Hanna Lempinen

THE ELUSIVE SOCIAL

Remapping the Soci(et)al in the Arctic Energyscape

ACTA UNIVERSITATIS LAPPONIENSIS 353

Acta Universitatis Lapponiensis 353

Hanna Lempinen

THE ELUSIVE SOCIAL

Remapping the Soci(et)al in the Arctic Energyscape

ACADEMIC DISSERTATION
To be publicly defended with the permission
of the Faculty of Social Sciences at the University of Lapland
in lecture room 3 on 16 June 2017 at 12 noon

LAPIN YLIOPISTO
UNIVERSITY OF LAPLAND

Rovaniemi 2017

Acta Universitatis Lapponiensis 353

Hanna Lempinen

THE ELUSIVE SOCIAL

Remapping the Soci(et)al in the Arctic Energyscape

LAPIN YLIOPISTO
UNIVERSITY OF LAPLAND

Rovaniemi 2017

University of Lapland
Faculty of Social Sciences

© Hanna Lempinen 2017

Sales:
Lapland University Press / LUP
PL 8123
FI-96101 Rovaniemi
Finland
tel. +358 40 821 4242
publications@ulapland.fi
www.ulapland.fi/LUP

University of Lapland Printing Centre, Rovaniemi 2017

Printed:
Acta Universitatis Lapponiensis 353
ISBN 978-952-337-006-7
ISSN 0788-7604

Pdf:
Acta electronica Universitatis Lapponiensis 220
ISBN 978-952-337-007-4
ISSN 1796-6310

ABSTRACT

In political, popular and scholarly debates, the Arctic region is portrayed as being on the brink of becoming the "world's new energy province". Growth in global energy demand, dwindling reserves and political instabilities at existing production sites, warming climate, as well as advancements in extraction and transportation technologies are pushing energy activities further towards the previously inaccessible north. In these framings, energy in the Arctic is mostly understood as synonymous with oil and gas production for international exports: meanwhile, any societal aspects associated with energy-related developments remain largely neglected or reduced to regional socioeconomic concerns.

In this dissertation I take an interest in what is seldom explicitly addressed when energy in the Arctic is discussed: the soci(et)al dimensions associated with the Arctic energy concern. Against the backdrop of scholarly debates over what energy and its social dimension might entail, I ask 1) what does "energy" in the context of the north refer to and 2) how is the social dimension of this energy understood? In this, I build on the understanding that language and linguistic representations not only reflect but also shape (although do not determine) how the Arctic "energyscape" and its human and nonhuman constituents are perceived and acted upon. Through the means and methods of situational analysis and by triangulating multisite, multimodal research materials, the three Arctic case studies of the dissertation shed light on the diversity of the regional energyscape and delve deeper into the ways in which energy is defined and debated in general as well as in relation to the soci(et)al dimension in the north.

This dissertation diversifies the understanding of energy in the Arctic by drawing attention to the roles that issues related to renewable and other energy resources as well as energy consumption concerns play in the regional energy debates. It also sheds light on the ways in which the Arctic social dimension continues to be dealt with as predominantly indigenous and, in the context of energy, is largely reduced to developmental terms and to mediating social impacts *within* the Arctic region, with little attention to the global implications of regional energy development. Equally importantly, the study points out the mismatch between the textual and visual vocabularies that we resort to when energy or the social are discussed, and it is also here where the dissertation's most important contributions to the study of energy and its social dimension lie. Constructing energy as an independent driver with its own internal logic instead of a contested cultural artifact places the ways in which energy is thought

about more in the realms of natural science and technology than in those of societal discussion and debate. Energy becomes an issue that is placed in the hands of experts in order for it to be quantified, modelled, predicted and projected. A logic of this kind, in turn, is found in close relation to a certain understanding of what constitutes the social aspects that energy might relate to or entail: it is a logic that constructs, advocates and, essentially, is conceptually only able to grasp those parts of the lived and experienced social world that can be reduced to measurable, manageable indicators.

KEYWORDS: Arctic, energy, energyscape, social, social sustainabity, sustainable development, sustainability

TIIVISTELMÄ

Arktisen alueen energiavarannoilla on nykypäivän poliittisissa, populaareissa ja tieteellisissä energiakeskusteluissa erityisen keskeinen rooli. Globaalin energiankulutuksen kasvu, tunnettujen tuotantoresurssien ehtyminen, energiantuottajamaiden poliittiset epävakaudet, lämpenevän ilmaston vauhdittama pohjoisen merijään sulaminen ja nopeasti kehittyvät tuotanto- ja kuljetusteknologia ovat yhdessä saaneet arktisen alueen näyttäytymään maailman uutena energia-aarreaittana. Näiden keskustelujen ja arktisen alueen kontekstissa ”energia” on käytännössä synonyymi alueen öljy- ja kaasuvarantojen tuottamiselle kansainvälisiä markkinoita varten. Keskustelua energiantuotannon yhteiskunnallisista ulottuvuuksista tai energian alueellisista merkityksistä puolestaan ei käydä.

Tämän tutkimuksen keskiössä ovat kysymykset, jotka arktisesta energiasta puhuttaessa lähes poikkeuksetta sivuutetaan: mielenkiinnon kohteena ovat tavat, joilla arktisen energian yhteiskunnalliset ulottuvuudet tulevat määritellyiksi ja ymmärretyksi alueellisissa energiakeskusteluissa. Laajaa, energiaa ja (sen) yhteiskunnallista ulottuvuutta käsittelevää kirjallisuuskatsausta vasten kysyn, 1) miten energia pohjoisen kontekstissa ymmärretään ja 2) millaisena sen suhde arktisen alueen ”sosiaaliseen” ja yhteiskunnalliseen ulottuvuuteen näyttäytyy? Tutkimusasetelma rakentuu maltillisen konstruktivistiselle näkemykselle, jossa kielellä ja sen käytöllä on keskeinen, joskaan ei määrittävä rooli paitsi arktisen energiamaiseman esittäjänä myös energiamaiseman koonnosten ja niissä merkityksellisten tekijöiden ja kysymysten rakentajina. Väitöskirjan kolme tilanneanalyysin sovellutuksiin nojaavaa, eri lähteistä kerättyjen media- ja asiakirja-aineistojen kieltä ja kuvakieltä tarkastelevaa tapaustutkimusta havainnollistavat jokainen tahollaan tapoja, joilla energia ja yhteiskunnallinen kietoutuvat yhteen tai ajautuvat erilleen pohjoisen energiamaiseman erityislaatuisessa kontekstissa.

Tutkimuksen energiaa tarkasteleva analyysi tuo näkyviin öljyn- ja kaasuntuotannon hallitsemassa keskustelussa marginaaliin jäävät uusiutuviin ja muihin energianlähteisiin liittyvät näkökohdat, energian kulutusta käsittelevät alueelliset kysymykset sekä myös energiakeskustelun irrallisuuden arktisesta eletystä arjesta. Aineiston tarkastelu havainnollistaa myös tapoja, joilla arktisen alueen sosiaalinen tai yhteiskunnallinen ulottuvuus pelkistyvät ensi sijassa alkuperäiskansakeskusteluksi ja erityisesti energian kontekstissa kehityskysymykseksi: energiantuotannon valjastamiseksi pohjoisen sosioekonomisen kehityksen veturiksi alueelliset haittavaikutukset minimoiden, mutta maailmanlaajuisista vaikutuksista välittämättä. Ennen kaikkea tutkimus kuitenkin kiinnittää huomiota energiasta ja yhteiskunnallisesta puhuttaessa käytettävien sanas-

tojen ja kuvastojen keskinäisiin eroavaisuuksiin ja epäsuhtaan. Teknologian ja tieteen sävyttämä ymmärrys energiakehityksestä itsenäisenä, objektiivisena ja valintojen muokkaamattomissa olevana luonnonvoimana kulkee käsi kädessä yhteisöllisestä ja yhteiskunnallisesta vain mitattavat, seurattavissa ja hallittavissa olevat ilmiöt tavoittamaan kykenevän määritelmän kanssa.

ASIASANAT: arktinen, energia, energiamaisema, kestävä kehitys, kestävyys, sosiaalinen, sosiaalinen kestävyys

ACKNOWLEDGEMENTS

One of my very earliest childhood memories is from the bathroom of the apartment where my family used to live until I was around three. It was a very unremarkable flat in a working-class apartment block built out of grey concrete and surrounded by other, equally modest and equally grey working-class apartment blocks. I remember there was a bathtub, my dad in it, and myself standing in the room, closely observing his every move while he was conducting an experiment in which he attempted to set his own fart alight. (For a brief while there was success.) I also remember a cold, dark, snowy winter night at our cottage a few years later, when my at that time still tiny little brother asked my father what color farts were. We took a flashlight and went outside into the brisk air, one of us took their pants off and soon we all found out that they are greyish white. It is against this background that both my brother and I have ended up in research.

If it were not for my dissertation supervisors, Monica Tennberg and Lassi Heininen, I doubt this work would have ever seen the light of day. I am grateful for Monica's encouragement, patience and understanding as well as for Lassi's networks and support, without all of which I would most likely not be where and who I am now. The critical and insightful comments from my pre-examiners, Veli-Pekka Tynkkynen and Petra Dolata, were also invaluable in bringing the dissertation into its current form. Here, I also want to thank Richard Foley for bearing with my quirky English and for all of his hard work in proofreading and editing the manuscript. My special thanks go out to Paula Kassinen from Lapland University Press for her exceptional efforts and expertise in making everything happen under the rushed schedule we had.

I would also like to express my gratitude to the Arctic Centre and the ARCSUS project, the Faculty of Social Sciences at the University of Lapland as well as the University's Doctoral Programme on Northern

Cultures and Sustainable Natural Resource Politics for the time during which I had the chance to focus on my thesis work on their payroll. I am also grateful to the Finnish Cultural Fund, Lapland Regional Fund, Jenny and Antti Wihuri Foundation, Oskar Öflund Foundation and Emil Aaltonen Foundation for considering my work worthy of funding. The extended research visits at the University of Groningen in the Netherlands and the Kola Science Centre in Russia would also not have been possible without their financial support.

In addition, I want to thank the ARKTIS Doctoral Programme, UArctic, IASC, Northern Research Forum and the Northern Cultures Doctoral Programme at the University of Lapland for their travel grants to all the international conferences and seminars that I have had the chance to be a part of. While I did learn a lot during them, it is the wonderful places I got to see and the incredible people I had the privilege to get to know and make friends with that I am the most grateful for. I also cannot thank my colleagues at the Arctic Centre enough for allowing me to feel safe and at home throughout the last more than a couple of years.

I am very thankful to my parents for allowing us to grow up to stay curious about the all the little things in the world, for encouraging us to study even though they themselves never really did and for supporting me with my work even when they never exactly understood what is was about. (My father still thinks that after I'm done with the thesis I will get a real job.) At last but not least, I want to express my humble gratitude to all of my loved ones and friends of all sorts – too numerous to single out without taking the risk of forgetting to name someone and then having to regret it ever after – for being there and simply for being who they are.

For the last one and a half years, the writing process of this dissertation has been constantly accompanied by a terminal illness of a close family member. It became a kind of deadline for me to finish the dissertation so that she could still be around for the defense. (As I am not exactly the marrying kind, I thought a proper *karonkka* evening party would have to do as compensation.) My mum passed away on the day before these acknowledgements were written. She'll be in our hearts when the party starts.

2 May 2017 in Oulu, Finland

CONTENTS

1. INTRODUCTION: ENERGY AND THE NORTH 13
1.1 Research questions and objectives 15

2. RE(DE)FINING KEY CONCEPTS 22
2.1 The Arctic 22
2.2 Energy and the political 25
2.3 Energyscape 32

3. ENERGY AND THE SOCIAL DIMENSION 35
3.1 The energy – sustainability debate: a brief overview 36
Fossil sustainabilities – an oxymoron? 40
3.2 The "social" (in the sustainable) 42
Conceptualizing the social dimension I: Indicators and policy goals 43
Conceptualizing the social dimension II: SIAs and (other) corporate interpretations 46
Beyond assessing and measuring 50
3.3 Making the elusive social explicit 53

4. THEORETICAL UNDERPINNINGS AND METHODOLOGICAL CHOICES: SITUATIONS UNDER CONSTRUCTION 57
4.1 Constructing an energyscape 58
4.2 From (energy) actors and structures to situations 62
4.3 Methodological considerations: introducing situational analysis 67
Operationalizing situational analysis 70

5. REMAPPING THE BARENTS ENERGYSCAPE 76
5.1 Putting the Barents region on the (energy) map 76
5.2 On empirical materials 79
5.3 Situational map: The Barents energyscape 82
A new energy province? 86
Beyond oil and gas 90
States and markets (intertwined) 93
Far away or a regional concern? 99
5.4 Intermediate conclusions: An Arctic energyscape remapped 103

6. TRACING THE ELUSIVE SOCIAL: A PAN-ARCTIC PERSPECTIVE....106
6.1 Eyes on the Arctic: The empirical data set....107
6.2 On energy....111
6.3 Integrating the social: The human dimension....114
Background: An Arctic "social" in change....114
Development – or sustainability? Or well-being? Or resilience?....117
Whose "development"?....122
6.4 Impacts and effects....124
6.5 Governing energy (and) development....128
6.6 Intermediate conclusions II: Energy for (sustainable) development....132

7. IMAG(IN)ING THE SOCIAL: VISUAL REPRESENTATIONS AND THE SOCIAL IN THE ARCTIC ENERGYSCAPE....135
7.1 Researching the visual: Constructing a case study on the Arctic energyscape....136
A background note....140
7.2 The Barents energyscape revisited....142
Backdrop: Imagining an energy region....142
Visualizing energy....143
Populating the Barents energyscape....147
Illustration, manipulation and the energyscape....150
7.3 Illustrating the Arctic energyscape....152
Setting the stage: The documents and the Arctic....152
Bringing in the people....155
Picturing energy....158
Mapping and illustrating energy and the social....160
7.4 Intermediate conclusions, part III: Unrelated worlds....161

8. CONCLUDING THOUGHTS....164
8.1 The three case studies: A brief reminder....164
8.2 The social dimension and the Arctic energyscape....165
8.3 Energy, the Arctic and "regionalized sustainability"....167
8.4 The Arctic energyscape and the energy (political) research agenda....171
8.5 Afterword....177

9. LIST OF REFERENCES....180

1. INTRODUCTION: ENERGY AND THE NORTH

> In a resource-starved world, the Northern seas are the world's breadbasket. […] These resources are harvested far away from the fuel tanks and dinner tables where they eventually end up.
>
> (Holm 2015, xv)

Energy and related concerns have again become an issue of "high politics" (Aalto et al 2013, 1) in both domestic debates and international political arenas. This heightened interest is often pictured as having taken shape and place in the interplay of various overlapping and interconnected developments. Most importantly, the projected growth of global energy consumption plays a role: global demand is expected to increase by a third by the year 2040 (IEA 2015a, 6) despite the decreased energy intensivity of both economic and population growth and technological and political advancements in energy saving and efficiency. At the same time, concerns over the availability of reliable and affordable energy supplies have intensified, as it is projected that energy reserves at existing production sites are gradually dwindling (cf. Owen, Inderwildi and King 2010; Di Muzio and Salah Ovadia 2016, 2). Moreover, severe delivery disruptions, such as the Russian transit crises of 2006–2008 that cut the natural gas supply of several European countries, have contributed to an increased anxiety over the impacts that political events might have on securing uninterrupted energy supplies (cf. e.g. Liuhto 2009, Paillard 2010).

