easily.¹¹²⁰ As a consequence, China became both more confident and assertive on the international stage in political terms. At the same time, China's growing political weight "led to heightened international expectations for its role in addressing world challenges."¹¹²¹

Military Power Shift

The military power shift from West to East was equally compelling. In 2012, rising Asian defence budgets overtook the declining Western defence budgets in overall defence expenditures.¹¹²² To a large part this was the result of stagnating or shrinking defence budgets in Europe and the US in the aftermath of the global financial and economic crisis.¹¹²³ Additionally, after the interventions in Afghanistan and Iraq, western societies became increasingly war-weary. Thus, for domestic political reasons western defence budgets were cut. Taken together, these trends weakened the military power of the West.¹¹²⁴

At the same time, China's defence budget increased significantly resulting in an impressive "military modernisation".¹¹²⁵ As China continued to expand its military presence regionally and globally, it tried to convince the sceptics that its "military build-up was peaceful and defensive."¹¹²⁶ Russia's defence budget significantly increased, too. Coupled with a more aggressive rhetoric and its willingness to use military means for

¹¹²⁰ International Institute for Strategic Studies (IISS), 'Strategic Survey 2010. The Annual Review of World Affairs', p. 36.

¹¹²¹ International Institute for Strategic Studies (IISS), 'Strategic Survey 2010. The Annual Review of World Affairs', p. 36.

¹¹²² International Institute for Strategic Studies (IISS), 'Strategic Survey 2013. The Annual Review of World Affairs', *Strategic Survey*, 2013 (2013), p. 23.

¹¹²³ International Institute for Strategic Studies (IISS), 'Strategic Survey 2009. The Annual Review of World Affairs', p. 387; International Institute for Strategic Studies (IISS), 'Strategic Survey 2010. The Annual Review of World Affairs', p. 34; International Institute for Strategic Studies (IISS), 'Strategic Survey 2012. The Annual Review of World Affairs', pp. 31, 404.

¹¹²⁴ International Institute for Strategic Studies (IISS), 'Strategic Survey 2006. The Annual Review of World Affairs', *Strategic Survey*, 2006 (2006), p. 13; International Institute for Strategic Studies (IISS), 'Strategic Survey 2007. The Annual Review of World Affairs', pp. 19, 23-24; International Institute for Strategic Studies (IISS), 'Strategic Survey 2008. The Annual Review of World Affairs', *Strategic Survey*, 2008 (2008), p. 20; International Institute for Strategic Studies (IISS), 'Strategic Survey 2011: The Annual Review of World Affairs', *Strategic Survey*, 2011 (2011), p. 32.

¹¹²⁵ International Institute for Strategic Studies (IISS), 'Strategic Survey 2005. The Annual Review of World Affairs', *Strategic Survey*, 2005 (2005), p. 378.

¹¹²⁶ International Institute for Strategic Studies (IISS), 'Strategic Survey 2011: The Annual Review of World Affairs', p. 27.

political and strategic ends, as was seen in Georgia and Crimea, an assertive Russia, once again, became a destabilisator in Europe.¹¹²⁷

Table 38 - Defence Budgets by Year and Country in billion US \$¹¹²⁸

Year / Country	2005 1129	2006 1130	2007 1131	2008 1132	2009 1133	2010 1134	2011 1135	2012 1136	2013 1137
USA	495	535	553	696	661	721	739	664	600
United Kingdom	52	55	63	61	59	58	63	64	57
France	53	54	61	67	54	52	59	48	52
Germany	38	38	42	47	47	42	44	40	44
Russia¹¹³⁸	58	70	32	40	38	42	53	60	68
China¹¹³⁹	104	122	46	60	70	76	90	102	112
Japan	44	41	41	46	51	54	58	59	51
South Korea	20	25	27	24	22	25	28	29	32
Saudi Arabia	25	30	35	38	41	45	46	53	60
Israel	10	11	12	15	14	17	18	19	18
Iran	5	7	7	10	9	11	12	24	18

Table 39 - Defence Expenditures by Region and Year in billion \$

Region / Year	Europe¹¹⁴⁰	USA	Russia	Middle East and North	Asia Pacific
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¹¹²⁷ International Institute for Strategic Studies (IISS), 'Strategic Survey 2014. The Annual Review of World Affairs', *Strategic Survey*, 2014 (2014), p. 27.

¹¹²⁸ IISS uses different statistics. Therefore, in some cases, the table includes significant defence budgets increases and decreases.

¹¹²⁹ International Institute for Strategic Studies (IISS), 'The Military Balance 2007', *The Military Balance*, 107.1 (2007), 451 (pp. 406-8).

¹¹³⁰ International Institute for Strategic Studies (IISS), 'The Military Balance 2008', *The Military Balance*, 108.1 (2008), 496 (pp. 443-46).

¹¹³¹ International Institute for Strategic Studies (IISS), 'The Military Balance 2009', 109.1 (2009), 488 (pp. 447-49).

¹¹³² International Institute for Strategic Studies (IISS), 'The Military Balance 2010', *The Military Balance*, 110.1 (2010), 492 (pp. 462-65).

¹¹³³ International Institute for Strategic Studies (IISS), 'The Military Balance 2011', *The Military Balance*, 111.1 (2011), 496 (pp. 471-74).

¹¹³⁴ International Institute for Strategic Studies (IISS), 'The Military Balance 2012', *The Military Balance*, 112.1 (2012), 504 (pp. 44, 111, 117, 168, 192, 209, 306).

¹¹³⁵ International Institute for Strategic Studies (IISS), 'The Military Balance 2012', pp. 31, 44, 209, 306.

¹¹³⁶ International Institute for Strategic Studies (IISS), 'The Military Balance 2013', *The Military Balance*, 113.1 (2013), 572 (pp. 548-51).

¹¹³⁷ International Institute for Strategic Studies (IISS), 'The Military Balance 2014', *The Military Balance*, 114.1 (2014), 504 (p. 23).

¹¹³⁸ Only at market exchange rates

¹¹³⁹ Only at market exchange rates

¹¹⁴⁰ Europe encompasses all Nato member states excluding the US plus Russia

				Africa	
2005 ¹¹⁴¹	259	495	58	67	224
2006 ¹¹⁴²	268	536	70	82	241
2007 ¹¹⁴³	311	553	32	90	176
2008 ¹¹⁴⁴	325	696	40	110	191
2009 ¹¹⁴⁵	301	661	38	108	200
2010 ¹¹⁴⁶	286	694	42	127	221
2011 ¹¹⁴⁷	303	707	52	154	298
2012 ¹¹⁴⁸	276	655	59	164	310
2013 ¹¹⁴⁹	279	617	68	168	322

Political Power Shift

A combination of movement in the global economic and military landscape resulted in a political power (for a definition see page 201) shift from West to East on the global level. This manifested itself in a decreasing willingness or even ability of the West to proactively design the new emerging global order and to shape political events. In case of the US, three developments accelerated this trend. First, the decline of US political power started with the problems of dealing with an imploding Iraq after the end of combat operations in 'Operation Iraqi Freedom'. The US was unable to transform its overwhelmingly military power into a political advantage.¹¹⁵⁰ Instead, "[i]ts decision to carry out a primarily military campaign against terrorists had exposed the limits of what America's military potency could achieve – and thus had undermined its strategic power."¹¹⁵¹ Second, there was a general loss of trust in the US's global leadership role and its global moral authority over false pretences in Iraq, the scandals in Abu Ghraib and the US detention facility in Guantanamo Bay.¹¹⁵² Third, the economic consequences

¹¹⁴¹ International Institute for Strategic Studies (IISS), 'The Military Balance 2007', pp. 406–9.

¹¹⁴² International Institute for Strategic Studies (IISS), 'The Military Balance 2008', pp. 443–46.

¹¹⁴³ International Institute for Strategic Studies (IISS), 'The Military Balance 2009', pp. 447–50.

¹¹⁴⁴ International Institute for Strategic Studies (IISS), 'The Military Balance 2010', pp. 462–65.

¹¹⁴⁵ International Institute for Strategic Studies (IISS), 'The Military Balance 2011', pp. 471–74.

¹¹⁴⁶ International Institute for Strategic Studies (IISS), 'The Military Balance 2012', pp. 467–70.

¹¹⁴⁷ International Institute for Strategic Studies (IISS), 'The Military Balance 2013', pp. 548–51.

¹¹⁴⁸ International Institute for Strategic Studies (IISS), 'The Military Balance 2014', pp. 486–89.

¹¹⁴⁹ International Institute for Strategic Studies (IISS), 'The Military Balance 2014', pp. 486–89.

¹¹⁵⁰ International Institute for Strategic Studies (IISS), 'Strategic Survey 2007. The Annual Review of World Affairs', pp. 23–24.

¹¹⁵¹ International Institute for Strategic Studies (IISS), 'Strategic Survey 2009. The Annual Review of World Affairs', p. 21.

¹¹⁵² International Institute for Strategic Studies (IISS), 'Strategic Survey 2006. The Annual Review of World Affairs', p. 13; International Institute for Strategic Studies (IISS), 'Strategic Survey 2007. The Annual Review of World Affairs', pp. 19, 23–24; International Institute for Strategic Studies (IISS), 'Strategic

of the global financial and economic crisis increased the „risk of strategic fatigue in the United States“.¹¹⁵³

All three developments delegitimized the US role in the world as well as the western economic and political models. As a result, “the world [became] accustomed to the idea that the clout of the United States in world affairs was reduced, at least in relative terms.”¹¹⁵⁴ As the US to a certain degree withdrew from international affairs, it only reacted to events instead of actively shaping them more often than before.¹¹⁵⁵ This US retreat had significant consequences for various regional orders as the US lost influence in these theatres. Furthermore, since the US signaled to ‘lead from behind’ more often, the deterrent promise in Europe, the Middle East, and Asia was called into question by more and more allies. This was particularly the case in the Middle East in the aftermath of the Arab spring when traditional US allies put into question the US’s role in the region and the strength of existing bilateral relationships.¹¹⁵⁶ The Middle East also served as example for the more detached US approach. During the Arab spring, the US realised “that it had little ability to directly influence events on the streets of the Arab world“ and that “its role of dominant arbiter of the region’s affairs“ was waning.¹¹⁵⁷ Then Secretary of State Hillary Clinton admitted that “America could not solve the region’s problems.”¹¹⁵⁸ In addition, the overthrow of regimes in the region and the resulting insecurity led to a regional power vacuum that was filled by new actors like the Gulf states.¹¹⁵⁹ The North Atlantic Treaty Organization (Nato)-led air campaign in Libya offered an insight into the reduced global US role as Washington announced to only

Survey 2008. The Annual Review of World Affairs’, p. 20; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 32.

¹¹⁵³ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, p. 419; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 31.

¹¹⁵⁴ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 32.

¹¹⁵⁵ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2013. The Annual Review of World Affairs’, p. 17; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 414.

¹¹⁵⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, pp. 31–32; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, pp. 21–22.

¹¹⁵⁷ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 31.

¹¹⁵⁸ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 31.

¹¹⁵⁹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 397.

“lead from behind“. At the same time, however, the US’s diplomatic and military role as a “deterrent in various theatres – especially the Asia Pacific“ remained critical for global security and stability.¹¹⁶⁰

Obviously, the US remained the world’s pre-eminent power and the anchor of international security. Its combination of economic and military superiority enabled the US to uphold the first rank in global political power calculations. Yet, “[a]s foreign-policy energy [was] sapped by the need to rebuild economically at home“, there was less appetite to decisively engage in global affairs.¹¹⁶¹ In addition, the US’s relative decline also reduced its ability to unilaterally implement its own agenda on the world stage.¹¹⁶² Hence, the US’s „international standing [was] widely perceived to have [been] diminished“.¹¹⁶³ As the country’s moral standing as well as its armed forces were damaged, “[t]he military might of the United States was seen to be not so mighty after all, and America’s voice might no longer be heard“.¹¹⁶⁴

Accelerated by the eurocrisis, Europe faced a similar situation. As it was confronted with a weak economy and dwindling political unity, defence budgets were reduced and its strategic vision and ambitions were weakened.¹¹⁶⁵ Against this background, the West’s interest and ability to pro-actively shape global affairs and strategic outcomes was lower than in previous decades.¹¹⁶⁶ Instead of active political engagement, western states more narrowly focused on economic considerations.¹¹⁶⁷

¹¹⁶⁰ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, pp. 20–22; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 42.

¹¹⁶¹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 401; Chatham House, p. 17.

¹¹⁶² International Institute for Strategic Studies (IISS), ‘Strategic Survey 2007. The Annual Review of World Affairs’, p. 402.

¹¹⁶³ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2008. The Annual Review of World Affairs’, p. 19.

¹¹⁶⁴ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2008. The Annual Review of World Affairs’, p. 20.

¹¹⁶⁵ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2007. The Annual Review of World Affairs’, p. 402.

¹¹⁶⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, pp. 416–17; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2005. The Annual Review of World Affairs’, p. 375; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2006. The Annual Review of World Affairs’, p. 14; International Institute for Strategic Studies (IISS), ‘The Military Balance 2007’, p. 24; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2008. The Annual Review of World Affairs’, p. 17; International Institute for Strategic Studies (IISS), ‘The Military Balance 2009’, p. 21; International Institute for Strategic Studies (IISS), ‘The Military

The picture looked quite different for rising powers. And “[t]he Arab uprisings pushed forward the global shift away from the established balances of the twentieth century.”¹¹⁶⁸ China’s economic and military power and ultimately its political power grew significantly over the same time period. The country recovered more quickly than most other countries from the global financial and economic crisis.¹¹⁶⁹ Already in 2010, economic growth exceeded 10%.¹¹⁷⁰ This resulted in a growing strategic political clout in the Asia-Pacific region and on the global level even though the country is “still too weak definitively to shape its regional environment alone.”¹¹⁷¹ Nonetheless, many neighbouring states “remain[ed] wary of China’s ambitions and the numerous formal and informal regional political, economic and security structures serve[d] to encase China’s efforts as much as possible within a multilateral format.”¹¹⁷² Nevertheless, China’s global role increased significantly since the mid-2000s.¹¹⁷³ Its growing strategic clout, in turn, was met by the international community with expectations to take over more international responsibility. Regional actors in the Asia-Pacific region, however, remained concerned about the accelerating Chinese military build-up. China, whilst trying “to persuade the world that its military build-up was peaceful and defensive“, started to act more assertive, thereby putting question marks on its growing international role.¹¹⁷⁴

This relative US decline and Chinese increase in political power resulted in growing tensions between the two countries, even though their economies were strongly interconnected “by American demand for Chinese exports and Chinese investment in US

Balance 2011’, p. 414; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, p. 419; Chatham House, p. 12.

¹¹⁶⁷ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 401.

¹¹⁶⁸ International Institute for Strategic Studies (IISS), ‘The Military Balance 2011’, p. 42.

¹¹⁶⁹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, p. 36.

¹¹⁷⁰ International Institute for Strategic Studies (IISS), ‘The Military Balance 2011’, p. 40.

¹¹⁷¹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2007. The Annual Review of World Affairs’, p. 402.

¹¹⁷² International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, p. 382; Chatham House, pp. 12, 17.

¹¹⁷³ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 40; International Institute for Strategic Studies (IISS), ‘The Military Balance 2011’, p. 40.

¹¹⁷⁴ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, p. 36; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, pp. 27, 40; Chatham House, p. 17.

government debt.¹¹⁷⁵ The most prominent example of disagreement was the legal status of the South China Sea. Whilst the US rejected Chinese territorial claims and insisted on the freedom of the seas, China referred to the “non-interference in territorial disputes.”¹¹⁷⁶ Thus, both states were at odds over the interpretation of international norms (e.g. non-interference vs. right of innocent passage). Broadly, there seemed not enough ability or willingness to define common goals and to identify the necessary global governance institutions and norms according to which these institutions should work in order to advance their political strategic interests.¹¹⁷⁷ This lack of agreement and common vision had consequences for the functioning and character of the international political order (see chapter 5.1.1.2 and 5.1.1.3).

The political relationship between the West and Russia became more complicated, too. The West was concerned by Russia’s growing willingness to use economic tools (in this case energy resources) for political gains, as was the case in the Russia-Ukraine conflict over a “temporary cut-off of gas supplies to Ukraine in January 2006.”¹¹⁷⁸ The Georgia-Russia war in 2008 and the de-facto annexation of the two runaway provinces of South-Ossetia and Abkhazia caused distrust in the West about the invulnerability of territorial borders in Europe.¹¹⁷⁹ Russia, on the other side, was concerned by the prospect of Nato enlargement into the East and American plans to build missile-defence systems in Eastern Europe (Poland and the Czech Republic).¹¹⁸⁰ As a result of a waning political consensus between both sides, the functioning and character of the international political order was further strained.

¹¹⁷⁵ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 40.

¹¹⁷⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, pp. 414–15.

¹¹⁷⁷ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, pp. 414–15.

¹¹⁷⁸ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2006. The Annual Review of World Affairs’, p. 26.

¹¹⁷⁹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, p. 19.

¹¹⁸⁰ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2007. The Annual Review of World Affairs’, p. 30; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2008. The Annual Review of World Affairs’, p. 385.

Altogether, on economic and military terms, non-Western states were on the rise and “claim[ed] greater extra-regional political influence.”¹¹⁸¹ In several instances, key actors like China and Russia seemed less and less willing to comply with the existing international political order, inspired by Western norms.

Driver No. 2: Power Diffusion from State to Non-State Actors

Non-state actors became a more powerful force in international affairs, too.¹¹⁸² Three major groups, transnational Islamist terrorists, pirates and technology-empowered individuals became some of the most influential non-state forces in global affairs. Transnational Islamist terrorism played a major role in international security affairs since at least the 9/11 attacks. Al-Qaida and its regional branches as well as inspired individuals of the terrorist network fought the US and its allies in Afghanistan and Iraq. They also carried out terrorist attacks against Western targets all across the globe (e.g. London, Madrid, Mumbai, Islamabad).¹¹⁸³ The latest sign of a growing role of transnational Islamist terrorists has been the rise of the so-called Islamic State (IS) in Syria, Iraq and beyond.¹¹⁸⁴

Piracy off the coast of Somalia and the Horn of Africa posed another serious security challenge as it threatened the unhindered shipping traffic on which the global economy so heavily depends on.¹¹⁸⁵

Another recurring theme was the empowerment of individuals by technological applications. This phenomenon, at least to a certain degree, reshuffled the distribution of power within nation-states.¹¹⁸⁶ This was seen first in the Green revolution in Iran in 2009. And in subsequent years ordinary citizens from Brazil to Spain and Israel went to the streets and governments seemed “generally to have less power to control the

¹¹⁸¹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 400.

¹¹⁸² Chatham House, p. 22.

¹¹⁸³ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2005. The Annual Review of World Affairs’, p. 9; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2007. The Annual Review of World Affairs’, p. 28; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, p. 19.

¹¹⁸⁴ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, p. 20.

¹¹⁸⁵ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, p. 20.

¹¹⁸⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2013. The Annual Review of World Affairs’, p. 26.

activities of their citizens than they used to have.¹¹⁸⁷ The most prominent example, however, was the popular uprising during the Arab Spring in 2011. The “massive mobilisation of young people” led to the collapse of long standing regimes in Egypt, Libya, Tunisia, and Yemen at “breath-taking speed.”¹¹⁸⁸ Besides of being a transformative development for the region itself, the Arab Spring can be seen as a reminder of the prospect of growing uncertainties in global affairs as “decades-old certainties crumbled along with corrupt regimes and their oppressive security agencies.”¹¹⁸⁹

Taken together, after a decade of US unipolarity, the international political order’s structure became multi-polar in the sense that more actors emerged on the international stage – ranging from emerging countries to private companies, media agencies or NGO’s.¹¹⁹⁰ At the same time, however, the order became non-polar in the sense that no single actor or group of actors appeared powerful enough to implement any particular agenda on its own. Whilst the West was no longer able to implement its own agenda, the rising rest had no political plan for how to use its growing strategic clout.¹¹⁹¹ This had consequences for the functioning and character of the international political order.

5.1.1.2 The Functioning of the International Political Order

The international order became increasingly dysfunctional for three reasons: First, existing global governance institutions seemed to be no longer fit for purpose. Second, rising powers established parallel governance institutions. Third, political disagreements between the West and emerging countries hampered decisive and united international initiatives to develop further the existing global governance architecture.

Driver No. 1: The Inadequacy of Existing Global Governance Institutions

¹¹⁸⁷ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2013. The Annual Review of World Affairs’, p. 26.

¹¹⁸⁸ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, pp. 28–29.

¹¹⁸⁹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 27.

¹¹⁹⁰ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 402.

¹¹⁹¹ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 402.

First, the existing network of global governance institutions and mechanisms, mostly created by the West after the end of the Second World War, seemed no longer to be sufficiently equipped to handle the challenges of the 21st century.¹¹⁹² This applied to all three issue-areas of environmental, economic and political affairs. One striking example of the malfunctioning of the existing political organization of the international order was the inability to forge a new global climate treaty in Copenhagen in 2009.¹¹⁹³ The declining effectiveness of the existing institutions and organizations “raised the prospect of a world in which fundamental structures and systems had been undermined, with no indication of what was to replace them. Th[e] sense of a world operating without a system [...] emerged.”¹¹⁹⁴

Driver No. 2: The Establishment of Alternative Global Governance Institutions

Second, the international order’s changing structure had a distinct impact on its functioning. After a decade of being the center of political gravity, the West lost its hegemony and had no longer an “automatic magnetic pull.”¹¹⁹⁵ This relative decline of the West (as seen in the changing structure of the international order, see page 203) called into question the dominance and exclusive legitimacy of the Western-led political organization and its underlying multilateral institutions (e.g. UN, World Bank, IMF, WTO), international treaties (e.g. Nuclear Non-Proliferation Treaty (NPT)), and global declarations like the Universal Declaration of Human Rights).¹¹⁹⁶ As the growing economic and military power of emerging countries began to be translated into more active political engagement and a new assertiveness by these players to safeguard their strategic interests across the globe, they began to establish parallel institutions (e.g. the Shanghai Cooperation Organization, the New Development Bank, or the Asia Infrastructure Development Bank).¹¹⁹⁷ As rising powers became stronger, inter-regional

¹¹⁹² International Institute for Strategic Studies (IISS), ‘Strategic Survey 2006. The Annual Review of World Affairs’, p. 20; Chatham House, p. 35.

¹¹⁹³ Chatham House, p. 12; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, p. 17; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, pp. 387–88.

¹¹⁹⁴ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2006. The Annual Review of World Affairs’, pp. 21–22.

¹¹⁹⁵ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, p. 382.

¹¹⁹⁶ Hanagan, p. 124.

¹¹⁹⁷ Haas; Steven Keithley, *China’s New Global Institutions* (Tokyo: The Diplomat, 25 July 2014) <<http://thediplomat.com/2014/07/chinas-new-global-institutions/>> [accessed 7 April 2016]; Gabriel

political cooperation between countries of the Global South increased.¹¹⁹⁸ As a consequence, the world moved from a unipolar moment (understood as Western-centered) towards a more multi-polar (or even a non-polar) order in institutional terms. In this new order, western-led institutions and those of emerging countries existed in parallel.¹¹⁹⁹ The G20's more prominent political role since the global financial crisis "reflects a gradual rebalancing of world institutions away from Western dominance."¹²⁰⁰

Driver No. 3: Increasing Political Disagreements between The West and Rising Powers

Third, political disagreements between the West and emerging countries on how to tackle global challenges blocked decisive and united international initiatives. Both sides are responsible for the current governance deadlocks. The West was unwilling to change the status quo of the "rules of the game", e.g. by equipping emerging powers with more voting power in global governance institutions. At the same time, western states – due to their reduced political power – had lost the ability to decisively and unilaterally lead in global affairs. Emerging powers, on the other side, were unable or unwilling to take over responsibility within the existing governance structures.¹²⁰¹ The main problem, however, was the lack of an agreement between both sides as to what the main global problems are, what a solution might look like and what role any institution could play in tackling these problems.¹²⁰² As a consequence of the one side's inability to lead and the other's unwillingness to do so "strategic nationalism continue[d] to rise."¹²⁰³ Many countries became more interested in advancing their more narrow national strategic

Wildau, 'New Brics Bank in Shanghai to Challenge Major Institutions', *Financial Times* (London, 21 July 2015) <<http://www.ft.com/cms/s/0/d8e26216-2f8d-11e5-8873-775ba7c2ea3d.html#axzz4599wqx>> [accessed 7 April 2016]; Hanns Günther Hilpert and Gudrun Wacker, *Geoökonomie Trifft Geopolitik. Chinas Neue Außenwirtschaftliche Und Außenpolitische Initiativen* (Berlin: Stiftung Wissenschaft und Politik, May 2015), p. 8 <http://www.swp-berlin.org/de/publikationen/swp-aktuell-de/swp-aktuell-detail/article/china_geoekonomie_trifft_geopolitik.html> [accessed 7 April 2016].

¹¹⁹⁸ International Institute for Strategic Studies (IISS), 'Strategic Survey 2012. The Annual Review of World Affairs', p. 399; International Institute for Strategic Studies (IISS), 'Strategic Survey 2014. The Annual Review of World Affairs', p. 382.

¹¹⁹⁹ Haas.

¹²⁰⁰ Chatham House, p. 22.

¹²⁰¹ International Institute for Strategic Studies (IISS), 'Strategic Survey 2012. The Annual Review of World Affairs', pp. 400, 402; International Institute for Strategic Studies (IISS), 'Strategic Survey 2013. The Annual Review of World Affairs', p. 25; Chatham House, p. 13.

¹²⁰² Chatham House, p. 36.

¹²⁰³ International Institute for Strategic Studies (IISS), 'Strategic Survey 2012. The Annual Review of World Affairs', p. 400.

interests instead of a global good.¹²⁰⁴ Consequently, membership and participation in regional and global institutions were no longer seen as sufficient to protect national interests. Instead, countries more often aimed to “advance their goals” outside formal institutional arrangements.¹²⁰⁵ This resulted in “[a] more uncertain world”, lacking the necessary leadership to tackle questions of global order and global governance.¹²⁰⁶ These three factors made common global actions within the existing “rules of the game” increasingly difficult.¹²⁰⁷ As a consequence, governance deadlocks emerged, and the international order became dysfunctional.¹²⁰⁸ As international institutions have been unable to effectively address global challenges, their legitimacy was undermined.¹²⁰⁹ In this transitional phase the danger of a security vacuum was growing.¹²¹⁰ This had consequences for the nature of the international order, too.

5.1.1.3 The Nature of the International Political Order

As a result of a changing structure and malfunctioning institutions the nature of the international political order changed from a rather peaceful situation, a cooperative spirit and a rather orderly world towards a more conflict-ridden, confrontational and disorderly world.

Manifestation No. 1: Less Cooperation and More Confrontation

¹²⁰⁴ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2009. The Annual Review of World Affairs’, pp. 387–88; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, pp. 416–17; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 400.

¹²⁰⁵ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2010. The Annual Review of World Affairs’, pp. 416–17.

¹²⁰⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2013. The Annual Review of World Affairs’, p. 25.

¹²⁰⁷ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2007. The Annual Review of World Affairs’, p. 397.

¹²⁰⁸ Goldin and Mariathasan, p. 31; Oxford Martin School, *Now for the Long Term. The Report of the Oxford Martin Commission for Future Generations* (Oxford: University of Oxford, 2013), p. 85 (p. 44) <http://www.oxfordmartin.ox.ac.uk/downloads/commission/Oxford_Martin_Now_for_the_Long_Term.pdf> [accessed 29 January 2016]; World Economic Forum, *Global Risks 2011* (Cologne/Geneva: World Economic Forum, 2011), p. 56 (pp. 10–11) <<http://reports.weforum.org/wp-content/blogs.dir/1/mp/uploads/pages/files/global-risks-2011.pdf>> [accessed 29 January 2016]; Ngaire Woods and others, *Transforming Global Governance for the 21st Century* (New York: United Nations Development Programme, Human Development Report Office, 2009), p. 18 (pp. 1–8); Maximilian Terhalle, ‘Warum Das Governance-Axiom Gescheitert Ist. Eine Notwendige Kritik’, *Zeitschrift Für Politik*, 62.3 (2015), 263–88 (p. 263).

¹²⁰⁹ Chatham House, p. 13.

¹²¹⁰ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 417.

The more confrontational character of the international political order manifested itself in an increase of political tensions between major powers as well as between these powers and non-state actors. Amongst others, these conflicts were fought out over spheres of economic and political influence as well as territorial claims in Europe, the Middle East, and the Asia-Pacific region. There was a growing risk of escalation in all three regions.¹²¹¹

And as the US was no longer seen as the ultimate security guarantor in many regions (see chapter 5.1.1.1, page 207), rising powers appeared more eager to change the status quo of regional balances of power.¹²¹² Russia in Ukraine and China in the East and South China seas took advantage of this situation as they changed or are still in the process of changing the facts on the ground.¹²¹³ And starting in 2014, the IS made notable advances in Iraq and Syria. Consequently Europe, the Middle East, and the Asia-Pacific region are characterised by more political volatility and uncertainty.¹²¹⁴ And whilst these episodes “underline the growing need for constructive diplomacy [...] many world leaders and establishments [have been] focused inwards.”¹²¹⁵ Consequently the nature of the international order became less cooperative and more confrontational.

Manifestation No. 2: Growing Disorder

More players emerged on the global stage, and nation-states became more preoccupied by their national interests. The political willingness for international cooperation decreased. Consequently, global governance frameworks were malfunctioning. Long-held certainties like the US being the mainstay of global security conceded.¹²¹⁶ As a result of the declining American strategic clout, regional powers in Europe, the Middle East and Asia became more assertive, “flex[ed] their muscles and test[ed] the limits of

¹²¹¹ Chatham House, p. 21; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, pp. 17–18; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2011: The Annual Review of World Affairs’, p. 42.

¹²¹² International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, p. 380.

¹²¹³ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, p. 380.

¹²¹⁴ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2012. The Annual Review of World Affairs’, p. 380; International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, pp. 380, 382.

¹²¹⁵ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, p. 20.

¹²¹⁶ International Institute for Strategic Studies (IISS), ‘Strategic Survey 2014. The Annual Review of World Affairs’, p. 21.

their regional freedom of manoeuvre.¹²¹⁷ As the unipolar American moment came to an end, a growing security vacuum seemed to emerge, and disorder has become the new normal state of affairs.¹²¹⁸ This changing character of the international order had consequences for various regional orders.

5.1.1.4 Structure-related Implications of a Changing International Political Order

As a result of political power shifts, the increasing multipolar 'structure' had significant impacts on the 'functioning' and 'character' of the global political order. First, international political affairs became increasingly dysfunctional due to emerging governance deadlocks and gaps as it became impossible to forge a global political consensus on the advancement of existing global political governance frameworks. Second, the 'character' of global political affairs became increasingly confrontational as states competed for spheres of influence and the US's role as benign hegemon was waning in many theaters. An increase of actors with no intent to coordinate resulted in growing disorder. All these structural changes also had an impact on global economic and environmental affairs. Political disagreements between the West and emerging countries blocked decisive and united international initiatives on how to tackle global challenges like climate change or the management of economic globalization.

5.1.1.5 Process-Related Implications of a Changing International Political Order for Environmental and Economic Affairs

Changes in the international political order had repercussions for the global economic order as well as for the global climate and environment. The global economic and financial crisis forced many governments to put economic instead of political affairs at the center of their foreign policies. This narrowing focus of foreign politics on economic questions was further aggravated by the growing demand for natural resources and the resulting more prominent role of the state in economic affairs. The politicization of economic affairs in general and of natural resources in particular resulted in a more conflictual economic and political atmosphere. The more confrontational state of affairs made global action to fight climate change increasingly difficult. Hence environmental

¹²¹⁷ International Institute for Strategic Studies (IISS), 'Strategic Survey 2014. The Annual Review of World Affairs', p. 380.

¹²¹⁸ International Institute for Strategic Studies (IISS), 'Strategic Survey 2014. The Annual Review of World Affairs', p. 22.

and economic affairs became more vulnerable to a changing global political order. These growing interdependencies at the global level also had a particular impact on the Arctic.

5.1.2 External Regional Level: The Arctic

The interdependencies between the international political order and the regional order in the Arctic have been significant. The global competition between the US and the Soviet Union during the Cold War comprehensively shaped Arctic political affairs and related security and military calculations. The Arctic's political order was almost exclusively determined by political and strategic calculations at the global level. It does not come as a surprise that regional political cooperation was made possible only after the end of the Cold War. Driven by global as well as regional calculations in environmental and economic affairs political coordination and cooperation between all regional states increased in recent years. Lately a changing international political order has been shaping Arctic political affairs as non-Arctic players intend to resume a more prominent role in the regional political order.

5.1.2.1 Background Information: The Role of the Arctic During the Cold War

In order to better understand the current political order, it is necessary to first take a closer look back at the regional political order during the Cold War. At that time, the Arctic was of strategic importance for the US and its western partners on the one side and the Soviet Union on the other due to its geographical role as the shortest corridor to target the respective adversary with strategic bombers or nuclear missiles.¹²¹⁹ Thus, the region was brought "to the crossroads of the global confrontation [even though] the conflict did not originate in the Arctic itself."¹²²⁰ The military strategies of both blocks were based on three pillars: strategic bombing, sea-based operations, and the respective infrastructure build-up.

Pillar No. 1: Strategic Bombing

In the early days of the Cold War, strategic bombing was the cornerstone of both sides' nuclear strategies. Both the Strategic Air Command (SAC) in the US and the Long Range Aviation (LRA) in the Soviet Union intensified their strategic bombing operations and

¹²¹⁹ Tamnes and Offerdal, p. 1; Tamnes and Holtsmark, pp. 13, 21–22.

¹²²⁰ Tamnes and Holtsmark, pp. 21–22.

patrols in the Arctic during the Cold War.¹²²¹ Starting from air bases *Engels* and *Ukrainka* in Western Russia and the Far East, soviet bombers flew towards Canada and the US by using standby Arctic airbases.¹²²² For Nato, on the other side, Iceland played a central role for the alliance's security as "an unsinkable carrier" and a staging area for air and naval patrol of the North Atlantic area."¹²²³ Norway and Greenland were of similar importance as a staging area for SAC aircraft offensive operations in case of hostilities.¹²²⁴

Pillar No. 2: Sea-based Operations

Sea-based nuclear operations formed both sides' second pillar of military strategy. For the Soviet Union, the Kola Peninsula in the north "offered ice-free access to the most important Cold War theatres of operation."¹²²⁵ The build-up of bases on the Kola Peninsula made the northern region the centerpiece of the Soviet Union's naval forces and the sea-based strategic forces.¹²²⁶ From 1953 to the mid-1980s the Northern Fleet's share of the Soviet Union's strategic submarines grew from 8 to roughly 50%. At the same time two-thirds of the country's submarine-based strategic nuclear capabilities were stationed under the Northern Fleet's command.¹²²⁷ There are two reasons for the growing strategic importance of the Northern Fleet. First, the fleet's bases along the coast of the Barent Sea are the only facilities that allow for year-round access to the Arctic and Atlantic Oceans.¹²²⁸ Thus Russia's naval ability to project force was and continues to be dependent on the North. Second, since the 1970's the Soviet Union possessed nuclear missiles equipped submarines able to target almost all of the US from Arctic waters.¹²²⁹

Nato's interest in maritime operations in the region was of both defensive and offensive nature. The perceived growing threat from the Soviet Union's submarine operations resulted in a close and enduring reconnaissance and intelligence cooperation between

¹²²¹ Tamnes and Holtsmark, pp. 24–25.

¹²²² Tamnes and Holtsmark, p. 25.

¹²²³ Tamnes and Holtsmark, pp. 25–26.

¹²²⁴ Tamnes and Holtsmark, pp. 25–26.

¹²²⁵ Tamnes and Holtsmark, p. 27.

¹²²⁶ Tamnes and Holtsmark, pp. 21–22, 27; Caitlyn L. Antrim, 'The Next Geographical Pivot. The Russian Arctic in the Twenty-First Century', *Naval War College Review*, 63.3 (2010), 15–38 (pp. 19–20).

¹²²⁷ Tamnes and Holtsmark, p. 27.

¹²²⁸ Antrim, p. 20.

¹²²⁹ Tamnes and Holtsmark, p. 27.

the US and Norway, whereby the latter offered the former access to Norwegian facilities. Later on, Norway received maritime patrol aircraft from the US to cover Soviet activities in the Barents Sea, the Kola region, and the northern rim in general. This allowed the US to focus on securing the maritime area between Greenland, Iceland, and the United Kingdom, also known as GIUK gap, against Soviet submarines.¹²³⁰ At the same time, western nuclear submarines allowed “for offensive operations against Soviet territory.”¹²³¹

Pillar No. 3: Infrastructure Build-up

In order to protect against incoming nuclear equipped aircrafts and missiles, both sides built widespread and massive air defence infrastructure in their northern areas.¹²³² In the US, Canada, and Greenland, the first radar stations, built to track against Soviet threats, were launched in 1954. These stations lay the foundation for both the North American Air Defence Command (NORAD) and the Ballistic Missile Early Warning System (BMEWS).¹²³³ At its peak, the US had stationed 10,000 personnel in Greenland at Thule airbase.¹²³⁴ In Iceland at Keflavik airbase, the US maintained a troop presence of up to 5,000 personnel.¹²³⁵

Similarly, the Soviet Union invested heavily in the build-up of military infrastructure in its northern territories in general and in the Kola Peninsula in particular. In the 1920s, Murmansk counted 2,000-3,000 people. In 1990, this number had grown to almost 470,000 inhabitants. Due to the fact that the Northern Fleet had its headquarters on the peninsula, the region became “one of the most heavily militarized areas in the world.”¹²³⁶

5.1.2.2 The Structure of the Regional Political Order

The regional political order has undergone a significant transformation since the end of the Cold War. During the Cold War, the regional order was bipolar. Euro-atlantic states

¹²³⁰ Tamnes and Holtsmark, pp. 28–29.

¹²³¹ Tamnes and Holtsmark, p. 28.

¹²³² Tamnes and Holtsmark, pp. 25, 31, 35.

¹²³³ Tamnes and Holtsmark, p. 26; Clive Archer, ‘Greenland, US Bases and Missile Defence. New Two-Level Negotiations?’, *Cooperation and Conflict*, 38.2 (2003), 125–47 (pp. 8, 11).

¹²³⁴ Tamnes and Holtsmark, p. 32.

¹²³⁵ Tamnes and Holtsmark, p. 32.

¹²³⁶ Tamnes and Holtsmark, pp. 31–32.

one the one side, led by the US, and the former Soviet Union on the other side were facing each other. After the end of the Cold War and the reduced military footprint of both blocks, the region has become more multipolar as all Arctic states now occupy a seat at the table. Nevertheless, the US and Russia remain the two most powerful players in the region. In recent years, the region has witnessed a certain re-militarization mostly driven by Russia.

Altogether, there are three layers of actors in the Arctic. The core group consists of the five Arctic coastal states – Canada, Denmark, via Greenland, which is part of the Danish Realm, Norway, Russia, and the United States. As these five states possess direct access to the Arctic Ocean, they have the largest political and legal influence. Together with Finland, Iceland, and Sweden, which all have Arctic territories, the group of eight states forms the Arctic Council (AC). The indigenous groups are another group of actors. They are permanent participants in the AC, yet they only have consultation rights when the Arctic states negotiate and decide. This shows their limited role in Arctic politics. Finally, there are non-Arctic stakeholders like the EU, China, or Germany, who have a growing interest in discussions about the future development of the region. Because of this interest they applied for observer status in the AC.¹²³⁷

Table 40 - Three Layers of Arctic Actors

A8	A5	Non-Arctic Actors
Canada Denmark (Greenland) Finland Iceland Norway Russia Sweden United States	Canada Denmark (Greenland) Norway Russia United States	China France Germany India Italy Japan Netherlands Poland Singapore South Korea Spain United Kingdom EU Nato

¹²³⁷ Of all listed non-Arctic actors, only Nato has not applied for permanent observer status. The EU has applied for but the decision about the EU’s pledge has been postponed in the wake of „Ukraine crisis“ and deteriorating relations between the West and Russia. All other listed actors have already observer status.

Arctic Coastal States Political Interests and related Security and Defence Capabilities

To better understand recent military developments, it is necessary to recognize the political calculations behind it. A strict distinction between purely military and civilian capabilities is not possible in this context as some capabilities have a dual-use character (e.g. surveillance or intelligence sensors).¹²³⁸ In a similar manner, key agencies like coast guards sometimes fall under military and sometimes under civilian control. A definitive distinction is also impossible due to the multi-faceted security challenges in the region – ranging from threats against the state and its sovereignty to societal threats (e.g. ship accidents or natural disasters). The analysis focuses exclusively on the five coastal states (A5) as they do not only possess an Arctic landmass but also Arctic sea areas, including exclusive economic zones (EEZs)¹²³⁹ and (potentially) continental shelves,¹²⁴⁰ which offers them more options to operate in the region in the three issue areas under study.

1. Canada

Canada's Arctic policy is based on four pillars: to exercise sovereignty, to promote social and economic development, to protect the environment and to improve northern governance. All these pillars are framed in the context of the outstanding symbolic significance the northern territories play for Canada's national identity.¹²⁴¹ The main emphasis, however, rests on ensuring sovereignty as this "is the foundation for realizing the full potential of Canada's North."¹²⁴² In terms of military security, the focus on sovereignty is closely linked to a growing anxiety about the melting Arctic ice that

¹²³⁸ Paal Sigurd Hilde, 'Armed Forces and Security Challenges in the Arctic', in *Geopolitics and Security in the Arctic. Regional Dynamics in a Global World*, ed. by Rolf Tamnes and Kristine Offerdal, Routledge Global Security Studies (London and New York: Routledge, 2014), pp. 147–65 (pp. 147–48).

¹²³⁹ See Art. 55-63 United Nations, 'United Nations Convention on the Law of the Sea', 1982 <http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf> [accessed 4 May 2016].

¹²⁴⁰ See Art. 76-85 United Nations.

¹²⁴¹ Klaus J. Dodds, 'We Are a Northern Country. Stephen Harper and the Canadian Arctic', *Polar Record*, 47.243 (2011), 371–82 (p. 371); Government of Canada, 'Canada's Northern Strategy. Our North. Our Heritage, Our Future', 2009, pp. 1–42 <<http://www.northernstrategy.gc.ca/cns/cns-eng.asp>> [accessed 3 May 2016]; Government of Canada, 'Statement on Canada's Arctic Foreign Policy. Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad', 2010, pp. 1–27 <http://www.international.gc.ca/arctic-arctique/arctic_policy-canada-politique_arctique.aspx?lang=eng> [accessed 3 May 2016].

¹²⁴² Government of Canada, 'Statement on Canada's Arctic Foreign Policy. Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad', p. 5; Kristine Offerdal, 'Interstate Relations. The Complexities of Arctic Politics', in *Geopolitics and Security in the Arctic. Regional Dynamics in a Global World*, ed. by Rolf Tamnes and Kristine Offerdal, Routledge Global Security Studies (London and New York: Routledge, 2014), pp. 73–96 (p. 76); Hilde, p. 150.

means that Canada's coastline is less protected from outside events.¹²⁴³ This realization went hand in hand with announcements to invest in new military capabilities.¹²⁴⁴ The government in 2009 announced that "[w]e are putting more boots on the Arctic tundra, more ships in the icy water and a better eye in the sky."¹²⁴⁵ In order to enhance its Arctic footprint Canada announced to invest in new military infrastructure - a naval station at Nanisivik and a training center in Resolute Bay and also launched three new annual military exercises in the region since 2007, Operation NANOOK, Operation NUNALIVUT and Operation NUNAKPUT.¹²⁴⁶

Canadian security and defence policy has been closely linked to the US and NORAD.¹²⁴⁷ Therefore the US is considered "an exceptionally valuable partner in the Arctic."¹²⁴⁸ At the same time, however, it is Canada's main challenger with regard to the legal status of the NWP, which the US claims to be international waters, and which Canada vehemently rejects.¹²⁴⁹ With regard to new Arctic stakeholders, Canada has been quite reluctant as "the Arctic states remain best placed to exercise leadership in the management of the region."¹²⁵⁰ Therefore Canada sees also no necessity to develop new governance structures in the region or to adapt existing frameworks and institutions.¹²⁵¹ Finally Canada rejects the idea of an explicit and more prominent Nato role in the region.¹²⁵²

In terms of capabilities, the Canadian Airforce possesses 18 CP-140 (P-3C) anti-submarine warfare (ASW) aircraft, 80 F/A-18 and 65 F-35 combat aircraft, supported by 7 tanker aircraft, and 10-12 transport aircraft (e.g. C-130J and C-17), and some helicopters.¹²⁵³ The Navy operates 15 major warships, 6-8 OPV's and four submarines. In addition, the Coast Guard commands 4 medium- and 1 large-sized icebreakers and six

¹²⁴³ Dodds, 'We Are a Northern Country. Stephen Harper and the Canadian Arctic', p. 372.

¹²⁴⁴ Hilde, p. 150.

¹²⁴⁵ Government of Canada, 'Canada's Northern Strategy. Our North. Our Heritage, Our Future', p. 9.

¹²⁴⁶ Hilde, p. 150.

¹²⁴⁷ Hilde, p. 149.

¹²⁴⁸ Government of Canada, 'Canada's Northern Strategy. Our North. Our Heritage, Our Future', p. 34.

¹²⁴⁹ Offerdal, p. 77.

¹²⁵⁰ Government of Canada, 'Statement on Canada's Arctic Foreign Policy. Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad', p. 24.

¹²⁵¹ Offerdal, p. 78.

¹²⁵² Helga Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', *European Security*, 20.3 (2011), 337-61 (p. 341).

¹²⁵³ Siemon T. Wezeman, *Military Capabilities in the Arctic*, SIPRI Background Paper (Stockholm: Stockholm International Peace Research Institute (SIPRI), March 2012), p. 15 (pp. 1-3) <http://books.sipri.org/product_info?c_product_id=442> [accessed 24 April 2016]; Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', p. 344.

small icebreakers (all unarmed).¹²⁵⁴ The Army's personnel increased from 4,100 Rangers in 2008 to 5,000 in 2012. In addition, as part of its Army reserves, Arctic Response Company groups were established.¹²⁵⁵ In 2009, the establishment of a special Arctic unit, a battalion of 500 troops, was announced.¹²⁵⁶

Taken together, whilst political rhetoric about Canadian sovereignty has been quite strong, actual investments to enhance the military footprint in the region have been rather modest.¹²⁵⁷

2. Denmark (Greenland)

Whilst Greenland is rather independent from Denmark in domestic economic and political affairs, Denmark holds responsibility for foreign and security policy. Denmark's Arctic policy focuses on three aspects – safety/security/sovereignty, economic opportunities, and environmental management.¹²⁵⁸ All of these topics are highly influenced by the special relationship between mainland Denmark and the semi-autonomous territory of Greenland.¹²⁵⁹ The economic aspect of the strategy is quite prominent.¹²⁶⁰ The government emphasized that it is “first and foremost a strategy for a development that benefits the inhabitants for the Arctic people's rights to utilize and develop their own resources.”¹²⁶¹ And in order to make economic development possible in the first place, the government intends to strengthen its military capabilities to

¹²⁵⁴ Stefan Steinicke and Sascha Albrecht, *Search and Rescue in the Arctic* (Berlin: Stiftung Wissenschaft und Politik, December 2012), p. 33 (p. 14) <https://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/WP_FG2_2012_Steinicke_Albrecht.pdf> [accessed 3 May 2016]; Wezeman, p. 5; Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', p. 344.

¹²⁵⁵ Hilde, p. 150.

¹²⁵⁶ Wezeman, p. 4.

¹²⁵⁷ Hilde, p. 150.

¹²⁵⁸ Kingdom of Denmark, 2011: 11, 13-21, 23-37, 43-47

¹²⁵⁹ Lassi Heininen, *Danish Arctic Strategy* (Oslo: Norwegian Institute for Defence Studies, 2011) <http://www.geopoliticsnorth.org/index.php?option=com_content&view=article&id=157:danish-preliminary-arctic-strategy-&catid=40:denmark-&Itemid=108> [accessed 3 May 2016]; Alyson J K Bailes and Lassi Heininen, *Strategy Papers on the Arctic or High North. A Comparative Study and Analysis* (Reykjavik: Institute of International Affairs and the Centre for Small State Studies), p. 130 (pp. 36-37) <https://ams.hi.is/wp-content/uploads/old/arctic_strategies_innsidur.pdf> [accessed 3 May 2016].

¹²⁶⁰ Offerdal, p. 82.

¹²⁶¹ Kingdom of Denmark, 2011: 10

protect Greenland's sovereign economic development.¹²⁶² In order to do so, an Arctic Command has been established in Nuuk in 2012.¹²⁶³

With regard to governance in the region, Denmark advocates to strengthen the structures of the Arctic Council.¹²⁶⁴

Denmark, via Greenland, only has a small military footprint. The Navy operates 3 maritime patrol aircraft, 48 fighter jets (F-16), 4 transport aircraft (C-30 Hercules) and 35 helicopters (Sea King/Merlin).¹²⁶⁵ The Airforce commands 1 destroyer (Ivar Huitfeldt), 4 frigates (Thetis class), 2 heavily armed offshore patrol vessels (OPV's) and 10 light armed OPV's as well as 2 command/support vessels.¹²⁶⁶ The Army regularly deploys a special forces unit (frogman corps) and a small sledge patrol (Sirius) to Greenland.¹²⁶⁷

Besides of being relevant for Denmark, Greenland also plays a significant role for the EU and the US with regard to the Thule airbase in the context of the BMEWS.¹²⁶⁸

3. Norway

In 2006, the Norwegian government published its High North Strategy and declared the Arctic as Norway's most important strategic priority.¹²⁶⁹ Norway's policy is built upon three pillars. First, international cooperation is emphasized. Therefore, Norway has always been quite welcoming towards new permanent participants in the AC. Cooperation also includes the aim to forge a closer bilateral relationship with Russia on questions of regional development. At the same time, Norway has been an outspoken advocate of a more prominent role of Nato in the region based on Article V.¹²⁷⁰ Second, Norway focuses on sovereignty and related questions of maritime boundaries.¹²⁷¹ Third,

¹²⁶² Kingdom of Denmark, 2011: 16-21

¹²⁶³ Offerdal, p. 82.

¹²⁶⁴ Offerdal, p. 81.

¹²⁶⁵ Wezeman, p. 6; Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', p. 344.

¹²⁶⁶ Wezeman, p. 6; Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', p. 344.

¹²⁶⁷ Wezeman, p. 6.

¹²⁶⁸ Offerdal, p. 81.

¹²⁶⁹ Hilde, p. 152; Offerdal, p. 83.

¹²⁷⁰ Offerdal, p. 83; Hilde, p. 152.

¹²⁷¹ Offerdal, p. 83.

the government aims to strengthen the economic developments of its three Arctic counties.¹²⁷²

Norwegian security and defence policy has been largely influenced by neighbouring Russia.¹²⁷³ The Ministry of Defence stated in 2011 that Russia's military presence in the region "is something we have to consider in our defence planning."¹²⁷⁴ Therefore, in 2012, the government introduced a new concept of deterrence called "threshold defence" that will guide its armed forces.¹²⁷⁵ It is against this background that the government's security and defence interest in regional developments has increased in recent years. This is mirrored in significant new security and defence acquisitions and, most visibly, the relocation of the Norwegian Armed Forces headquarter from Jättå in southern Norway to Bodø north of the Arctic Circle.¹²⁷⁶

The Air Forces possesses 57-60 combat aircraft (F-16), 6 maritime patrol aircraft (C-30 Hercules) and 12 helicopter (Sea King).¹²⁷⁷ The Navy operates 1 light coast icebreaker, 4-5 frigates (Fridtjof Nansen class), six submarines (Ula class), 1 intelligence ship, 4-5 large OPV's, 6 fast patrol vessels, and 6 mine hunters/sweepers.¹²⁷⁸ The Army's Brigade North is stationed in northern Norway above the Arctic Circle. It is the army's largest unit.¹²⁷⁹ And since 2006, Norway hosted the Arctic military exercise Cold Response every other year. The aim is to train Norwegian and allied armed forces in northern conditions as well as to strengthen Nato's visibility in the region.¹²⁸⁰

4. Russia

¹²⁷² Offerdal, p. 83.

¹²⁷³ Hilde, p. 153.

¹²⁷⁴ Hilde, p. 153.

¹²⁷⁵ Hilde, p. 153.

¹²⁷⁶ Wezeman, p. 7; Hilde, pp. 152-53; Offerdal, pp. 82-83.

¹²⁷⁷ Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', p. 344; Wezeman, p. 7.

¹²⁷⁸ Wezeman, p. 8; Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', p. 344.

¹²⁷⁹ Wezeman, 2012: 8

¹²⁸⁰ Hilde, p. 153; Thomas Nilsen, 'Large Nato Exercise Starts in Northern Norway', *Barents Observer* (Kirkenes, 18 February 2010) <<http://barentsobserver.com/en/sections/articles/large-nato-exercise-starts-northern-norway>> [accessed 25 April 2016]; Norwegian Armed Forces, *Cold Response 2016* (Ministry of Defence, 2016) <<https://forsvaret.no/en/coldresponse>> [accessed 25 April 2016].

Russia is the largest Arctic state and an important regional and global player in economic and political terms.¹²⁸¹ Consequently, it is the biggest stakeholder in the region.¹²⁸² In 2008, the government adopted its official Arctic strategy encompassing four key interests: economic development, environmental protection, international cooperation as well as security and sovereignty.¹²⁸³ In general, Russia's Arctic engagement is characterized by its dual character of emphasizing cooperation on the one hand whilst increasing its military presence and sometimes aggressive rhetoric on the other.¹²⁸⁴ In terms of cooperation, Russia puts an increased emphasis on joint international military exercises. In 1993, Russia was host to the first "Arctic Search and Rescue Exercise" (SAREX) in Siberia. The US and Canada were the other participating nations. Other bi- and multilateral exercises include the annual Russian-Norwegian "Barents Exercise" and the exercise "Northern Eagle", organized by Norway, Russia, and the US every two years.¹²⁸⁵

Russia's Arctic territories play a key role in its general foreign, security and defence policy. Like during the Cold War, the Kola Peninsula is home to the Northern Fleet, and a large part of the country's strategic nuclear arsenal is stationed in that area. In addition, the region continues to play a central role in terms of early warning of nuclear missile threats and as a staging area for strategic bombers.¹²⁸⁶ Finally, the High North is Russia's access to both the Arctic Ocean and the North Atlantic and therefore important for global maritime power projection and maritime intelligence activities.¹²⁸⁷ In recent years, Russia has increased its efforts to modernize its armed forces. This resulted in an increase of Russian military activity in the region. The rationale behind it is twofold: to

¹²⁸¹ Elana Wilson Rowe, 'Policy Aims and Political Realities in the Russian North', in *Russia and the North* (Ottawa: University of Ottawa Press, 2009), pp. 1–15 (p. 1).

¹²⁸² Tamnes and Offerdal, p. 2.

¹²⁸³ Philip Burgess, *Foundations of the Russian Federation's State Policy in the Arctic Until 2020 and Beyond* (Arctic Portal, 1 December 2010) <http://icr.arcticportal.org/index.php?option=com_content&view=article&id=1791%253> [accessed 3 May 2016].

¹²⁸⁴ Pavel K. Baev, *Russia's Arctic Aspirations* (Paris: European Union Institute for Security Studies (EUISS), June 2015), pp. 51–56 (p. 51) <<http://www.iss.europa.eu/de/publikationen/detail/article/arctic-security-matters-1/>> [accessed 3 May 2016]; Zysk, 'Russia's Arctic Strategy. Ambitions and Constraints', p. 108.

¹²⁸⁵ Steinicke and Albrecht, p. 10.

¹²⁸⁶ Hilde, p. 154.

¹²⁸⁷ Offerdal, p. 83.

uphold sovereignty in a strategically important region (in economic and military terms) and to regain great power status.¹²⁸⁸

Russia operates a fleet of 100 long-range bombers (Tu-22 and Tu-142) as well as a number of maritime reconnaissance aircraft (Il-38).¹²⁸⁹ The Northern Fleet commands Russia's sole aircraft carrier, 1 large and 4 - 14 small icebreakers as well as a number of nuclear-powered ballistic missile submarines (SSBNs).¹²⁹⁰ In addition, the Border Guard Service possesses three large and armed OPV's and another 20 civilian icebreakers are also active in the region, too.¹²⁹¹ The Russian Army has 1 naval infantry, 1 army brigade and 1 special forces brigade with about 9.000 troops stationed on the Kola peninsula.¹²⁹² In addition, Russia began to modernize and to reopen military facilities that had been closed in the 1990's.¹²⁹³

5. The United States

During the Cold War, the US was highly interested in the region because of the strategic and military competition with the Soviet Union. After 1990, the US reduced its regional engagement significantly, also as a result of decaying Russian military capabilities.¹²⁹⁴ Instead, Washington's focus shifted towards new global hotspots like the Balkans or Afghanistan and international security challenges like the global fight against terrorism.¹²⁹⁵ Therefore, the US is a latecomer in Arctic affairs and published its first Arctic strategy only in 2013. The document focuses on three interests: security, sustainable development, and international cooperation.¹²⁹⁶

Instead of regional security developments, the Arctic became more important first and foremost for global strategic security considerations of the US, mostly in terms of its

¹²⁸⁸ Hilde, pp. 153-54.

¹²⁸⁹ Wezeman, p. 9.

¹²⁹⁰ Wezeman, pp. 9-10; Njord Wegge, 'The Political Order in the Arctic. Power Structures, Regimes and Influence', *Polar Record*, 47.241 (2010), 165-76 (p. 169).