What is more, the changing climate has also had a part to play in the unease surrounding energy. However, the ways in which the axis of energy and climate is constructed in the Arctic region differ crucially from how this is done in broader energy-related debates. Whereas in the global context, the concern over the impact of fossil fuels on global

warming is a defining feature – after all, the production and consumption of energy are responsible for an estimated more than two thirds of the world's annual greenhouse gas emissions (cf. e.g. IEA 2015b, 11) – in the Arctic region the retreating sea ice is expected to make previously inaccessible areas better available for energy extraction activities (cf. e.g. Loe and Kelman 2016, 25; Kristoferssen 2014, 56) as well as for faster and more cost-effective transportation of extracted resources to consumers outside the region (Mikkola and Käpylä 2014, 16). Combined with evolving technologies, all of the developments noted above have contributed to an unprecedented level of interest in the Arctic region and its energy endowments. As it has been estimated that a fourth or more of the world's remaining hydrocarbon resources are located in the Arctic (USGS 2009), large-scale energy exploration and extraction activities are being pushed further and further north to sate the "world's ever-growing thirst for energy" (Sørnes, Browning and Henriksen 2015, 2).

This "widely circulated, orthodox version" (Hannigan 2015, 8) of what energy means in the Arctic – or, conversely, what the Arctic means in the context of energy – has gained a significant foothold in popular and political representations; yet, the chain of reasoning it is based on has been questioned on many fronts. While the novelty of the idea of the Arctic as the world's "emerging energy province" (AES 2010, 12) is questionable in itself[1], concerns related to the Arctic energy reserves themselves are more concrete. Among the most acute are whether the *estimated* reserves actually exist and can be utilized in a manner that is a) economically profitable (McGlade and Ekins 2015) and b) feasible within the internationally agreed greenhouse gas emission goals (cf. IPCC 2014). Indeed, it has been argued that staying under the vital two-degree global warming target would require leaving practically all Arctic hydrocarbon resources in the ground and under the seabed (cf.

1. Understanding the north as a "resource region" (Tennberg, Riabova and Espiritu 2012, 17–18) of the world or a "storehouse of natural resources" (AHDR 2004, 22) for the global markets in a broad sense has a long history. Despite the seeming novelty of the idea of the Arctic as an energy producer, also the region's fossil energy resources have been utilized by the residents of the region for well over a century (AMAP 2007, 14–15).

McGlade and Ekins 2015). On a related note, the assumed "Arctic Paradox" (Palosaari 2012, Palosaari and Tynkkynen 2015, 91) – the Arctic becoming more accessible for hydrocarbon resource extraction as a result of the climate impacts of that extraction – has also been brought into question. The changes in climate are expected to reduce the ice cover but also lead to more extreme and more unpredictable weather conditions, making energy extraction in the north much riskier both operationally and financially (Emmerson and Lahn 2012, Harsem, Eide and Keen 2011). As a result, it might be that "huge amounts of oil in the Earth's crust will most likely never become available" (Lähde 2015, 56) – including the much-desired hydrocarbon resources located in the depths of the icy, dark seas of the High North. Woven together, these arguments construct a rather different kind of Arctic region, one that is "more of an energy backyard than a frontier" (Sidortsov 2016, 2).

1.1 Research questions and objectives

While the above contextualization may be valuable, whether the story of Arctic energy is "true" and whether the oil and gas resources in the region will be used or not are not core concerns of this work. Rather, I take an interest in what is seldom explicitly addressed when energy in the Arctic is discussed: the soci(et)al dimensions associated with energy in the region. This interest grew out of a series of tentative observations about the debates revolving around Arctic energy which seemed to equate energy to the production of oil and gas for international markets, and the social impacts of Arctic energy developments to regional development defined in terms of employment and income. I was deeply troubled by such narrow understandings of both energy and the social, as they are far from adequate for grasping the foundational ways in which energy-related concerns are entwined with societal life in the north.

Drawing on these preliminary observations and against the backdrop of broad scholarly literature on energy and the social, I have articulated a twofold aim for this research, captured in the following research questions:

1) *What does "energy" in the context of the north refer to;* and
2) *How is the social dimension of this energy understood?*

Thus, in this work I take an interest in the ways in which both energy and its social dimension are constructed and understood in the Arctic. Focusing on the use of language and analyzing multisite textual and visual data, I explore the themes of energy and the societal in three Arctic case studies. I build on the understanding that language and linguistic representations not only reflect but also shape how the (energy) world and its constituents are thought of and acted upon. Indeed, the ways in which things are discussed and defined are neither innocent nor without potential consequences: "different views of energy shape policy choices, which in turn further legitimize particular views" and "[t]he effects of policy decisions based on particular views can be profound" (Mason 2016a, 132). This makes the ways in which energy and its intertwinements with societal life are talked about inextricably political: different ideas and articulations about what "matters" in Arctic societies in relation to energy, and vice versa, are entangled with power and the right to define the good, the bad, the desirable, and the unwanted – the "right" and the "important".

I will begin here with some terminological choices, ones that need to be clarified at the very outset. First, in order to grasp and argue for the inherently social nature of the Arctic energy concern, I rely on the notion of energyscape. As a concept, it both highlights and captures the diversity of ways in which energy is made meaningful in general and in relation to the social dimension in the north. Furthermore, I approach the Arctic energyscape as a situation through the "theory-methods package" (Clarke 2015, 87) of situational analysis (Clarke 2003, 2005, 2010), the interest being in the diversity of constituents that are assembled into what is here defined as the regional energyscape. When focusing on the energyscape as a situation, it is not the (dominant) actors, structures or the hegemonic discourses of energy in the Arctic that are the primary concerns, but the overall situation perceived through the lens of energy; the special focus on the broadly understood soci(et)al implies taking an explicit interest in the "social dimension" amid this diversity as well as in the terms by which the meanings of this "social" are constructed.

These questions, in turn, have implications for the research design in terms of empirical data selection. One question to be answered is: How can one capture the diversity of elements and perspectives that constitute the energyscape as well as the ways in which they play out in understanding the societal dimension in relation to energy? The study draws on a range of sources to construct as comprehensive a view as possible: visual and verbal materials in media reporting focusing on northern energy developments as well as scientific reports on Arctic energy, its social dimension or both. The media materials constitute an overall picture of the northern energyscape through the diversity of voices cited and the scientific reports dig deeper into the elusive and often abstract social dimension. The empirical materials, as well as the justifications for their selection, are discussed in further detail later in this work.

If and when the Artic energyscape is perceived and constructed as a situation, one of the many salient issues is drawing the boundaries of that situation. Indeed, situations are not just "out there" but are actively defined and delimited through the choices made by the researcher, who is inevitably always present in the research setting through the questions he or she asks and the answers he or she finds worth pursuing. In the context of this study, the decision to deal with the Arctic energyscape as a *situation* is justified by the ways in which the Arctic energy concern is constructed equally in political, popular and scientific parlance as one, single, distinctive region and the world's new "energy province" (AES 2010, 12).

In this work I do not attempt to take a stand on how things in the context of Arctic energy *really are;* instead, the study focuses on how issues are represented, advocated and debated. In other words, my attention is not directed to the actual validity of different Arctic energy storylines or the feasibility of turning the northern regions into a new energy province for the world. These energy-related debates will be explicitly addressed only insofar they become woven into the regional energy puzzle in the empirical materials utilized for this study. In fact, looking at the ways in which the Arctic energyscape is (re)presented and constructed through words and images makes it impossible to investigate how things "really are": an analysis of the use of energy-related language can only offer insights on the ways in which energy and its relation to

the widely understood social are talked about and constructed. Furthermore, while I acknowledge the different positions of and power relations between the differing voices and viewpoints, I also leave aside the interests and aspirations of different actors. To be sure, these questions continue to be extensively addressed in Arctic energy studies as well as in realist and/or geopolitical readings of the broader energy debate; yet, I remain hesitant regarding the extent to which conclusions about interests or identities of actors can be derived from their utterances in a straightforward manner. What I consider to be of greater interest here is not so much an actor-centric approach as a concern with "[w]hat kinds of desires, aspirations, interests, and beliefs" (Desbiens 2013, 6) are intertwined with and generated through the northern energy concern.

What also needs to be noted at this point is that although this study has formally been conducted as a doctoral dissertation in the field of International Relations, a reader who has an interest in more mainstream IR theories and perspectives or is inclined to approach energy, the political or the social from a strictly realist perspective will very likely not find what he or she is looking for in this work. However, I argue that the choice of approach made here – one of a rather different kind – has the potential to complement the existing and more institutionalized ways of addressing the omnipresently political nature of the energy concern. This potential stems from its drawing on and building on ideas derived and refined from (environmental) sociology, social impact assessment literature, sustainability, science and technology studies, welfare research, as well as from flirtations with materialist ontologies. I approach energy as a broadly political, societal question that includes but is not limited to the realms of state politics and power plays and globalized market economics, that is, the themes around which the energy-related debates in the field of IR revolve (cf. e.g. Aalto et al 2012, Chester 2010, Ciutâ 2010). In the later stages of the writing process, I also stumbled upon an individual work, Caroline Desbiens' *Power from the North* (2013), which had a major impact on the way in which I came to read and understand some aspects of the Arctic energyscape. The observations made in her analysis of the intertwinements of the economy, culture and regional energy development are frequently

revisited and reflected upon here, as they resonate with the broader Arctic energy concern. As a whole, the questions I ask and the concepts and methodologies I apply in answering them place this study firmly within the field of social scientific energy research (cf. Sovacool 2014, Sovacool et al 2015). This is a broad, emerging umbrella discipline that easily accommodates several political scientific perspectives on the inseparably political nature of the language used to talk about energy.

The last point in need of emphasizing at the outset has to do with the greatly politicized nature of what is meant by the Arctic social as well as northern communities and societies. I became painfully aware of the need for such clarifications as a result of questions and comments on the topic I received after essentially every conference presentation I gave in the four-or-so years during which the research was presented to different academic audiences. Indeed, I want to underline that while this study approaches the notion of the soci(et)al open-endedly without narrowing the referent of the term to the indigenous populations of the Arctic region, this choice is *not* to refute the contributions of existing research on the axis of energy (development) and the rights, cultures, lifestyles, political positions and prospects of Arctic indigenous communities. In my view, the interaction of both the hydrocarbon and renewable energy industries with Arctic and non-Arctic indigenous populations has been and continues to be sufficiently and informatively assessed elsewhere (cf. e.g. Stammler and Ivanova 2016, Lawrence 2014, Montefrío 2012, Nuttall and Wessendorf 2006). What remains to be tackled is the "under-recognised importance of non-indigenous people" (MacCauley et al 2016, 144) residing in the region – both in political debates as well as scholarly contributions. In this work I "take indigenous presence in the North seriously", but leave it "to others to explicate" (cf. Wynn 2013, xvi in Desbiens 2013) when I argue that seeing the social dimension in the Arctic as synonymous with indigenous is not adequate for grasping the intertwinements of societal life and energy in the context of the north.

The following three chapters will lay out the conceptual, methodological and ontological underpinnings of this work in order to equip the reader with the necessary tools for following the course of the empirical discussion. These foundational elements include the key notion of ener-

gyscape, the concepts of energy and (its) elusive social dimension, the theoretical points of departure of this work, as well as the justifications for and implications of adopting situational analysis as the methodological framework. Chapters five, six and seven, each grounded in a case study, adopt a distinctive empirical approach, the aim being to provide insights into the diversity of energy as well as the manners in which energy and the social are (and sometimes are not) addressed, assessed and intertwined in the energyscapes of the north. The first case study investigates the Barents energyscape through media materials; the second analyses pan-Arctic scientific assessments and reports; and the third focuses on the visual means of constructing and communicating the regional energyscape. The last chapter highlights the most important conclusions drawn along the journey and puts them into perspective in the context of political scientific studies of energy as a social and societal concern.

During the five-year process of working on this dissertation, the short-term perspective for energy-related developments in the Arctic has changed dramatically. As the price of crude oil has plummeted (cf. OPEC 2016, 86–88), both smaller development projects as well as landmark endeavors have been postponed indefinitely or cancelled (cf. e.g. Claes and Moe 2014, 111; ENI Norge 2012). Some corporate actors have retreated from the Arctic region altogether (*The Economist,* 3.10.2015). While these relatively recent (un)developments have led some to conclude that as there is no foreseeable future for Arctic energy development – meaning the implementation of regional oil and gas projects on a grand scale – this does not mean that an inquiry on the nature of the debates and discussions on Arctic energy would lose its relevance. First, despite the current situation, changes in energy markets, political priorities or technological solutions might bring once-discarded projects "suddenly back on the table" (Stammler and Wilson 2016, 3). Secondly, regardless of developments in the short term, an analysis of the ways in which energy and society are discussed is valuable, for it sheds light on the ways in which we understand the roles that energy has in relation to what matters in societies.

This enduring relevance of Arctic energy research is also backed up by the relatively recently published special issue of *Energy Research & Social*

Science focusing explicitly on Arctic energy debates and developments. In the introductory article, Sidortsov (2016, 1) interprets recent developments as pointing towards "a sense of renewed purpose and research agenda", as the changed situation has "expanded the value of Arctic energy research from largely instrumental for the already occurring activities to critical for the decisions about prospective activities in the region". The "timeout" in mass-scale exploration and exploitation of Arctic energy endowments can be seized as an opportunity to think about not only *how* but also *if* we will go forward with large-scale hydrocarbon development in the north and to critically investigate the language in and through which these developments are addressed and discussed, language which is inevitably and irreversibly political in its nature and its consequences.

2. RE(DE)FINING KEY CONCEPTS

2.1 The Arctic

While "Arctic" has become a political, business and media buzzword during the last decade, the region's borders and boundaries are very seldom explicitly defined. In the specific case of energy, the Arctic has become all but synonymous with the region's vast hydrocarbon resources (cf. USGS 2009) and perceived as a geographical, political and economic entity, an "energy province" (AES 2010, 12). There is, however, no such thing as a single Arctic in the context of energy, nor is there a single Arctic energy policy (cf. Aalto and Jaakkola 2015). Upon closer examination, no universally shared definition of the Arctic region can be found: different actors and different reports lay out differing definitions with varying emphases (and equally diverse sites of silence), reflecting the ways in which the contemporary north, despite all the years of and efforts toward region-making, still remains "a flexible territorial entity" (Kristoferssen 2014, 11). Not even scientific definitions are unanimous: the region's borders are sketched differently on maps depending on whether the boundaries defined are based on the Arctic Circle, the tree line or annual temperature patterns, with the result that different scientific works and working groups focusing on the Arctic region apply different definitions (cf. e.g. AHDR 2004, 18; AMAP 2010, 13). In political arenas, the definitions are equally broad: even within the Arctic countries – the member states of the Arctic Council or states whose territory extends beyond the Arctic Circle – variation can be seen in how the borders of the region are defined (cf. AHDR 2004, 18, 277; also Hoel 2015, 277).