¹²⁹¹ Wezeman, p. 10.

¹²⁹² Wezeman, p. 9; Duncan Depledge, *Hard Security Developments*, Arctic Security Matters (Paris: European Union Institute for Security Studies (EUISS), June 2015), p. 82 (p. 62) <<http://www.iss.europa.eu/de/publikationen/detail/article/arctic-security-matters-1/>> [accessed 25 April 2016].

¹²⁹³ Jeremy Bender, *Russia Just Put the Finishing Touches on 6 Arctic Military Bases* (Business Insider, 7 December 2015) <<http://www.businessinsider.de/russia-equipped-six-military-bases-in-the-arctic-2015-12?r=US&IR=T>> [accessed 21 December 2016].

¹²⁹⁴ Hilde, pp. 147-48.

¹²⁹⁵ Tamnes and Offerdal, p. 1.

¹²⁹⁶ The White House, 'National Strategy for the Arctic Region', 2013, pp. 6-10 <https://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf> [accessed 3 May 2016].

missile defence policy as can be seen in the substantial financial investments in missile capabilities. The missile defence infrastructure build-up rests on previously existing structures, as in Thule, Greenland (radar stations), and Alaska (Air Force station) as well as on new infrastructure (interceptors at Fort Greely in Alaska).¹²⁹⁷ In addition, the US, again for global considerations, became concerned about the freedom of navigation. It argued that the NWP and parts of the NSR were international waters, thereby challenging Canadian and Russian interpretations about the legal status of these waters. The legal and political ratio behind it was to prevent setting a precedent for other parts of the world.¹²⁹⁸ On a regional level, the US is concerned that through the melting ice its Arctic territory becomes more vulnerable to outside developments.¹²⁹⁹

Regarding international cooperation, the US stresses the regional dimension and states that cooperation is welcomed “in a manner that protects Arctic states’ national interests and resources.”¹³⁰⁰ It sees no need to further institutionalize the AC and prefers it to continue limiting its focus on questions of sustainable development and environmental protection.¹³⁰¹ Concerning sustainable development, the government aims to protect the Arctic environment and conserve Arctic natural resources. In addition, it aims to increase understanding of the Arctic through scientific research and traditional knowledge. All in all, however, it remains rather vague, in contrast to the other two interests.

In terms of actual capabilities, the US operates a variety of aircraft, ships, and troops earmarked to conduct Arctic operations. These capabilities include 36 combat (F-22 Raptor) and some support aircraft, US Coast Guard maritime patrol aircraft (HC-130), infantry and airborne troops and the Alaska National Guard presence (1.850 personnel) as well as various US aircraft carriers, major combat ships as well as amphibious warfare and landing ships that could execute tasks in Arctic waters. The most important military capability, however, are 53 diesel and 18 nuclear submarines, most of which are able to operate under the polar ice cap. These submarines keep up the military balance

¹²⁹⁷ Hilde, p. 149; Donna Miles, *Alaska Guard Troops Conduct Vital Missile Defense Mission* (Washington, D.C.: U.S. Department of Defense, 20 December 2006) <<http://archive.defense.gov/news/newsarticle.aspx?id=2483>> [accessed 24 April 2016]; Depledge, *Hard Security Developments*, p. 61; Offerdal, p. 79.

¹²⁹⁸ Offerdal, p. 79.

¹²⁹⁹ Offerdal, p. 79.

¹³⁰⁰ The White House, p. 10.

¹³⁰¹ Offerdal, p. 79.

of power with the Russian fleet of ice-breakers. Finally, the US Coast Guard possesses three icebreakers, of which only one is fit for service, however.¹³⁰²

Table 41 - Arctic Coastal States' Cost Guard and Military Capabilities¹³⁰³

	Air Capabilities	Land Capabilities	Sea Capabilities
Canada	<ul style="list-style-type: none"> • 18 CP-140 (P-3C) anti-submarine warfare (ASW) aircraft • 80 F/A-18 combat aircraft • 7 tanker aircrafts • various helicopters and transport aircraft • RadarSat-2 satellite(s) • plans for 6 unmanned aerial vehicles (UAVs) • plans for surveillance systems (incl. satellites and underwater surveillance capabilities) 	<ul style="list-style-type: none"> • 5.000 Canadian Rangers • Batallion (500 troops) Army Unit • Arctic Company of the Canadian Reserve Forces 	<ul style="list-style-type: none"> • 15 Navy major surface warships • 4 Navy conventional submarines • 5 Coast Guard large- or medium-sized unarmed icebreakers • 6 Coast Guard small icebreakers
Denmark (Greenland)	<ul style="list-style-type: none"> • 3 unarmed maritime patrol aircraft • various F-16 combat aircraft 	<ul style="list-style-type: none"> • special forces unit • small military patrol force 	<ul style="list-style-type: none"> • 3 – 5 frigates (not ice-strengthened) • 4 Thetis class OPV/frigates • 2 smaller but heavily armed and ice-strengthened Knud Rasmussen class offshore patrol vessels (OPVs)
Norway	<ul style="list-style-type: none"> • 60 F-16 combat aircraft • 6 P-3 long range maritime patrol aircraft 	<ul style="list-style-type: none"> • Brigade North 	<ul style="list-style-type: none"> • Five Fridtjof Nansen class frigates • Plans to acquire a large support ship • 1 large 'research ship' with electronic and signals intelligence equipment • 4 Coast Guard large and lightly armed OPVs • 4 Coast Guard large ocean-going OPVs

¹³⁰² Wezeman, pp. 11–13; Haftendorn, 'Nato and the Arctic. Is the Alliance a Cold War Relic in a Peaceful Region Now Faced with Non-Military Challenges?', p. 344.

¹³⁰³ Wezeman, pp. 1–13.

Russia	<ul style="list-style-type: none"> • 100 Navy-operated long-range Tu-22 bomber and Tu-142 and Il-38 maritime reconnaissance aircraft 	<ul style="list-style-type: none"> • Naval Infantry • 1 Army Brigade • Plans for a special military force • Exact status of Russian Arctic forces remains unclear 	<ul style="list-style-type: none"> • Northern Fleet nuclear-powered ballistic missile submarines (SSBNs), surface ships (including Russia's sole aircraft carrier), nuclear-powered submarines and aircraft • 1 large 50 Let Pobedy icebreaker • 4 small Project 97 icebreakers • 3 Border Guard Project 97P large armed icebreaking OPVs • over 20 civilian icebreakers
United States	<ul style="list-style-type: none"> • combat and support aircraft, including F-22 interceptors and airborne early-warning (AEW) aircraft • a few US Coast Guard HC-130 long-range maritime patrol aircrafts 	<ul style="list-style-type: none"> • US Army Alaska (USARAK) ordinary mechanized infantry and airborne troops • 1850-strong Alaska National Guard 	<ul style="list-style-type: none"> • many US aircraft carriers, major combat ships and amphibious warfare ships are generally capable of operating in northern weather conditions • 1 MV Susitna small experimental icebreaking ferry/landing ship • most of the approximately 53 US nuclear attack submarines are able to operate under the Arctic ice and break through it • plans for National Security Cutters (NSC) • 3 unarmed Coast Guard icebreakers (1 is being modernized and 1 out of service)

The Emergence of New Arctic Stakeholders

As a result of the Arctic's transformation and the region's growing interdependencies with global developments and other world regions, numerous new stakeholders emerged in the Polar North. The most visible sign of this development was the acceptance of China, India, Japan, Singapore and South Korea as permanent observers into the AC. The two most prominent examples, however, are the EU¹³⁰⁴ and China.¹³⁰⁵

¹³⁰⁴ For a detailed discussion about the EU see: Andreas Raspotnik, 'The European Union and Its Northern Frontier. EUropean Geopolitics and Its Arctic Context' (Köln, 2016); Major and Steinicke; Andreas Maurer, *The Arctic Region* (Berlin: Stiftung Wissenschaft und Politik, September 2010), p. 18 <http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/Mrr_WP_Geonor_ks.pdf> [accessed 3 May 2016]; Kathrin Keil and Andreas Raspotnik, 'The European Union's Gateways to the Arctic', *European Foreign Affairs Review*, 19.1 (2014), 101–20; Arno Engel and others, *The EU as an Arctic Actor?* (Berlin: Stiftung

Whilst both of them do not command a significant amount of Arctic-related military capabilities, both possess impressive economic and political power that can be used to pursue their strategic interests in the region. And in the case of China it cannot be ruled out that it might develop an Arctic military presence in the future. In 2015, the Chinese Navy for the first time sent ships to Northern Europe and the Arctic, passing through the Bering Strait off the coast of Alaska, while US President Obama attended an Arctic conference in Alaska.¹³⁰⁶ This trip can be viewed as the harbinger of a more visible Chinese military presence in the region.

5.1.2.3 The Functioning of the Regional Political Order

The Arctic is characterized by a mosaic of various international and regional political institutions and governance formats. A various number of international, regional, and national frameworks apply to the region.¹³⁰⁷ Up until today, the United Nations Convention on the Law of the Sea (UNCLOS) is the most relevant legal framework and the Arctic Council (AC) is the most important regional organization.¹³⁰⁸ Therefore, the analytical focus will be on the AC and UNCLOS.

1. UNCLOS

As the Arctic is mainly a marine area, it comes as no surprise that UNCLOS is the most relevant legal framework. UNCLOS entered into force in 1994. It awards coastal states

Wissenschaft und Politik, December 2012), p. 45 <http://www.swp-berlin.org/fileadmin/contents/products/projekt_papiere/Mrr_GeoNor_Conference_Report_1212.pdf> [accessed 3 May 2016]; Raspotnik and Rudloff; Antje Neumann, *The EU. A Relevant Actor in the Field of Climate Change in Respect to the Arctic?* (Berlin: Stiftung Wissenschaft und Politik, July 2010), p. 49 <http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/Nma_WP_2010_03_ks.pdf> [accessed 3 May 2016]; Bettina Rudloff, *The EU as a Fishing Actor in the Arctic. Stocktaking of Institutional Involvement and Existing Conflicts* (Berlin: Stiftung Wissenschaft und Politik, July 2010), p. 58 <http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/Rff_WP_2010_02_ks.pdf> [accessed 3 May 2016].

¹³⁰⁵ Lanteigne, *China's Emerging Arctic Strategies. Economics and Institutions*; Humpert and Raspotnik, *From Great Wall to Great White North. Explaining China's Politics in the Arctic*, p. 284.

¹³⁰⁶ Shannon Tiezzi, *China's Navy Makes First-Ever Tour of Europe's Arctic States* (Tokyo: The Diplomat, 2 October 2015) <<http://thediplomat.com/2015/10/chinas-navy-makes-first-ever-tour-of-europes-arctic-states/>> [accessed 6 May 2016]; Demetri Sevastopulo and Charles Clover, 'Chinese Navy Ships Spotted Off Alaska as Obama Visits Arctic', *Financial Times* (London, 3 September 2015) <<http://thediplomat.com/2015/10/chinas-navy-makes-first-ever-tour-of-europes-arctic-states/>> [accessed 6 May 2016]; The Wall Street Journal, 'China in the Arctic', *The Wall Street Journal* (New York, 3 September 2015) <<http://www.wsj.com/articles/china-in-the-arctic-1441323452>> [accessed 6 May 2016].

¹³⁰⁷ Oran R. Young, 'Governing the Arctic. From Cold War Theater to Mosaic of Cooperation', *Global Governance*, 11.1 (2005), 9–15 (pp. 9–15).

¹³⁰⁸ Wegge, p. 171.

the right to establish a 200 nautical miles Exclusive Economic Zone (EEZ). In addition, it advanced the legal regulations concerning the delimitation of maritime boundaries of continental shelves beyond the EEZs.¹³⁰⁹ Within the EEZ, the coastal state has all sovereign rights over the use and management of natural resources.¹³¹⁰ Beyond the zone, the same sovereign rights apply if the coastal state can prove that the continental shelf is a natural extension of the country's land mass.¹³¹¹ By establishing clearly defined rights and obligations, UNCLOS helped to stabilize maritime legal affairs and thereby reduced the risk of confrontation.¹³¹² Almost all Arctic states have ratified UNCLOS. The US is the only exception and "regards the provisions of the Convention as customary international law."¹³¹³

UNCLOS is of greatest importance for the five Arctic coastal states as it gives them special sovereign rights and jurisdictions in their respective Arctic marine areas.¹³¹⁴ Therefore, in 2005, they signed the Ilulissat Declaration, in which they underlined their political willingness to commit to UNCLOS. In addition, they announced to handle all possible disputes with regard to overlapping claims orderly and peacefully according to international law.¹³¹⁵ This commitment to international law has been welcomed and was interpreted as a strong example of the cooperative character of the region's international political order. However, questions remain whether all Arctic states feel bound to international law when national security interests are threatened. In fact, Russian behavior in the Arctic Sunrise case put questionmarks on the country's willingness to stick to UNCLOS. In 2013, Greenpeace activists aboard the ship Arctic Sunrise attempted to board the Prirazlomnoye oil rig. It is Russia's first off-shore oil rig in Arctic waters. The activists were imprisoned. The Netherlands, as the ship's flag state, claimed the imprisonment to be illegal as the ship was captured in Russia's EEZ and referred to the right of innocent passage. The International Tribunal for the Law of the

¹³⁰⁹ Tamnes and Holtsmark, p. 40.

¹³¹⁰ Hoel, p. 51.

¹³¹¹ Hoel, pp. 51-52.

¹³¹² Tamnes and Holtsmark, p. 40.

¹³¹³ Hoel, p. 51.

¹³¹⁴ Canada, Denmark, Norway, The Russian Federation, and others, 'The Ilulissat Declaration. Arctic Ocean Conference. Ilulissat, Greenland, 27-29 May 2008', 2008, p. 1 <https://www.regjeringen.no/globalassets/upload/ud/080525_arctic_ocean_conference-_outcome.pdf> [accessed 27 April 2016].

¹³¹⁵ Canada, Denmark, Norway, The Russian Federation, and others, p. 1.

Sea (ITLOS) ruled in favour of the Dutch position. Russia, however, rejected the court's ruling and did not even attend the process.¹³¹⁶

Whilst UNCLOS has always been of greatest importance to the Arctic coastal states in defining special rights and obligations, three legal issues continue to be unresolved: (1) the delimitation of adjacent and sometimes overlapping maritime zones and shelves (including the management of joint resources), (2) the legal status of the NSR and the NWP, and (3) the legal status of Svalbard.¹³¹⁷

Canada, Denmark (Greenland) and Russia have all submitted claims for an extended continental shelf including the geographical North Pole.¹³¹⁸ These overlapping claims have the potential for geopolitical conflicts between the three states.¹³¹⁹

Another tricky delimitation question was the maritime boundary between Norway and Russia in the Barents Sea. Both countries negotiated over the exact demarcation line since 1974. After over 30 years of negotiations, both countries reached a final agreement in 2010.¹³²⁰ This agreement is a strong indication for both coastal states' willingness to stick to UNCLOS and to keep peaceful relations in the region.

One more unresolved issue is the legal status of the NSR and the NWP. Russia and Canada consider parts of the two routes to be "domestic waters". In contrast, the US, the EU, and China claim both routes to be "international straits".¹³²¹ Consequently, they call for the freedom of navigation along these routes. Until today, the status of both routes remains an unresolved issue, and the involved states only have 'agreed to disagree'.

Finally, the legal status of the waters and the continental shelf around Svalbard remains disputed. Whilst Norway interprets the Svalbard treaty of 1920 as of having "full

¹³¹⁶ Käpylä and Mikkola, pp. 10–11.

¹³¹⁷ Tamnes and Holtsmark, pp. 40–42.

¹³¹⁸ BBC, 'Denmark Challenges Russia and Canada over North Pole' (London, 15 December 2014) <<http://www.bbc.com/news/world-europe-30481309>> [accessed 27 April 2016]; Atle Staalesen, 'Russia Submits Claim for North Pole', *Barents Observer* (Kirkenes, 4 August 2015) <<http://barentsobserver.com/en/arctic/2015/08/russia-submits-claim-north-pole-04-08>> [accessed 27 April 2016].

¹³¹⁹ Charles K. Ebinger and Evie Zambetakis, 'The Geopolitics of Arctic Melt', *International Affairs*, 85.6 (2009), 1215–32 (p. 1231).

¹³²⁰ Tamnes and Holtsmark, p. 41; Hoel, p. 56.

¹³²¹ Ryan Kilpatrick, *China's Plan for the Arctic. And a Shipping Centre to Rival Singapore* (Hong Kong: South China Morning Post, 15 November 2016) <<http://www.scmp.com/week-asia/business/article/2046117/chinas-plan-arctic-and-shipping-centre-rival-singapore>> [accessed 21 December 2016]; Council of the European Union, 'Council Conclusions on Arctic Issues', 2009, p. 4 <https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/arctic_council_conclusions_09_en.pdf> [accessed 22 December 2016]; The White House; Tamnes and Holtsmark, p. 42.

jurisdiction in maritime areas” surrounding the archipelago, this view is rejected by various countries, Russia being the most prominent one.¹³²²

2. The Arctic Council

The Arctic Council is not only the most important intergovernmental political organization in the region but also the most inclusive one, as it includes all three layers of Arctic actors (see Table 40, page 221).¹³²³ In recent years the AC strengthened its institutional role as the lynchpin of Arctic governance. To better understand the council’s current status and role in regional political affairs it is necessary to recognize its historical development.

During a speech in Murmansk on 1 October 1987 and against the backdrop of improving relations between the US and the Soviet Union, then Secretary General of the Communist Party in the Soviet Union Gorbachev called for the establishment of an intergovernmental organization in the Arctic to take care of questions of environmental protection and regional development. He also suggested the formation of an international research organization focusing on the two topics of environmental protection and regional development in order to formulate respective policy options.¹³²⁴ It was the signal for the development of Arctic institutions. In July 1988, all eight Arctic states met in Moscow at the Institute of Geography of the Russian Academy of Science (RAS) and drafted a document entitled “Proposal for an Organizational Structure of an International Arctic Science Committee (IASC).”¹³²⁵ Shortly afterwards in August 1990, the founding document for the establishment of IASC was signed by all Arctic states during a meeting in Resolute Bay, Canada.¹³²⁶ This lay the foundation for international

¹³²² Tamnes and Holtsmark, p. 42; For further details on the legal questions regarding Svalbard, see Sarah Wolf, *Svalbard’s Maritime Zones, Their Status under International Law and Current and Future Dispute Scenarios* (Berlin: Stiftung Wissenschaft und Politik, January 2013), p. 37.

¹³²³ Wegge, p. 171.

¹³²⁴ Atland, ‘Russia and Its Neighbors. Military Power, Security Politics, and Interstate Relations in the Post-Cold War Arctic’, p. 284; *25 Years of International Arctic Research Cooperation. ISAC After 25 Years*, ed. by Odd Rogne and others, IASC Bulletin (Potsdam, 2015), SPECIAL ISSUE OF THE IASC BULLETIN, p. 14 <<http://www.joomag.com/magazine/iasc-25-years/0102946001421148178?short>> [accessed 29 April 2016].

¹³²⁵ Rogne and others, SPECIAL ISSUE OF THE IASC BULLETIN, p. 17.

¹³²⁶ Department of the Environment Canada, ‘Brief Report from Founding Meeting (IASC Meeting 1)’, 1990, pp. 1–29 <<http://iasc25.iasc.info/images/history/historical-docs/15-Report-from-Resolute-founding-meeting.pdf>> [accessed 29 April 2016]; Rogne and others, SPECIAL ISSUE OF THE IASC BULLETIN, p. 22.

polar research activities in the Arctic. Non-Arctic countries, however, felt excluded, amongst them the Federal Republic of Germany. Therefore, already in March 1989, the governments of France, Germany, the Netherlands, and the UK sent a demarche to all Arctic states foreign ministries.¹³²⁷ In January 1991, during the first official IASC meeting in Oslo, polar research organizations from France, Germany, Japan, the Netherlands, Poland, and the UK were granted full IASC member status.¹³²⁸

During a meeting in Rovaniemi, Finland, in June 1991, the Arctic Environmental Protection Strategy (AEPS) was initiated by all Arctic states and the involved indigenous organizations.¹³²⁹ The main goal was to deal with dumped radioactive materials and other hazardous substances in the region on an intergovernmental level.¹³³⁰ To cope with these challenges, five programs were established: the Arctic Monitoring and Assessment Program (AMAP), the Conservation of Arctic Flora and Fauna program (CAF), the Protection of the Arctic Environment group (PAME), the Emergency, Prevention, Preparedness and Response (EPPR) group, and the Sustainable Development and Utilization (SDU) program.¹³³¹

During a meeting in Ottawa in September 1996, the legal foundation was laid to transform AEPS into a more institutionalized structure, called the Arctic Council.¹³³² All eight Arctic states signed the Ottawa declaration and became permanent members.¹³³³ In addition, organizations of indigenous communities became Permanent Participants (PP). So far the Aleut International Association, the Arctic Athabaskan Council, the Gwich'in Council International, the Inuit Circumpolar Council, the Russian Association of Indigenous Peoples of the North (RAIPON) and the Saami Council have been granted the PP status.¹³³⁴ Already in 1998, Germany, the Netherlands, Poland, and the UK

¹³²⁷ Rogne and others, SPECIAL ISSUE OF THE IASC BULLETIN, p. 22.

¹³²⁸ Rogne and others, SPECIAL ISSUE OF THE IASC BULLETIN, p. 25.

¹³²⁹ Rogne and others, SPECIAL ISSUE OF THE IASC BULLETIN, p. 16; Arctic Council, *Ministerial Direction. Background* (Tromsø: Arctic Council, 16 July 2012) <<http://arctic-council.org/eppr/reports/ministerial-direction/>> [accessed 29 April 2016].

¹³³⁰ Arctic Council, *Ministerial Direction. Background*.

¹³³¹ Arctic Council, *Ministerial Direction. Background*.

¹³³² Rogne and others, SPECIAL ISSUE OF THE IASC BULLETIN, p. 86.

¹³³³ Canada, Denmark, Finland, Norway, and others, 'Declaration on the Establishment of the Arctic Council. Joint Communiqué of the Governments of the Arctic Countries on the Establishment of the Arctic Council', 1996, pp. 1-5 <http://library.arcticportal.org/1270/1/ottawa_decl_1996-3..pdf> [accessed 29 April 2016].

¹³³⁴ Arctic Council, *Permanent Participants*.

became permanent observers. France and Spain followed in 2000 and 2006, respectively.¹³³⁵

In 2011, against the background of accelerating transformations in the region and growing global attention towards the Polar North, the AC adopted some fundamental reforms about the future of the council during a ministerial meeting in Nuuk, Greenland: First, new principles for observership were defined. Observers and countries willing to become one, must respect these criteria. Amongst others they include the recognition of the Arctic states' sovereignty and sovereign rights in the region.¹³³⁶ Second, a permanent secretariat with a regular budget was to be opened in Tromsø, Norway. Both developments helped to strengthen the institutional structure of the AC and its role as the lynchpin of regional governance. The AC's international standing was even further strengthened in 2013, when during the ministerial meeting in Kiruna, Sweden, six new observer states, namely China, India, Italy, Japan, Korea, and Singapore, were welcomed.¹³³⁷

Even though these developments helped to strengthen the AC's role as the most important regional institution it continues to be a decision-shaping instead of a decision-making body.¹³³⁸ Thus, it is mainly "a producer and circulator of ideas and presentations [that] the Arctic Council helps to spatially order the Arctic region."¹³³⁹ Prominent examples of the AC ordering the Arctic and generating global awareness are the council's publications of the Arctic Climate Impact Assessment (ACIA) and the Arctic Human Development Report (AHDR).¹³⁴⁰ However, first steps towards a stronger rule-making body have been undertaken. In 2011, the member states of the AC signed the first ever legally binding agreement on search and rescue (SAR) in the region. Two years

¹³³⁵ Haftendorn, *The Case for Arctic Governance. The Arctic Puzzle*, p. 16.

¹³³⁶ Haftendorn, *The Case for Arctic Governance. The Arctic Puzzle*, p. 16.

¹³³⁷ Arctic Council, 'Kiruna Declaration', 2013, p. 6 <https://oaarchive.arctic-council.org/bitstream/handle/11374/93/MM08_Final_Kiruna_declaration_w_signature.pdf?sequence=1&isAllowed=y> [accessed 29 April 2016]; Steven Lee Myers, 'Arctic Council Adds 6 Nations as Observer States, Including China', *New York Times* (New York, 15 May 2013) <http://www.nytimes.com/2013/05/16/world/europe/arctic-council-adds-six-members-including-china.html?_r=0> [accessed 29 April 2016].

¹³³⁸ Paula Kankaanpää and Oran R. Young, 'The Effectiveness of the Arctic Council', *Polar Research*, 31.17176 (2012), 1–14 (pp. 10–11).

¹³³⁹ Klaus J. Dodds, 'Anticipating the Arctic and the Arctic Council. Pre-Emption, Precaution and Preparedness', *Polar Record*, 49.249 (2012), 193–203 (pp. 196–97).

¹³⁴⁰ Haftendorn, *The Case for Arctic Governance. The Arctic Puzzle*, p. 18; Arctic Council, *Impacts of a Warming Arctic. Arctic Climate Impact Assessment (ACIA) Overview Report*; Arctic Council, *Arctic Human Development Report* (Akureyri: Arctic Council, 2004), p. 235 <<https://oaarchive.arctic-council.org/handle/11374/51>> [accessed 29 April 2016].

later, they adopted a second agreement on oil spill preparedness and response.¹³⁴¹ The two agreements further enhanced the AC's 'pole position' in terms of regional governance. And yet, as long as the member states do not agree to transform the AC into a full-fledged regional institution, it remains only a policy-shaping body.

A further shortcoming of the AC is the lack of a mandate to tackle hard security issues.¹³⁴² The importance of a regional forum to discuss state security topics, however, stems from the fact that four of the five coastal states and, at the same time, AC members also are part of Nato while Russia is not.¹³⁴³ Neither Nato nor the Nato-Russia Council, the UN, or the Organization for Security and Cooperation in Europe (OSCE) have seriously touched upon Arctic security affairs.¹³⁴⁴ Thus forums have been created on a lower level, namely the Arctic Security Forces Roundtable (ASFR) and the Chiefs of Defence meetings of the Arctic states.¹³⁴⁵ The ASFR includes all eight Arctic states as well as France, Germany, the Netherlands, and the UK.¹³⁴⁶ Whilst these frameworks are important to build trust and confidence, the institutional architecture on Arctic security and defence issues remains weak.¹³⁴⁷ This could be particularly problematic in times of crisis.¹³⁴⁸

In the end, Arctic governance rests on a relatively weak foundation. Whilst UNCLOS helped to solve various disputes (the Norwegian-Russian delimitation agreement in the Barents Sea the most prominent one), it has not helped in solving pending legal disputes (e.g. the status of the NWP and the NSR). The AC has undergone a rapid and impressive

¹³⁴¹ Vigeland Rottem.

¹³⁴² Hilde, p. 147.

¹³⁴³ Hilde, p. 158.

¹³⁴⁴ Hilde, p. 158.

¹³⁴⁵ Hilde, pp. 159–60.

¹³⁴⁶ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', 2013, p. 17 <<http://www.auswaertiges-amt.de/cae/servlet/contentblob/658822/publicationFile/185895/Arktisleitlinien.pdf>> [accessed 20 March 2014]; Randy Major General Kee, 'Arctic Security Forces Round Table. A New Way to Live by an Old Code', 2013 <<http://www.eucom.mil/media-library/blog%20post/25348/arctic-security-forces-round-table-a-new-way-to-live-by-an-old-code>> [accessed 4 May 2013]; Patrick Foughty, 'US, Norway Co-Host 4th Annual Arctic Security Forces Roundtable', 2014 <<http://www.eucom.mil/media-library/article/26802/us-norway-co-host-4th-annual-arctic-security-forces-roundtable>> [accessed 5 April 2016].

¹³⁴⁷ Hilde, p. 160.

¹³⁴⁸ Tobias Etzold and Stefan Steinicke, *Regionale Sicherheit Und Zusammenarbeit in Der Arktis- Und Ostseeregion* (Berlin: Stiftung Wissenschaft und Politik, August 2015), pp. 1–4 (p. 4) <https://www.swp-berlin.org/fileadmin/contents/products/aktuell/2015A74_etz_ste.pdf> [accessed 29 April 2016].

transformation since its foundation in 1996. It has, however, no legal authority to enforce policies on its member states. Instead, it remains an organization that is dependent on the good will of its member states. Finally, the AC has no mandate to discuss hard security issues. In case of a deteriorating regional security situation or a worsening of relations between some of the AC member states the region is without any institutionalized crisis mechanisms.

5.1.2.4 The Nature of the Regional Political Order

The character of the Arctic's political order has been depicted as either cooperative or conflictual. The following part sheds light on both elements of the order's nature. Again, in order to be able to better understand the current situation, it is necessary to put it into perspective and to compare the present-day situation with the near past.

There is one camp of scholars and experts according to whom the Arctic's political order is conflict-ridden and faces the risk of more confrontation. Their pessimism is based on four considerations. First, they argue, competition for access to and control of natural resources and new shipping routes will increase.¹³⁴⁹ Second, robust and overarching political institutions and legal frameworks "that can provide for the orderly development of the region or mediate political disagreements over Arctic resources or sea lanes" are lacking.¹³⁵⁰ Third, various maritime boundaries are unclear and thus disputes over the exact areas of national jurisdiction exist.¹³⁵¹ Fourth, Arctic states are investing in new military capabilities and infrastructure in the region. As a consequence of a growing investment in Arctic military capabilities, there is the prospect of an emerging security dilemma.¹³⁵² Consequently military power instead of international law will be the decisive factor for the Arctic's future order.¹³⁵³ Signs for the more pessimistic outlook of a race for resources and ignorance of international law are the

¹³⁴⁹ Borgerson, 'The Coming Arctic Boom. As the Ice Melts, the Region Heats Up'.

¹³⁵⁰ Borgerson, 'Arctic Meltdown'.

¹³⁵¹ Borgerson, 'The Coming Arctic Boom. As the Ice Melts, the Region Heats Up'.

¹³⁵² Rob Huebert, *The Newly Emerging Arctic Security Environment* (Calgary: Canadian Defence & Foreign Affairs Institute, March 2010), p. 33 (pp. 22-23) <https://d3n8a8pro7vhmx.cloudfront.net/cdfai/pages/41/attachments/original/1413661956/The_Newly_Emerging_Arctic_Security_Environment.pdf?1413661956> [accessed 2 May 2016]; Etzold and Steinicke.

¹³⁵³ Eric Posner, 'The New Race for the Arctic', *The Wall Street Journal* (New York, 3 August 2007) <<http://www.wsj.com/articles/SB118610915886687045>> [accessed 2 May 2016].

planting of a Russian flag on the Arctic's seabed in 2007 and Russian parliamentarian Chilingarov's statement that "[t]he Arctic is ours",¹³⁵⁴ the re-emergence of Russian strategic bomber flights along the borders of Nato countries in the region and a certain re-militarization (procurement of new military hardware, infrastructure build-up and new military exercises) as it is undertaken by all Arctic coastal states.¹³⁵⁵ Obviously, a certain re-militarization took place since the mid-2000s and this process has not come to an end yet. But even though Arctic states are upgrading their military capabilities and infrastructure in the region it is still below the levels of the Cold War.¹³⁵⁶ Nevertheless, compared to the early years after the end of the Cold War the level of military activity in the region has grown significantly, especially in recent years.¹³⁵⁷

The other camp, highlighting the cooperative character, argues that the conflict potential is rather minor for two reasons. First, the economic opportunities – be it shorter maritime trading routes or the exploitation of natural resources – are not going to be that important or financially achievable in the short term. In addition, most proven natural resources lie within the EEZ's of the coastal states and are thus not subject to any overlapping claims.¹³⁵⁸ Second, the existing regional institutions and governance mechanisms (e.g. AC and UNCLOS) have proven to be up to the task of keeping the region stable.¹³⁵⁹ The creation of a permanent AC secretariat and the signing of two legally binding agreements under the auspice of the AC (see page 237) are a case in point. The Ilulissat declaration and the coastal states willingness to abide by international law – in this case UNCLOS (see page 232) further strengthens the argument.¹³⁶⁰ At the same time, however, the Arctic Sunrise case and Russia's unwillingness to follow the rules of UNCLOS and ITLOS also highlight the potential for noncompliance. A final proof of prevailing cooperation is the Norwegian-Russian

¹³⁵⁴ BBC, 'Russians to Dive Below North Pole' (London, 24 July 2004) <<http://news.bbc.co.uk/2/hi/europe/6914178.stm>> [accessed 2 May 2016].

¹³⁵⁵ Chivers; Ariel Cohen, Lajos F. Szaszdi, and Jim Dolbow, *The New Cold War. Reviving the U.S. Presence in the Arctic* (Washington, D.C.: The Heritage Foundation, 30 October 2008), p. 15 (pp. 1, 10) <<http://www.heritage.org/research/reports/2008/10/the-new-cold-war-reviving-the-us-presence-in-the-arctic>> [accessed 2 June 2016]; Tamnes and Offerdal, p. 1.

¹³⁵⁶ Atland, 'Russia's Armed Forces and the Arctic. All Quiet on the Northern Front?', p. 273.

¹³⁵⁷ Etzold and Steinicke.

¹³⁵⁸ Oran R. Young, 'Whither the Arctic? Conflict or Cooperation in the Circumpolar North', *Polar Record*, 45.232 (2009), 73–82 (p. 74).

¹³⁵⁹ Young, 'Whither the Arctic? Conflict or Cooperation in the Circumpolar North', pp. 79–81.

¹³⁶⁰ Timo Koivurova, *Scramble for Resources or Orderly Development. What Is Happening in the Arctic?*, Nordic Cooperation and the Far North (Helsinki: National Defence University, 2011), pp. 1–13 (pp. 7–9).

maritime border delimitation treaty from 2010 (see page 234).¹³⁶¹ Finally, it has to be emphasized that all Arctic coastal states have an interest in the economic development of the region that is only possible in a peaceful and cooperative atmosphere.¹³⁶² A deteriorating security situation would stop the ongoing integration of the Arctic into the global economic system.

Taken together, the picture remains ambivalent. There are signs of conflict and cooperation at the same time. Against the background of recent developments in the region, there are mainly three potential challenges to the political order's nature. First, new players emerge in the Arctic. These actors claim to have a say in the future development of Arctic governance questions. This point of view is rejected by the Arctic coastal states. As the Ilulissat declaration has shown, the five coastal states see themselves in the pole position to set the rules for the future development of the region. This understanding is not only contested by the three remaining Arctic states without a sea access but also by other actors who claim to have a say in Arctic questions, e.g. China and the EU.¹³⁶³ The emerging multipolar order thus calls for new 'rules of the game'.¹³⁶⁴ This results in a governance paradox: How to advance existing Arctic governance, by including new actors, without curtailing the sovereignty and autonomy of Arctic states and indigenous groups?¹³⁶⁵ The lack of a new and more inclusive governance structure bears the potential of new conflicts between all three layers of Arctic actors. As a consequence, there is a real danger of political paralysis of the AC resulting in a loss of legitimacy for handling Arctic questions. An inclusion of non-Arctic actors into the AC

¹³⁶¹ Marlène Laruelle, *International Law and Geographical Representations. The Russian Stance on Territorial Conflicts in the Arctic*, Nordic Cooperation and the Far North (Helsinki: National Defence University, 2011), pp. 15–36 (p. 29).

¹³⁶² Christoph Humrich and Klaus Dieter Wolf, 'Krieg in Der Arktis? Konfliktszenarien Auf Dem Prüfstand', ed. by Manfred Sapper, Volker Weichsel, and Christoph Humrich, *Osteuropa*, 61.2–3 (2011), 225–42 (p. 240); Borgerson, 'The Coming Arctic Boom. As the Ice Melts, the Region Heats Up'.

¹³⁶³ Olav Schram Stokke, 'Asian Stakes and Arctic Governance', *Strategic Analysis*, 38.6 (2014), 770–83; Ye Jiang, 'China's Role in Arctic Affairs in the Context of Global Governance', *Strategic Analysis*, 38.6 (2014), 913–16; Per Erik Solli, Elana Wilson Rowe, and Wrenn Yennie Lindgren, 'Coming Into the Cold. Asia's Arctic Interests', *Polar Geography*, 36.4 (2013), 253–70; Atland, 'Russia and Its Neighbors. Military Power, Security Politics, and Interstate Relations in the Post-Cold War Arctic', p. 295.

¹³⁶⁴ Offerdal, p. 91.

¹³⁶⁵ Haftendorn, *The Case for Arctic Governance. The Arctic Puzzle*, p. 12.

governance structure, on the other side, could make it even more difficult to find agreement and consensus in the council.¹³⁶⁶

Second, there is the potential of misperceptions about the military build-up in the region. Coupled with a lack of institutions and exchange formats to discuss hard security issues there is the potential of an emerging security dilemma.¹³⁶⁷ Third, spill-over effects of other crises in other parts of the world or more confrontational great power relations on a global level have the potential to impact Arctic affairs, too.¹³⁶⁸

5.1.2.5 Structural and Process-Related Implications of Arctic Political Developments

The Arctic's interdependence with global political and security-related affairs has clearly increased in recent years. This has consequences for all three analytical parts of the Arctic's order. In terms of 'structure', the region continues to be bi-polar. Compared to the Cold War, however, the other Arctic states today play a more prominent role in the political order. Due to the emergence of new Arctic players the region will become increasingly multi-polar. The structure has historically been largely sensitive to global developments. During the Cold War the region was of strategic importance for the US and the former Soviet Union with regard to nuclear defence.¹³⁶⁹ After the end of the Cold War, the strategic relevance of the region decreased whilst other hot spots, notably in the Balkans, Afghanistan, and Iraq, emerged.¹³⁷⁰ And yet even today, a large part, and clearly the most relevant one, of the existing military capabilities and infrastructure in the region is linked to global strategic interests of the US and Russia.¹³⁷¹ Therefore, security and defence affairs in the region continue to be sensitive to global developments. The most prominent example of this interdependence between global and regional security dynamics is the bilateral relationship between Norway and Russia in the European part of the Arctic.¹³⁷² As the region continues to play an important role

¹³⁶⁶ The Economist, 'Outsiders in the Arctic. The Roar of Ice Cracking', *The Economist* (London, 2 February 2013) <<http://www.economist.com/news/international/21571127-will-asian-countries-consolidate-or-disrupt-arctic-stability-roar-ice-cracking>> [accessed 16 May 2013].

¹³⁶⁷ Etzold and Steinicke; Kristian Atland, 'Interstate Relations in the Arctic. An Emerging Security Dilemma?', *Comparative Strategy*, 33.2 (2014), 145–66; Christian Le Mière and Jeffrey Mazo, *Arctic Opening. Insecurity and Opportunity* (London and New York: Routledge, 2013), p. 72.

¹³⁶⁸ Etzold and Steinicke; Le Mière and Mazo, p. 127; Offerdal, pp. 90, 92.

¹³⁶⁹ Hilde, p. 147; Tamnes and Offerdal, p. 1.

¹³⁷⁰ Tamnes and Offerdal, p. 1.

¹³⁷¹ Hilde, p. 147.

¹³⁷² Hilde, p. 158.

for US and Russian global strategic interests Russia continues to invest in its security and defence capabilities in the region. This trend has increased in recent years.¹³⁷³ Against the background of Russia's growing military presence and its sometimes aggressive rhetoric Norway increased its presence and capabilities in the region, too.¹³⁷⁴ And as the international order becomes more unstable, strategic military capabilities in the region will increase the political and military significance of the Arctic."¹³⁷⁵

With the emergence of new Arctic stakeholders, profound changes might be underway.¹³⁷⁶ New stakeholders might not only challenge and change the existing military balance of power. But they also will influence the existing governance architecture. Thus, the 'functioning' is also affected by global developments. The most prominent example of the growing sensitivity of the region's governance architecture to global developments is the admission of Asian states as permanent observers into the Arctic Council in 2013 (see page 237). The interests of Asian states in the AC are clearly driven by environmental, economic, and political considerations. A growing strategic clout in economic and political affairs on the global level almost automatically translates into the political ambition to shape developments in other parts, too. In the case of China, for example, a growing role in Arctic governance might not only be helpful for its regional interests but also help to enhance and strengthen its role as a global player.¹³⁷⁷ At the same time, China argues to be increasingly affected by Arctic-driven global climate change. Therefore, China maintains, it has to have a say in future Arctic governance arrangements that have global repercussions. The Arctic is clearly affected by this logic. As the number of Arctic stakeholders rises, the interests between all three layers of Arctic stakeholders might diverge. As a result, consensus-building and effective decision-shaping might suffer.¹³⁷⁸ This could delegitimize the current governance architecture.

¹³⁷³ Ekaterina Klimenko, *Russia's Arctic Security Policy* (Stockholm: Stockholm International Peace Research Institute (SIPRI), February 2016), p. 37 (pp. 26–27) <<http://books.sipri.org/files/PP/SIPRIIPP45.pdf>> [accessed 4 May 2016].

¹³⁷⁴ Hilde, pp. 155–56.

¹³⁷⁵ Hilde, p. 155.

¹³⁷⁶ Tamnes and Holtmark, p. 44.

¹³⁷⁷ Humpert and Raspotnik, *From Great Wall to Great White North. Explaining China's Politics in the Arctic*.

¹³⁷⁸ Heater A. Conley and Matthew Melino, *An Arctic Redesign. Recommendations to Rejuvenate the Arctic Council* (Washington, D.C.: Center for Strategic & International Studies, February 2016), p. 5

Against the background of growing interdependencies between global affairs and the Arctic in political and security-related questions, changes in the ‘structure’ and ‘functioning’ of the Arctic’s order have the potential to also affect the ‘character’ of the regional order. A changing balance of power and a growing diversity of interests with regard to the future governance of the region might lead to a more confrontational situation in the region. Finally, an increasing interdependence between the Arctic and global affairs might also make the region more vulnerable to spill-over effects of political and security-related conflicts in other parts of the world.¹³⁷⁹ For the time being, however, the Arctic remains a zone where cooperation prevails.

5.1.3 Germany’s Political Interdependence with Global and Arctic Political Affairs

In political terms Germany is one of Europe’s main actors. Germany is also an above-average globalized country.¹³⁸⁰ In terms of global flows of goods, services, finance, peoples, and data communication Germany is even the most connected country in the world.¹³⁸¹ As a result, like probably no other country, Germany benefits from globalization and an open, peaceful and free international political order. At the same time, however, Germany, in economic and political terms is also extremely dependent on the functioning of this order and thus particularly vulnerable when the international political order is stalled or breaks down.¹³⁸² Hence, Germany’s preeminent political goal is to preserve and to further develop the international political order as this allows the country to benefit in economic and political terms (for a more detailed discussion about the economic aspects, see chapter 4.1).¹³⁸³ As elaborated on in chapter 5.1, however, the international political order is under increasing pressure due to a changing balance of power, an increasingly dysfunctional global governance as well as the more confrontative character of global affairs. Germany is particularly vulnerable to these developments.¹³⁸⁴

<<http://csis.org/publication/arctic-redesign>> [accessed 4 May 2016]; Haftendorn, *The Case for Arctic Governance. The Arctic Puzzle*, pp. 12, 16.

¹³⁷⁹ Etzold and Steinicke; Hilde, p. 161.

¹³⁸⁰ Stiftung Wissenschaft und Politik and The German Marshall Fund of the United States, p. 2.

¹³⁸¹ Manyika and others, p. 7.

¹³⁸² Stiftung Wissenschaft und Politik and The German Marshall Fund of the United States, p. 3.

¹³⁸³ Stiftung Wissenschaft und Politik and The German Marshall Fund of the United States, p. 6.

¹³⁸⁴ Stiftung Wissenschaft und Politik and The German Marshall Fund of the United States, p. 12.

The interdependencies between political, legal and security-related developments in the Arctic and Germany have been rather limited. Of course via solidarity clauses in EU and Nato Germany is linked to Arctic security developments. But as long as cooperation remains the central characteristic of Arctic politics Germany will not be affected by regional security developments. Consequently Germany has not been very outspoken with regard to these issues in the region.¹³⁸⁵ The most prominent German engagement is the participation in the ASFR (see page 234) as well as Germany's participation in Nato's COLD RESPONSE training exercise in northern Norway.¹³⁸⁶

In political affairs Germany is closely linked to the region via its bilateral relationships with Norway and Russia. To a large part the political relationship is also influenced by the economic interdependencies between Germany on the one side and Norway and Russia on the other (see also chapter 4.1.3). Since the beginnings of Germany's Ostpolitik Germany plays a crucial role with regard to Russia in terms of political and security-related issues. Within Nato and the EU Germany is seen as a reliable partner when it comes to relations with Russia. In addition Russia sees Germany as a preferred partner when it comes to questions of military security in Northern and Eastern Europe. Thus the cooperation in political and security affairs between Berlin and Moscow is on a good and stable footing. Against this background Germany could play the role of a mediator between the West and Russia.¹³⁸⁷ However in terms of security Germany and Russia have not yet developed a strategic partnership with the same depth as in economic affairs.¹³⁸⁸ Nevertheless key figures of Germany's foreign policy élite have argued for closer cooperation between Europe and Russia with regard to upcoming economic opportunities as well as political and security-related challenges in the Arctic.¹³⁸⁹ So far a close political cooperation in Arctic affairs between Moscow and

¹³⁸⁵ Major and Steinicke, p. 14.

¹³⁸⁶ Björn Jüttner, *Fernspäher Allein in Fjordland* (Berlin: Bundeswehr, 1 April 2014) <http://www.bundeswehr.de/portal/a/bwde/!ut/p/c4/NYuxDsIwDET_KG6GCsFGIAHWLICWym2sKijNIt ehCx9PMnAnveXdwQtqI378iuJTxABPGbd_mQ81H44UvqVQCLQrLPvkiCfhkjPBox3rYEmRpFEoiq9cGSWxy oklNFOYq1Hewdhpa_Sp-0d_zzdrzNdr3t7NAHnbrj8IuWM5/> [accessed 4 May 2016]; Markus Tiedke, *Cold Response 2016* (Berlin: Bundeswehr, 29 March 2016) <[http://www.bundeswehr.de/portal/a/bwde/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP315EyrpHK9pPKUUVL3ikqLUz\]LsosTUtJJUveT8nJT4otTigvy84IT9gmxHRQDnDDyh/](http://www.bundeswehr.de/portal/a/bwde/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP315EyrpHK9pPKUUVL3ikqLUz]LsosTUtJJUveT8nJT4otTigvy84IT9gmxHRQDnDDyh/)> [accessed 4 May 2016].

¹³⁸⁷ Christopher S. Chivvis and Thomas Rid, 'The Roots of Germany's Russia Policy', *Survival*, 51.2 (2009), 105–22.

¹³⁸⁸ Rühl, p. 119.

¹³⁸⁹ Andreas Schockenhoff and Roderich Kiesewetter, *Europas Sicherheitspolitische Handlungsfähigkeit Stärken. Es Ist Höchste Zeit* (Berlin, 30 May 2012), p. 8 (p. 2) <<http://www.roderich->

Berlin seems not to exist. Instead cooperation remains largely focused on economic affairs.

German-Norwegian political cooperation on Arctic matters, however, has increased since 2010/2011.¹³⁹⁰ The most visible sign of this increased cooperation was a joint German-Norwegian workshop on closer cooperation in the Arctic in March 2013 which was initiated by the two then ministers of foreign affairs Westerwelle and Støre.¹³⁹¹ After the workshop both undersecretaries of state agreed to establish a bilateral Arctic contact group.¹³⁹²

Due to the growing political relevance of the Arctic, however, Germany has intensified its contribution to international discussions on Arctic affairs in recent years. In 2009 (“New Opportunities and Responsibilities in the Arctic”), 2011 (“Climate Change, International Law and Arctic Research – Legal Aspects of Scientific Marine Research in the Arctic Ocean”) and 2014 (“Sustainable Shipping in the Arctic – Prospects for International Cooperation”) the FFO, in cooperation with Denmark, Finland and Norway, organized high-level international Arctic conferences.¹³⁹³

5.2 Psychological Environment

Against the background of developments in the operational environment, this chapter analyzes official ministerial documents and statements of ministerial representatives in order to better understand how the FFO, the Federal Ministry of Defence, and the Federal Ministry for Economic Affairs and Energy perceived these developments.¹³⁹⁴ The analytical focus lies on these three ministries as no perceptions regarding Arctic

kiesewetter.de/fileadmin/user_upload/media/dokumente/2012/20120530-GSVP-Papier.pdf [accessed 14 September 2016].

¹³⁹⁰ Norwegian Ministry of Foreign Affairs Arctic Official, p. 2.

¹³⁹¹ Auswärtiges Amt, *Deutsch-Norwegische Zusammenarbeit in Der Arktis* (Berlin: Auswärtiges Amt, 21 March 2013) <<http://www.auswaertiges-amt.de/DE/Aussenpolitik/InternatRecht/Einzelfragen/Arktis/130321-Arktiskonferenz.html?nn=383202>> [accessed 4 May 2016].

¹³⁹² Federal Foreign Office Official, Statement 14, 2013, p. 3.

¹³⁹³ Auswärtiges Amt, *Staatsminister Für Europa Günter Gloser Bei Der Internationalen Arktiskonferenz, März 2009*; Auswärtiges Amt, *Zukunft Der Arktis Sichern*; Auswärtiges Amt, *Internationale Arktis-Konferenz Im Auswärtigen Amt*.

¹³⁹⁴ As most ministries and subordinated agencies did not articulate any perceptions about Arctic-specific or global Arctic-related political affairs this chapter focuses exclusively on ministerial perceptions of the Federal Foreign Office, the Federal Ministry of Defence, and the Federal Ministry for Economic Affairs and Energy. As a result, political interests can only be deduced from these three ministries.

political affairs and Arctic-related global political affairs have been identified in the statements of the other three ministries analyzed in previous chapters (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Federal Ministry of Education and Research).

The analysis and categorization of ministerial narratives focus on opportunities and challenges, direct and indirect interdependencies, short-term and long-term impacts as well as sensitivities and vulnerabilities.

5.2.1 Federal Ministry of Defence

Narrative No. 1: A Changing Global Balance of Power

The ministry is aware of a changing global balance of power in the operational environment: “Globalisation has led to power shifts between states and groups of states as well as to the rise of new regional powers.”¹³⁹⁵

And as a result of this changing balance of power the ministry sees the possibility that the international economic and political order could become increasingly dysfunctional and conflict-ridden due to this changing global balance of power. Germany would be particularly vulnerable to these developments:

Germany, whose economic prosperity depends on access to raw materials, goods and ideas, has an elementary interest in peaceful competition of thoughts and views, an open world trade system and unrestricted transportation routes.¹³⁹⁶

At the same time, however, the ministry is attentive that “[a]round the globe, changes are taking place in markets, channels of distribution, and the ways in which natural resources are developed, secured and accessed.”¹³⁹⁷ And these changes, manifested in a resurging state capitalism and resource nationalism pose a threat to Germany’s economic and political wellbeing. Hence there is the danger of Germany becoming more vulnerable to global developments.

Narrative No. 2: Growing Global Security Interdependencies

¹³⁹⁵ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 1.

¹³⁹⁶ Federal Ministry of Defence, ‘Germany. White Paper 2006. On German Security Policy and the Future of the Bundeswehr’, p. 17.

¹³⁹⁷ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 3.

The ministry sees a growing global interconnectedness in the operational environment:¹³⁹⁸ “Developments in regions at the periphery of Europe and outside the European zone of security and stability can have an immediate impact on the security of Germany.”¹³⁹⁹

And as a result, the ministry considers Germany to be affected by far away developments, too:

Germany’s security is inextricably linked to political developments in Europe and throughout the world. Increased international integration in all areas is resulting in growing interdependence between states, which is increasingly affecting their respective security policies.¹⁴⁰⁰

One example of these growing global security interdependencies is the climate change-security nexus:

Climate Change is already threatening the livelihood of many people in certain states. Desertification, water and land shortages, uneven population densities, and enormous prosperity gaps in connection with social disparity are leading to worldwide migration flows to economically better developed regions and causing considerable conflict potential for the regions in question. In the future this can have further consequences for the stability of government and regional structures and thus for our security too.¹⁴⁰¹

Another example is Germany’s growing vulnerability to natural resource supply disruptions:

Free trade routes and a secure supply of raw materials are crucial for the future of Germany and Europe [...]. The scarcity of energy sources and other commodities required for high-technology products will have implications for the international community. Restricted access can trigger conflicts.¹⁴⁰²

A disruption of global supply chains is seen as a direct challenge for Germany:

Disruptions of transport routes and the flow of raw materials and commodities, e.g. by piracy or the sabotage of air transport, pose a threat to security and prosperity. This is why transport and energy security and related issues will play an increasingly important role for our security.¹⁴⁰³

¹³⁹⁸ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 1.

¹³⁹⁹ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 1.

¹⁴⁰⁰ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 5.

¹⁴⁰¹ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 3.

¹⁴⁰² Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 3.

¹⁴⁰³ Federal Ministry of Defence, ‘Defence Policy Guidelines’, p. 3.

Narrative No. 3: The Challenge to Ensure a Stable and Secure Supply with Hydrocarbon Resources

The ministry is aware of a growing short- to medium-term vulnerability of the country's security of supply with hydrocarbon resources:

A secure, sustained and competitive supply of energy is of strategic importance for the future of Germany and Europe. Global challenges result, such as the growing need for energy worldwide, the increasing regional and inter-regional trade in energy, proliferation risks, rising climatic protection requirements, and the necessity in developing countries to improve access to energy thereby opening up opportunities for economic development. Energy issues will play an ever more important role for global security in future.¹⁴⁰⁴

5.2.2 Federal Foreign Office

Narrative No. 1: A Changing Global Balance of Power

The ministry also recognized the changing global balance of power in the operational environment:

The world is becoming increasingly multipolar. States that were long thought of as developing or newly industrialized countries are now an influential force in shaping international policy in an interdependent world. They are economic motors and key regional players, active beyond their own regional boundaries. They also play an increasingly important role in international decision-making processes.¹⁴⁰⁵

In this changing global balance of power Asia is seen as having the largest potential for development:

The new players' growing significance in the world economy as well as their growing influence on the global trading and financial system are due to their economic growth and their potential for growth. According to forecasts, it is their trade relations with one another, and in particular intra-regional trade in Asia, that have the greatest potential for development of all worldwide trade.¹⁴⁰⁶

Narrative No. 2: Increasing Global Interdependencies

In addition, the ministry also was aware of growing global interdependencies in various issue areas as a central characteristic of current international affairs:

Peace and security; human rights and the rule of law; economic and financial policy; resources, food and energy; employment, social affairs and health; development and

¹⁴⁰⁴ Federal Ministry of Defence, 'Germany. White Paper 2006. On German Security Policy and the Future of the Bundeswehr', p. 20.

¹⁴⁰⁵ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 5.

¹⁴⁰⁶ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 29.

sustainability [...] these six areas, which are interlinked and may mutually influence each other.¹⁴⁰⁷

The climate change-security nexus was identified as one example of these increasing global interdependencies:

“Increasing water shortages, a harvest decline and extreme weather events can lead to grave social and political tensions. Existing threats to international security might be aggravated by climate change.”¹⁴⁰⁸

Narrative No. 3: The Challenge to Ensure a Stable and Secure Supply with Hydrocarbon Resources

According to the ministry, natural resources “are the essential foundations of prosperity around the world.”¹⁴⁰⁹ Due to a global population growth and a parallel growing global energy demand, hydrocarbon resources are expected to run short:

The intensity with which oil, gas and coal supplies are being exploited not only affects our climate and ecosystems but is also making those resources increasingly scarce. If the rising demand for energy on the part of the new players and elsewhere causes soaring energy prices, there could be serious consequences for global economic development. The potential repercussions include conflicts about resources, with the inherent risks to peace and security.¹⁴¹⁰

The challenge to ensure a stable and secure energy supply calls for a more active German foreign energy policy: “Against the background of a growing global energy demand, new regional economic cooperation and potentially unstable regions the security of energy supplies gains in importance for the formulation and implementation of foreign policy.”¹⁴¹¹

Narrative No. 4: The Importance of a rule-based Governance Architecture

¹⁴⁰⁷ Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 8.

¹⁴⁰⁸ „zunehmende Wasserknappheit, Ernterückgänge und extreme Wetterereignisse können zu erheblichen sozialen und politischen Spannungen führen. Bestehende Bedrohungen der internationalen Sicherheit können sich durch den Klimawandel weiter verschärfen.“ Steinmeier.

¹⁴⁰⁹ Federal Foreign Office, 2012: 39

¹⁴¹⁰ Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 39.

¹⁴¹¹ “Das Thema Energieversorgungssicherheit gewinnt angesichts international steigender Nachfrage an Energieträgern, neuen regionalen wirtschaftlichen Kooperationen und potenziell instabilen Regionen zunehmend an Bedeutung für die Formulierung und Gestaltung von Außenpolitik.” Auswärtiges Amt, *Energieaußenpolitik*.