Indeed, when "different actors use the term 'Arctic' in different ways, creating confusion about what region and phenomena one is addressing" the result is that "Arctic" is used as a prefix in so many different

Map 1: The Arctic as seen from above

contexts that it causes "more confusion than clarity" (Hoel 2015, 277). While these different uses may be unintentional or innocent in many instances, as different ways of framing the region – or discourses – they all serve and empower certain actors and interests, overshadowing or omitting others (cf. Keskitalo 2015). What the differing definitions and different emphases highlight is, on the one hand, the inseparably perspectival nature of what the Arctic region is and why it is a matter of discussion in the first place; what the multiplicity of views signals is that, as a region, the Arctic is not uniform and that different aspects of this diversity are weighed differently by various actors based on their

varied intentions and interests. On the other hand, different assumptions, articulations and interpretations of the Arctic define not only the region but also the definer, forming "an integral part of how interests and identities come into being" (Kristoferssen 2014, 48–49) – for Arctic and non-Arctic, state and non-state actors alike.

What also needs to be explicitly noted in the context of this study is that the approach to the Arctic region adopted in this work is inevitably one that has a slight Euro-oriented, Euro-centric or Euro-Arctic bias. This tendency is at its most evident in the first case study, which focuses exclusively on the Barents region – or, more loosely defined, the "European High North" (Huggan and Jensen 2016). The justifications for and implications of selecting one sub-region as a case representative of the Arctic energyscape will be discussed in further detail in the first empirical chapter. The second body of empirical materials, consisting of assessments and reports of Arctic intergovernmental organizations, takes a broader, pan-Arctic focus. However, these choices of data are not meant to imply that the wide and diverse region discussed under the rubric "Arctic" is internally homogenous and uniform. Indeed, despite their pan-Arctic coverage, the assessments and reports analyzed do not devote equal weight to all the areas in what is a vast region. As a consequence, and especially in combination with the Euro-Arctic focus of the Barents energyscape case study, especially the special features of the North American energy debates remain to some extent beyond the scope of and underrepresented in this work.

Finally, however, what is meant by "Arctic" in both sets of data "leaks" in the sense that references are made to events and developments taking place and traceable to far beyond the Arctic defined in any of the ways laid out above. Luckily, definition of the region's absolute boundary is not even of paramount concern in this work; what matters are the discourses of the Arctic that make and mark the boundaries, specifically the fluidity of the Arctic in the context of energy (cf. Clarke 2015, 89). In this text the terms "Arctic", "north" and "circumpolar north" will be used interchangeably. Two reasons can be cited for this approach: the usage reflects that of the original texts cited in this work and it serves as a means to avoid excessive repetition, improving the style of the text.

2.2 Energy and the political

Up until this point, the word "energy" has been used in a rather carefree, almost promiscuous manner. This tendency is also a striking feature in public and political debates related to energy: despite (or exactly because of) the prominent role that energy has both in everyday life and on political agendas, what "energy" actually refers to is seldom explained, its meanings and interpretations remaining ambiguous and unclear (cf. Littlefield 2013, 779; Rupp 2013). However, until recently, energy research, especially in the case of the Arctic, has been "dominated by a focus on oil and gas exploration, development, and extraction" (Sidortsov 2016, 1). The discursive horizons of political and popular debates have been focused on the potential of the region as a source of hydrocarbon resources, with the boldest statements stretching the timeframe of the golden age of Arctic oil and gas well into the next century (cf. Rehn in *Shared Voices Special Issue* 2016, 41).

This emphasis and continued reliance on the idea of fossil fuel based energy is by no means surprising: "the heavy dependence on hydrocarbons" has been considered "as a distinguishing feature of advanced industrial societies" (Redclift 2009, 375; see also Salminen and Vadén 2013). Although the era of fossil fuels has been very short in historical terms – from the mass-scale introduction of coal in the 1880s to oil not becoming the most important energy source until the 1960s (Bridge 2011, 311–312; Victor 2006, 58) – the consumption of hydrocarbons has increased hundreds of times over during this time. These changes in the resource base of human societies have not come without consequences. According to Di Muzio and Ovadia (2016, 8), "the modes of existence, moral and intellectual thought and patterns of social reproduction that are made possible in any given era are conditioned by how humans have access to and use energy": the ordering and functioning of societies and economies have become inseparably dependent on and materially, socially and (power) politically structured by the features and control of oil as an energy carrier (Lähde 2015, Salminen and Vaden 2013; see also Hall et al 2003, 318; Bridge 2011). Haarstad and Wanwik (2016) refer to these orderings of the world as carbonscapes, by which they mean

"spaces created by material expressions of carbon-based energy systems and the institutional and cultural practices attached to them" (ibid., 2). What all of this together works to highlight, on the one hand, is that energy is as much a question of cultural and societal practices as it is one of trade, politics, technology and engineering and, on the other, that the material qualities of the energy resources we use shape the ways in which lives, economies and societies are arranged, practiced and negotiated (cf. e.g. Mitchell 2009, Bridge 2011, Bouzarovski and Bassin 2011, 784).

In discussions and debates on Arctic energy, the focus on the hydrocarbon resources of the region is complemented by an emphasis on the *extraction* of oil and gas and on the *transportation* of these reserves to satisfy the demand for energy of consumers outside the region. Indeed, even though "signs of change in global energy have multiplied" in recent years (IEA 2015, 12), global energy consumption is still expected to continue to increase substantially and much of this consumption is still projected to be heavily reliant on fossil fuels, despite the growing share of renewables in the energy mix (cf. IEA 2015). However, framing the Arctic region in this manner – as a(n energy) resource storehouse for global markets – is, if not a violent, at least a very simplistic view. To begin with, it does not take into account that energy is produced and consumed in the region and transported through it. The Arctic remains, despite its tremendous "energy wealth", unevenly characterized by both extreme "energy poverty" (AES 2010, 5) – briefly defined as inadequate access, affordability, reliability and safety of energy resources for consumption in the region (cf. Bazillian, Nadooka and Van de Graaf 2014, 219–220)[2] – and "poverty and deprivation amid enormous natural resources" (Bridge 2011, 318) beyond explicit energy needs. Furthermore, the region, its environments and its residents remain vulnerable to the risks associated with the increased shipping of resources from the area (cf. PAME 2009, 136–138).

2. The notion of *energy* poverty has traditionally been associated with issues of energy access mainly in the developing world, while *fuel* poverty has mainly been the term to describe issues related to affordability of energy services to a level of comfort in industrialized countries (cf. also Boardman 1991). However, the term "energy poverty" is the one which is increasingly being used regardless of geographical context.

However, this "presence" or "remaining" of a given resource in the region can (and should) also be looked at through a less concrete and more conceptual lens. Despite being extracted, transported away and consumed elsewhere, the resources in many ways remain in the region. First, even after a resource is extracted and thus "gone", it continues to shape both the present as well as perspectives on and choices about the future in the form of "social, cultural and economic relations built around it" (Kristoferssen 2014, 55; also Kristoferssen and Dale 2014). Secondly, even if the prospective oil and gas resources in the region are never utilized and developed, they will continue to shape the region as "unbuilt environments" in both the biophysical and sociocultural senses – in the form of exploration infrastructure, legacies of scientific expert engagement in the area and unfulfilled expectations of glorious futures of regional economic development (Wilson Rowe 2016; Bouzarovski and Bassin 2011, 786–787). Thus, the estimated and desired resources change "how future is thought of even before anything has happened" (Wilson and Stammler 2016, 1; also Bouzarovski and Bassin 2011, 786–787). Taken together, the resources and the hopes, expectations and mindsets associated with them continue to shape not only what is done today but also the choices and decisions made about tomorrow (cf. Dale and Kristoferssen 2016).

With the exception of the brief thoughts above on the "remainings", energy resources continue to be discussed as if they were quantifiable, absolute and unquestionable states-of-the-world, that is, as if energy and resources were "raw materials that can be calculated as barrels, bushels, crates or some other handy units" (Lähde 2015, 60); that can be "excavated, refined, grown, gathered or in some other way taken out of the pool of resources that is called nature" (ibid., 62); and that can be assigned an accurate, objective and calculable monetary value (cf. Ferry 2016). Indeed, the notion of a resource is not synonymous with that of a deposit: deposits become resources only when they are perceived as having utility and value from one perspective or another (Bridge 2009, 1219). These "cultural appraisals" (ibid.) invite discussion on and analysis of "*how* they are constructed, by whom and for whom" (Nilsson and Filimonova 2013, 3). "Resources" is thus a socially

and culturally constructed term for the parts of the nonhuman world which, as a hybrid category, are both relentlessly material and inseparably perspectival, relational, unstable and in flux in different times, spaces and societies (cf. Bridge 2009, 1219–1221). Just as Desbiens (2013, 20) perceives water in the context of hydropower as "a cultural artifact that is constructed through social relations", I understand northern energy as an inseparably social construct. In all its crude materiality it is still profoundly embedded in and entwined with our culturally laden understandings and idea(l)s of a good life and desirable futures, communities and societies. The empirical chapters will provide some insight into the ways in which these themes come into play in the concrete context of the Arctic energy concern.

Not only resources, but also their adequacy and scarcity are constructed in the interplay of material and physical "realities" and societal needs and preferences (cf. Bridge 2011, 309; Bakker and Bridge 2006, 9: Aquilera-Klink, Pérez-Moriana and Sánchez-García 2000, 233; on social construction of scarcity see also Till 2011; on scarcity and energy-dependent state identity see Tynkkynen 2016b, 389). While "[e]veryday life is unthinkable without energy" (Rüdiger 2008, vii) in the technical sense, the definitions of individual and societal energy *needs* are thoroughly socially and culturally mediated. There are also varying definitions for what "need" might mean in the context of energy, all of which should be kept in mind when the need to feed "the energy hungry world" (*Financial Times*, 27.7.2008) with Arctic energy resources is raised. Does "need" in this context refer to "what life requires absolutely and necessarily" (Bartiaux, Frogneux and Servais 2011, 64; see also Stephenson et al 2016); to affording a level of energy services providing a level of "comfort" (cf. Boardman 1991); to the ability "to attain a socially and materially necessitated level of domestic energy services" (Bouzarovski and Petrova 2015, 31); or, conversely, to continuing "the conditions of inequality that enable some to command abundance while others go without" (Bridge 2011, 310)? The answers to these questions are also inherently political. *Whose needs* are taken into account? *Whose definition* of needs is accepted and institutionalized? While these questions are not at the forefront of this work, they always lurk in the shad-

ows whenever the role of the Arctic region in solving the energy puzzle of the "resource-starved world" (Holm 2015, xv) is touched upon.

Indeed, any discussion or concern related to energy is profoundly intertwined with the questions of *politics* and the *political*. However, the perceptions of these intertwinements depend on the ways in which politics and the political become understood in the context of energy. From the most conventional perspective(s) familiar from the approaches of IR, energy politics can be understood in terms of state measures aimed at guaranteeing a secure and affordable supply of energy (Prontera 2009). For "practical reasons" (Aalto et al 2012, 6), what energy means is, as noted earlier, often explicitly narrowed to refer only to hydrocarbons and related activities. These mainstream state-centric approaches to energy tend to place both energy and politics firmly in the hands of state authorities and within the realm of institutional politics. Broader definitions, however, include and address measures taken with respect to any energy source, electricity generation, or energy consumption and supply[3] and take into account "all of those policies that governments adopt for a whole different set of reasons, but that influence the energy sector, the firms that operate within them, and the energy balance, both intentionally and accidentally" (cf. Prontera 2009, 2–3). This viewpoint broadens the understanding of both energy and the sphere of related policymaking significantly through the inclusion of market actors and transactions although it still very much limits energy to an issue of "high politics" (Aalto et al 2013, 1).

The role and essence of the state – traditionally perceived as the basic collective unit and primary actor in energy-related politics (Bridge 2009, 1221) – has naturally also been debated and questioned on many fronts. On the one hand, attention has been drawn to the internal workings of the state: local and regional interests, as well as the standpoints

3. The shift towards utilizing oil and gas as primary energy sources not only further enabled the geographical separation of production and consumption of energy that began with the introduction of coal (Mitchell 2009, 402–404). It also efficiently contributed to the supply side of energy becoming a public concern and responsibility whereas issues related to consumption of energy were relegated to the private sphere and thus beyond reach and regulation (Rüdiger 2008, viii).

of different state bodies and authorities on the same issue, can vary and differ from those of the state to the extent that states cannot be considered as monolithic entities (cf. Aalto et al 2012). On the other hand, the increasing influence of interstate agreements and intergovernmental organizations in energy-related decision-making has been acknowledged (Ruostetsaari 1998, 2010; Perovic 2009). In other instances, energy political agency has been seen as distributed beyond institutional politics and the sphere of global market transactions. Media actors, non-governmental organizations (cf. Ruostetsaari, 1998; Prontera, 2009, 14), the civil society (Newell 2008, Mitchell et al 2001), local actors and communities can no longer be ignored when energy-related opinion-shaping and consequent decision-making are addressed (Kaisti and Käkönen 2012, Nakhooda and Van de Graaf 2014, 219).

Thus, the state – be it in the context of energy politics or beyond – cannot be perceived as "a bounded, static actor that exists separate from the economy and civil society" but instead must be seen as "a contested and always changing field of discourses, policies and social relations that are networked across different scales" (Kristoferssen and Young 2014, 578). As such, this broader understanding of political in the context of energy resonates with the notion of *energy governance*. The governance framework has been perceived by some as better able to grasp the diversity of actors associated with energy-related decision-making as well as the multitude of levels and forums in which issues and decisions related to energy are negotiated, debated, implemented and reinforced (cf. Bazilian, Nakhooda and Van de Graaf 2014, 219). Instead of analyzing the actors, forums, venues or arenas of energy-related policy-making, the present work pursues an explicit interest in and emphasis on the profoundly and broadly political nature of how energy and its relation to the soci(et)al are debated, advocated and discussed, in particular, the discursive framings and representations at work and the ways in which some of these potentially overpower others.

The "heterogeneous assemblage of different actors" (Kaisti and Käkönen 2012, 148) and the broad interest that issues related to energy attract have to do with the role energy has as a "master resource", one needed to utilize and mobilize other crucial resources (Strauss, Rupp

and Love 2013, 11; see also Stirling 2014, 85). Indeed, energy-related policies do not deal with energy itself as much they serve to achieve and secure other (state) functions and goals (Ruostetsaari 1998, 2010; Scrase and Ockwell 2010, Dryzek et al 2003). Energy – loosely defined as the "capacity to do work" (Bridge 2011, 307) – is a prerequisite for maintaining all political, societal and economic life (Aalto and Westphal, 2007, 5; Prontera, 2009, 9; Ruostetsaari 1998, 2010). As a "boundary object[4]" (cf. Star and Griesemer 1989, Star 2010), the energy concern cross-cuts different values, interests, discourses, use(r)s and living worlds, all of which are considerations far beyond the spheres of institutional politics.