The FFO identified a rule-based governance architecture – on a global and regional (e.g. the Arctic) level as extremely important. As a country that is highly integrated in global structures and processes Germany is exceedingly dependent on open, functioning, and predictive ‘rules of the game’: “The German government seeks to work together with partners in order to shape the globalized, interdependent world by means of rule-based, multilateral global governance realized through legitimate and effective international institutions.”¹⁴¹²

Narrative No.5: The Importance of the Arctic Council

Against the background of the highlighted importance of a rule-based governance architecture, it comes as no surprise that the ministry viewed the Arctic Council as the lynchpin of Arctic governance:

We are an active observer in the Arctic Council. But of course we respect the natural leadership of the Arctic Council’s full members and permanent participants, be they coastal States, non-coastal-States or indigenous representatives.¹⁴¹³

5.2.3 Federal Ministry for Economic Affairs and Energy

Narrative No. 1: The Importance of a Rule-based Global Governance Architecture

In political affairs the ministry perceived the existing global economic governance structures to be under growing pressure.¹⁴¹⁴ This was a particular concern for the ministry as the German economy is highly dependent on the functioning of a rule-based global economic governance architecture.¹⁴¹⁵ The ministry was particularly concerned about a growing resource nationalism that poses a challenge to the German economy’s security of supply:

Where market conditions and fair world trade prevail, supply and demand will keep aligning themselves [...] functioning markets ensure stability and long- term security of supply.

¹⁴¹² Federal Foreign Office, ‘Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government’, p. 7.

¹⁴¹³ Westerwelle, ‘Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean’, p. 1.

¹⁴¹⁴ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3; Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 6; Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 2, 45, 49.

¹⁴¹⁵ Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, pp. 7, 9, 21, 26; Mildner and Howald, p. 62.

[However] serious market disturbances can cause disruption with a substantial impact on commerce, environment and employment.¹⁴¹⁶

Germany was seen as particularly vulnerable to a breakdown of the global economic governance architecture:

To a large degree, Germany's economic performance depends on the availability of key raw materials. For this reason, the safeguarding of the supply of raw materials needs to be backed by a committed foreign policy, external economic policy and development co-operation policy.¹⁴¹⁷

Narrative No. 2: The Challenge to Ensure a Stable and Secure Supply with Hydrocarbon Resources

With regard to the security of supply of petroleum resources the ministry perceived a growing vulnerability of the German economy:

While global energy demand continues to grow, certain fossil fuel resources are declining. This presents long-term risks for supply security and energy prices. Furthermore, the majority of fossil fuels are sourced from just a handful of regions in the world, some of which are politically unstable.¹⁴¹⁸

Emerging countries are expected to play a key role with regard to the world's future energy security:

Our dependence on energy imports is further exacerbated by the global increase in energy prices. This is attributable to growing global demand for energy, particularly in emerging economies like China and India, coupled with the dwindling supply of fossil fuels.¹⁴¹⁹

Due to the lack of domestic energy resources the ministry perceived a growing vulnerability to the import of these resources:

Given our limited domestic energy reserves, Germany relies on imports of energy from other countries [...] In light of depleting local energy reserves [...] this reliance is likely to increase further over the long term.¹⁴²⁰

¹⁴¹⁶ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 6.

¹⁴¹⁷ Federal Ministry of Economics and Technology, 'The German Government's Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany', p. 26.

¹⁴¹⁸ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 6.

¹⁴¹⁹ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 49.

¹⁴²⁰ Federal Ministry of Economics and Technology, 'Germany's New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy', p. 49.

5.3 Political Interests

Based on the identified ministerial perceptions in chapter 5.2, the respective political interests or policy preferences of the involved ministries are identified.¹⁴²¹

5.3.1 Federal Ministry of Defence

Regarding the ministerial perceptions, two security-related interests can be deduced. First, the ministry aims to ensure the secure supply of natural resources. The import of these resources is seen as a precondition to guarantee Germany's economic wellbeing: "German security interests are a result of our history [...] and our resource dependency as a centre of high technology and an exporting nation with few natural resources."¹⁴²² Second, it advocates to safeguard the existing global economic governance architecture in the sense of "facilitating free and unrestricted world trade as well as free access to the high seas and to natural resources."¹⁴²³

5.3.2 Federal Foreign Office

Based on the ministerial perceptions, three political interests are identified. First, against the background of a changing global balance of power and Germany's dependence on an open and functioning international order, the ministry is interested in safeguarding a rule-based global political governance.¹⁴²⁴

Second, the FFO intends to enhance Germany's security of supply with natural resources. This objective shall be achieved by diversifying imports and transport routes as well as by establishing and developing natural resources partnerships:

The Challenges for Germany and Europe include: diversification of sources of supply, routes of supply and energy sources to increase the security of supply and energy independence; upgrading the dialogue with supplier, transit and the big consumer countries – especially with the newly industrialized countries [...].¹⁴²⁵

Third, as the ministry calls for a rule-based international order it recognizes the Arctic Council as the lynchpin of Arctic governance. But as the Arctic's transformation is

¹⁴²¹ For an overview of ministerial interests, see Table 42 (chapter 6.1, page 256).

¹⁴²² Federal Ministry of Defence, 'Defence Policy Guidelines', p. 4.

¹⁴²³ Federal Ministry of Defence, 'Defence Policy Guidelines', p. 4.

¹⁴²⁴ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 7.

¹⁴²⁵ Auswärtiges Amt, *Energieaußenpolitik*.

perceived of having global repercussions, and thus being of importance for Germany, too, the ministry is interested in participating in Arctic governance questions:

Because the Arctic is so important for all mankind, and by no means just for the members of the Arctic Council, it is vital that the Council does not close its doors, but remains open to the world.¹⁴²⁶

5.3.3 Federal Ministry for Economic Affairs and Energy

Based on the ministerial perceptions, two political interests are deduced. First, the ministry is interested to preserve and to strengthen the current global economic governance architecture.¹⁴²⁷ Second, it aims to ensure the security of supply of petroleum resources.¹⁴²⁸ This shall be achieved by intensifying existing relationships with resource exporting nations:¹⁴²⁹

[T]he German government, together with German business, will step up dialogue with non-EU countries with regard to high technology raw materials and energy technologies. A primary focus of this dialogue will be to develop options for ensuring that Germany and the EU have long-term access to supplies of high technology raw materials and energy resources that are needed for technologies involving energy generation, energy transmission and energy storage. Our instrument here is bilateral and regional energy and resource partnerships.¹⁴³⁰

In addition, the ministry aimed to diversify its energy imports: “The diversification of energy sources, supplier countries and import routes is a key element of Germany’s foreign energy policy.”¹⁴³¹

¹⁴²⁶ Westerwelle, ‘Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean’, p. 3.

¹⁴²⁷ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3; Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 6; Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 2, 45, 49.

¹⁴²⁸ Federal Ministry for Economic Affairs and Energy, *Tasks and Structure of the Federal Ministry for Economic Affairs and Energy*.

¹⁴²⁹ Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 6, 45, 49–50, 52; Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, pp. 3, 28; Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, pp. 7, 9, 21, 26; Mildner and Howald, p. 62.

¹⁴³⁰ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 31.

¹⁴³¹ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 28.

6 The Arctic Policy Guidelines Formulation Process

This chapter offers an in-depth analysis of the bureaucratic bargaining and the formulation process of Germany's Arctic Policy Guidelines. It is closely connected to and logically builds on the empirical analysis (chapters 3-5) of ministerial perceptions and interests about the changing Arctic and existing interdependencies with Germany. Driven by different ministerial interests, as identified in chapters 3-5, an inter-ministerial bargaining process evolved, that ultimately resulted in the concrete formulation of the Arctic Policy Guidelines. Chapter 6.1 gives some background information on the formulation process and recaps the main ministerial interests.

In chapter 6.2, according to the "Stand-Sit" Proposition, the ministerial interests (political and bureaucratic) are scrutinized. The "Stand-Sit" Proposition is composed of two assumptions. First, individual bureaucrats' interests are heavily influenced by the organizational interests of the bureaucracy (in this case a ministry) they are working in. Second, in inter-ministerial bargaining games bureaucrats aim to protect their ministry's core interests. Thus, a ministerial bureaucrat's policy position ("stand") is driven in most instances by the position in government ("sit") thus the ministry he or she is working in. It can be summarized as "where you stand depends on where you sit".¹⁴³² As elaborated in chapter 2.5 and based on Marsh, Allison and Halperin, as well as Allison and Zelikow, the analysis of the "Stand-Sit" Proposition is guided by the following questions: Who were the relevant actors in the decision-making process, and what were their associated bureaucratic roles? What were the policy preferences of these actors? And, finally, were actors' policy preferences influenced by their respective bureaucratic roles?¹⁴³³

Chapter 6.3, derived from the "Bargaining" Proposition, sheds some light to the actual bargaining process between all involved actors. According to the "Bargaining" Proposition, bargaining is the main characteristic of a decision-making process when conflicting organizational interests of the involved bureaucratic actors emerge. Such a development is not unusual as "internal political conflicts over roles and missions arise constantly within the government."¹⁴³⁴ As a result, bureaucratic or ministerial "ideologies, rather than integrating the activities of government, tend to fragment

¹⁴³² Allison and Zelikow, p. 307.

¹⁴³³ Marsh, p. 270; Allison and Halperin, pp. 46-47; Allison and Zelikow, pp. 296-310.

¹⁴³⁴ Halperin, Clapp, and Kanter, p. 40.

government and render it in a set of competing, or at least not cooperating, fiefdoms.”¹⁴³⁵ There are two main factors that shape the bargaining process: different organizational interests and unequal power potentials.¹⁴³⁶ Based on Marsh, Allison and Halperin, as well as Allison and Zelikow, the analysis is guided by two questions: Did the actors employ bargaining advantages, and did these bargaining advantages augment the actors’ influence in the decision-making process? Was government action taken through action channels, defined as “regularized means of taking governmental action on a specific kind of issue”?¹⁴³⁷

Finally, in chapter 6.4, built on the “Resultant” Proposition, the Arctic Policy Guidelines are analyzed in order to discuss whether the final decision has been a compromise and if so, which of the bureaucratic actors was most successful in pushing its own bureaucratic interests. The “Resultant” Proposition assumes that due to the diverging policy preferences and unequal power relations of the involved actors, the final decision of a bargaining process mostly reflects a political resultant between all involved actors instead of the most logical or rational position.¹⁴³⁸ The analysis, based on Marsh, Allison and Halperin, as well as Allison and Zelikow is guided by one question: Did political pulling and hauling produce a final decision outcome that was a political resultant or compromise?¹⁴³⁹

6.1 Background Information

In September 2013, Germany’s first ever, explicit and coordinated Arctic policy document – the Arctic Policy Guidelines – was published. The document was the result of an inter-ministerial discussion, bargaining, and formulation process that had started in late 2012.¹⁴⁴⁰ This was an important step as there has been no previous inter-ministerial coordination of Germany’s Arctic engagement.¹⁴⁴¹ Consequently, no explicit Arctic policy existed before that time. According to various government officials, the decision to formulate the Arctic Policy Guidelines was driven by mainly three

¹⁴³⁵ Peters, p. 210.

¹⁴³⁶ Allison and Zelikow, pp. 256, 300; Kaarbo, pp. 74–77.

¹⁴³⁷ Allison and Zelikow, p. 300.

¹⁴³⁸ Rosati, ‘Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective’, p. 237; Allison and Zelikow, p. 294; Allison and Halperin, pp. 53–54.

¹⁴³⁹ Marsh, p. 270; Allison and Halperin, pp. 46–47; Allison and Zelikow, pp. 296–310.

¹⁴⁴⁰ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’; Federal Foreign Office Official, Statement 15, 2013, p. 3.

¹⁴⁴¹ Federal Foreign Office Official, Interview 9, 2015, p. 1; Polar Research Expert, p. 2.

considerations. First, there was a perception in the government that all Arctic states and most of the permanent observers of the AC already possessed their own Arctic strategies. Thus, the government saw the need for action.¹⁴⁴² Second, all ministries perceived a growing interdependence in environmental, economic, and political affairs between the Arctic’s transformation on the one side and Germany and their respective ministerial interests on the other.¹⁴⁴³ They thus saw a growing necessity to become involved in Arctic affairs. Third, they felt an increasing demand to better coordinate their respective ministerial engagements in order to strengthen the German government’s coherence and visibility in Arctic questions as well as their ministerial interests in a coordinated government policy approach.¹⁴⁴⁴

Whilst there was a consensus between the ministries about these three considerations, some of the ministries differed significantly with regard to their respective ministerial interests. Based on the empirical analysis in chapters 3-5, the following overview illustrates the diverging ministerial interests that drove the inter-ministerial bargaining process.

Table 42 - Overview of Main Ministerial Interests

Ministries	Interests (to realize opportunities)	Interests (to prevent challenges)
Federal Ministry of the Environment		<ul style="list-style-type: none"> • significant reduction of global GHG emissions • taking environmental adaption steps in Germany • increasing climate research efforts • ensuring a sustainable supply of energy and of new Arctic sea routes
Federal Ministry of Research and	<ul style="list-style-type: none"> • Strengthening Germany’s position as one of the 	<ul style="list-style-type: none"> • significant reduction of global GHG emissions

¹⁴⁴² Federal Foreign Office Official, ‘Interview 3’, p. 1.

¹⁴⁴³ Federal Ministry for Education and Research Official, Statement 10, 2013, pp. 2-3; Federal Foreign Office Official, ‘Statement 15’, p. 3; Federal Foreign Office Official, Statement 16, 2013, p. 3; Federal Foreign Office Official, Statement 1, 2013, p. 4; Ministry for Economic Affairs and Energy official, Statement 17, 2013, p. 4; Federal Ministry for Economic Affairs and Energy Official, Statement 7, 2013, pp. 4-5; Two Officials from the Federal Agency for Geosciences and Natural Resources; Ministry of Defence official, Statement 18, 2013, p. 5; Federal Ministry of the Environment, Nature Conservation and Nuclear Safety Official, ‘Statement 12’, p. 5; Two Officials from the German Environment Agency, Statement 19, 2013, p. 5; Federal Conservation Agency Official, Statement 2, 2013, p. 6.

¹⁴⁴⁴ Federal Foreign Office Official, ‘Statement 15’, p. 3; Federal Foreign Office Official, ‘Statement 14’, p. 6; Ministry for Economic Affairs and Energy official, p. 4; Federal Ministry for Economic Affairs and Energy Official, ‘Statement 7’, p. 4; Two Officials from the German Environment Agency, p. 5; Federal Ministry for Education and Research Official, pp. 2-3; Federal Foreign Office Official, Statement 20, 2013, p. 2.

Education	world's leading polar research nations	<ul style="list-style-type: none"> • increasing climate research efforts
Federal Foreign Office	<ul style="list-style-type: none"> • Strengthening Germany's position as one of the world's leading polar research nations • increasing natural resources imports from the Arctic • increasing shipping through the Arctic • participating in Arctic governance questions 	<ul style="list-style-type: none"> • reduction of global GHG emissions • preservation of freedom of polar research • enforcement of the highest environmental standards for all activities in the Arctic • enhancing Germany's security of supply with natural resources • strengthening a rules-based international political and economic order
Federal Ministry of Defence		<ul style="list-style-type: none"> • reduction of global GHG emissions • strengthening a rules-based international economic order • enhancing Germany's security of supply with natural resources
Federal Ministry for Economic Affairs and Energy	<ul style="list-style-type: none"> • increasing natural resources imports from the Arctic • increasing shipping through the Arctic • exporting German high-technology into the Arctic 	<ul style="list-style-type: none"> • strengthening a rules-based international economic order • enhancing Germany's security of supply with natural resources

Against the background of diverging policy interests it comes as no surprise that the formulation process of the Arctic Policy Guidelines took longer than expected. According to an FFO official, the government's intent was to adopt the document in the federal cabinet prior to the elections to the Bundestag in September 2013. However, due to conflicting ministerial policy positions the publication of the Arctic Policy Guidelines was delayed until after the elections.¹⁴⁴⁵

6.2 The "Stand-Sit" Proposition

According to the "Stand-Sit" Proposition, a ministerial bureaucrat's policy position ("stand") is driven in most instances by the position in government ("sit") thus the

¹⁴⁴⁵ Federal Foreign Office Official, 'Interview 3', p. 1.

ministry he or she is working in. It can be summarized as “where you stand depends on where you sit”.¹⁴⁴⁶ There are five main bureaucratic interests for organizations: First, the retention of the organization’s essence;¹⁴⁴⁷ second, the protection of areas of responsibility;¹⁴⁴⁸ third, the ability to maintain an autonomous actorness;¹⁴⁴⁹ fourth, to safeguard budget and staff;¹⁴⁵⁰ fifth, the ability to maintain the staff’s motivation and morale (see chapter 2.3.3.1, page 60).¹⁴⁵¹ The analysis focuses on the first three bureaucratic interests as the last two interests are assumed of almost automatically being a result of the first three interests.

There were mainly five ministries and three subordinated agencies involved in the decision-making process prior to the publication of Germany’s Arctic Policy Guidelines: the Federal Foreign Office, the Ministry of Defence, the Federal Ministry of Economics and Technology, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and the Federal Ministry of Education and Research as well as the Federal Agency for Geosciences and Resources, the Federal Environment Agency, and the Federal Agency for Nature Protection.

According to an FFO official responsible for the coordination of the formulation process of the Arctic Policy Guidelines, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Ministry for Economic Affairs and Energy, and the Federal Ministry of Education and Research have been the most interested and involved ministries in the formulation process.¹⁴⁵²

¹⁴⁴⁶ Allison and Zelikow, p. 307.

¹⁴⁴⁷ Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 76; Halperin, Clapp, and Kanter, p. 27.

¹⁴⁴⁸ Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 78; Halperin, Clapp, and Kanter, p. 40.

¹⁴⁴⁹ Peters, p. 214; Halperin, Clapp, and Kanter, p. 51.

¹⁴⁵⁰ Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 79.

¹⁴⁵¹ Hudson, *Foreign Policy Analysis. Classic and Contemporary Theory*, p. 79; Halperin, Clapp, and Kanter, pp. 54–55; Peters, p. 31.

¹⁴⁵² Federal Foreign Office Official, Interview 10, 2014, p. 1.

6.2.1 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

According to the ministry's standing orders, the ministry's main political tasks are "to protect the public from environmental toxins and radiation and establish an intelligent and efficient use of raw materials; [to] advance [...] climate action and promote [...] a use of natural resources that conserves biodiversity and secures habitats."¹⁴⁵³ In pursuing these tasks, the ministry is supported by two subordinated agencies: The Federal Environment Agency and the Federal Agency for Nature Conservation. Their main political tasks are "to ensure that [German] citizens have a healthy environment with clean air and water, free of pollutants to the greatest extent possible"¹⁴⁵⁴ and to advise the government in questions of national and international nature conservation.¹⁴⁵⁵

Against the background of the ministry's main tasks as well as identified perceptions (chapters 3.2.1 and 4.2.3) and interests (chapters 3.3.1 and 4.3.3), the ministry was mainly interested in the issue area of 'environmental affairs' and pursued three political interests with regard to the Arctic and Arctic-related developments. The first and most fundamental goal of the ministry was to pursue policies that slow the pace of global climate change. In order to protect the environment from fundamental changes, it aimed to significantly reduce global GHG emissions.¹⁴⁵⁶ Second, the ministry aimed to take precautionary measures in order to protect Germany from climate change impacts. Therefore, it advocated the development of new and climate friendly technologies that could also be exported to global markets.¹⁴⁵⁷ Finally, in order to better understand global climate change processes and thus to better inform decision-makers, the ministry called for additional research activities.¹⁴⁵⁸

¹⁴⁵³ Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, *Tasks and Structure. Which Policy Areas Is the Ministry Responsible For?* (Berlin: Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 4 February 2016) <<http://www.bmub.bund.de/bmub/aufgaben-und-struktur/>> [accessed 3 June 2016].

¹⁴⁵⁴ Umweltbundesamt, *About Us. Our Mission* (Dessau: Umweltbundesamt, 20 May 2015) <<https://www.umweltbundesamt.de/en/the-uba/about-us>> [accessed 8 June 2016].

¹⁴⁵⁵ Bundesamt für Naturschutz, *Beraten. Wissenschaftliche Erkenntnisse Für Nachhaltige Entscheidungen*. (Bonn: Bundesamt für Naturschutz, 1 January 2010) <https://www.bfn.de/0101_beratung.html> [accessed 8 June 2016].

¹⁴⁵⁶ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 6; Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, 'Nationales Klimaschutzprogramm. Sechster Bericht Der Interministeriellen Arbeitsgruppe "CO₂-Reduktion"', p. 4.

¹⁴⁵⁷ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), pp. 6–7.

¹⁴⁵⁸ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), pp. 50–51, 53.

These three political interests are in line with two of the main bureaucratic interests, namely the retention of the organization's essence and the protection of areas of responsibility. The calls to slow down the pace of global climate change by reducing global GHG emissions, to take precautionary measures to protect Germany from climate change impacts and to strengthen research activities in order to be able to better execute the first two goals are all in line with the ministry's main political tasks of taking measures to fight global climate change and to safeguard biodiversity and habitats.¹⁴⁵⁹ Thus these interests are closely linked to the retention of the ministry's essence. At the same time the identified interests are also a discursive way to define areas of exclusive responsibility that guarantees autonomous actorness. By so doing the ministry protected its own bureaucratic turf.

Regarding the issue area of 'economic affairs' the ministry was mainly interested to ensure that all economic activities are as sustainable as possible. This refers to the supply of energy as well as the use of newly emerging Arctic sea routes.¹⁴⁶⁰ Regarding economic activities in the Arctic it is assumed that the Ministry has been interested to prevent as many economic activities as possible. The Arctic has a highly symbolic value in the context of the global fight against climate change. Hence for political as well as for symbolic reasons it is assumed that the Ministry had to oppose economic activities in the region. The acceptance of the Arctic's economic development would have diminished the ministry's area of responsibility and thereby challenged its autonomous actorness in a highly symbolic issue area. Thus, it is assumed, that the ministry acted imperialistically with regard to the Arctic – "issues that arise in areas where boundaries are ambiguous and changing, or issues that constitute profitable new territories, are dominated by colonizing activity."¹⁴⁶¹ The Federal Environment Agency was in line with this ministerial stance. For the agency, the main political interest was the Arctic's environmental protection in order to safeguard the region's natural resources from exploration and exploitation.¹⁴⁶² This position is closely connected to the agency's organizational essence of ensuring a healthy environment. Therefore, the agency saw the topic of environmental protection in the Arctic as an area of responsibility that had

¹⁴⁵⁹ Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.

¹⁴⁶⁰ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), p. 40.

¹⁴⁶¹ Allison and Zelikow, p. 181.

¹⁴⁶² German Environment Agency Official, Interview 12, 2014, pp. 1-2.

to be protected – especially from those that argued in favor of the region’s economic development which might pose a threat to the Arctic’s fragile ecosystem.

The Federal Agency for Nature Conservation supported as well the stance to mainly focus on the protection of the Arctic’s environment against all possible activities in the region. This included not only economic activities but also polar research.¹⁴⁶³ Therefore, the agency suggested to include the call for marine reserves into the Arctic Policy Guidelines.¹⁴⁶⁴ In addition, it called for a sensitization with regard to the topic of oil accidents in the region.¹⁴⁶⁵ Again, these political interests are connected to the organizational interest of safeguarding the agency’s essence.

No explicit interests existed regarding the issue area of ‘political affairs’. It comes as no surprise that the ministry was mainly interested in environmental affairs as these questions directly touched upon the ministry’s organizational essence and its main area of responsibility.

6.2.2 Federal Ministry for Economic Affairs and Energy

According to the ministry’s standing orders, the ministry’s most fundamental political tasks are “to reinvigorate the social market economy, stay innovative in the long term and to strengthen the social fabric in Germany.”¹⁴⁶⁶ In pursuing these tasks, the ministry is supported by the Federal Agency for Geosciences and Resources, the ministry’s subordinated geological consulting agency. Its main political task is to advise and inform the government and the German economy in geological and natural resources questions. By doing so, it contributes to the security of supply of natural resources in an environmentally sound way and thereby helps to retain Germany’s prosperity.¹⁴⁶⁷

Against the background of the ministry’s main political tasks, identified perceptions (chapters 3.2.5, 4.2.1, and 5.2.3), and interests (chapters 3.3.5, 4.3.1, and 5.3.2), it is not surprising that the ministry was most outspoken with regard to economic affairs and only marginally touched upon environmental and political affairs. The only declared

¹⁴⁶³ Federal Conservation Agency Official, ‘Statement 2’, p. 6.

¹⁴⁶⁴ German Environment Agency Official, p. 1.

¹⁴⁶⁵ Two Officials from the German Environment Agency, p. 5.

¹⁴⁶⁶ Federal Ministry for Economic Affairs and Energy, *Tasks and Structure of the Federal Ministry for Economic Affairs and Energy*.

¹⁴⁶⁷ Bundesanstalt für Geowissenschaften und Rohstoffe, *Aufgaben Und Themenfelder* (Hannover: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2016) <http://www.bgr.bund.de/DE/Gemeinsames/UeberUns/Aufgaben/aufgaben_node.html;jsessionid=61C515B5DA92690E4EF46E099CE5C72C.1_cid331> [accessed 8 July 2016].

environmental interest is to secure “a reliable, economically viable and environmentally sound energy supply.”¹⁴⁶⁸ In political affairs the ministry was interested in safeguarding and strengthening existing economic governance structures.¹⁴⁶⁹

In economic affairs, based on identified perceptions, the ministry was interested first and foremost in the secure supply of petroleum resources and raw materials. The secure supply of natural resources shall be achieved by diversifying natural resource suppliers and import routes.¹⁴⁷⁰ In addition, the ministry aimed to safeguard the special relationship with Russia, especially with regard to growing gas imports.¹⁴⁷¹ A third interest was the functioning of international resource markets and governance structures.¹⁴⁷² Finally, the ministry was explicitly interested in realizing economic opportunities in the thawing Arctic. The main identified opportunities were the import of hydrocarbon resources, metals and minerals, the export of German polar and maritime technology, and the use of new shipping routes towards Asia to strengthen trade ties.¹⁴⁷³

All these interests are in line with two core organizational interests, namely the retention of the organization’s essence and the protection of areas of responsibility. The ministry’s main mission is to support economic growth and employment in Germany. Thus, the ministry is interested to create and to protect the conditions allowing for economic growth and employment. For a resource-poor country, the security of supply

¹⁴⁶⁸ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

¹⁴⁶⁹ Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3; Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 6; Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 2, 45, 49.

¹⁴⁷⁰ Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 6, 45, 49–50, 52; Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3.

¹⁴⁷¹ Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, p. 50.

¹⁴⁷² Federal Ministry of Economics and Technology and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 3; Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 6; Federal Ministry of Economics and Technology, ‘Germany’s New Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy’, pp. 2, 45, 49.

¹⁴⁷³ Federal Ministry of Economics and Technology, ‘The German Government’s Raw Materials Strategy. Safeguarding a Sustainable Supply of Non-Energy Resources for Germany’, p. 9; Federal Ministry for Economic Affairs and Energy, *Maritimer Koordinator Beckmeyer Eröffnet 1. Fachtagung Eis- Und Polartechnik*; Bundesministerium für Wirtschaft und Technologie, ‘Nationaler Masterplan Maritime Technologie (NMMT). Deutschland, Hochtechnologiestandort Für Maritime Technologien Zur Nachhaltigen Nutzung Der Meere’, pp. 2, 15–16.

of natural resources is a fundamental precondition to produce high-technology products that are then shipped to the global market. In this context, it is obvious that the ministry is interested in new opportunities to import natural resources from a thawing Arctic. In addition to this, for a country that is highly dependent on its export sector for economic growth, the functioning of resources markets is of greatest importance. As trade with Asia was identified as an opportunity to strengthen the economy's trade surplus, shorter transit routes via the Arctic were a logical interest for the ministry. Similarly, for a country that possesses high-technology products it also comes as no surprise that the ministry eyed for new export opportunities into the Arctic. All these interests are a logical consequence of the ministry's organizational essence, namely to preserve those conditions that allow the German economy to grow and to create jobs. As this is the ministry's main task it is obvious that it aims to protect these key areas of responsibility by publicly highlighting these tasks and interests. This step seems reasonable also in order to maintain autonomous actorship on Arctic economic issues. The explicit mentioning of the economic opportunities in the Arctic is also in line with another organizational characteristic – bureaucratic imperialism. When new policy fields or issue areas open up and responsibilities are not yet clearly established, bureaucracies tend to widen their own organizational turf.¹⁴⁷⁴ Against this background, the ministry's Arctic engagement comes as no surprise. The Federal Agency for Geosciences and Resources was clearly in line with the ministry's calculations. As one of the agency's main political tasks is to contribute to the security of supply of natural resources, it comes as no surprise that the agency perceived the Arctic's transformation as an economic opportunity and therefore advocated the exploration and exploitation of Arctic natural resources in order to support the German economy.¹⁴⁷⁵ By underlining the importance of Arctic natural resources imports for the German economy, the agency stuck to its own organizational logic and essence that is about ensuring a stable and secure supply of natural resources to Germany. Likewise in arguing for the necessity of natural resource imports from the Arctic the agency also claimed to have a role to play in inter-ministerial discussions. By so doing it protected its areas of responsibility and, by acting imperialistically, even tried to expand its turf.

¹⁴⁷⁴ Holden; Allison and Zelikow, p. 181.

¹⁴⁷⁵ Three Officials from the Federal Agency for Geosciences and Resources, Interview 11, 2016, pp. 2-3, 5, 7-8; Two Officials from the Federal Agency for Geosciences and Natural Resources, p. 5.