These remarks necessitate a discussion of the nature and notion of the political. A broader approach is called for than one adopting a view on politics (solely) as a sectoral and institutional phenomenon and/or a conflictual interstate relationship (cf. Bridge 2009, 1222). Such an approach conceptualizes politics and the political as a discursive battle for the right to define (cf. Palonen 1983) and is better able to accommodate the diversity of energy, related concerns and the diversity of actors and viewpoints potentially engaged in energy-related decision-making and debates. Viewing the (energy) political as being shaped by and taking place through language, linguistic choices and framings (cf. e.g. Scrase and Ockwell 2010, Sengers et al 2010, Hajer 1995) also highlights the profoundly discursive nature of energy-related policies and decision-making. The discourse perspective on the political of the energy also draws attention to the fact that decision-making – either in the specific context of energy or beyond – is not a linear process based on factual knowledge and an objective rationality of any kind and that

4. This interpretation of a boundary object is a relatively loose one. According to Star and Griesemer, boundary objects are "objects which are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites" (Star and Griesemer 1989, 393). Considering the way in which the "high politics" discourse has estranged itself from the "energy of everyday" perspective, it can be questioned whether the boundary object criterion of "collaboration despite heterogeneity" (Borie and Hulme 2015, 494) is actually fulfilled. However, the loose interpretation of a boundary object as any object with "interpretative flexibility" has gained significant popularity over the years (cf. Star 2010).

energy-related arguments, debates and outcomes are thoroughly shaped by values and interests in a given temporal, spatial and cultural context and advocated through diverse and skilled rhetorical choices (cf. e.g. Teräväinen 2010, Scrase and Ockwell 2010, Kamminga 2008). As energy resources do not have a voice of their own, they are employed and mobilized by other actors to advocate their own particular view of the (energy) world. While the material properties of energy might easily lend themselves more readily to serving certain framings than others, the implications of the materialities of energy remain outside the explicit scope of this work.

2.3 Energyscape

Thus far, several important points have been made on the notion of energy and (its relationship with) politics/the political. What is still required, however, is a conceptual approach to energy-related debates that can accommodate the viewpoints raised above: the discursivity, culturality, diversity, totality and ambiguity of energies as "hybrids that are at once simultaneously social constructions of value and unruly material objects with unique, place-specific, biophysical properties" (Chapman 2013, 96). One finds these globalized in terms of their conceptualization, measurement, valuation and circulation as well as inescapably localized in their production, transportation and consumption (ibid.; also Bridge 2009).

This work undertakes to grasp this complexity and multidimensionality through the notion of energyscape (see also Strauss, Rupp and Love 2013, Kaisti and Käkönen 2012[5]), which forms a kind of a background framework for conceptualizing and contextualizing the energy concern in the Arctic. Derived from and built on the idea of "scapes" in the work of Appadurai (1996), the term "energyscape" has the potential to draw attention to several crucial features of energy that the contemporary

5. My own earliest documented uses of the notion of energyscape date back to 2010, when I came upon the notion in reading Appadurai (1996) and Clarke (2005). The other authors cited here trace the origins of the use of the concept back to the work of Appadurai.

energy debate in the Arctic fails to take into account. On the one hand, the suffix -scape highlights the fluidity and irregularity of the regional energy landscape (Appadurai 1996, 33) in the biophysical as well as the societal meaning of the word. In terms of the Arctic, this feature translates into the researcher being open to both internal diversity as well as the potential of rupture and change. Just like Haarstad and Wanwik's (2016) term "carbonscape", the notion of energyscape does not portray the energy world as a systemic "coherent totality or a stable organic whole" but describes energy and the lived world within which it is made meaningful as "composed of various interrelated parts subject to change and destabilization" that are "held together in more or less impermanent relationships" (ibid., 2).

On the other hand, approaching the energy concern as a "scape" also indicates that the relations associated with energy are not objectively given or that they "look the same from every angle of vision but, rather, that they are deeply perspectival constructs, inflected by the historical, linguistic, and political situatedness of different sorts of actors" (Appadurai 1996, 33). Energyscapes are thus inseparably perspectival (Kaisti and Käkönen 2012) and these perspectival constructs are indivisibly situated and temporal: the present of energy is "intrinsically related to the continuous exploration towards the horizon of potentialities and expectations" as well as molded by the perceptions on and experiences of the past as memoryscapes and visionscapes (cf. Sejersen 2002, 84–85). As there can be different perspectives on what "matters" in the context of Arctic energy either historically, today or in the future, the emphasis on perspectivality introduces a normative component, as the perspectives of different actors and entities are undoubtedly weighed differently in the energy-related debates, both in the context of the north and beyond. These themes – the fluidity of relationships and entanglements surrounding the issue of energy as well as the regional visions that are knit around a very specific, temporally situated and culturally mediated understanding of what energy entails – will be revisited in more concrete terms in the empirical chapters.

As a whole, the notion of energyscape places energy "in motion across social and physical spaces, shifting its cultural, social, economic,

and technological values" (Strauss, Rupp and Love 2013, 11). This makes energy an ordering perspective on a given situation as well as constitutive of the same broader societal context, as it is itself ordered by the other elements, events and developments in the same situation. Indeed, the energy concern is not only a question of energy but also one of people, communication, technologies, finances, ideas and more – in Appadurai's (1996, 33) terms ethnoscapes, mediascapes, technoscapes, financescapes and ideas – that all intertwine and entangle with but cannot be reduced to energy (or vice versa). When approached through the conceptual prism of the energyscape, energy is not automatically relegated to the arenas of state politics and market operations or wholly outside everyday life, meaning and experience: while it is an object of high-level decision-making and corporate activities, it is also a "cultural artifact" that manifests itself differently in different temporal and spatial settings and at different scales (Strauss, Rupp and Love 2013, 10–11). Energy permeates societies, technologies and economies as well as ways of communicating, thinking and living far beyond institutional politics or market transactions. In the end, "energy is a special thing: a prime mover, a complex category, a *total* field. Nothing exists that is not energy, or not affected by energy" (Ciutâ 2010, 124; italics in original). It is exactly this diversity that the notion of energyscape has the conceptual potential to capture; however, no amount of conceptual readiness can translate into being themes or perspectives that might be lacking from the "real-world" discussions and debates. This is, again, a topic that will be frequently revisited throughout the course of this work.

3. ENERGY AND THE SOCIAL DIMENSION

In the introductory chapter of this study, the observed lack of attention to any social aspects of energy developments in the north was pinpointed as a key impetus for this work. The tendency to sideline social considerations from energy-related debates is by no means a solely Arctic phenomenon: energy and related issues – like sustainability concerns in general – continue to be predominantly addressed through the "dominating dyad" (Psaridikou and Szerszynski 2012) of the economic and the environmental dimensions (cf. Kokko et al 2013, 13; Karjalainen and Reinikainen 2008).

There are two issues in the statement above that require closer examination. The first has to do with the interest in the social dimension. In the specific context of the Arctic region and its scholarly debates, the lack of attention to and superficial manner of addressing the social in relation to energy are a rather surprising feature, considering that the social dimension of the Arctic region itself – its resilience (cf. ARR 2011), adaptation (AMAP 2016) and social and human status and development (cf. AHDR 2004, 2015; ASI-I 2010, ASI-II 2014) – have attracted increasing scholarly attention for at least the last decade. The second issue has to do with the terms that are being used to capture the phenomenon referred to as "the social". To judge from the titles of the Arctic assessments and reports, the region's social dimension is increasingly being portrayed through concepts such as resilience, adaptation and (human/social) development, and progressively less through the vocabularies of sustainability; yet, in the particular case of energy the sustainability framework and its conceptual relatives have not lost their popularity or significance. Accordingly, this chapter delving into the scholarly debates on the essence of and relationships between energy and the social dimension grounds the debate on the social aspects of Arctic

energy mainly against the backdrop of the sustainability debate. The sustainability perspective on energy and the social also opens up avenues for re-thinking the social per se, in the Arctic energyscape and beyond.

3.1 The energy – sustainability debate: a brief overview

Indeed, while concepts like adaptation and resilience have gained considerable ground at the expense of the vocabularies of sustainability and/or sustainable development in addressing the social dimension in the Arctic, in the overall context of energy, sustainability holds firm. Furthermore, in (nearly) each scholarly article on the topic that was read for this study, the discussion on sustainable development was grounded with a reference to the three-pillar Brundtlandian definition of economically, ecologically and socially sustainable development as meeting today's needs without compromising the future generations' ability to meet their own needs (WCED 1987, 16). The extent to which the "classical" understanding of sustainability / sustainable development still enjoys its popularity as a point of departure for further discussions is rather surprising considering the staggering number of alternative definitions on record as well as the amount of criticism the concept has evoked. Lawhon and Murphy (2012, 355) summarize the flaws of the notion and its various interpretations in terms of its "fuzziness, cooption by neoliberal forms of capitalism, and lack of real-world applicability and progressiveness"; Davidson (2011) adds its inherent and unquestionable anthropocentrism to the list. The idea of sustainable development in its "original"[6] form has been described as "an attempt to square

6. While the Brundtland report is widely referred to as having launched the notion of sustainable development and triggered its rise to political agendas, the underlying concern over the carrying capacity of ecosystems in the face of increasing human impacts and stressors was already present(ed) in many of the foundational works associated with the environmental awakening of the 1960s and 1970s (cf. e.g. Carson 1962, Meadows et al 1973). The notion of sustainability is seen as having emerged in "A Blueprint for Survival", published in *The Ecologist* in 1972 (Basiago 1995, 109).

a circle" (Srivastava 2011, 107) in many respects: articulations of sustainable development not only conceptualize development as synonymous with economic growth and progress (Davidson 2011, 352, 362; Robinson 2004, 370), but also conflate the notion of sustainable development with that of techno-scientific, market-driven ecological modernization (cf. Dryzek 1997, 162–180).

There are several burning conceptual concerns as to how the notion of sustainable development is (ab)used, in both the context of the energy concern – which I will take up shortly – and the broader sustainability debate. One of the crucial sources of confusion is the tendency to apply the notions of sustainability and sustainable development interchangeably (cf. Banerjee 2008, 65: Han Onn and Woodley 2014, 2) despite the marked difference in their fundamental meanings. Whereas *sustainable development* implies either development that does not undermine the basis of its own continuity or, alternatively, development towards a state of sustainability, *sustainability* refers to a state of being or way of living which can, at least in principle, be maintained indefinitely (Kassel 2012, 34; Missimer et al 2010, 1108). The notion of sustainability thus refers to "ongoing support of life as we know it" (Kassel 2012, 34), that is, maintaining a steady state instead of "developing" or "growing"[7]. One would do well to stop and think which one we are talking about in a given case – *sustainability* or *sustainable development*. It is clearly a salient question also in assessing the social dimension of the Arctic energyscape.

Alongside the synonymous (ab)uses is another conceptual tendency whereby the use of the buzzword "sustainable development" is increasingly giving way to the notion of sustainability. This transition – favoring the use of sustainability as a modifier or headword in an astounding

7. While the concept of development itself is not at the focus of this work, I am aware – and wary – of the connotations and complications of the term. What is especially problematic is the way in which the concept of sustainable development has been read does not really distinguish between growth and development in any radical manner (if at all). Daly's (1996, also Victor 2006, 26) distinction of growth as *quantitative* and development as *qualitative* is useful in the sense that it opens up the idea of development as qualitative change that can take place without quantitative growth.

variety of contexts – has not been regarded solely as innocent ignorance but rather interpreted as a clever rhetorical strategy allowing the positive connotations of the umbrella concept of sustainable development to serve a wide range of political goals (cf. Hejrpe and Linner 2009, 243; in the context of energy see Littlefield 2013). However, at the same time, decoupling "sustainable" from its "problematic" (Sneddon 2000) partner "development" has also been hailed as a welcome terminological move. The term "sustainability" forces one to tie the elusive notion of sustainable (development) to a geographical, temporal and socioecological context, as it urges the reader to ask "what exactly is being sustained, at what scale, by and for whom, and using what institutional mechanisms?" (Sneddon 2000, 525). These terminological questions will be further addressed in the discussions on social sustainability to follow shortly as well as in the empirical interventions on the Arctic energyscape in later chapters.

The reasons why the energy concern still tends to be depicted and addressed through the framework and terminology of sustainabilities might be several. On the one hand, the favoring of sustainability over resilience, for instance, might reflect the way in which energy and related concerns have been and continue to be relegated to the domains of natural science and technology and thus addressed through the techno-econo-scientific frameworks of sustainability (Newberry 2013, 228, 232). On the other hand, energy and related concerns have for a long time occupied a very prominent position in the history of theorizing the challenges of and future avenues for sustainable existence and development. While it undoubtedly was the Brundtland report that popularized the understanding of energy as "crucial to sustainable development" (WCED 1987, 20), energy-related concerns were addressed a good deal earlier, in the debate on sustainability and the limits for human economies and societies in the report *Limits to Growth* (cf. Meadows et al 1973).

Against the history of the sustainability debate, the intertwinements of the social and/or the societal appear in twofold form. On the one hand, the availability and affordability of energy have been seen as a prerequisite: energy is essential in terms of not only (economic/human) development but also "daily survival" (WCED 1987, 141). While the linkages between energy and (under)development have been considered

manifold, although not always straightforward (cf. Di Muzio and Ovadia 2016, 3; Nussbaumer, Bazilian and Patt 2013), a strong correlation has been observed historically between per capita energy consumption and "development" (as measured by internationally shared indicators)[8] (cf. Hall et al 2003, 318). On the other hand, energy-related practices and choices play a crucial role in sustainable development through the societal and environmental impacts they entail. Thus, an "environmentally sound and economically viable energy pathway that will sustain human progress into the distant future" has been seen as "clearly imperative" (WCED 1987, 21). All in all, energy is both a fundamental need and a prerequisite – "a necessary (though not sufficient) condition" (Bent, Baker and Orr 2002, 4; see also Bazillian, Nadooka and Van de Graaf 2014, 219) for life and development as we know them as well as a sustainability concern in its own right.

In addition to investigating the role(s) that energy plays in maintaining and enabling societal life or human and social development, one can explore the issue of sustainability *in the context of* energy. The problem there, however, is that any discussion on energy sustainability is immediately complicated by the diversity of energy itself, for it is seen in terms of its sources, production phases and value chains and examined on a variety of scales and levels of inquiry. Furthermore, energy-related sustainability concerns continue to be primarily investigated through the "dominating dyad" (Psaridikou and Szerszyski 2012, 32) of the economic and the environmental. While "issues of access, equity and justice are central to the global energy dilemma" (Bradshaw 2014, 181; also Laborgne 2011, 211), they remain overshadowed by the economic and environmental concerns over energy sustainability.

Yet, one profound change has taken place in conceptualizing environmental issues in the context of and in relation to energy in recent decades. Once dominated by concern over problems like pollution, air

8. The first "tantalising hint" (IEA 2015a, 1) of the potential decoupling of CO2 emissions and economic activity was observed in the 2015 World Energy Outlook report of the International Energy Agency. This does not, however, directly translate into a decoupling of energy consumption and GDP, the indicator most commonly used to measure "development".

quality and acidification (cf. e.g. WCED 1987, 20; Shields 1998), the energy-environment axis of the sustainability debate has now been all but colonized by climate change (Stirling 2014, 90). The focus on greenhouse gas emissions associated with energy production and consumption has become a dominant feature in energy-related debates and decision-making not only on the level of global energy systems but also individual energy projects and solutions, which now become intertwined with global developments through the discursive focus on carbon. Meanwhile, "non-carbon concerns" still remain largely unaddressed in local contexts (Gamborg, Tegner and Anker 2014, 330; Kaisti and Käkönen 2012; Luukkanen, Tuominen and Vehmas 2012, 209). This observation on the level or scale on which entire systems are addressed is not insignificant. When energy-related issues are discussed, this is usually done at the systems level and through techno-scientific frameworks, and the tensions between the systems perspective and local (social) sustainability concerns have been widely observed. In the worst case, the impacts of energy projects tend to be felt locally, whereas the benefits are enjoyed elsewhere (Luukkanen, Tuominen and Vehmas 2012, 218).

Against this conceptual background, the broad definition proposed by Tester et al (2005, xix) of energy sustainability as "a living harmony between the equitable availability of energy services to all people and the preservation of the earth for future generations" is exceptional, as it explicitly integrates the human and/or social component into a systems-level definition of energy sustainability. This definition, while again undoubtedly open to interpretation on very many fronts, does put statements such as "the current energy system is not sustainable" (Orttung, Perovic and Wenger 2009, 3) into a very different light by drawing explicit attention to the societal aspects of how we produce and consume our energy and with what kinds of costs and consequences.

Fossil sustainabilities – an oxymoron?

An exceptionally intriguing and crucially relevant conceptual issue in the context of Arctic energy sustainability is the idea of sustainability in the context of non-renewable resource extraction. How can something that is finite by definition be extracted or utilized sustainably? The answer

to this oxymoron depends to a great extent on the stand one takes on the notion of sustainability on the weak versus strong axis. From the viewpoint of what is known as strong sustainability – preserving certain resources as such and in their own right – sustainably extracting finite resources is impossible by definition[9]. However, if the viewpoint of weak sustainability is adopted and the principle of substitutability of natural capital with other forms of man-made capital is accepted, more room is left for perceiving and constructing the extraction of non-renewable resources as sustainable (on weak vs. strong sustainability see e.g. Nobbs 2013; Prno and Slocombe 2012, 348; Málovics, Nagypál Csigné and Kraus 2008, 908–909; Shields 1998, 253). The focus on whether a resource is sustained or not, or transformed into capital of another kind, does not, however, take into account the associated (socio-environmental) externalities or, in the end, the ability of nature to serve as sink for the emissions from energy-related activities (Grundwald and Rösch 2011, 6).

Then again, it is crucial to keep in mind whether one is discussing a) *sustainability in the context of energy* or b) *energy in the context of sustainability/sustainable development*. In the Arctic region, it has been argued that Arctic oil and gas resources can be extracted sustainably as long as "no lasting harm is done, for example through environmental degradation" and that the activities "produce lasting benefits, for example through contributing to the cultural, economic, environmental, and social viability of a region or a society" (AMAP 2009, 3_5). In comparison, a sustainable approach to mining, which has been described as one "that integrates social, environmental, and economic considerations into the planning processes from the first stages of exploration until post-mine closure", is inescapably unique in each mineral development project (Prno and Slocombe 2012, 348). Both of these points of view basically regard the utilization of (energy) resources as a developmental strategy and guarantor of government revenues and the well-being

9. "Substitutability" has even more concrete meanings in the context of the fossil fuels, as "the quality and quantity of energy embodied in oil having been incorporated as a central feature on how our economies and societies fundamentally function" (Lähde 2015, 59).

of communities (cf. Bertelsen, Justinussen and Smits 2015; Wilson and Stammler 2016, 1). In these cases, what is being "sustained" are not the resources themselves, but the "level of need satisfaction and equal opportunities" that utilizing them is expected or desired to provide (Langhelle, Blingheim and Öygaarden 2008, 20). From this perspective, measures or choices, regarded in their own right and from a mere resource-based or strong sustainability perspective as undoubtedly unsustainable, might after all be justified as unavoidable intermediate steps on the development path towards sustainability (ibid.). All in all, it might be quite naive to think of hydrocarbon energy in the Arctic either as wholly sustainable or wholly unsustainable: instead, it might be best seen as a "hybrid of both sorts of practices" (Campbell 1996, 303) and as a discursive and thus inevitably political battleground for various articulations of sustainability and their advocates.

3.2 The "social" (in the sustainable)

Of the three pillars of the mantra-like understanding of sustainable development and/or sustainability – the economy, environment and the social – the last has been broadly recognized as the most elusive. The social dimension in the sustainability debates and agendas has been characterized as "fluid" or "dismissed altogether" (Boström 2012, 1), and it has widely been acknowledged as "more difficult to analyze, comprehend, define, and incorporate into sustainability projects and planning than the other dimensions of sustainability" (ibid., 6). The messiness of the debates on and definitions of social sustainability have led some authors to conclude that social sustainability is no more than "a conceptual chaos" (Vallance, Perkins and Dixon 2011, 342) and that there is a good chance the notion should be abolished altogether (Sneddon 2000, 523). However, hopeful views have been presented trusting that as a result of the recent discussions the notion will "continue to develop" (Axelsson et al 2013, 217). This work takes part in and pushes further these conceptual debates.

Despite the increasing attention to concepts such as resilience[10], the last few years have witnessed the emergence of a field of literature aiming to map, systematize and classify the exceptionally broad field of academic and political debate on the essence of "the social" in the sustainability discourse. The renewed theoretical interest has evolved more or less in step with "real-world" developments. There is a "growing criticism of cultural ignorance with which many energy implementation projects are handled" (Bastholm and Henning 2014, 1; see also Strauss 2011) and associated concerns over societal acceptance of energy production have received increasing public attention (Mitchell et al 2011). The social aspects of energy cannot, however, be reduced to project- or production-level considerations. Accordingly, the following discussions delve into the ways in which the social and its sustainability have been theorized, in the context of energy and more broadly.

Conceptualizing the social dimension I: Indicators and policy goals

Several recent analyses of policy programs and academic literature confirm the above observations about the elusiveness and the messiness of the social dimension of sustainability. However, some classifications and categorizations have been put forward that are useful for capturing the essential differences between the various ways in which social sustainability is understood.

The first of these that merits mention is an approach that has been labelled "development sustainability" (Vallance, Perkins and Dixon 2011), "substantive sustainability" (Del Río and Burguillo 2008, 1328–1329) or, in some cases, "contextual sustainability" (Suopajärvi et al 2016). All of the concepts refer to a perspective from which social sustainability becomes defined, tracked and measured in a given context and in the Brundtlandian sense, that is, in terms of development goals and targets of a very concrete and measurable kind. Murphy (2012) has summarized these aims under "pre-eminent policy concepts", examples being equity, awareness of sustainability, participation and social cohesion; Partridge's

10. The conceptual debates on resilience as well as its relation to other key notions such as sustainability will be revisited in chapter six.

encyclopedia entry (2014, 6182–6183) presents a partly overlapping categorization of "normative goals" of quality of life, equity and social justice, inclusion / interconnectedness, access, future orientation and participation. Other categorizations have highlighted the importance of personal development prospects and democracy (cf. the encyclopedia entry by Ross 2013). Successfully implemented energy projects have been seen as having the potential to increase inclusion and integration in communities and strengthen local identities (Laborgne 2011, 211).

What must be noted at this point is that many of these broader principles and understandings of the social mainly translate into the benefits that are expected from the possibilities and revenues generated through energy-related activities: the focus is on the question of what kind of future society we want to build and advance based on our manifold engagements with energy. As such, they provide very little insight into what "sustainable" in the social dimension might translate into when it comes to making energy-related decisions and implementing energy-related policies today. In the broader context of the extractive industries in general, social sustainability requirements on the project level have translated into improving employment and working conditions; skills development; developing and maintaining businesses and livelihoods, recreational opportunities, the functioning of local social systems and the continuity of local culture; and preserving landscapes and cultural sites (Kokko et al 2013, 13). Despite their more immediate temporal orientation, these requirements nonetheless adopt a developmental understanding of socially sustainable energy by assigning the economic benefit from energy projects an instrumental role in regional and community development.

If the state, future and sustainability of the social dimension are indeed addressed and assessed as development and policy goals, one must confront the complex issue of how to define, measure and track change and development trends. In these definitions, "economic dimensions of the social" have become "integral", with the state of the social understood largely in terms of economic output and productivity, employment, trade and gross domestic product (GDP) (Law and Urry 2004, 392). Indeed, although GDP was never devised and designed as an indica-

tor of well-being, and criticism of GDP is common, its applications are manifestly widespread, so much so that "development has come to be defined largely in materialistic terms" (Bridge 2009, 1229). The limitations of GDP have been widely acknowledged, among them its inability to identify issues related to distribution of income, the actual contribution of investments in local economies and populations, as well as concerns over resource depletion (cf. e.g. Victor 2008, Nobbs 2013, Fleurbaey and Blanchet 2013, 5). Thus, even in mainstream economics theory, a "very dominant strand of the literature considers that monetary valuation is inadequate for most of the components of well-being that do not spontaneously come out in monetary terms" (Fleurbaey and Blanchet 2013, 5).

To overcome the inadequacies associated with using GDP as an indicator of human well-being and social welfare, a wealth of indicators, classifications and indices has been introduced ranging from composite indicators such as the Human Development Index (UNDP 1990), Genuine Progress Indicator (see Victor 2008, 129), Sustainable Society Index (Van der Kerk and Manuel 2008) to a wide variety of "dashboard indicators" (cf. Fleurbaey and Blanchet 2013, 33); each of these measures has its benefits and shortcomings. In the Arctic, a set of region-specific social indicators has been devised and implemented under the umbrella of the Arctic Social Indicators project (cf. ASI-I, 2010, ASI-II, 2014; chapter six in this work). Despite their seeming diversity, all of the different indicators share an idea of social life, development and/or soci(et)al sustainability as something that can be measured and quantified. Furthermore, they not only measure or describe but "*participate in*, *reflect upon*, and *enact* the social" (Law and Urry 2004, 392; italics in original) and thus make a certain kind of social into being,

Measuring the present state of affairs, as well as the trends pointed to by different pre-defined sustainability indicators, differs radically from assessing the level of sustainability of that state now and in the future. Not only does assessing sustainability require one to rely on current knowledge and observations as a(n insufficient) basis for any projections and predictions, but it also forces assumptions to be made about what resources and goods are expected to be deemed crucial for well-being in the often-undefined future (Fleurbaey and Blanchet 2013, 49–51).

Thus, on the one hand, there can be "no sustainability assessment without a prior consensus about what we want to sustain, that is, what content we give to the notion of current social well-being" (ibid., 75); on the other, "we also might be able to define sustainability yet be unable to ever actually measure it or even know, one day in the future, that we had achieved it" (Campbell 1996, 301). Against this background it is unsurprising that sustainability assessments – be they at the level of individual projects, companies or government agencies – have exhibited a consistent lack of explicit definitions of sustainability as well as uncertainties as to how its different measures are determined and translated into indicators (Davidson 2011, 363).

There is, however, another and equally profound concern associated with conceptualizing the social dimension as development targets, policy concepts and normative goals: the cultural bias and normativity inherent in the notion of sustainable development (cf. e.g. Ross 2013, 2248). Does social sustainability – especially if understood strictly in terms of *maintaining* a state of living or being together – indeed require adherence, among other things, to the value-laden Western idea(l)s of democracy and equity or to the idea of quality of life as a life of a very certain kind? If so, what are the implications of thinking about the social in this way in relation to energy development in the north?

Conceptualizing the social dimension II: SIAs and (other) corporate interpretations

In the context of the extractive industries and large-scale industrial projects – categories into which both renewable and non-renewable energy-related projects often neatly fall – the concrete process of conceptualizing, assessing and measuring the social consequences of development projects tends to proceed for the most part under the umbrella of social impact assessments (SIA). While national understandings and practices vary, in principle SIAs (should) map, measure and track the social dimension of sustainability, its requirements and preconditions and its implementation in a particular project or broader development program. These linkages between sustainability goals and SIA are explicitly underlined in

SIA literature[11], which, in turn, might also play a role in why the sustainability framework still plays such a crucial role in conceptualizing different dimensions of the energy concern. The principle of sustainability has been pinpointed as "a key value underlying SIA theory and practice" (Vanclay 2003, 7), and the goal of the assessments "is to bring about a more ecologically, socio-culturally and economically sustainable and equitable development" (ibid., 6) and to maximize the benefits and minimize the costs of the ongoing developments, "including those in other places and in the future" (ibid., 7). Existing codes of conduct for social impact assessments assign them a central role in capturing what the social entails and how its status can be "improved" in grass-roots (energy) development projects.

In the SIA literature, both "the social" and "impacts" are expounded in a very broad manner. The social dimension is conceived as "*all* impacts on humans" (Vanclay 2002, 201; italics in original); impacts are seen both as being perceived differently by different societal groups in different contexts and distributed differently among different groups in a community or a society (Slootweeg, Vanclay and Schooten 2001, 25; Vanclay 2003, 7). The scholarly SIA literature also adopts a very broad view of what constitutes an impact: both perceived and experienced impacts at the levels of individuals, families, communities and the society are seen as impacts, starting from the first fears and expectations associated with the prospects of a future project (Vanclay 2002, 201–202). By definition, social impacts are seen to

> include all social and cultural consequences to human populations of any public or private actions that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society. Cultural impacts involve changes to the norms, values, and beliefs of individuals that guide and rationalize their cognition to themselves and their society.
>
> (Vanclay 2002, 190)

11. The majority of SIA literature focuses on mining. However, as an industry extracting local non-renewable resources for global markets with significant local impacts, mining bears a significant resemblance to the energy industry.

However, extensive criticism has been levelled against how these all-encompassing ideals have been and still are implemented in assessing social impacts on the level of practice. First, case studies from around the world have demonstrated that social impact assessments tend to constitute a very small proportion of the assessment reports compared to the length and detail dedicated to assessing biophysical impacts of developments (Suopajärvi 2013, Hildebrandt and Sandham 2014). Secondly, it has been noted that the assessments do not meet the standards set out to ensure a balanced, participatory and transparent approach: rather, case studies have pointed out the overrepresentation of some groups compared to others in consultations, a failure to identify and include vulnerable groups and an utter lack of reflection on the methodologies applied (Suopajärvi 2013). Legal and techno-scientific understandings of relevance and related cultures of argumentation can leave some perspectives and other aspects of social reality "violently excluded" (Strauss 2011, 51). Furthermore, SIAs continue to be conducted as one-time pre-project assessments (Suopajärvi 2015, Kokko et al 2013, 41). This being the case, instead of actually "analyzing, monitoring and managing the social consequences of development" (Vanclay 2003, 6) throughout the different phases of the project, SIAs "do not tell about real impacts in the daily lives of people and communities in different phases of the mining project" but "are about local people's *expectations* of the mining project; hopes and fears of the changes caused by the project in local life" (Suopajärvi 2015, 38, italics in original).