6.2.3 Federal Ministry of Education and Research

According to the ministry's standing orders, the ministry's most fundamental political tasks are to support education and research in Germany as both are seen as a precondition for innovation and prosperity.¹⁴⁷⁶

Against the background of the identified perceptions (chapters 3.2.2 and 4.2.2) and interests (chapters 3.3.2 and 4.3.2), the ministry was mainly interested in the issue areas of 'environmental affairs' with a particular focus on polar research. It pursued three political interests with regard to the Arctic and Arctic-related developments. First, to slow down the pace of global climate change and thus to protect the environment, the ministry called for a significant reduction of global GHG emissions.¹⁴⁷⁷ Second, in order to better understand global climate change and to formulate more targeted policies additional research activities were seen as a main political priority.¹⁴⁷⁸ Third, the ministry was interested to strengthen Germany's position as one of the world's leading polar research nations.¹⁴⁷⁹

Again, the identified political interests are strictly in line with the ministry's organizational interests of protecting its organizational essence and its exclusive areas of responsibility. As the ministry's main mission is to support education and research it comes as no surprise that it aimed to step up its polar and climate change research activities. By doing so, it also strengthened Germany's position as a global player in polar research. This would further solidify the ministry's area of responsibility. Following the logic of bureaucratic imperialism, the opening of the Arctic even gave the ministry the opportunity to enlarge its bureaucratic turf, as new research opportunities in the region emerged. To be able to realize these opportunities the ministry had to insist on the freedom of research. Taken together, these publicly declared interests did not only help the ministry to position itself vis-à-vis other federal ministries but also with regard to legal and political questions vis-à-vis the Arctic coastal states. Thus, the

¹⁴⁷⁶ Bundesministerium für Bildung und Forschung, *Aufgaben Und Aufbau. Bildung Und Forschung Sind Der Schlüssel* (Berlin: Bundesministerium für Bildung und Forschung, 2016) <<http://bmbf.de/de/bildung-und-forschung-sind-der-schluessel-203.html>> [accessed 3 June 2016].

¹⁴⁷⁷ Federal Ministry of Education and Research (BMBF), 'The High-Tech Strategy on Climate Protection', p. II.

¹⁴⁷⁸ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 4.

¹⁴⁷⁹ Federal Ministry of Education and Research (BMBF), 'Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility', p. 4.

formulation of political interests has to be seen not only against the background of domestic but also of international politics.

6.2.4 Federal Foreign Office

According to Federal Civil Law, the most fundamental political task of the ministry is to serve the goal of a permanent, peaceful and fair international order. In this context, it has to stand in for German interests – especially in political, economic, developmental, cultural, scientific, technological, ecological and social affairs.¹⁴⁸⁰ Against the background of the identified perceptions (chapters 3.2.3, 4.2.4, and 5.2.2) and interests (chapters 3.3.3, 4.3.4, and 5.3.2), the ministry had interests in all three issue areas.

Emblematic for the overall governmental debate about the balance between environmental responsibilities and economic opportunities have been the two conflicting positions in the FFO as to whether the focus of Germany's Arctic engagement should lie on the fight against global climate change and environmental protection or on the realization of economic opportunities. Whilst other ministries have a rather narrow focus on one particular issue area, the FFO has to cope with various issue areas. As a result, the ministry's perceptions of Arctic and Arctic-related global developments are rather diverse. Against the background of the ministry's main tasks and identified perceptions, the ministry had four political interests in 'environmental affairs', three interests in 'economic affairs' and three interests in 'political affairs'.

When the ministry first engaged with Arctic issues in the mid-2000's, it was mainly interested in environmental questions and climate change issues.¹⁴⁸¹ Regarding 'environmental affairs', four ministerial interests have been identified: the reduction of global GHG emissions, the preservation of the freedom of research activities in the Arctic, strengthening Germany's general standing in Arctic affairs via polar research, and the enforcement of the highest environmental standards for all (economic) activities in order to preserve the Arctic's pristine environment and ecosystem.¹⁴⁸²

¹⁴⁸⁰ Bundesgesetzbuch, 'Gesetz Über Den Auswärtigen Dienst', 1990, p. 3 <<http://www.auswaertiges-amt.de/cae/servlet/contentblob/372200/publicationFile/3802/GAD.pdf>> [accessed 3 June 2016].

¹⁴⁸¹ Federal Foreign Office Official, 'Interview 9', pp. 1–2.

¹⁴⁸² Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', p. 49; Auswärtiges Amt, *Zukunft Der Arktis Sichern*; Major and Steinicke, p. 11; Westerwelle, *Bundesaußenminister Westerwelle Zur Eröffnung Der Internationalen Konferenz "Klimawandel, Völkerrecht Und Arktisforschung – Rechtliche Aspekte Der Meeresforschung Im Arktischen Ozean*; Westerwelle, 'Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean', pp. 2–3.

Regarding economic affairs three ministerial interests have been deduced: Securing the German supply with natural resources, strengthening global economic governance structures and realizing new economic opportunities in the Arctic with regard to natural resources imports from and shipping through the region.¹⁴⁸³

Regarding political affairs, two ministerial interests have been deduced: strengthening and preserving a rule-based international order and participating in Arctic governance questions.¹⁴⁸⁴ Whilst various identified interests had a stronger focus on global issues and processes (e.g. the reduction of global GHG emissions or the strengthening of global economic and political governance frameworks), four particular Arctic interests existed, namely the freedom of Arctic research activities, the enforcement of highest environmental standards for all activities in the region, the realization of economic opportunities like resource imports and shipping and taking part in Arctic governance. Thus, there were conflicting policy positions within the FFO between the departments for economic affairs and development policy on the one side and the divisions for climate and environmental foreign policy on the other side.¹⁴⁸⁵ This is not surprising as they stuck to their respective department's organizational essence by protecting their respective areas of responsibility in either 'environmental affairs' or 'economic affairs'. As the Arctic has such a strong symbolic value, it is obvious that the various desks strongly defended their core areas of responsibility. Yet this had consequences for the bargaining process (see chapter 6.3).

6.2.5 Ministry of Defence

According to the ministry's standing orders, the most fundamental political task of the ministry is to protect Germany and its citizens. This includes the dimensions of political, economic, ecologic, societal, and cultural security.¹⁴⁸⁶ Against the background of the

¹⁴⁸³ Braun; Federal Foreign Office Official, 'Interview 3', pp. 1–2; Böhmer; Auswärtiges Amt, *Die Arktis*; Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', pp. 36, 42–43; Auswärtiges Amt, *Energieaußenpolitik*.

¹⁴⁸⁴ Federal Foreign Office, 'Shaping Globalization - Expanding Partnerships - Sharing Responsibility. A Strategy Paper by the German Government', pp. 8, 54; Westerwelle, 'Climate Change, International Law and Arctic Research – Legal Aspects of Marine Research in the Arctic Ocean', p. 3.

¹⁴⁸⁵ These conflicting positions have been articulated by various desk officers of the MFA during an inter-ministerial discussion in February 2013 and during the German-Norwegian workshop on closer cooperation in the Arctic in March 2013. Both events have been attended by the author.

¹⁴⁸⁶ Bundesministerium der Verteidigung, *Sicherheitspolitik* (Berlin: Bundesministerium der Verteidigung, 3 March 2016) <http://www.bmvg.de/portal/a/bmvg/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP315EyrpHK9pNyydL3izOSM1KKM1MyS4oL8nMySz9gmXHRQDT13MX/> [accessed 3 June 2016].

identified perceptions, the ministry had five political interests in the issue areas of 'environmental affairs', 'economic affairs' and 'political affairs'.

Regarding 'environmental affairs', the ministry was primarily concerned with the security implications of global climate change. Therefore, the central political interest was the reduction of fossil fuels in energy consumption in order to slow down the pace of climate change.¹⁴⁸⁷ In 'economic affairs' and 'political affairs', the ministry was concerned about the security of supply with natural resources as well as the security of the global transport and energy infrastructure. Consequently, the ministry was interested in "free and unrestricted world trade as well as free access to the high seas and to natural resources."¹⁴⁸⁸ In addition, it was interested in the functioning of global economic governance frameworks in general and of international resources markets in particular.¹⁴⁸⁹

All political interests are in line with two of the main organizational interests – the retention of the ministry's essence and the protection of areas of responsibility. As the ministry's most important task is to protect Germany and its citizens it is logical that it is concerned with the security implications of global climate change, a disruption of the supply with natural resources or their underlying transport infrastructure and political attempts to challenge the existing global economic governance frameworks. Due to its organizational essence, the ministry preferred policies that promised to support or even increase its organizational importance. In doing so, the ministry protected its areas of responsibility.

6.3 The "Bargaining" Proposition

According to the "Bargaining" Proposition, bargaining is the main characteristic of a decision-making process when conflicting organizational interests of the involved bureaucratic actors emerge. Such a development is not unusual as "internal political conflicts over roles and missions arise constantly within the government."¹⁴⁹⁰ There are

¹⁴⁸⁷ Planungsamt der Bundeswehr, Dezernat Zukunftsanalyse, p. 9.

¹⁴⁸⁸ Federal Ministry of Defence, 'Defence Policy Guidelines', p. 4.

¹⁴⁸⁹ Bundesministerium der Verteidigung, 'Weißbuch 2006 Zur Sicherheitspolitik Deutschlands Und Zur Zukunft Der Bundeswehr', p. 19.

¹⁴⁹⁰ Halperin, Clapp, and Kanter, p. 40.

two main factors that shape the bargaining process: different organizational interests and unequal power potentials.¹⁴⁹¹

As the involved ministries and their respective subordinated agencies perceived different aspects of the region's transformation of being of different relevance, different and in parts conflicting political interests were put forward. Similarly, and connected to opposing political interests, different and partly conflicting bureaucratic interests were developed. As a result, two major conflicts of interests evolved during the formulation and bargaining process resulting in a "pulling and hauling" between various bureaucratic actors.

The most fundamental conflict was between the bureaucratic actors highlighting the responsibility to protect the pristine Arctic environment and those who underlined the necessity to step up economic activities in the region. The two main ministerial adversaries were the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Economic Affairs and Energy. Other involved bureaucratic actors were different departments in the FFO, the Federal Agency for Nature Conservation, the Federal Environment Agency and the Federal Agency for Geosciences and Resources.

A second bargaining process emerged over the question whether polar research activities had to prove that they are environmentally sustainable prior to receiving the permission to undertake research activities in the region. The main adversaries were the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry of Education and Research. In addition, the Federal Agency for Nature Conservation, the Federal Environment Agency, the Federal Agency for Geosciences and Resources as well as the Alfred-Wegener Institut and the FFO were involved.

Three factors shaped the Arctic Policy Guidelines formulation and bargaining process – the structure of the bargaining process, different organizational interests and unequal power potentials of the involved bureaucratic actors and (see chapter 2.3.3.2). Taken together, these factors gave some bureaucratic actors a bargaining advantage whilst disadvantaging others. Bargaining power is understood as the "effective influence on government decisions and actions."¹⁴⁹² It is the result of the interplay between the structure of the bargaining process and its underlying rules of decision making on the

¹⁴⁹¹ Allison and Zelikow, pp. 256, 300; Kaarbo, pp. 74–77.

¹⁴⁹² Allison and Zelikow, p. 300.

one side and the actors' bureaucratic position within the government on the other.¹⁴⁹³ Bargaining power is analyzed in three categories, namely "bargaining advantages, skill and will in using bargaining advantages and other players' perceptions of the first two ingredients."¹⁴⁹⁴ The most relevant bargaining advantages for this analysis result from formal authority and responsibility and thus the ability to control the procedural steps of the formulation process, expert knowledge and thus the ability to control information relevant to the implementation process, as well as possessing the persuasiveness to win over other players.¹⁴⁹⁵

6.3.1 The Structure of the Bargaining Process

The structure of the bargaining process clearly influenced the bargaining process.¹⁴⁹⁶ The formulation of the Arctic Policy Guidelines was embedded in an action channel, consisting of three steps. First, a draft was formulated in the FFO. Second, the draft was sent to all involved ministries and subordinated agencies. At this stage these bureaucratic actors commented on the draft and sent it back to the FFO. Third, a consolidated version of the draft, written again by the FFO, was then discussed at the FFO with all involved institutions and finally adopted.

The FFO was responsible for the overall coordination of the formulation process. The first draft was formulated in the FFO by Division E-07 – Arctic policy and Division 405 – Arctic Ocean-related Economic, Environmental and Research policy and sent afterwards to then foreign minister Westerwelle.¹⁴⁹⁷ After he approved the draft it was sent to the other ministries and further distributed to their subordinated agencies.¹⁴⁹⁸ It was only at this stage of the formulation process that the other bureaucratic actors had a chance to place their respective interests into the drafted document.¹⁴⁹⁹ Consequently, the FFO had an important bargaining advantage over all other institutions as it was in the unique position to set the tone of the first draft. This bargaining advantage clearly influenced

¹⁴⁹³ Jäger, Oppermann, and Siedschlag, p. 118.

¹⁴⁹⁴ Allison and Zelikow, p. 300.

¹⁴⁹⁵ Allison and Zelikow, p. 300.

¹⁴⁹⁶ Usually the 'structure of the bargaining process' is subsumed under 'unequal power potentials' (see chapter 2.3.3.2, page 64). However, to better clarify the Arctic Policy Guidelines bargaining process, the 'structure of the bargaining process' is treated as a discrete analytical category in this dissertation.

¹⁴⁹⁷ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities'; Federal Foreign Office Official, 'Interview 10', p. 1.

¹⁴⁹⁸ Federal Foreign Office Official, 'Interview 10', p. 1.

¹⁴⁹⁹ Federal Foreign Office Official, 'Interview 10', p. 1; Federal Ministry for Economic Affairs and Energy Official, Interview 13, 2015, pp. 1-2.

the decision-making process. According to officials involved in the formulation process, both from within the FFO as well as from other ministries and subordinated agencies, there was actually an emphasis on the economic opportunities of a transforming Arctic. According to these officials, this focus was not surprising considering the fact that the document was drafted by a unit with a strong economic perspective.¹⁵⁰⁰ As a result, they claim, environmental issues were largely neglected. As stated by an official who was involved in the bargaining process, “the first draft had no strong focus on environmental aspects or climate change.”¹⁵⁰¹

6.3.2 Different Organizational Interests

A second factor shaping the bargaining process was the difference in political interests of the involved ministries. As outlined above, these different interests led to two main bargaining processes in the formulation process of the Arctic Policy Guidelines. The first bargaining process was between the actors highlighting the responsibility to protect the pristine Arctic environment and those underlining the necessity to become economically active in the region. This was a divisive issue within and between ministries and agencies. Consequently, two coalitions emerged. The first coalition consisted of representatives from the responsible environmental foreign policy department in the FFO, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Agency for Nature Conservation and the Federal Environment Agency.¹⁵⁰² This coalition primarily advocated the environmental protection of the region. In addition, the involved ministries and subordinated agencies were concerned about global climate change and therefore rejected the idea of hydrocarbon resources exploitation. As stated by an FFO official in early 2013:

To reach the global goal [of keeping global warming below 2°C compared to pre-industrialised levels], a new international climate protection agreement shall be negotiated until 2015. [...] Currently there is a growing contradiction between developing countries who seriously consider to not exploit their hydrocarbon resources, and highly developed [Arctic] countries [...] who privilege the exploitation of these resources over climate and environmental protection.¹⁵⁰³

¹⁵⁰⁰ Federal Foreign Office Official, Interview 14, 2014, pp. 1–2; German Environment Agency Official, p. 1.

¹⁵⁰¹ Federal Foreign Office Official, ‘Interview 14’, p. 2.

¹⁵⁰² German Environment Agency Official, p. 1; Federal Foreign Office Official, ‘Interview 14’, p. 1.

¹⁵⁰³ Federal Foreign Office Official, ‘Statement 1’, p. 4.

Consequently, the official generally rejected the idea of exploiting hydrocarbon resources in the Arctic: “A sustainable future of our own societies demands an unmistakable transformation to the use of renewable energy sources. This is possible without exploiting the remote fossil deposits of the Arctic.”¹⁵⁰⁴

In addition, a representative of the Federal Agency for Nature Conservation underlined the stand to protect the Arctic:

From a nature conservation perspective, negative effects of all human actions on the Arctic ecosystem have to be avoided as much as possible. This includes the necessity to execute research in the region in an environmentally sustainable manner.¹⁵⁰⁵

In the summer of 2013, representatives from the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the FFO, the Federal Environment Agency and the Federal Agency for Nature Conservation therefore called for the establishment of marine reserve areas in international Arctic waters.¹⁵⁰⁶

All these statements are clearly in line with the political as well as the organizational interests of the involved ministries and subordinated agencies or respective units within a ministry.

The Federal Ministry for Economic Affairs and Energy, the respective economic foreign policy units in the FFO as well as the Federal Agency for Geosciences and Resources formed the other coalition.¹⁵⁰⁷ Not surprisingly, and contrary to the first coalition, officials of this second coalition advocated the realization of economic opportunities. As stated by an official from the Federal Agency for Geosciences and Resources:

I was puzzled when the FFO official declared that there is no need to tap the Arctic’s natural resources. I was clearly in disagreement with him. We [the Federal Agency for Geosciences and Resources] see an already existing dependence from Arctic natural gas resources for Germany.¹⁵⁰⁸

This position was underlined in early 2013 by an official from the Federal Ministry for Economic Affairs and Energy:

¹⁵⁰⁴ Federal Foreign Office Official, ‘Statement 13’, p. 3.

¹⁵⁰⁵ Federal Conservation Agency Official, ‘Statement 2’, p. 6.

¹⁵⁰⁶ Federal Conservation Agency Official, Statement 3, 2013, p. 4; Federal Environment Agency Official, Statement 4, 2013, p. 4; Federal Ministry for the Environment, Nature Conservation and Nuclear Safety Official, Statement 5, 2013, p. 4; Federal Foreign Office Official, Statement 6, 2013, p. 5.

¹⁵⁰⁷ Federal Foreign Office Official, ‘Interview 14’, pp. 1–2; Three Officials from the Federal Agency for Geosciences and Ressources, p. 4.

¹⁵⁰⁸ Three Officials from the Federal Agency for Geosciences and Ressources, p. 5.

Rising prices for hydrocarbon resources and minerals, the concentration of these resources to a small number of countries as well as changing climatic conditions have led to a growing international interest in Arctic resources. This concerns conventional energy resources like oil and gas but also gas hydrates. In addition, significant deposits of metals and minerals (e.g. rare earth minerals in Greenland) are expected [to lie in the Arctic]. Against the background of these developments a German formation of opinion is expected.¹⁵⁰⁹

Officials from the Federal Agency for Geosciences and Resources argued in the same direction:

Against the background of a retreat from nuclear and coal-fired power stations and in order to meet the CO₂ emission targets natural gas will presumably become the most important fossil fuel [for Germany]. Currently Germany receives 70% of its natural gas imports from Norway and Russia. Due to short transport routes and existing logistics (pipelines) Arctic natural gas is of great importance for Germany.¹⁵¹⁰

In the summer of 2013, a representative from the Federal Ministry for Economic Affairs and Energy underlined the importance of natural resource imports from the Arctic:

Arctic hydrocarbon resources and minerals already today play an important role for Europe's supply. Due to continuing demand in the short- to medium term for natural resources the Arctic's relevance will probably increase.¹⁵¹¹

Again, all these statements are clearly in line with the political as well as the organizational interests of the involved ministries and subordinated agencies or respective units within a ministry.

Interestingly, the FFO was not a unified actor during the bargaining process with regard to the relative importance of focusing on environmental responsibilities or realizing economic opportunities. According to a FFO official "there were contrary discussions in the Federal Foreign Office."¹⁵¹² As a consequence, the ministry had no consolidated position with regard to the Arctic Policy Guidelines. The dividing line between the two coalitions hence ran straight through the FFO.

As the first draft was perceived to have a too strong economic focus, the coalition of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and its allies came up with 200 proposals for modification.¹⁵¹³ The alliance succeeded in

¹⁵⁰⁹ Federal Ministry for Economic Affairs and Energy Official, 'Statement 7', pp. 4–5.

¹⁵¹⁰ Two Officials from the Federal Agency for Geosciences and Natural Resources, p. 5.

¹⁵¹¹ Federal Ministry for Economic Affairs and Energy Official, 'Statement 9', p. 4.

¹⁵¹² Federal Foreign Office Official, 'Interview 14', p. 2.

¹⁵¹³ Federal Foreign Office Official, 'Interview 10', p. 1; Federal Foreign Office Official, 'Interview 14', pp. 1–2; German Environment Agency Official, p. 1; Federal Ministry for Economic Affairs and Energy Official, 'Interview 13', p. 1.

including the precautionary principle in the document.¹⁵¹⁴ Thus, the bargaining process was characterized by the building of opposing coalitions – a key characteristic of bureaucratic politics (see chapter 2.3.3.2, page 63).

With these 200 proposals, however, the redraft was perceived as having a one-sided focus on environmental responsibilities by the coalition of those who supported economic activities in the region. Therefore, the Federal Ministry for Economic Affairs and Energy complemented the redraft with an economic standpoint.¹⁵¹⁵

The second bargaining process emerged over the question whether polar research activities had to prove that they are environmentally sound prior to receiving the permission to undertake research activities in the region. Again, two coalitions emerged. The coalition of the institutions advocating for the imperative to prove the sustainability of research activities included the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Agency for Nature Conservation and the Federal Environment Agency.¹⁵¹⁶ The adversarial coalition, calling for the freedom of research activities without the necessity of a prior confirmation of the environmentally sound character of the planned research activity included the Federal Ministry of Education and Research, the Federal Ministry for Economic Affairs and Energy, the Federal Agency for Geosciences and Resources, the Alfred-Wegener Institut, and the FFO.¹⁵¹⁷

The first coalition, on the basis of the precautionary principle, argued for the necessity to prove the environmentally sound character of research in order to protect the Arctic's pristine environment and ecosystem. A representative of the Federal Agency for Nature Conservation stated during an Arctic discussion in early 2013:

From a nature conservation perspective, negative effects of all human actions on the Arctic ecosystem have to be avoided as much as possible. This includes the necessity to execute research in the region in an environmentally sustainable manner.¹⁵¹⁸

¹⁵¹⁴ German Environment Agency Official, p. 1; Federal Ministry for Economic Affairs and Energy Official, 'Interview 13', p. 1.

¹⁵¹⁵ Federal Ministry for Economic Affairs and Energy Official, 'Interview 13', p. 1.

¹⁵¹⁶ Polar Research Expert, p. 2; Federal Ministry for Economic Affairs and Energy Official, 'Interview 13', p. 2.

¹⁵¹⁷ Federal Foreign Office Official, 'Interview 10', pp. 1–2; Federal Ministry for Economic Affairs and Energy Official, 'Interview 13', p. 2; Polar Research Expert, p. 2.

¹⁵¹⁸ Federal Conservation Agency Official, 'Statement 2', p. 6.

According to an official of the Federal Environment Agency, current research activities are not environmentally sound:

The Alfred-Wegener Institut disturbs the Arctic's ecosystem when it is doing research trips and expeditions in the region [...] The Alfred-Wegener Institut should also aim to broaden its knowledge [with regard to its responsibility to protect the Arctic's environment].¹⁵¹⁹

Obviously, the institutions of the second coalition had an opposite view. A representative of the Federal Ministry for Economic Affairs and Energy argued in favor of additional research activities:

Many questions with regard to the resource potential and with regard to potential environmental consequences of the exploitation of these resources are still unsettled. Therefore research activities, as undertaken by the Federal Institute for Geosciences and Resources or the Alfred-Wegener Institut, have to continue in order to answer these open questions.¹⁵²⁰

The official was concerned that the first coalition's proposal could make research and economic activities in the Arctic impossible:

"The maxim of freedom of research is necessary for both research fields of the environment and climate as well as resources. Consequently the Federal Ministry for Economic Affairs and Energy and the Federal Ministry of Education and Research would have been affected [...] When the precautionary principle would be applied all the time, you could stop any research and economic activities."¹⁵²¹

The Federal Ministry of Education and Research and the Alfred-Wegener Institut shared these concerns. In the summer of 2013, a ministerial representative, whilst emphasizing the role of marine protected areas, declared that approval procedures for research activities should not be exacerbated unnecessary.¹⁵²² This statement can be interpreted as the ministry's concern of becoming restricted in its area of responsibility.

The Federal Agency for Geosciences and Natural Resources and the Alfred-Wegener Institut were also concerned about the possibility of the first coalition gaining the authority to give directives to the institutions of the second coalition.¹⁵²³ Concretely, there was a fear that the coalition of the Federal Ministry of the Environment, Nature Conservation and Nuclear safety and its allies could gain the responsibility for

¹⁵¹⁹ German Environment Agency Official, p. 1.

¹⁵²⁰ Federal Ministry for Economic Affairs and Energy Official, 'Statement 9', p. 4.

¹⁵²¹ Federal Ministry for Economic Affairs and Energy Official, 'Interview 13', p. 1.

¹⁵²² Federal Ministry for Education and Research Official, p. 5.

¹⁵²³ Polar Research Expert, p. 2.

permission of research tours of polar research vessels [of the Alfred Wegener Institut or the Federal Agency for Geosciences and Natural Resources].¹⁵²⁴

Various bureaucrats from different institutions involved in the formulation process explained this second bargaining process as the continuation of an already existing conflict between most of the involved ministries, agencies and institutes over the question of permission for research activities in Antarctica. As put by an involved bureaucrat “it [was] about departmental responsibility and a bickering over competencies.”¹⁵²⁵ The bureaucrat went on: “This was an already existing conflict between the two sides.”¹⁵²⁶ This perspective was shared by other officials:

There was an already existing conflict with regard to the approval of research tours. In Antarctica, these tours have to be approved by the Federal Environment Agency. There is a longstanding conflict between the agency and those institutions that do research in the region. The Federal Environment Agency tried to translate its Antarctica-related competences into the Arctic [...] Personal animosities played a role, too.¹⁵²⁷

What both bargaining processes reveal is the central role of different and conflicting organizational interests in a policy formulation and decision-making process. In both bargaining processes, all involved ministries and subordinated agencies were concerned with the protection of some of their main organizational interests – be it the retention of the organization’s essence, the protection of areas of responsibility, or the ability to maintain autonomous actorness. In the first bargaining process, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and its institutional allies argued against economic activities in the Arctic in order to protect the environment and due to the region’s highly symbolic character in the global fight against climate change. On the other side the Federal Ministry for Economic Affairs and Energy and its institutional allies called for economic activities in the region due to Germany’s dependence on natural resource imports. The two respective lines of arguments were closely in line with the main political tasks of both ministries (see chapter 6.2.1, page 260 and chapter 6.2.2, page 262). In order to protect the respective organizational essence and their areas of responsibility, both alliances thus had to argue in favor of their respective political and organizational interests. Similarly, both bargaining processes underline the organizational interest to maintain an autonomous actorness. In

¹⁵²⁴ Federal Foreign Office Official, ‘Interview 10’, p. 2.

¹⁵²⁵ Federal Foreign Office Official, ‘Interview 10’, p. 2.

¹⁵²⁶ Federal Foreign Office Official, ‘Interview 10’, p. 1.

¹⁵²⁷ Three Officials from the Federal Agency for Geosciences and Ressources, pp. 4–5.

particular, this came to the fore in the second bargaining process when both alliances fought over whether research activities need to prove in advance the environmentally sound character of their endeavour.

6.3.3 Unequal Power Potentials

Unequal power potentials of the involved bureaucratic actors influenced the bargaining process, too, as they gave some actors a bargaining advantage over others. Power-related bargaining advantages are the result of two factors. First, from a structural perspective, a bureaucratic actor generates power from the organization's position in government. This includes formal competencies and decision-making authority.¹⁵²⁸ Second, from an agential perspective, power is generated by the expert knowledge at hand in the institution, by the ability to control the available information or the access to other important actors in the bargaining process and the ability to convince them of the own preferred policy option (see chapter 2.3.3.2, page 64).¹⁵²⁹ In the first bargaining process (environmental responsibilities vs. economic opportunities), the respective economic foreign policy unit in the FFO and the Federal Ministry for Economic Affairs and Energy as well as the Federal Agency for Geosciences and Resources had some important bargaining advantages over the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Environment Agency, the Federal Agency for Nature Conservation, and the responsible environmental foreign policy department in the FFO. In the second bargaining process (freedom of research vs. approval of the environmentally sound character of polar research), the Federal Ministry of Education and Research, the Federal Ministry for Economic Affairs and Energy, and the Federal Agency for Geosciences and Resources had a bargaining advantage over the Federal Ministry for the Environment, Nature Protection and Nuclear Safety, the Federal Environment Agency and the Federal Agency for Nature Conservation. This is mainly seen in a structural bargaining advantage.

In the first bargaining process the FFO had one structural and one agential bargaining advantage. The structural advantage was the fact that the FFO was the sole responsible ministry to formulate the first draft of the German Arctic Policy Guidelines. In addition, as the coordinating ministry, it was also responsible to take into account all supposed

¹⁵²⁸ Allison and Zelikow, p. 300.

¹⁵²⁹ Allison and Zelikow, p. 300.

changes and amendments of the other ministries and their subordinated agencies. As the FFO controlled the action channel of inter-ministerial exchanges about the exact wording of the document, defined as “regularized means of taking governmental action on a specific kind of issue,”¹⁵³⁰ (see chapter 2.3.3.2, page 64), it had the opportunity to frame the drafted version of the Arctic Policy Guidelines according to its own ministerial interests. Thus, the ministry was in a powerful position vis-à-vis the other involved actors.

The ministry also had an agential bargaining advantage as it had various departments and desks at hand already working for quite some time on Arctic issues and Arctic-related developments. The FFO was one of the first ministries that became aware of the relevance of Arctic’s transformation and therefore installed personnel to work on Arctic issues.¹⁵³¹ As a result, the ministry had already developed political and bureaucratic interests prior to the bargaining process in 2013.

However, the FFO also had to cope with a disadvantage compared to other ministries. As it is responsible to a variety of issue areas it had to deal with conflicting bureaucratic and political interests of the desks responsible for environmental foreign policy on the one side and those desks responsible for economic foreign policy on the other (see chapter 3.3.3, chapter 4.3.4, and chapter 6.2.4). As there were different perceptions about the interdependencies between the Arctic’s transformation and Germany, there was no unified and coherent political and bureaucratic interest of the FFO. Instead the various involved desks formed alliances with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Economic Affairs and Energy, as well as their subordinated agencies respectively. This factor weakened the FFO’s overall bargaining power and intensified the existing dividing lines in the bargaining process. Given the fact that the FFO was no unified actor, it seems plausible to assume that the conflicting interests within the ministry are partly responsible for the Arctic Policy Guidelines character of being a resultant and not a specifically chosen policy option.

The Federal Ministry for Economic Affairs and Energy had a structural and an agential bargaining advantage over the Federal Ministry of Environmental Protection, Nature

¹⁵³⁰ Allison and Zelikow, p. 300.

¹⁵³¹ Federal Foreign Office Official, ‘Interview 9’, pp. 1–2.

Conservation and Nuclear Safety. The structural advantage was the Federal Ministry for Economic Affairs and Energy's strong position in the federal government. The agential advantage was its already existing expert knowledge on Arctic affairs and Arctic-related global developments.

The structural advantage was the ministry's very strong position in the federal government during the legislative period. Amongst others, the ministry was headed by the vice-chancellor during the formulation process. Also, the ministry's main political task – to strengthen the social market economy model, generating growth and thereby ensuring prosperity (see chapter 6.2.2, page 262) – became one of the single most important narratives in the federal government during the time of the bargaining process. Economic considerations played an outstanding role in the federal government against the background of the global financial and economic crisis as well as the Euro crisis and their negative economic consequences. As highlighted in the analysis of perceptions of the involved ministries, generating economic growth was seen by most of them as a fundamental goal of the federal government (see chapter 4.2 and 4.3). Against the background of challenging global economic developments in the operational environment, safeguarding jobs and generating growth became one of the government's most important political tasks and goals.¹⁵³² Due to these perceptions, the Federal Ministry for Economic Affairs and Energy became an even stronger ministerial player in the federal government. As the ministry's political tasks basically became the federal government's first guiding principle, it was automatically more difficult for other ministries to argue against policy positions that promised to generate economic growth and jobs in the short-term. This was clearly a disadvantage for the Federal Ministry for the Environment, Nature Protection and Nuclear Safety. Its most fundamental political task is to protect the environment in order to prevent as well the public to suffer from the negative consequences of environmental degradation. This goal, however, was only a secondary government interest, as its main focus lay on economic recovery and GDP growth.

Second, the Federal Ministry for Economic Affairs and Energy had an agential bargaining advantage in terms of existing policy positions with Arctic relevance and respective

¹⁵³² These challenging global economic developments in the operational environment included the global financial and economic crisis, the eurocrisis, a changing global economic balance of power, a dysfunctional global economic governance architecture, and more conflicts over access to and control of natural resources resulting in a growing resource nationalism.

departments covering the Arctic-related interests of the ministry. With already adopted ministerial strategies like the National Resource Strategy and the National Masterplan Maritime Technologies, the ministry already had developed explicit political and bureaucratic Arctic interests prior to the bargaining process.¹⁵³³ In addition, it had Arctic-related desks at its disposal for several years.¹⁵³⁴ This had generated additional expert knowledge. Taken together, these agential factors allowed the ministry to incorporate its Arctic interests into the main political and bureaucratic interests prior to the Arctic Policy Guidelines bargaining process in 2013. From an agential perspective, the ministry hence generated power by the already existing expert knowledge at hand. The structural and agential bargaining advantage proved to be a challenge for the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety's power position in the federal government was generally weaker than the one of the Federal Ministry of Economic Affairs and Energy in structural terms. This was a bargaining disadvantage. In addition, the ministry had not adopted official Arctic-related policy positions – besides of those interests focusing on the fight against global climate change and thereby covering the Arctic in abstract terms. Nor had it Arctic-related desks to rely on. Not surprisingly, the ministry in 2013 was still in the process of developing explicit political and organizational interests with regard to the Arctic's environmental protection.¹⁵³⁵ According to an official involved in Arctic affairs, nobody in the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety was responsible to deal with Arctic issues between 2008 and 2011.¹⁵³⁶ This situation was indirectly confirmed by an official of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, according to whom the ministry in 2013 was still in the process of generating expert knowledge in order to develop Arctic policy positions. The reason to develop new expert knowledge, according to the official, was "the Arctic's changing significance in political ecological and social terms, especially due to the effects

¹⁵³³ Federal Foreign Office Official, 'Interview 10', p. 1.

¹⁵³⁴ Federal Foreign Office Official, 'Interview 9', p. 1.

¹⁵³⁵ Federal Ministry of the Environment, Nature Conservation and Nuclear Safety Official, 'Statement 12', p. 5.

¹⁵³⁶ Federal Foreign Office Official, 'Interview 9', pp. 1-2.

of global climate change.”¹⁵³⁷ The aim was to develop recommendations for political action in Arctic environmental affairs.¹⁵³⁸ This implies a lack of defined political and bureaucratic interests prior to and during the formulation process. Thus, the lack of expert knowledge was another important bargaining disadvantage for the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. In contrast, with already existing ministerial policy documents the Federal Ministry for Economic Affairs and Energy was able to better highlight the growing direct and short-term vulnerability of the German economy to Arctic-related global processes (need to ensure secure supply of natural resources to ensure GDP growth via its exports – otherwise the German economy would lose jobs) as well as the direct and short-term opportunities to counter these vulnerabilities by increasing its economic activities in the Arctic. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, on the other side, remained rather vague in its existing policy documents regarding the short-term and direct consequences of a growing interdependence between the Arctic and Germany (increased precipitation patterns and cold snaps in Germany). Instead it focused more on indirect and long-term consequences for Germany.

In addition, to these actual bargaining advantages of the Federal Ministry for Economic Affairs and Energy, the ministry’s bargaining power was also the result of the adversarial coalition’s perception of the ministry’s bargaining advantage. As put forward by an official of Federal Environment Agency: “Let’s not delude ourselves. There are very strong economic interests [with regard to the Arctic]. [...] If you call for a complete ban on natural resources extraction you become noncredible.”¹⁵³⁹ This statement shows a perception of being not in a position – contrary to the Federal Ministry for Economic Affairs and Technology – to really push through the own political and bureaucratic interests against powerful economic interests.

In the second bargaining process, the Federal Ministry of Education and Research, the Federal Ministry for Economic Affairs and Energy, the FFO, and the Federal Agency for Geosciences and Resources had a structural bargaining advantage over the Federal Ministry for the Environment, Nature Protection and Nuclear Safety, the Federal

¹⁵³⁷ Federal Ministry of the Environment, Nature Conservation and Nuclear Safety Official, Statement 11, 2013, p. 3.

¹⁵³⁸ Federal Ministry of the Environment, Nature Conservation and Nuclear Safety Official, ‘Statement 11’, p. 5.

¹⁵³⁹ German Environment Agency Official, p. 1.

Environment Agency and the Federal Agency for Nature Conservation. As in the previous bargaining process the structural advantage was the Federal Ministry for Economic Affairs and Energy's strong position in the federal government due to its central task of and role in generating economic growth and jobs as well as ensuring prosperity in Germany. It was in this narrative of realizing economic opportunities that the Federal Ministry for Economic Affairs and Energy argued against the position of the alliance of the Federal Ministry for the Environment, Nature Protection and Nuclear Safety, the Federal Environment Agency and the Federal Agency for Nature Conservation to make it a mandatory regulation for any research activity in the Arctic to prove its environmentally sound character. And as the Federal Ministry for Economic Affairs and Energy was interested in realizing economic opportunities in the Arctic in order to reduce the German economy's vulnerability to natural resource supply disruptions it had a key interest in ensuring its subordinated agency, the Federal Agency for Geosciences and Resources, freedom for research activities. For the agency itself, the proposed mandatory regulation threatened its core area of responsibility. The same was true for the Federal Ministry for Education and Research's subordinated agency, the Alfred-Wegener Institut. Finally, the FFO was interested in upholding the legal principle of the freedom of research against attempts by Arctic coastal states to limit research activities. In this context, an alliance of these three ministries and their respective subordinated agencies emerged. The FFO and the Federal Ministry for Economic Affairs and Energy, as outlined above, had some clear structural bargaining advantages over the Federal Ministry for the Environment, Nature Protection and Nuclear Safety, the Federal Environment Agency, and the Federal Agency for Nature Conservation. Therefore, the proposition to make research dependable on agreement by the Federal Environment Agency was rejected during the formulation process.

Taken together the structure of the bargaining process, the different organizational interests as well as unequal power potentials clearly influenced the bargaining process. Hence, Germany's Arctic Policy Guidelines are assumed to be a typical resultant.

6.4 *The "Resultant" Proposition*

The "Resultant" Proposition assumes that due to the diverging policy preferences and unequal power relations of the involved actors, the final decision of a bargaining process

mostly reflects a political resultant between all involved actors instead of the most logical or rational position.¹⁵⁴⁰ The government's Arctic Policy Guidelines are a resultant in the sense that the bargaining between all involved actors resulted in a document that was not consciously chosen as such from the beginning by any of the actors. As it had to be accepted by all ministries, it comes as no surprise that the document tries to square the circle between environmental responsibilities on the one side and the realization of geo-economic opportunities on the other. In addition, it explicitly covers political issues. As a consequence, the region is described as having a growing importance for Germany in geopolitical, geo-economic and geo-ecological terms.¹⁵⁴¹ The apprehension of the region's growing environmental, economic and political relevance for Germany perfectly shows this forged compromise. On paper, the government is equally interested in all three issue areas of environmental, economic, and political affairs. A more detailed analysis, however, shows the strong geo-economic focus of the document. Eight narratives have been identified in the Arctic Policy Guidelines. Three of these narratives have an economic focus with an explicit, direct and short-term link to the German industry. Two narratives have a focus on environmental issues and climate change. However, the link with Germany is not as explicit as in the economic narratives and focuses more on long-term impacts on Germany. Finally, three political narratives focus on the promotion of Germany as an Arctic player, highlight the interest in stable Arctic governance and promote the stance of the freedom of research. Again the narratives are not that explicit and do not focus on interdependencies between Germany and Arctic political affairs.

6.4.1 Narrative No. 1: The Extraction of Arctic Natural Resources as an Opportunity to Improve a Stable and Secure Supply for the German Economy

First, the guidelines acknowledge a growing global competition for natural resources, resulting in increasing attention to the Arctic's richness in natural resources.¹⁵⁴² Therefore the government states that

¹⁵⁴⁰ Rosati, 'Developing a Systematic Decision-Making Framework. Bureaucratic Politics in Perspective', p. 237; Allison and Zelikow, p. 294; Allison and Halperin, pp. 53-54.

¹⁵⁴¹ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', pp. 1, 4, 18.

¹⁵⁴² Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', pp. 6-7.

For industry and consumers in Germany, it is of crucial importance to ensure a supply of energy that is both stable in the long term and environmentally sound. The same applies to the sustainable supply of raw materials. Within this context, raw material deposits in the Arctic could be used to supply Germany with resources.¹⁵⁴³

The prospect of enhancing the security of supply in the short-term is made again, thereby underlining the importance of this issue for the government: “Development of Arctic raw materials, which is already under way, can contribute to energy and raw material security in Germany and the EU.”¹⁵⁴⁴ Against this background the government sees direct and short-term economic opportunities in the Arctic: “Germany and its companies have an interest in gaining access to the Arctic’s sizeable reserves.”¹⁵⁴⁵ The government states that “[t]he prospects for German companies are bright.”¹⁵⁴⁶ And as the development of Arctic natural resources can contribute directly to German security of supply, the government “is seeking to make the Arctic region an ever stronger focus of German policy.”¹⁵⁴⁷

6.4.2 Narrative No. 2: The Economic Opportunities of Arctic Shipping and Maritime Affairs

A second anticipated geo-economic opportunity is the opening of the Northern Sea Route (NSR) for increased maritime trade between Germany and East Asia:

The Federal Government actively backs the opening of new shipping routes in the Arctic. As one of the world’s largest importing and exporting nations, Germany has a strong interest in new passageways to East Asian trading centres. Germany has the third-largest merchant marine in the world and the world’s largest fleet of container ships. In future, a Northern Sea Route could create significant opportunities for German shipping, thanks to shorter travel times, less fuel use and lower costs.¹⁵⁴⁸

In addition to direct opportunities for German shipping companies, the government also anticipates indirect economic opportunities for the German shipbuilding market:

Thanks to the increasing navigability of the Arctic Ocean, there is great potential in the market for innovative shipbuilding that meets high environmental standards. German companies have specialized in building innovative and environmentally-friendly ship

¹⁵⁴³ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’, p. 6.

¹⁵⁴⁴ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’, p. 18.

¹⁵⁴⁵ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’, p. 7.

¹⁵⁴⁶ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’, p. 18.

¹⁵⁴⁷ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’, p. 18.

¹⁵⁴⁸ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’, p. 8.

propulsion systems, special vessels, including ice class ships, as well as cutting-edge, environmentally-friendly maritime technology.¹⁵⁴⁹

The government thus acknowledges direct and indirect and opportunities in the medium-term for the German economy. At the same time, the ministry is aware of the potential challenges to the Arctic's ecosystem which is why it is calling for an environmentally responsible economic approach: "High safety and environmental standards are an absolute prerequisite for shipping and maritime transport in the Arctic region."¹⁵⁵⁰

6.4.3 Narrative No. 3: The Arctic as a Victim and a Driver of Global Climate Change

Besides of economic opportunities the government also sees challenges for the Arctic's ecosystem:

With global warming, the polar ice cap shrinks drastically during the summer months, so that the idea of an ice-free Arctic Ocean in summer may become reality in the foreseeable future. The Arctic is therefore one of the first regions on our planet in which climate change is bringing about a fundamentally new geographic constellation.¹⁵⁵¹

In addition, the Arctic's transformation is seen as having serious global consequences:

The Arctic region is currently warming at twice the rate of other areas on the planet, compared to the global average [...] Already now, atmospheric circulation over the northern hemisphere is changing, and this is affecting the weather patterns of Northern Europe. Not only the shrinking sea ice in the Arctic Ocean, but also the increased melting of the Greenland ice sheet and the thawing of the permafrost that covers a considerable area of the Arctic, have a global effect. This will also directly impact Germany. The thawing polar ice caps already now are considerably contributing to the global rise in sea levels [...] The greenhouse gases stored in the Arctic permafrost (methane in particular) may be released into the atmosphere if the trend continues, which would worsen global warming.¹⁵⁵²

The government hence appears aware of growing climatic and environmental interdependencies between the global level and the Arctic and existing feedback loops from the Arctic to the global level, which only further strengthen existing interdependencies.¹⁵⁵³ More importantly, however, the government considers Germany

¹⁵⁴⁹ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 9.

¹⁵⁵⁰ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 8.

¹⁵⁵¹ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 4.

¹⁵⁵² Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 5.

¹⁵⁵³ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', pp. 4-5, 18.

as being directly impacted by the Arctic's environmental transformation. At this point, one can discern a perceived increase in the climatic and environmental interdependence between the region and Germany. Yet it does not clarify how the country is affected in particular and whether this interdependence exists already today or is anticipated to become an issue in the short- or medium-term.

6.4.4 Narrative No. 4: The Responsibility to Protect the Arctic's Fragile Ecosystem

Against the background of the Arctic's environmental transformation and the associated economic opportunities the government is pushing for an environmentally responsible handling of economic activities in order to protect the pristine environment.¹⁵⁵⁴

Safeguarding the unique environment and living conditions of the Arctic, and protecting the region's biodiversity, are of the highest priority. Since this is such an ecologically significant and sensitive region [...], [t]he Federal Government therefore supports efforts to pinpoint ecologically and biologically unique areas, and to establish a representative and coherent network of marine protected areas [...].¹⁵⁵⁵

In addition to environmental protection areas, the government also calls for the adherence of the highest environmental standards available in all activities in the region:

At the same time, Germany's Arctic policy, which is strongly committed to global environmental protection, stresses the importance of developing Arctic resources in a peaceful and sustainable way, by ensuring that the highest environmental standards are met and the principle of precautionary action is adhered to [...].¹⁵⁵⁶

6.4.5 Narrative No. 5: Squaring the Circle – The Arctic as an Export Market for German High-Tech Products that Ensure an Environmentally Friendly Economic Development

In order to benefit from growing economic opportunities whilst at the same time being a credible advocate in the fight against global climate change and in environmental protection the government had to forge a compromise between those ministries and agencies focusing on the opportunities for the German economy and those other ministries and agencies focusing primarily on the environmental responsibility for Germany in the Arctic. In the end the government was able – at least to a certain degree

¹⁵⁵⁴ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 18.

¹⁵⁵⁵ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 7.

¹⁵⁵⁶ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 7.

– to overcome these contradicting interests and thus to reconcile economic with environmental interests. This bargain is perfectly captured in the Arctic Policy Guidelines’ subtitle “assume responsibility, seize opportunities”. By stating that only by adherence to the highest environmental standards, economic activities shall be allowed the government implicitly aimed to make cutting edge technology mandatory for the economic development of the region. As German companies possess these technologies, the government anticipates new export opportunities for the German economy:

Harsh climatic conditions and the technical challenges that need to be mastered to access Arctic raw materials, as well as the particularly sensitive Arctic environment, are leading to an increased need for specialized technology and know-how. New opportunities are opening up for German companies. There is great potential for German maritime technologies, due to the increasing importance of the sea in the development of raw materials. The National Master Plan for Maritime Technologies (NMMT) [...] aims to help unlock the full potential of these technologies. By driving forward this cutting-edge maritime technology that meets high environmental standards, high quality jobs are being created and secured in a key future market that is of great strategic importance.¹⁵⁵⁷

This formulation shows quite clearly that the government sees direct economic opportunities in the short- to medium-term from a geo-economic perspective. Against this background, a subdivision of geo-economics, described as geo-technology, has been identified as becoming ever more important in the eyes of German decision-makers. It seems that the government no longer formulates its economic interests primarily in the accumulation of raw materials for the production of high-technology products. Instead, it sees these products more and more as a mean to profit from economic activities around the topic of resource extraction. To become a supplier of high-technology products would have a double advantage: First, new technologies might help Germany to secure its growing resource demand. Second, against the background of a growing global resource demand, an increase in the demand for new exploration and exploitation technologies is expected to increase, too. Germany could offer and export these technologies. In developing these products, Germany could then try to generate political influence. This logic resonates with statements of government officials involved in the decision-making process. One ministerial representative maintained that “[a]s German companies possess some of the world’s best technologies to ensure these environmental standards are met, even the Ministry for Economic Affairs and Energy anticipates a big market for German high-tech products.”¹⁵⁵⁸

¹⁵⁵⁷ Federal Foreign Office, ‘Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities’, p. 6.

¹⁵⁵⁸ Federal Foreign Office Official, ‘Interview 10’, p. 1.

6.4.6 Narrative No. 6: The Freedom of Research

Against the background of the Arctic's central role in global climate change processes, the government sees polar research and the closing of existing knowledge gaps as a precondition for effective policy formulation. In addition, the government is interested in the exploration of the region's natural resources. As Arctic coastal states aim to enlarge their EEZ's, the government is concerned about possible negative consequences for the freedom of research:

Germany is internationally recognized for and very active in a wide range of Arctic research activities. The Alfred Wegener Institute [...] (AWI) is one of the world's leading research institutes based in Germany that studies climate change, changes in sea ice, and biological diversity, as well as oceanographic, biological and geological changes in the polar regions. [...] The AWI has significant and broad expertise, also through its collection of long-term data. This knowledge base is made available to inform future discussions on all issues related to the Arctic. The Federal Institute for Geosciences and Natural Resources (BGR) conducts research on the structure of the earth's crust and geodynamic developments in the Arctic, in addition to verifying the existence of deposits of raw materials. [...] The Federal Government is working to improve the conditions for research and to enhance joint use of research findings related to this sensitive ecosystem, as well as to promote responsible and independent international polar research that meets high environmental standards.¹⁵⁵⁹

It is against the background of potential restrictions of polar research activities that the government calls for upholding the right for scientific research activities:¹⁵⁶⁰ "Enabling free and responsible scientific research based on cooperation, as well as enhancing the conditions for research, should be a high priority of the international community."¹⁵⁶¹ Due to the Arctic's global significance the government claims that "[i]t is in the interest of the international community to uphold the right to scientific research in these maritime areas, as well."¹⁵⁶²

6.4.7 Narrative No. 7: Enhancing Stability and Security through the Promotion of Governance

Against the background of the Arctic's growing geo-ecological, geo-economic and geopolitical relevance the government is also aware of the potential for destabilization in the region due to a growing potential for conflicts over access to and control of

¹⁵⁵⁹ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', pp. 9–10.

¹⁵⁶⁰ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 9.

¹⁵⁶¹ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 18.

¹⁵⁶² Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 9.

natural resources and related economic opportunities as well as conflicting legal positions.¹⁵⁶³ Thus the government states:

Overlapping interests of Arctic countries could [...] trigger a geopolitical race for sovereignty, or for rights to develop the seabed and its natural resources, which would pose an economic, environmental and security policy threat to stability in the region and would also affect Europe's security interests. Including the Arctic region in a system that guarantees multilateral stability is therefore of crucial importance.¹⁵⁶⁴

As the government perceives an interdependence between potential security political developments in the region and Europe it is not surprising that it calls for a strengthening of Arctic governance in order to ensure regional stability. In this context, the government underlines the importance of the Arctic Council:

The Federal Government favours multilateral cooperation on Arctic issues, first and foremost in the Arctic Council, which is the only Pan-Arctic regional forum and high-ranking intergovernmental decision-making body.¹⁵⁶⁵

In addition, it supports to also apply other governance frameworks with relevance for Arctic stability:

The Federal Government remains committed to existing multilateral agreements and treaties that are of relevance for the Arctic, such as the United Nations Convention on the Law of the Sea, the International Convention for the Prevention of Pollution from Ships (MARPOL Convention) and regional conventions such as the Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention).¹⁵⁶⁶

With the possibility of emerging security issues in the region in mind, the government calls for making use of security governance frameworks:

While the Federal Government is convinced that the Arctic must be used for peaceful purposes only, it recognizes that security issues do arise in conjunction with developments in the Arctic, and that possible security risks need to be addressed. [...] NATO's wide-ranging partnership formats, which are open to all countries bordering the Arctic Ocean, provide suitable forums for dealing with Arctic security policy issues. If necessary, this can be supplemented with discussion in other groups, such as the Arctic Security Forces Roundtable [...].¹⁵⁶⁷

¹⁵⁶³ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', pp. 4, 7, 10.

¹⁵⁶⁴ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 10.

¹⁵⁶⁵ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 2.

¹⁵⁶⁶ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 11.

¹⁵⁶⁷ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 17.

6.4.8 Narrative No. 8: The Opportunity to Present Germany as an Arctic Player

Against the background of perceived interdependencies between the Arctic and Germany and resulting interests in actively accompanying the region's transformation, the government sees the opportunity to present Germany as a key Arctic player:

With a high profile in polar research, strong political engagement and active participation in discussions about the future and the sustainable development of the Arctic, Germany is an international actor in the High North.¹⁵⁶⁸

In line with this, the government aims to strengthen Germany's role in the central governance body, the Arctic Council:

The Federal Government is aware of the global consequences of developments in the Arctic region, including their political, economic and environmental significance, and Germany is therefore prepared to do its share as an observer country. Germany is widely viewed as a partner with substantial know-how in the areas of research, technology and environmental standards and is seeking to more strongly and creatively put this know-how to use.¹⁵⁶⁹

Therefore "[t]he Federal Government aims to strengthen Germany's observer status in the Arctic Council."¹⁵⁷⁰

7 Conclusions

This chapter succinctly reviews the empirical findings of the dissertation. Based on them, a concise answer to the overall research questions will be presented. It furthermore makes the case for some theoretical refinements of the BPM.

This dissertation aimed to solve a fundamental puzzle regarding the development of Germany's Arctic engagement. It therefore posed the following research questions:

Why did the government start the inter-ministerial Arctic Policy Guidelines formulation process in 2012, and why is there a stronger emphasis on geo-economic opportunities than on responsibilities related to environmental and climate change in the document?

In sum, the development of Germany's Arctic engagement, from uncoordinated

¹⁵⁶⁸ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 5.

¹⁵⁶⁹ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 13.

¹⁵⁷⁰ Federal Foreign Office, 'Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities', p. 2.

ministerial policies and an emphasis on the fight against climate change towards a more coordinated approach and a focus on the realization of geo-economic opportunities is the result of four interconnected developments. First, it is a consequence of changing dynamics in the operational environment – at the global level, in the Arctic as well as in Germany. These dynamics resulted in new interdependencies between all three levels. Second, these changing dynamics and new interdependencies have been perceived by the ministries to have an impact on Germany and the respective ministerial interests. Third, ministerial interests (both political and bureaucratic) have been adjusted accordingly. Fourth, based on conflicting ministerial interests, a bargaining process emerged. Bargaining advantages in the Arctic Policy Guidelines formulation process empowered those bureaucratic actors who aimed for the realization of economic opportunities over the ministries and subordinated agencies who argued to focus on Germany's environmental responsibilities in the first place.

In the course of the dissertation, two working assumptions were tested:

WA1: The more the ministries perceive the growing interdependence between the Arctic's transformation (and its global drivers) and Germany of having an impact on Germany and their ministerial interests the more likely they will formulate explicit Arctic policies and engage in inter-ministerial coordination on Arctic issues.

WA2: The stronger the bargaining advantages of single ministries in the Arctic Policy Guidelines decision-making process the more likely they will push through their political interests.

Both causal mechanisms set out in these working assumptions have proven to be correct and helpful in understanding and explaining Germany's Arctic engagement as finally reflected in the country's Arctic Policy Guidelines.

Regarding the first working assumption three conclusions can be made:

Conclusion No. 1: The Transformation of the Arctic is Driven by Global Developments and Germany's Arctic Engagement is Based Mainly on Global and Domestic Economic Considerations

In the operational environment, the interdependencies between the global level, the

Arctic, and Germany increased in the three issue areas of environmental, economic, and political affairs – albeit to different degrees.

Accelerating global climate change, ongoing economic globalization, and a changing international order put the Arctic into the spotlight of international affairs. The interdependencies between these three global drivers increased. The economic globalization aggravated global climate change. Thus, the global climate became more vulnerable to economic globalization. At the same time, global climate change had significant consequences for political affairs and thus for the international political order. Economically speaking, it divided the world in winners and losers. Some countries benefited from the consequences of global climate change in economic affairs. The Arctic states, for example, availed themselves from easier access to their natural resources. Some other countries, however, faced the destruction of economic production sites or the depletion of natural resources and the extinction of natural habitats due to global climate change-driven extreme weather events. These processes intensified the politicization of economic affairs. At the same time, economic globalization and associated changes in the international economic order significantly influenced the international political order. Impressive GDP growth rates of emerging countries and a long lasting damage of Western economies due to the global financial and economic crisis fundamentally changed the international economic order. In turn this economic power shift had a strong impact on the global balance of political power as it expanded the room for manoeuvre of emerging states whilst downsizing it for established ones. Thus, the international political order was vulnerable to economic globalization and its consequences for the international economic order. All three global drivers as well as their interconnections – albeit to different degrees – had an impact on the Arctic.

In environmental, economic, and political affairs, the Arctic became more interdependent with global affairs. Due to global climate change the Arctic is warming twice as fast as the rest of the globe. The Arctic's warming leads to a reduction of sea-ice, the melting of glaciers, permafrost thawing and reduced snow cover on land. Thus, the Arctic became increasingly vulnerable to global climate change. As a result of the Arctic's warming less sunlight is reflected and more of it is absorbed. This Arctic warming further accelerates global warming. Hence in environmental affairs, the global climate became more vulnerable to the Arctic's transformation, too.