In engaging with the themes of sustainability and sustainable development, the principles of SIA become entangled with the value biases and presuppositions embedded in the broader sustainable development discourse and its critiques. The international principles of SIA state that development should contribute to the social welfare of the wider community and thus "promoting equity and democratization should be the major driver of development planning" (Vanclay 2003, 9) and that progress made in these terms "should be a performance indicator in any form of impact assessment" (ibid., 5). In a similar manner, assessment guidelines highlight factors such as political participation, civil liberties and property rights (Vanclay 2002, 186; Vanclay 2003, 8) although

they are far from universally shared worldwide and, as such, are value-laden products of a worldview of a very certain kind. These intimate connections between (often corporate-led) development projects and governance of local development are taken even further in the social development approach, which intertwines "the future of the company with the future of the local community" (Estevez and Vanclay 2009, 137) and integrates broader human development goals such as eradicating poverty and illiteracy (Esteves 2008, 43) and compensating for the shortcomings of local taxation regimes to serve the needs of the affected communities "with a view to developing the region so that it can attract a diverse range of other industries" (Esteves and Vanclay 2009, 139). The idea of corporate actors assuming the rhetoric, roles and responsibilities of states and local governments, development agencies and NGOs in the context of the sustainable development agenda continues to prompt critical discussion both within the industry and academia, albeit for different reasons (cf. e.g. Harvey 2014, Aaron 2012, Málovics, Nagypál Csignéné and Kraus 2008).

Assessing and measuring the contributions to and state of the social as well as its sustainability are also discussed in the framework of corporate social responsibility (CSR), although the ubiquity of sustainability as a notion has again spawned a wide range of interpretations of its content and requirements. In this context, definitions have ranged from environmental management to business sustainability (Giovannoni and Fabietti 2013, 22), the latter bending the concept of sustainability to its breaking point, where it refers to sustaining the corporation and its activities in the name of the contributions they might bring to sustainable development (Banerjee 2008). In practice, interpretations of social sustainability in the context of CSR have predominantly been reduced to determination of benefits gained by the host communities and countries in the form of taxes and royalties, job creation, donations and improved services to local communities. However, more normative approaches to CSR highlight the need for contributions to ensure "the presence of social justice for the most vulnerable social groups and communities impacted by corporate operations, over time and in relation to all significant needs and interests, without compromising the sustainability of the environment" (Ross

2013, 2245–2246). While companies' ambition of introducing broader corporate understandings into their views on the social sustainability of activities has been warmly welcomed in many instances, concerns have been raised over introducing and implementing stricter demands and requirements, such as Free, Prior, and Informed Consent (cf. e.g. Hanna and Vanclay 2013, 150–155), in a situation where "[companies] are still grappling with the fundamentals of their corporate social responsibilities" (Owen and Kemp 2014, 91). These discussions on the roles and responsibilities of corporations in relation to both (state) authorities and local communities also have repercussions for the Arctic energyscape, and the ways in which they resonate in the region will be touched upon in several instances later in this work.

Beyond assessing and measuring

While the perspectives defining the social dimension in terms of policy goals and their concrete and quantifiable outcomes form the majority of the contributions to the social dimension of the sustainability debate, social aspects of energy have also been conceptualized beyond developmental terms[12]. On the one hand, attention has been drawn to the procedural aspects related to any decisions or developments that deal with the social dimension. From this perspective, it is not only the (f)actual and measurable outcomes or the status or trends of sustainability that need to be comprehended and assessed; instead, the perceptions and impressions of the individuals and communities in one way or another affected by ongoing developments play a role as does their ability to influence those developments (Del Río and Burguillo 2008, 1328–1329; Whitton et al 2015; Kokko et al 2013, 13). In this respect, the sustainability discussion again overlaps with the principles and practices of social impact

12. A strand of literature that has been labelled "bridge sustainability" (cf. Vallance, Perkins and Dixon 2011) portrays social sustainability as conceptualized mainly in terms of values, attitudes and behavior and promotion of environmentally sustainable values and practices. Understood in this manner, the social dimension does not have any intrinsic value on the sustainability agenda; instead, the focus is on the social changes that are required on the path towards an environmentally sustainable society. As such, these views fall outside the scope of this work.

assessments. The social is not reduced to actual, measurable impacts or contributions of a given project or development; rather, account is also taken of the hopes, fears, assumptions and expectations associated with projects and developments as well as of the inherent and inevitable perspectivity where the social dimension is concerned. Indeed, "there is no one social sustainability, but rather many articulations of the concept" (Hiedanpää, Jokinen and Jokinen 2012, 40). Very different understandings of the content and status of the meaningful "social" as well as the impacts of ongoing developments can and often do exist in the same situational contexts and across a range of temporal and geographical scales (Lehtonen 2004). In this light, the relationship between the substantive/developmental/contextual and procedural understandings of the social dimension in the sustainable is not exactly straightforward. However, while in many readings the two perspectives have been seen as mutually reinforcing, Campbell (1996, 301) questions this connection by pointing out that "societies view themselves as 'fair' if the *procedures* of allocation treat people equally, even if the *substantive* outcome is unbalanced" (italics in original). These remarks bear significance also where the governing of Arctic energy development is concerned.

Viewpoints similar to these have been put forward within the emerging discourse on energy justice, which has seen a key position accorded to the procedural aspects of energy-related debates and developments alongside the distributional questions associated with the energy concern (cf. Fuller and MacCauley 2016, Jenkins et al 2016, Da Costa, Cohen and Schaeffer 2007). In its broadest form, the notion of energy justice centers on "questions about the costs and benefits of energy systems. In so doing, it brings questions of justice to the forefront in various ways, including the material infrastructure of energy technologies, access and cost of energy services and intergenerational equity in terms of current and future generations, among others" (Fuller and MacCauley 2016, 1). In this respect, the concept of energy justice might be better able to accommodate the diversity of societal issues associated with energy – as well as the diversity of energy itself – than the often-invoked notion of social sustainability ever could, at least in its current forms and articulations. Much of the discussion on social sustainability in relation to

energy revolves around upstream activities and issues arising from energy *production*: consumption and related issues of equality and access have seldom been taken into consideration in these definitions (however, see Bradshaw 2014, 181; Laborgne 2011, 211; Dunlap 2008, 57; Grundwald and Rösch 2011, 6). Again, the attempts to better grasp "the social" move away from the techno-scientific vocabularies of sustainability.

In his analysis of the notion of social sustainability, Cuthill (2010) divides the content and the uses of the concept into four components: the theoretical, the operational, the ethical, and the methodological. These can also be identified in and applied to the broader discussion of the social dimension. In the present research, the interest lies mostly in the theoretical aspects of the notion, in the ways in which the social, sustaining it or making it "better" is – or, oftentimes, is not – articulated and advocated. The questions I am interested in place this work firmly amid the conceptual debates taking place under the broad umbrella notion of maintenance sustainability (Vallance, Perkins and Dixon 2011). The literature in that field draws attention to the very question which most of the debate on the social dimension fails to address: what is it exactly that is being – or is wanted to be – sustained, by whom and how? What constitutes the social that we assemble and construct around the energy concern? From this perspective, the social and its sustainability become an issue of being able to continue an activity or way of living and being that is perceived as important and worth maintaining (Sorsa 2015, 11). In the end, "social sustainability is about sustaining something" (Jacobsen and Delaney 2014, 6), about *what is this "social"* that we want to sustain or, from a more normative perspective, *what should be taken into account* when the social, its sustainability and related choices are being discussed and decided upon. These questions unveil the inextricably political nature of the social and its development, which is far too often masked behind the seeming objectivity of the quantitative indicators that are applied.

3.3 Making the elusive social explicit

> There is nothing wrong with this use of the word [social] as long as it designates what is already assembled together, without making any superfluous assumption about the nature of what is assembled.
>
> (Latour 2005, 1)

As noted in several instances above, both the broader umbrella notions of sustainable development and sustainability as well as the(ir) social dimension are contested and politicized concepts. The "vagueness and interpretative flexibility" (Boström 2012, 11) of both of the concepts allow for and derive from the various contents and rhetorical uses of the concepts so often taken as givens in popular and political debates. Indeed, what constitutes the social is seldom defined even in scholarly publications and its content is left to be implicitly understood. To some extent, taking the notion of the social as self-evident might be unintentional as it is not an easy concept to grasp. As Latour notes, it "seems to be diluted everywhere and yet nowhere in particular" (Latour 2005, 2). Whether they do so intentionally or not, these implicit references efficiently ignore the "often hidden, political work involved in defining what belongs to our common world" (Psaridikou and Szerszynski 2012, 32). What then should be taken into account when the social dimension is addressed and decided upon?

On the rare occasions attempts are made to explicitly conceptualize the social in or beyond the sustainability literature, these tend to resort to dictionary definitions. What all of them share and promote is an understanding of the social dimension as comprising and being limited to human actors, actions and institutions (cf. e.g. Murphy 2012, 18; Axelsson et al 2013, 217). Defining the constituents of the social strictly in human terms raises questions from (at least) two viewpoints. First, such an approach refuses to consider the diversity of the ways in which elements of nonhuman nature are intertwined in the practices through which our social interactions, institutions and societies come into being. Secondly, it efficiently constructs a solid and fixed binary between the essentialist categories of human and nonhuman. These viewpoints, both

of which are relevant also in terms of rethinking the social in the context of energy, are taken up briefly in the following.

As such, viewing the social as more than human is no more revolutionary an idea than stating that "things other than humans make a difference in the way social relations unfold" (Bakker and Bridge 2006, 17–18). It is an acknowledgement of the "sociality of things" (Clarke 2005, 7) and that there are elements other than human ones that are entangled with the ways in which we relate to each other and the world. However, the extent to which as well as *which* nonhumans are "allowed" into the realm of the more-than-human social is the object of heated debate in scholarly literature. Some expand the social world to include nonhuman animals and biotics in general (cf. Hiedanpää, Jokinen and Jokinen 2012, Youatt 2007). These perspectives are embedded, for instance, in the basic assumptions about the nature of the world in the field of environmental sociology (cf. Dunlap and Catton 1979) as well as in the principles of social impact assessments, in which no attempt is made to conceptually "separate the biophysical from the social environment" (Slootweeg, Vanclay and Schooten 2001, 27). Other viewpoints push the boundaries of the social even further by including abiotic entities, underlining the diverse ways in which all lived and experienced social realities are shaped by and intertwined with elements of an inextricably material nature (Psaridikou and Szerszynki 2012, Latour 2005, Clarke 2005). This study does not espouse a fixed, human-centric definition of the social, but rather embraces an understanding of the social as an issue that is always potentially more than exclusively human, an understanding that "the world in which we dwell is inhabited by beings of manifold kinds, not just human beings" (Ingold 1997, 232).

In the brief remarks made above, the notions of human and nonhuman have been applied without drawing much attention to the evidently problematic nature of this binary[13]. Indeed, not only is the social a concept, but so are the notions of both human and nonhuman. Despite their

13. The human-nonhuman binary is by far not the only or the only problematic one: the "Western intellectual tradition" as a whole has been characterized as "a series of dualisms" (Brown and Walker 2008, 297).

seemingly inherent nature, these, too, are conceptual categories and constructed subject positions with social, historical and political underpinnings (Fuller 1994, Casper 1994). The fixation on the existence of two ontological positions – human and everything else – is every bit as blind to the artificial and helplessly leaky nature of these categorizations (cf., e.g., hybrids in Latour 2005; cyborgs in Haraway 1991; co-constructs in Irwin 2001) as it to the essentially and inescapably social nature of material entities. Despite their undeniably physical essence, materialities are not "pregiven substrates that variably enable and constrain social action", although they are often taken as such in geopolitics-oriented international theory (Mulligan 2016, 41; Bakker and Bridge 2006, 8; Aalto et al 2012); instead, they are "themselves historical products of material, representational and symbolic practices" (Bakker and Bridge 2006, 8).

These factors also feature prominently in the hybridity of energy already touched upon. The crude materiality of energy is mediated by social and cultural perceptions, whereas changes in the material basis – the availability of cheap oil – have implications not only for the way in which the materiality of energy is itself understood (Redclift 2009, 374–375), but also for how the social around us is perceived and constructed. Clearly, discursive and ideational elements play a role, both as constituents of the social in their own right as well as in mediating the ways in which relations between other elements of the social are perceived and acted upon (Clarke 2005, xxx), As Ingold notes, "our ideas about the world […] are fashioned against the background of our active engagement with its diverse human and nonhuman constituents" (Ingold 1997, 232).

The calls for opening up the definition of the social resonate with the broader sustainability debate on at least two fronts. First, the necessity of contextualizing and situating applies to the notions of social and sustainable, not least when they are applied together, as in the case of social sustainability. What needs to be explicated is what exactly the social is that is – or should be – sustained and in which context. Addressing this question in the context of the Arctic energyscape is the main empirical focus of this work. Secondly, the demands that the social be redefined are intertwined with the critiques aimed at dismantling the artificial separation of the ontological domains of the social, the environmen-

tal and the economic, distinctions embedded in our thinking about the world as well as the notion of sustainable development. Understanding the social as constituted by both (so-called) human and nonhuman elements – including the material and ideational – efficiently dissolves the idea of human communities and societies as being made up of human beings only (cf. Elias 1978, 31) and constructs the environment, society and the economy as embedded and perspectival rather than as interconnected but separate domains of societal life (Psaridikou and Szerszynski 2012, Magis and Shinn 2009).

The conceptual excursions above have arrived at the intermediate conclusion that exclusively human-centric understandings of the social dimension are not only inadequate but also "unrealistic and unfair" (Hiedanpää, Jokinen and Jokinen 2012, 47), as much in terms of their inclusiveness as in the ways in which they are blind to the value-laden nature of the seemingly objective notions on which the social is constructed as an exclusively human domain. What has been set forth is an understanding of the social which does not "limit in advance the beings that inhabit our social world" (Latour 2005, 16). In the context of the Arctic energyscape, this definition translates into perceiving the social dimension of energy as *nothing less than* "the full situation" (Clarke 2005, xxvii). The particular situation defined in this work is the entity known as the "new energy province" (AES 2010, 12), used systematically in addressing and constructing the Arctic region when northern energy is discussed. The social thus becomes, in the end, a *perspective* on the energy situation, one comprised of and constituted by the "puzzling merger of human activities and non-human entities" (Latour 2005, 90. This perspective, in turn, places certain demands on research methodologies, on the one hand, and poses additional questions of a profoundly ontological nature, on the other. The following chapter is dedicated to addressing these concerns. However, the extent to which these broader understandings resonate with the ways in which the soci(et)al is addressed in the ongoing Arctic energy debates remains to be weighed in the empirical discussions in later parts of this work.

4. THEORETICAL UNDERPINNINGS AND METHODOLOGICAL CHOICES: SITUATIONS UNDER CONSTRUCTION

This study could probably best be described as a conceptually informed in-depth empirical analysis. While no received theory as such is applied to support and structure the analysis, this does not mean there are no theoretical underpinnings that need to be explained and justified. Thus far this work has explicitly as well as between the lines referenced ways in which the social, the lived and the political become debated, negotiated or constructed. Frequent use of such verbs reveals an ontological commitment to understanding both energy and its social dimension not as absolutes but as being in flux, perspectival and under construction in language and through interaction and in encounters with human and nonhuman constituents of different situations.

Furthermore, the choices made and the words used in this work signal an acknowledgement of the roles of both the researcher and the research strategy in constructing the concern under inquiry. As Law and Urry saliently note, "social investigation makes worlds" (2004, 391). Research as a practice is heavily involved in the "business of 'ontological politics'" (ibid., 392), that is, making things into being through the questions it asks, the methodologies it applies and the issues and perspectives rendered visible in this process. This is very much the case in the present work, which has set out to take the elusive social dimension of energy in the north by surprise, as it were, a dimension ignored more often than not in scholarly, political and popular debates alike.

4.1 Constructing an energyscape

The references above to the role and importance of language echo the foundational assumptions behind the tradition of social constructionism. In its most traditional sense, social construction refers to the key role of language in making the social world into being (Berger and Luckmann 1968); in IR, the application of social constructivism has translated into viewpoints that highlight the role that shared ideas have in shaping our understanding of the nature of the material world, other actors and our relationships with them (cf. Wendt 1999). Indeed, linguistic representations are not neutral descriptions of actors, institutions, entities, things or the world as they "really are"; instead of mirroring the world as it is, language both reflects and constructs the positions, identities, relationships and interrelationships of different entities with respect to their broader context or situation (cf. Potter 1996, 96–98).

Linguistic representations always highlight some aspects of the same concern while slighting others, assign certain facets of an issue visibility while omitting others, and frame a concern in particular terms and based on certain interests instead of others. The uses and abuses of language are intrinsically entangled with power. (Scrase and Ockwell 2010, Fairclough 1989, Lakoff and Johnson 1980). This is where the irrevocably political nature of linguistic representations comes into play, a politics that can be defined in terms broader than institutional or sectorial as the ongoing discursive struggle for the right to define the state of affairs (cf. Palonen 1983). As De Goede (2003, 89) underlines, all definitions are political in nature. Not all perspectives are heard or weighed equally, but the ones that are can have profound effects on the ways in which issues – energy, for example – are acted upon and decided on (cf. Mason 2016a, 132).

Visual representations[14] as well both reflect and construct the ways in which see, experience and enact the world. Like words, images are outcomes of active choices and emphasize certain meanings and aspects of

14. While the visual analysis in this work focuses on photographic images, the terms "visual materials" or "visual representations" can have a considerably broader meaning (cf. e.g. Mitchell 2011, Margolis and Pauwels 2011, Rose 2007).

issues at the expense of others; they include certain elements and perspectives while excluding others (Seppänen 2010, 78; Rose 2007, 12). The presence of an image in any given body of text is thus always the result of a choice, either intentional or unconscious. In a similar manner, the choices made in constructing the image itself are always shaped by cultural practices and questions of power and politics (Burkin 1982, 1–5; Rose 2007, 26). An image is thus never "innocent" (Rose 2007, 26) or a neutral "window to the depicted world" (Pauwels 2011, 6). Yet, even in an era offering endless possibilities of digital manipulation, it will still often be interpreted as a "true" representation of the world and its events as they really are (Kunelius 2003, 44–45), much more so than written language ever would.

Underlying this discussion of constructivism is the idea that there is a material "bedrock reality" (Bakker and Bridge 2006, 8) that is open enough to interpretation to make it possible to advocate and emphasize certain viewpoints at the expense of others (Scrase and Ockwell 2010, 2226). However, how the relationship between language and the material world is conceptualized differs in degree even within the tradition of constructivism. At one end of the spectrum, there exists no real world outside its linguistic representations; at the other end, the biophysical world is assigned a more active role as an element shaping the manner in which the world can be linguistically constructed (cf. e.g. Potter 1996, 97–98). Among the intervening alternatives, one finds concepts such as co-construction (Irwin 2001) and hybrids (Latour 1993, 10), which have been suggested in order to highlight the roles that elements and entities not human might have in constructing our social with and for us. What they all underline are the ways in which materialities influence, enter and shape the social as well as its representations and constructions. These emphases do not, however, mean that these materially oriented constructivist approaches are not inescapably anthropocentric. Even perspectives that view the social under construction as more than human, and the "constructors" of this social as not exclusively and solely human, still focus on the ways in which these other-than-human entities carve their ways into the linguistic representations and how they are employed and mobilized in these accounts (cf. Latour 2005, Bakker

and Bridge 2006, 8–10). While we remain inescapably anthropocentric in our concerns, "the question is which anthropomorphic values and priorities we will apply to the natural and the social world around us" (Campbell 1996, 301).

Earlier in this work I mentioned that resources do not have a voice of their own but rather are employed and mobilized by other actors to serve their own view of the world (cf. also Clarke 2005, 47). The idea of investigating linguistic representations of issues related to resources and/or energy, also in the context of the political outside "high politics", is of course by no means unexplored. As noted by Fischhendler, Nathan and Boymen (2015, 114–115), energy resources are "integral elements to human systems"; owing to the fundamental role they play in making both everyday life and crucial state functions possible (Aalto and Westphal 2007), "they often fall prey to the rhetoric and competing discourses that decision-makers use to sustain, lobby for, and diffuse favored energy policies and services" (Fischhendler, Nathan and Boymen 2015, 114–115). This discursive malleability, in turn, follows from the instrumental role that energy has in enabling and securing other functions and goals: resource projects are not only about resources, but rather intertwine with "different domains of the social world" (Suopajärvi 2015, 41) far beyond the focal energy concern.

The ways in which language and linguistic choices play out in shaping our understandings and actions in relation to energy have already been investigated on several fronts. Extensive work has been conducted on, among other topics, strategies and patterns of energy argumentation (e.g. Corvellec 2007; Windisch 2008), discourses on and the framing of different energy sources and alternatives (e.g. Scrase and Ockwell 2010, Sengers, Raven and Van Venrooij 2010, Ashmore et al 2016) as well as verbal and, occasionally, also visual energy metaphors and rhetoric (e.g. Lempinen 2013, Anshelm 2008, Littlefield 2013, Fitzgerald 2012, Livesey 2002, Mason 2016a, Tynkkynen 2016b). In a similar manner, Arctic understandings and their articulations related to sustainability – the key concept through which the energy concern continues to be addressed – have been investigated in a wide range of different settings. Discussions relevant to this work can be cited, for example, on the ways in which

social sustainability (Jacobsen and Delaney 2014) and cultural sustainability (Lempinen and Heininen 2016) in the Arctic context have been defined and understood. In the particular context of northern energy, research themes include the definitions and articulations of the sustainability of oil and gas operations in the Arctic (Mikkelsen and Langhelle 2010), as well as Russian (industry) interpretations of the sustainability of Arctic energy (Andreassen 2016, Tynkkynen 2016a).

Needless to say, the literature features discussions beyond the context of the Arctic energyscape on the ways in which the axis of energy and the social have been constructed. Among other themes, scholars have addressed inclusion of and perceptions on social sustainability in a wide range of contexts related to the EU renewable energy sustainability schemes (cf. German and Schonefeld 2012) and power planning (Ribeiro, Ferreira and Araújo 2011). Understandings and definitions of social sustainability have also been explored in the mining industry (Han Onn and Woodley 2014). Research on similar questions in specifically northern contexts has investigated understandings of social sustainability in northern mining communities (Suopajärvi et al 2016) and the approaches to social sustainability of mining policy in Greenland (Tiainen 2016), just to name a few.

The aim of citing all the contributions highlighted above has been to demonstrate that the profoundly political nature of the social, sustainability and energy-related issues alike can fruitfully be explored by focusing on the use of language. In fact, the amount of existing literature on and related to the theme is so extensive that it might lead one to question both the novelty and value of one more research endeavor focusing on the issue. However, I argue that there remains a gap in the ways in which the discursivity of energy-related concerns is addressed, as to date few studies have attempted to go beyond the framings of dominant actors, hegemonic discourses or linguistic representations of individual energy sources or single issues or phenomena. The aim of this study is rather the contrary: to draw attention to the diversities and multiplicities of the elements that together, as a whole, constitute and contribute to the regional energyscape and the ways in which those elements intertwine with the broadly defined social in the context of the energy concern.

4.2 From (energy) actors and structures to situations

Much of the discussion above has revolved around the different constituents – both human and nonhuman – of the social, on the one hand, and the linguistic constructions mediating (between) them, on the other. In research on energy policy as well as IR approaches in general, these elements have resulted in work conceptualizing energy-related phenomena in terms of human actors, material structures and politically laden discourses, as well as varying degrees of their interplay (cf. Aalto et al 2012, Wendt 1999). The range of perspectives promoted on these grounds has ranged from "actor-centric conceptualizations" with associated "simplistic rationalism and excessive voluntarism" (Aalto et al 2012, 29) to explanations based solely on material features of political realities (cf. Prontera, 2009, 1) On occasion, the approaches within IR have led to a search for a balance between freedom of agency and the "free play of discourse" (Scrase and Ockwell 2010, 2227) or institutional structures that shape the prospects of energy political agency (cf. e.g. Teräväinen 2010, Scrase and Ockwell 2010, 2227; Dryzek et al 2003). These questions are also at the core of work addressing the social dimension of the Arctic energyscape as well as its construction and constituents.

While the approaches cited above emphasize different considerations as regards the question whether it is the actors, "structures" or discourses that matter in energy-related concerns, they more or less agree on one thing: agency is an attribute that only individual and collective human actors possess (cf. e.g. Aalto et al 2012). In these framings, the nonhuman environment only forms "the material conditions of possibility that make the very structure of human societies possible" (Mulligan 2016, 41). Everything other than human actors and collectives is assigned to the category of the non-agentic "bedrock reality" (Bakker and Bridge 2006, 8) upon which human agency is enacted[15]. What these views fail to take into account is that agency, too, is no more than a concept, a

15. In the literature, perceptions of the roles of ideas, social structures and discourses in structuration are more divided (for theories of structuration see e.g. Giddens 1984, Wendt 1999, Aalto et al 2012).

theoretical construct based on an already existing social and cultural order (cf. Ashmoore, Wooffet and Harding 1994, Fuller 1994). Thus, the notion of agency, like any other, needs to be situated culturally and historically (Fuller 1994, Casper 1994, Brown and Walker 2008, 298) and explicitly dissected when any issues related to materiality are addressed (Bakker and Bridge 2006, 18).

The notion of agency as we know it – in its prominent and dominant Western[16] articulations – knits agency tightly together with the thoroughly culturally laden notions of autonomy, sovereignty, free will and purposiveness (Pulkkinen 1996, 9–43; Youatt 1997, 2–3; also Latour 2005, 61). This, in turn, contributes to a tendency to construct the human as unique, exceptional and superior to entities of a nonhuman kind (Lee and Brown 1994, Brown and Walker 2008, Casper 1994) and, as a consequence, to portray human actors and institutions as more important and mattering more than the passive material backdrop. However, the understanding of agency as a human (individual) property can be and has been questioned on at least two fronts. The first line of criticism focuses on the anthropocentric definitions through and by which agency is addressed. While the ideals of rationality and intentionality efficiently exclude the idea of agency as an attribute of any entity of nonhuman nature, they also make agency a criterion that not all groups or individuals in the course of history have been perceived as able to fulfill, the result being that they have been seen and treated as less than human (cf. Fuller 1994, Casper 1994).

The second strand of criticism builds on perceiving agency in another, less fixed and predefined manner altogether – as the "capability to 'make a difference' to the pre-existing state of affairs or the course of events" (Giddens 1984, 14) or as "mattering" (Clarke 2005, 78) in how situations unfold. This conception decouples the idea(l)s of intentionality

16. As noted by Brown and Walker (2008, 297–298), by resorting to terms such as "ascribed", "beliefs", or "symbolic constructs" to describe the agency of the nonhuman persons and things we "dismiss non-Western ontologies". This viewpoint is especially relevant in addressing the social dimension in the Arctic, a culturally diverse region inhabited also by people(s) who do not necessarily share the Western idea(ls) of ontology and agency.

and agency[17] and opens up a space for theorizing about the prospect of an agency other than of a human kind. These views, in turn, perceive the agency of so-called nonhuman elements as anything ranging from "full-blown"[18] (Latour 2005, 71) to structurally conditioning and linguistically mediated (Clarke 2005, 61), the former referring to the impact they have "through their specific material properties and requirements and through our engagement with them" (Clarke 2005, 16)[19].

From this viewpoint, the interest that emerges is the "dynamic that entangles […] other beings and things in ways that give them political life" (Bakker and Bridge 2006, 11). Instead of perceiving agency as a property of the (rational) individual, agency is seen as shared, decentered and (re)distributed among elements of human and nonhuman nature in the same setting and situation (Latour 2005, 16; Bakker and Bridge 2006, 7). Despite their differences in emphasis, what both of the critiques above share is an effort to decenter the human actor as the foundational and primary notion through which the social around us is assessed and addressed. This viewpoint has also been raised in the specific context of energy through the references to the ways in which certain material qualities of the energy that we produce and consume enable and uphold certain forms of societal, economic and political organization (cf. e.g. Mitchell 2009, Bridge 2011, Rogers 2012, Bousarovski and Bassin 2011, Tynkkynen 2016b). This enticing idea of the agency that energy itself might have in enacting our social is not empir-

17. The problematic relationship of agency and intentionality has been pointed out elsewhere: not only can "unintentional" elements matter and bring about a change in a situation, but intentional actions can have unintended consequences (cf. Elias 1978, 94; Giddens 1984, 9, 14).
18. Approaches willing to embrace the inseparable role of nonohuman entities in constituting what we understand as the social (Latour 2005, Psaridikou and Szerszynki 2012, Clarke 2005) appear to be more willing to assign agency of at least some kind or degree to elements of nonhuman nature. As such, there is nothing revolutionary in this observation, as both of these conceptual tendencies adhere to the same ontological requirements.
19. In some instances, the notion of actant is applied to signal the nonhumanness of the element that is assigned agency in a given situation (cf. Clarke 2005, 46–47); however, in others, the notion of actant refers to both human and nonhuman entities that have been granted cause of action (Latour 2005).

ically pursued in this work, as the analysis proceeds from the social instead of energy as such. However, the active role that energy's materialities and infrastructures might play is implicitly present in the notion of the energyscape as well as in the principles and methodologies of situational analysis. Neither the theory nor its applications reserve the "right" to matter and make a change exclusively to human entities.