Accelerating economic globalization made possible a stronger integration of the Arctic into global economic flows – especially in natural resource extraction and shipping. The global economic growth was clearly linked to a growing consumption of natural resources. The Arctic's environmental transformation was seen as an opportunity to access an alternative and, so far, untapped resource base. In addition, the reduction of Arctic sea-ice was seen and an accelerator for maritime trade between Europe and Asia. This perception of growing economic opportunities was clearly influenced by the impression of political instability in the MENA region, one of the world's key natural resource producer regions. Thus global political affairs influenced Arctic economic affairs.

The changing international political order also affected the Arctic's regional political order. During the Cold War, there was a strong interdependence between the international order and the Arctic's order due to the region's strategic importance for global strategic considerations of the US and the Soviet Union. After the end of the bloc confrontation and until the early 2000's, the interdependence between the global and the Arctic level decreased. In recent years, the interdependence is growing again. This trend is attributed to a changing global balance of power, illustrated most clearly by the rise of China on a global level and the country's acceptance as a permanent observer in the AC. In addition, the character of the international order is becoming more conflict-ridden, especially between the global players China, the US and Russia. As a result, Russia and the US pay more attention again to their strategic nuclear forces in the Arctic. This growing military footprint in the region is alarming other Arctic states, and makes them react with own military adjustments. Thus in recent years, Arctic political affairs have again become more interdependent with global political affairs and vice versa.

The impacts of these global and Arctic developments on Germany differed between the three issue areas of environmental, economic, and political affairs. In climatological and environmental terms, Germany's vulnerability to global climate change increased modestly. Indicators of a directly growing vulnerability are a temperature increase, changing precipitation patterns, changing snow ice cover and an increase in extreme weather events. The highest vulnerability is seen in South-West Germany, in the central part of East Germany, in the Alps and in urban areas. It manifests itself in a low level of water disposability and the threat of droughts and heat strains during summer, storm floods and rising sea-levels as well as the loss of biodiversity. However, all of these

impacts are expected to manifest themselves only in the medium- to long-term. Climatologic and environmental interdependencies between the Arctic and Germany also increased only modestly. Germany became more sensitive to the consequences of Arctic climate change with regard to increased precipitation patterns and more cold snaps.

In economic affairs, the short-term and direct interdependence between global and Arctic developments on the one side and the German economy on the other increased significantly. As a resource poor country, Germany has always been dependent on the stable and secure supply of natural resources. Against the background of skyrocketing prices for energy and minerals and supply bottlenecks (e.g. due to resource nationalism and geopolitical instability in main producer and transit regions) the economy's natural resources vulnerability increased. At the same time, the country's economy became more dependent on its export sector for GDP growth. Most exports were high-tech products that are a) energy intensive in the production phase and b) rely on the processing of mineral resources (e.g. cars, wind turbines). Thus, the natural resources import vulnerability of the economy further increased. Finally, the country's growing export surplus was mainly driven by an increasing sea-borne trade with China. Hence, the economy became even more dependent on open SLOCs and more sensitive to the closure of these waterways.

In political affairs, the interdependence between Arctic developments and Germany was probably the lowest. The rather peaceful character of the Arctic region made an increased security-related German engagement obsolete. At the same time, there were no remarkable impacts of Arctic political affairs on Germany. On the global level, however, the changing power structure and the increasing number of governance deadlocks resulted in a more confrontational character of international political affairs. As a highly open and connected country, Germany's vulnerability to the failure of regional and global governance and a more confrontational character of international political affairs increased. This crumbling international political order was perceived to constitute a challenge to Germany in economic affairs, too. As resource nationalism and state capitalism increased, various German ministries became more concerned with the security of supply with natural resources and the functioning of global trade – as well as its underlying legal and physical infrastructure. This interdependence of global economic and political affairs led various ministries to conclude that the Arctic offers

significant direct and short-term economic opportunities to reduce Germany’s potential economic vulnerability to global economic and political developments.

Table 43 - Interdependencies between Global Affairs, the Arctic, and Germany in Environmental, Economic, and Political Affairs

	Global Level	Arctic Level	Germany	Direct/ Indirect	Long- term/ Short- term
Environmental Affairs	Accelerating Global Climate Change	Dramatic Arctic Warming	Growing Vulnerability to Changing Precipitation Patterns, changing snow ice cover, and an increase in extreme weather events	Indirect	Long-term
			Increase of Cold Snaps	Direct	Short-term
Economic Affairs	Ongoing Economic Globalization, driven by growing Natural Resources Demand and growing/changing Trade Interdependencies	Emergence as a new Natural Resources Supplier Region and the shortest Way for greater trade Interdependence between Europe, Asia and North America	Growing Vulnerability to global-driven Natural Resources Supply Disruptions	Direct	Short-term
Political Affairs	Changing International Order	Re-shuffling of the Arctic’s Balance of Power	Growing vulnerability to changing international order	Indirect	Long-term

Conclusion No. 2: Perceived Short-Term and Germany Directly Affecting Arctic Opportunities Trump Long-Term and Germany Only Indirectly Affecting Environmental Challenges

The ministries perceived the above described changing dynamics and growing interdependencies in the operational environment – at the global level and the Arctic’s transformation - of having a growing impact on Germany and on respective ministerial interests. These developments and their consequences for Germany were perceived quite differently, according to respective ministerial areas of responsibility. The

ministerial perceptions differed not only with regard to the question of the Arctic's transformation being a challenge or an opportunity but also with regard to the question of a changing Arctic having short-term or long-term and direct or indirect impacts on Germany. Nevertheless, in the time period of the formulation process of the Arctic Policy Guidelines, all bureaucratic actors perceived a growing interdependence between the Arctic's transformation and its global drivers on the one side and Germany on the other. This perceived growing relevance shaped the ministries' respective Arctic-related political and bureaucratic interests.

From the perspective of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Arctic's transformation and the region's role in global climate change was seen as a fundamental challenge. Growing vulnerabilities of the Arctic due to global warming on the one side, and of global climate change due to the Arctic's environmental transformation on the other, were acknowledged by the ministry. On the global level, climate change was perceived as a risk multiplier with the potential to destabilize entire regions by the worsening of social conditions. Regarding the interdependencies between global climate change and the Arctic's environmental transformation, on the one side, and Germany, on the other, the ministry remained rather vague. Only a few growing environmental vulnerabilities were identified to arise in the long-term and to have a direct impact. Temperatures are expected to increase by 0.5 to 1.5°C up to 2050 and by 1.5 to 3.5°C by the end of the 21st century. In the same time period, rainfall is expected to significantly decrease during summer and to equally increase during winter. Extreme weather events like the number of days with over 30°C are expected to increase, too. The most concrete impact of climate change on Germany is a perceived challenge to marine transport infrastructure in the maritime areas bordering Germany as a result of rising sea-levels – yet this is also a long-term perspective.

The Federal Ministry of Education and Research perceived Arctic-driven global climate change as a fundamental challenge, too. It saw a growing vulnerability of the Arctic to the consequences of global climate change as well as a growing vulnerability of the global climate to the Arctic's transformation. Regarding interdependencies between global climate change as well as the Arctic's transformation and Germany the ministry remained rather vague and only stated that Europe in particular is affected by changes in the Arctic. Yet it remained unclear if and how Europe and Germany are concretely

affected, whether these effects are expected to be felt in the short- or medium-term and whether Germany would be affected directly or only indirectly. The ministry was also aware of existing knowledge gaps regarding global climate change and the Arctic. In order to narrow these gaps, the ministry saw the development of new technologies as essential to support additional research efforts. Against this background, the ministry anticipated an economic opportunity for the business community. Thus, the ministry envisioned an indirect economic opportunity for the German export economy, too.

The FFO perceived Arctic-driven global climate change as a challenge. Growing vulnerabilities between global climate change and the Arctic's transformation were considered as a global challenge. Amongst others, global climate change was seen as a threat multiplier. In addition, due to global climate change, the Arctic's pristine environment was deemed increasingly vulnerable to human activities. In this context, a perceived responsibility to protect the region's environment emerged. Therefore, proponents of this perspective rejected plans of Arctic hydrocarbon resource exploitation. But whilst the FFO noticed a growing environmental vulnerability between the global and the Arctic level, it remained silent with regard to the direct or indirect as well as short-term or long-term environmental consequences for Germany due to global warming and the Arctic's environmental transformation. In contrast, some FFO officials also saw growing economic opportunities for Germany in the Arctic. Against the background of a perceived growing vulnerability of the German economy to supply disruptions of natural resource imports at the global level the Arctic was seen as an alternative import region. In addition, the ministry foresaw growing opportunities for German shipping companies in an increasingly ice-free Arctic. The ministry thus perceived direct opportunities that could partly materialize already in the short-term.

The Federal Ministry of Defence regarded global climate change as a threat multiplier on the global level. In the context of climate change, however, the Arctic was not mentioned explicitly. Germany was thought to be only indirectly affected by global climate change as this would force people to migrate to economically better developed regions. Thus, whilst a growing vulnerability of international security to global climate change was perceived, no direct link between these two dynamics and Germany – at least in the short- to medium-term – was seen by the ministry. In economic terms, however, the ministry noticed a growing direct and short-term vulnerability of the German economy to supply disruptions of natural resource imports at the global level. The ministry perceived a growing dependence on the import of natural resources for the economy's

wellbeing. At the same time, the ministry was also aware of growing threats to the global economy's underlying transport and communications infrastructure as well as the global economy's governance structure. These global developments were considered as having a negative impact on the already existing economic interdependence between the global level and Germany, making the country's economy more vulnerable in the short-term.

The Federal Ministry for Economic Affairs and Energy remained rather silent with regard to the challenges of global climate change and the Arctic's environmental transformation. The most concrete narrative was the perceived challenge to square the circle in terms of a stable but also environmentally friendly energy supply. Regarding the geo-economic opportunities of a transforming Arctic, however, the ministry was quite explicit. Against the background of perceived growing challenges to a stable and secure supply with natural resources at the global level, the German economy was deemed directly affected in the short term. As a consequence, Germany's economic vulnerability was thought to increase. A melting Arctic was seen in this context as an opportunity to reduce this vulnerability by directly enhancing the economy's security of supply in the short-term via an increased import of these natural resources from the Arctic. As Germany already imported a large part of its natural resources demand from various Arctic states, mostly from Norway and Russia, an increase of imports from the region was considered a logical step. In addition, the Arctic's transformation was also noticed as an economic opportunity with regard to new SLOC's towards Asia. And whilst Arctic shipping might realize its full potential only in the medium-term future, it would have direct positive impacts on the German export economy. Finally, the ministry also perceived the Arctic's transformation as an opportunity to export high-technology products into the region, which are required to ensure the sustainable economic development of it. The explicit reference to German companies' high-tech competencies and thus their ability to generate economic growth and employment in Germany by exporting technologies into the region underlines the ministry's perspective of the Arctic's transformation being a direct and short- to medium-term opportunity for the wellbeing of Germany's economic model.

Table 44 - Overview of Ministerial Perceptions along the three Guiding Questions

Ministries	Opportunity or Challenge	Direct or Indirect Impacts on Germany	Short-Term vs. Long-
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			Term
Federal Ministry of the Environment, Nature Conservation and Nuclear Safety	Challenge: Global climate change accelerates the Arctic's environmental transformation which further fuels global climate change	Direct: Germany is directly affected only in terms of rising temperatures and changing precipitation patterns	Rather in the long-term
	Challenge: Global climate change has the potential to destabilize entire regions by the worsening of social conditions	Not specified	Not specified
	Economic opportunities for Germany in the development of new technologies	Not specified	Not specified
Federal Ministry of Research and Education	Challenge: Global climate change accelerates the Arctic's environmental transformation which further fuels global climate change	Not specified	Not specified
	Challenge: knowledge gaps regarding Arctic-driven global climate change	Not specified	Not specified
	Opportunity: developing new technologies to close knowledge gaps	Not specified	Not specified
Federal Foreign Office	Challenge: Global climate change accelerates the Arctic's environmental transformation which further fuels global climate change	Not specified	Not specified
	Opportunity: the Arctic as an alternative natural resources supplier region	Direct: enhancing the security of supply with natural resources from the Arctic against the background of a growing vulnerability of the German economy to supply disruptions of natural resource imports at the	Short-term

		global level	
	Opportunity: Shipping through the Arctic	Direct: growing shipping opportunities for German shipping companies due to receding ice in the Arctic	Medium-term
Federal Ministry of Defence	Challenge: climate change as a threat multiplier on the global level	Not specified but assumed Indirect	Not specified but assumed in the long-term
	Challenge: supply disruptions of natural resource imports at the global level	Direct: The German economy became more dependent on natural resource imports	Short-Term
Federal Ministry for Economic Affairs and Energy	Challenge: supply disruptions of natural resource imports at the global level	Direct: The German economy became more dependent on natural resource imports	Short-Term
	Opportunity: the Arctic as an alternative natural resources supplier region	Direct: enhancing the security of supply with natural resources from the Arctic against the background of a growing vulnerability of the German economy to supply disruptions of natural resource imports at the global level	Short-Term
	Opportunity: Shipping through the Arctic	Direct: growing shipping opportunities for German shipping companies due to receding ice in the Arctic	Medium-Term
	Opportunity: The growing need for high-tech products in the economic development of the Arctic	Direct: a new export market for German high-tech products	Short- to Medium-Term

Conclusion No. 3: Geo-Economic Interests Trump Environmental Concerns

Against the background of these perceptions, all ministries saw their political and bureaucratic interests affected by the Arctic's transformation and its growing interdependence with Germany. Consequently, ministerial interests were adjusted accordingly. The deduced interests highlighted the two opposing objectives of a) the fight against global climate change and an environmental responsibility to protect the pristine Arctic environment and b) the realization of geo-economic opportunities in the

Arctic that seemed necessary to reduce the adverse effects of global developments to the German economy. In order to safeguard their respective interests and to promote Germany in Arctic affairs, the involved ministries supported the attempt to coordinate existing ministerial engagements with the formulation of the Arctic Policy Guidelines.

Regarding the Arctic's environmental transformation and connected global trends, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety had three main political interests: a significant reduction of global GHG emissions, taking adaptation steps in Germany in order to be able to better cope with the adverse effects of climate change and increasing research efforts to better understand the global climate change processes under way in order to be better equipped to fight global climate change and to develop more targeted adaptation policies. The Federal Ministry of Education and Research had four political interests: the reduction of global GHG emissions, to increase research efforts, to strengthen Germany's profile as one of the world's leading polar research nations and to uphold the international norm of the freedom of research. The FFO had four political interests: the reduction of global GHG emissions, the preservation of the freedom of polar research, strengthening Germany's overall standing in Arctic affairs and the enforcement of the highest environmental standards for all activities. The political interest of the Federal Ministry of Defence was the reduction of global GHG emissions.

All these interests are in line with a sense of environmental responsibility according to which it is necessary to take necessary steps to slow down the pace of global climate change in order to prevent the worst consequences of a changing global climate.

Regarding the Arctic's economic transformation and connected global economic trends, the Federal Ministry for Economic Affairs and Energy developed six political interests: to ensure the security of supply of natural resources, to safeguard the special energy relationship with Russia, to ensure the functioning of international natural resource markets and governance structures, to increase the import of natural resources from the Arctic, to export high-technology products into the Arctic and to realize new shipping opportunities in and through the Arctic. The FFO had the same economic interests: to strengthen and diversify natural resource partnerships and import routes, to strengthen the global economic governance architecture and to realize new economic opportunities in the Arctic with regard to natural resources import as well as shipping. The Ministry of

Defence was interested in ensuring the security of supply with natural resources, in the security of transit routes and energy infrastructure as well as in the functioning of global economic governance frameworks.

All these interests are in line with a geo-economic logic according to which a geo-economic actor views the world almost exclusively in economic terms as a way of importing and exporting goods and services.¹⁵⁷¹

Table 45 - Selected Ministerial Political Interests Regarding the Arctic’s Transformation

Ministries	Interests	Direct/ Indirect	Short-term/ Long-term
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	reduction of greenhouse gas emissions,	Indirect	Long-term
	taking adaption steps in Germany,	Indirect	Short-term
	increasing research efforts	Indirect	Short-term
Federal Ministry of Education and Research	reduction of greenhouse gas emissions,	Indirect	Long-term
	increasing research efforts	Indirect	Short-term
Federal Foreign Office	reduction of global greenhouse gas emissions,	Indirect	Long-term
	to strengthen and diversify natural resource partnerships and import routes,	Indirect	Short-term
	to realize new economic opportunities in the Arctic with regard to natural resources import as well as shipping	Direct	Short-term and Long-term
Federal Ministry for Economic Affairs and Energy	to ensure the security of supply of natural resources,	Direct	Short-term
	to increase the import of natural resources from the Arctic,	Direct	Short-term
	to export high-technology products into the Arctic,	Direct	Short-term
	to realize new shipping opportunities in and through the Arctic	Direct	Long-term
Federal Ministry of Defence	ensuring the security of supply with natural resources,	Indirect	Short-term
	security of transit routes and energy infrastructure	Indirect	Short-term

¹⁵⁷¹ Kundnani, *The Paradox of German Power*, pp. 103–4.

Whilst all ministries had a growing interest in the Arctic or in Arctic-related global developments, those ministries with a direct and short-term interest were more explicit about their interests than those ministries with an indirect and long-term focus. These two patterns of prioritization (*short-term gains vs. long-term losses and direct vs. indirect opportunities/challenges*) also played a role in the bargaining process.

Regarding the second working assumption (*The stronger the bargaining advantages of single ministries in the Arctic Policy Guidelines decision-making process the more likely they will push through their political interests*) two additional conclusions can be made:

Conclusion No. 4: Bargaining (Dis)Advantages Really Make a Difference

The coalition of the bureaucratic actors favoring to strengthen Germany's economic engagement in and with the Arctic possessed some important bargaining advantages with regard to the structure of the bargaining process and with regard to existing unequal power potentials.

Regarding the structure of the bargaining process the overall coordination of the formulation process of the Arctic Policy Guidelines lay in the FFO. Consequently, the FFO had an important bargaining advantage over all other institutions as it was in the unique position to set the tone of the first draft. This bargaining advantage clearly influenced the subsequent decision-making process. According to officials involved in the formulation process, both from within the FFO as well as officials from other ministries and subordinated agencies, there was already an emphasis on the economic opportunities of a transforming Arctic in the first draft. According to these officials this focus is not surprising considering the fact that the document was drafted by a unit with a strong economic outlook. As the FFO controlled the action channel, defined as "regularized means of taking governmental action on a specific kind of issue",¹⁵⁷² it had the opportunity to frame the drafted version of the Arctic Policy Guidelines according to its own ministerial interests. Thus, the ministry was in a powerful position vis-à-vis the other involved actors.

In addition, unequal power potentials of the involved bureaucratic actors had an influence on the bargaining process as they gave some actors a bargaining advantage

¹⁵⁷² Allison and Zelikow, p. 300.

over others. The Ministry for Economic Affairs and Energy had a structural and an agential bargaining advantage over the Federal Ministry of Environmental Protection, Nature Conservation and Nuclear Safety. These advantages stemmed from two sources – the Federal Ministry for Economic Affairs and Energy’s position in the federal government and its already existing expert knowledge on Arctic affairs and Arctic-related global developments. The structural advantage of the Federal Ministry for Economic Affairs and Energy was its very strong position in the federal government. Amongst others, the ministry provided the vice-chancellor during the formulation process. Also, the ministry’s main political task to strengthen the social market economy model, generating growth and thereby ensuring prosperity became one of the single most important narratives in the federal government during the time of the bargaining process. Economic considerations played a particular important role in the federal government against the background of the global financial and economic crisis as well as the Euro crisis. As highlighted in various ministerial perceptions, generating economic growth was seen by most of them as a fundamental goal of the federal government. Against the background of challenging global economic developments in the operational environment (e.g. the global financial and economic crisis, the eurocrisis, a changing global economic balance of power, a dysfunctional global economic governance architecture and more conflicts over access to and control of natural resources resulting in growing resource nationalism) safeguarding jobs and generating growth became one of the government’s most important political tasks and goals. The ministry also had an agential bargaining advantage in terms of existing policy documents with Arctic relevance and respective desks covering the Arctic-related portfolio of the ministry. With already adopted ministerial documents like the National Resource Strategy and the National Masterplan Maritime Technologies the ministry already had developed explicit political and bureaucratic Arctic interests prior to the bargaining process.¹⁵⁷³ In addition it had Arctic-related desks at its disposal for several years.¹⁵⁷⁴ This generated additional expert knowledge. Taken together, these agential factors allowed the ministry to incorporate its Arctic interests into the main political and bureaucratic interests. On the structural side, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety’s power position in the federal government was weaker than the one

¹⁵⁷³ Federal Foreign Office Official, ‘Interview 10’, p. 1.

¹⁵⁷⁴ Federal Foreign Office Official, ‘Interview 9’, p. 1.

of the Federal Ministry for Economic Affairs and Energy. It neither had a comparable outstanding position in the federal government, nor was its main political task (protection of the environment in order to prevent the population to suffer from negative consequences of environmental degradation) defined by the government as one of its top priorities. This was a structural bargaining disadvantage. In addition, on the agential side, the ministry had not adopted official Arctic-related policy documents – besides the documents focusing on the fight against global climate change and thereby covering the Arctic in abstract terms. Nor had it Arctic-related desks to rely on. Not surprisingly, the ministry was still in the process of developing political and organizational interests with regard to the Arctic in 2013. Thus, the lack of expert knowledge was another important bargaining disadvantage for the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Conclusion No. 5: The Wellbeing of the German Economy and the Security of Jobs are More Important Than a Changing Climate

Closely connected to these bargaining advantages is the fact that the bureaucratic actors who argued for the realization of geo-economic opportunities were better able to highlight existing vulnerabilities of Germany's economic model and the German economy and how these vulnerabilities could be erased by an increased economic engagement in the Arctic. With already existing ministerial policy documents, the Ministry for Economic Affairs and Energy was able to better highlight the growing short-term vulnerability of the German economy to systemic changes (both on the global level and the domestic level in Germany) and existing interdependencies with the Arctic (need to ensure secure supply of natural resources to ensure GDP growth via its exports – otherwise the German economy loses jobs). In a rather instrumental way, the ministry sought to realize economic opportunities in the Arctic in order to reduce the country's economic vulnerability to global developments. The highlighted short-term and direct vulnerability of the German economy to global developments and the opportunity to mitigate these challenges by moving into the Arctic was probably a stronger argument than the only limited direct and mostly long-term growing environmental vulnerability of Germany in form of a general temperature increase, changing precipitation patterns, the increase of cold snaps, and more heat waves. In addition, the coalition of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety remained rather vague concerning the direct impacts of global climate change on Germany and global

climate change remained a rather abstract concept. The interdependence of the German economy with Arctic dynamics and Arctic-related global developments, on the other side, was perceived as being quite strong and more concrete. The threat of losing economic strength or the opportunity to enhance the economic capability via the Arctic was quite concrete. Thus, the coalition of the Ministry for Economic Affairs and Energy was better able to highlight already existing interdependencies with short-term implications between global developments and the Arctic's transformation on the one side and Germany on the other. A stronger economic engagement in the Arctic was perceived and presented in the bargaining process as an opportunity to counter existing and growing vulnerabilities. This resonates with interviews of involved officials in the decision-making process. As put by a FFO official: "The fight against global climate change is a long-term challenge. The economic opportunities in the Arctic, resulting from ice-melting in the region, however, are short- to medium-term opportunities."¹⁵⁷⁵ Another official put it as follows: "It is obvious that topics that have an immediate impact on Germany's wellbeing, for example energy imports, sea routes, push the government to formulate explicit policies in contrast to more abstract and long-term developments like sustainability, environmental protection and climate change."¹⁵⁷⁶

To conclude, Germany's Arctic engagement, as manifested in the Arctic Policy Guidelines, is rather instrumental in focusing on geo-economic opportunities that the region offers. It does not focus exclusively on the environmental responsibility to protect the pristine ecosystem. It seems that Germany's Arctic interests and the respective Arctic engagement are not driven by an interest in the region itself in the first place. Instead, it is a reaction to international and domestic developments. It is also a reaction to resulting growing vulnerabilities that pose a threat to Germany's economic model. The coalition of the ministries and subordinated agencies in favor of an increased geo-economic Arctic engagement had a structural, an agential and an argumentative (*short-term gains vs. long-term losses and direct vs. indirect opportunities/challenges*) bargaining advantage. The narratives of a direct and short-term threat to the German economy due to global developments coupled with the narrative of the Arctic as a short-term and direct solution to the identified challenges were unbeatable. These bargaining

¹⁵⁷⁵ Federal Foreign Office Official, 'Interview 10', p. 2.

¹⁵⁷⁶ Federal Foreign Office Official, 'Interview 3', p. 2.

advantages helped them to push through their policy preferences. As a result, Germany's Arctic engagement in 2013 was much more driven by geo-economic considerations than by a sense of environmental responsibility compared to 2005.

Theory Refinement

Both analyzed bargaining processes in chapter 6 confirmed some of the main theoretical assumptions of the BPM. In addition, they revealed some interesting insights that call for an adaption and enhancement of the BPM. Two additional empirical findings allow for a theoretical refinement of the BPM. Against the background of these empirical findings new hypotheses can be generated – a research step envisioned from the beginning of this dissertation (see chapter 2.1.3, page 39).

Refinement No. 1

Very generally, the analytical focus of the BPM needs to be enlarged. It has to include not only the ministries as the main bureaucratic actors but also subordinated ministerial agencies. In the case of the Arctic Policy Guidelines formulation process, it was the Federal Agency for Geosciences and Resources, the Federal Agency for Nature Conservation, and the Federal Environmental Agency who delivered key expertise that improved the ministries' bargaining positions. Especially in times, when political attention has not yet reached its climax and thus the ministerial leadership is not yet involved strongly, the potential influence of subordinated agencies may play a more prominent role.

Refinement No. 2

Bureaucratic infighting takes place not only between bureaucracies (e.g. ministries) but also within them. Even a single ministry consists of different desks with different responsibilities and thus different perceptions, opinions and interests. As a result, bargaining processes take also place between different units within one ministry. Political and bureaucratic coalitions are hence also formed along various desks from different ministries. Thus, while the BPM is right in criticizing structural theoretical approaches that treat the state as a unitary actor, the BPM makes a similar mistake in seeing a ministry automatically as a unitary actor. The opposite, however, is true. Different interests and policy positions within a single ministry exist, too. The case of the FFO clearly shows how different desks and units perceive the same issue at hand

differently and develop conflicting policy positions. In times of growing complexity and an increase of wicked problems it seems reasonable to assume that these kinds of diverging political and bureaucratic interests will influence a ministerial 'stand' and thus will have an impact on inter-ministerial bargaining processes. Future studies operationalizing the BPM thus should break up the 'black box' of ministries (or the institutions they look at).

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9 Annex

Table 46 - Main Ministerial Documents of Germany's Arctic Engagement

Year	Ministry	Document
2005	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	Nationales Klimaschutzprogramm
2005	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit	Nationales Klimaschutzprogramm 2005. Sechster Bericht der Interministeriellen Arbeitsgruppe „CO2-Reduktion“,
2006	Federal Ministry of Defence	Weißbuch 2006 zur Sicherheitspolitik Deutschlands und zur Zukunft der Bundeswehr
2007	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit	Eckpunkte für ein integriertes Energie- und Klimaprogramm
2008	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	Combating Climate Change. The German Adaption Strategy
2008	Federal Ministry of Education and Research	The High-Tech Strategy on Climate Protection
2010	Federal Ministry for Economic Affairs and Energy/Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply
2010	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety/Federal Ministry for Economic Cooperation and Development	Climate Challenges. Germany's International Approach
2010	Bundesministerium für Wirtschaft und Technologie	Rohstoffstrategie der Bundesregierung. Sicherung einer nachhaltigen Rohstoffversorgung Deutschlands mit nicht-energetischen mineralischen Rohstoffen
2011	Bundesministerium für Wirtschaft und Technologie	Nationaler Masterplan Maritime Technologien (NMMT). Deutschland, Hochtechnologie-Standort für maritime Technologien zur nachhaltigen Nutzung der Meere,
2011	Federal Ministry of Defence	Defence Policy Guidelines
2012	Federal Ministry of Education and Research	Rapid Climate Change in the Arctic. Polar Research as a Global Responsibility
2012	Federal Foreign Office	Shaping Globalization – Expanding Partnerships – Sharing Responsibility. A Strategy Paper by the German Government
2012	Planungsamt der Bundeswehr,	Future Report. Umweltdimensionen von

	Dezernat Zukunftsanalyse	Sicherheit
2012	Federal Ministry for Economic Affairs and Energy	Germany's new Energy Policy. Heading towards 2050 with Secure, Affordable and Environmentally Sound Energy
2013	Federal Foreign Office	Arctic Policy Guidelines. Assume Responsibility, Seize Opportunities