The critical focus discussed above on the binary of the acting human actor and the passive material structure or backdrop is by no means the only perspective through which the hegemonic actor-structure divide has been debated. Upon closer examination, the idea of actors "navigating" (Aalto et al 2012, 15) amid external structures or material boundary conditions is also profoundly problematic. For one thing, and especially against the backdrop of the earlier discussions on the role of language and discourse in mediating and constructing our understandings about the world, structures cannot be seen in any way as "external" to actors: Giddens (1984, 25), for example, has pointed out that "as memory traces, and as instantiated in social practices, [structure] is in a certain sense more 'internal' than exterior to their activities" (cf. also Wendt 1999). Moreover, the conceptual divide between actors and structures/environments becomes problematic for actors and their coexistence in a given situation. Actors and their actions form the contexts, structures and environments of other actors (cf. Clarke 2005, 113); any actions taken by one actor are "bound to influence the course and outcome of all other actors or groups" in the same situation (Elias, 1978, cited in Bauman 1989, 40–41). In short, as Clarke observes, "structure is enacted in the flows of people and non-human objects doing things together. Structure is action and action is structure and everything is perspectival" (Clarke 2005, 13).

To compensate for the conceptual deficiencies outlined briefly above, this work relies heavily on the notion of *situation*. While this emphasis is at its empirical clearest in the context of the first case study, the concept of situation informs and guides the theoretical and empirical discussions on energy and its social dimension throughout. The concept "situation", unlike "context", does not imply a division between action and the environment/structure/context, as "everything in [a] situation both *constitutes*

and affects most everything else in the situation in some way(s)" (Clarke, 2005, 72, italics in original) and a situation is, in its temporal, spatial and relational specificities, "always greater than the sum of its parts" (ibid., 23). Any situation "is both an object of confrontation and an ongoing process subsequent to that confrontation" (Morrione 1985, 161; also Clarke 2010, 870). The notion of situation also draws attention to the ways in which different elements relate to and come together in a given space and place (Neumann and Neumann 2015, 799) as well as to the "involvement of social beings with symbolic and material dimensions of sites and with the various social processes occurring in those domains" (Vannini 2008, 816). In short, the focus on situations renders the otherwise quite hegemonic actor/agency-structure debate meaningless by asking questions of a completely different kind; the key to the approach is its focusing on the diversity of issues and entities that together constitute a given situation without assumptions about who or what matters and without a pre-existing interest in who might matter most.

For the purposes of this study, the notion of situation is especially fruitful from at least four perspectives. First, as the notion of situation implies, it holds the potential for approaching the Arctic energyscape as a whole instead of suppositions about who – or, to be exact, what – "acts" or matters in relation to energy in the north. Secondly, on the conceptual level, it makes it possible to draw attention to complex interweavings and "figurations" (Elias 1978, 128–133); networks of connections entangling the human and nonhuman (Latour 2005); and "scapes" of people, finances, technologies, media and ideas woven into these interactions and interdependencies in, by and with historically, politically and linguistically situated entities (cf. Appadurai 1996, 33). Thirdly, delimiting a particular situation forces the omnipresent energy concern into a concrete case study setting within which abstract laws and principles "become entangled with issues that relate to specific localities" (MacCauley 2016, 143), although "locality" is admittedly understood in a broad sense here, as the locus of inquiry is the Arctic energyscape as a whole. Finally, situational analysis can be seen as better able to grasp the nestedness of different scales or levels or localness and remoteness compared to models which perceive "social worlds [as] composed of discrete entities stand-

ing in hierarchical or inclusive relations with an another" (Law and Urry 2004, 397). Instead of constructing a single, unitary world where "the larger entities subsume, explain, or create the conditions for the smaller, though the latter also carry or help to reproduce the larger" (ibid.), the situation approach replaces the ideas of layers and levels with those of messy intertwinements and often surprising proximities.

4.3 Methodological considerations: introducing situational analysis

> Cases cannot be abstracted from situations. Cases *are* situations.
>
> (Clarke 2010, 870)

In this work, the intrinsically social Arctic energyscape will be approached through the "theory-method package" (Clarke 2005, 4) of situational analysis (SA). As the name implies, situational analysis takes the notion of situation as both the starting point and the locus of analysis. The aim of SA-oriented research is to "capture and discuss the messy complexities of the situation in their dense relations and permutations" (Clarke 2005, xxxv), the situations studied being ones which "are constantly changing, messy, and political" (Salazar Pérez and Cannella 2013, 515). Analyses in this vein undertake to map and lay out as comprehensively as possible the diversity of elements through and among which the situation exists and is constructed. In this light, situational analysis can be seen as one of the "messy methods" called for by Law and Urry (2004, 390), which would, at least in principle, be able to grasp the multiple (social) worlds existing in a given setting as well as to make the multiplicity of these worlds visible better than a received and fixed theoretical or methodological framework could. However, the task is a slightly different one in the present inquiry, that is, to grasp the (potential) diversity of the ways in which the social world relates to the diverse understandings of energy in the context of the north.

While situational analysis is a relatively new contribution to the study of qualitative data, the methodology and its underpinnings have "deep

roots" (Clarke 2010, 870) in established scholarly traditions. Clarke herself traces the development of the approach back to "grounded theory method, symbolic interactionism, feminism, the poststructuralist work of Michel Foucault, and Anselm Strauss' social worlds theory" (ibid.); others have emphasized the impact that postmodernist approaches in general (Salazar Pérez and Cannella 2013, 506) and actor-network theory (Borie and Hulme 2015, 489) have had on the premises and practices of situational analysis. Theoretically, these influences are reflected in SA's attention to diversity, discursivity, marginalities and absences as well as in its taking seriously the presence of the nonhuman in any situation. Methodologically, with its data orientation and focus on "developing fresh concepts over applying received theory" (Charmaz 2015, 402), SA is largely indebted for its underpinnings to its predecessors in traditional grounded theory (cf. e.g. Glazer and Strauss 1967, Strauss and Corbin 1998). However, in SA-oriented research the anthropocentric focus on the "basic social process" of humans doing things is replaced with the key notion of situation and the ideal of theory generation is replaced by an aspiration to achieve a comprehensive understanding of the situation of inquiry as a whole. In this respect, SA as a method shares common ground with the basic tenets of data-based qualitative content analysis, which can, in turn, be roughly described as an open-ended, empirically grounded effort to gain an understanding of the themes in terms of which the phenomenon under investigation is constructed (cf. Tuomi and Sarajärvi 2013, Pickering 2004, Julien 2008).

Methodologically, situational analysis is thus an open-ended reading of the situation under study, that is, as comprehensive an interpretation as possible of all the actors and factors that are present(ed) in the empirical materials through and within which the situation is defined and analyzed. In its textbook applications, situational analysis proceeds through and visually highlights the "content" or constituents of a situation through the process of mapping. In her work, Clarke (2003, 2005, 2010) outlines a series of alternative kinds of maps: situational maps as overall descriptions of the diversity of a given situation, maps of social words/arenas for investigating relations between different discourses, and positional maps for identifying the range of arguments and sub-

ject positions as "strategies for articulating the elements in the situation and examining relations among them" (2005, 86; for mapping see ibid., 83–127). While Clarke herself rather unreservedly advocates mapping as a "democratizing representational practice" (Clarke, Friese and Washburn 2015b, 80) due to the ability of the maps to accommodate the complexities and coexistences as well as the variety of elements and positions present in and constituting any situation (Clarke 2005, 2; cf. also Salazar Pérez and Cannella 2013), the practice is not wholly unproblematic. This issue will be revisited briefly in the section focusing on how situational analysis is operationalized in the context of this work.

While situational analysis is only gradually becoming institutionalized as a method of inquiry alongside the more "established" approaches of discourse/content/rhetorical/frame analysis, a growing body of relatively recent research has demonstrated SA's applicability in analyzing the diversity and complexity of perspectives, issues and elements in debates on energy and in examining energy's intertwinements with society at large. Fitzgerald's (2012) investigation of the Appalachian coal debate explored the applicability of situational analysis in capturing the different voices at play in the processes of energy-related policy formation. SA's potential has been borne out in other studies as well. For example, it has been shown to illuminate many of the "new forms of political economic entanglement" (Clarke, Friese and Washburn 2015a, 20), these including the intertwinements of electricity supply, society and vulnerability (Tennberg and Vola 2013), the complex dynamics of local and regional (un)development (Tennberg and Lempinen 2015), "the contemporary neoliberal condition" (Salazar Peréz and Cannella 2013), and the human-environment interface of ecosystem services (Borie and Hulme 2015). Together, these research efforts have demonstrated the applicability of the methodology of SA and its underpinning concept, the situation, in approaching both geographically strictly delimited case studies as well as more generic and abstract "societal" situations.

As an approach, situational analysis is fully compatible with and complementary to the research goals, key concepts and ontological commitments laid out earlier in this work, that is, the energyscape, the (potentially) more-than-human social (Clarke 2005, xxx), the moder-

ately constructivist stand towards language and images (Charmaz 2015), the attention to diversity and heterogeneity instead of oversimplification (Salazar Pérez and Cannella 2013, 511) and the situatedness of all of the above. In this respect, SA has the potential of being "especially useful for understanding and elaborating what has been meant by *"the social"* in the social life" (Clarke 2005, xxix, italics mine). It is precisely this potential that this study seeks to explore and elaborate.

Operationalizing situational analysis

The manner in which situational analysis is applied in this work relies on a rather loose interpretation of the SA framework that shares features with more general methodologies of textual and discourse analyses (cf. e.g. Dryzek 2005, Julien 2008). Indeed, like any other research methodology, situational analysis "is not a method that should be replicated or followed explicitly" (Salazar Pérez and Cannella 2013, 512, also 515), but rather modified and molded to serve the interests and aims of a given research setting. In the present instance, this methodological goal-oriented flexibility has translated into omitting the maps from the final versions of this work. I make use of a situational map only in one empirical chapter and forego using the visualized versions of social worlds/arenas and positional maps[20]. However, the key methodological and ontological commitments of SA-oriented research serve as guiding principles of the empirical analysis throughout. These include 1) a data orientation, 2) a focus on situations as the key units of analysis, 3) attention to diversity and heterogeneity and 4) the aim of creating a detailed understanding of the situation. In the present case, applying this last principle means producing a detailed understanding of the social dimension of the Arctic energy situation rather than generating a universal and generalizable theory relating to the energyscape.

20. Existing research has so far utilized the different SA maps in versatile ways, ranging from full-blown three-map applications to ones using maps of only one or two types and others applying situational analysis only as a guiding principle of analysis (cf. Clarke, Friese and Washburn 2015c). This study stands among the more flexible interpretations.

Although – or maybe precisely because – the different kinds of maps are not utilized in this work, some remarks on the use of maps as illustrative devices are in order. While Clarke (2005, 30) herself prefers the use of maps as analytical tools over discourse analyses or narratives because maps may "helpfully rupture (some/most of) our normal ways of working and may provoke us to see things afresh" and "allow unmapping and remapping" "more quickly and easily than in narrative text", their applications are not wholly unproblematic. The first concern has to do with the equally and inevitably value-laden, ideological and perspectival nature of mapping as a cultural practice (cf. Agnew 1998, 11–31; Corner 1999, 213–216). Secondly, the visualized maps, with each of the elements placed at a certain point and place, "located" close to certain other elements and within a certain distance from this and that element, can erroneously be taken to imply fixed locations and static relations among different elements in situations across time and space, producing "a Euclidean reality of discrete entities" and of "spatial metaphors to do with height, depth, levels, size and proximity" (Law and Urry 2004, 398). In this work, this shortcoming is the main reason for *not* employing maps as visual aids beyond the first empirical chapter, where presentation of the map is, for several reasons, justified. Opting to not use maps in presenting the process and outcomes of analysis entails particular challenges, however, as it requires providing more in-depth and detailed verbal explanations to make it easier for the reader to follow and verify how the empirical analysis has been conducted.

This aversion to mapping is not, however, solely based on theoretical concerns; it also stems from very practical grounds. It has been observed that the map format is ill-fitting within existing conventions of academic publishing, as it does not comply with the institutionalized ways of visually presenting research (cf. Gagnon, Jacob and Holmes 2015, 290). In fact, the use of maps has given rise to divergent reactions when different parts and earlier versions of this work have been submitted and presented. On occasion, a simplified situational map has been warmly welcomed as an illustrative and informative visualization condensing a singularly diverse regional energy situation into a form allowing the viewer, in one slide, to grasp the scope of a complex concern. However,

in other instances the very same maps have been heavily criticized as flawed in creating static representations as well as for the ways in which they blur the importance of and power relations between different elements at play in different situations.

In practice, the empirical analysis described in the following chapters begins by asking "situational questions" (Clarke 2005, 22; also Clarke 2010, 870) of each set of empirical materials. In this process, "the social" and "energy" serve as sensitizing concepts (cf. Clarke 2005, 77), which inform the process of research throughout the analysis. The materials are read with the question in mind of what we are talking about when we talk about energy in north. What does this "energy" relate to and why does it matter? What and where is "the social" and how does it touch upon the energy concern? In tracing these answers, each of the case studies serves as a window of sorts on the Arctic energyscape, which, as a whole, is investigated with the perspective of the (elusively defined) social in mind. Throughout the analysis, explicit attention is drawn to what elements and concerns – often labelled using the binary categories of human and nonhuman – are represented as existing and mattering in relation to energy and the social broadly conceived within focal situation, the Arctic energyscape. Another specific interest is what concerns are *missing* from the representations of the regional energyscape. I ask who or what is – or could be – physically "there", but has been left out of the discursive representations of it (cf. Salazar Pérez and Cannella 2013, 512).

It is crucial to clarify at the very outset the point of "absences" (Clarke 2015, 105) or references to something "missing", as they signal an important standpoint in terms of the position of the researcher vis-à-vis the object of research. While traditional grounded theory, with its objectivist bias, adhered to the ideal of the outcomes of analysis as "emerging" from the data in the hands of the "modest witness" (Haraway 1996), free of any conceptual load or value baggage, situational analysis – and, more broadly, constructivist grounded theory in general (cf. Charmaz 2015, 414) – draws attention to the ways in which "there is always some prior knowledge to direct the gaze of the researcher" (Clarke 2005, 28–29). Thus, the idea of situatedness is not only relevant

in terms of the object of research, but also to the researcher. It has been pointed out that "knowledge always comes from someone somewhere" (Par 2006, 431) and thus also the researcher is situated in terms of the research topic as well as by "linguistic, biographical, historical, political, cultural, ideological, material, and spatial dimensions" (Vannini 2008, 816; also Neumann and Neumann 2015).

Neither the specific focuses of this work – drawing attention to the diversity of energy as well as bringing the heretofore ignored and simplified understanding of the social dimension under closer scrutiny – nor the cases as such have spontaneously emerged from the Arctic energy debates but have taken shape in a dialogue with the inevitably situated and culturally mediated "researcher's gaze" (Clarke 2005, 28–29). Furthermore, neither the research design nor the research findings are free of the researcher's intervention: no meanings or content can be communicated as such but they are always formulated, or "decoded", against the existing knowledge and personal experiences, beliefs and preferences of the one who is receiving or reading them (cf. Hall 1980). These observations do not of course figure solely on the abstract level, but in the particular context of this work as well: as a researcher I do not come to the undertaking without personal or academic baggage. The questions I ask have without a doubt sprung at least to some extent from my educational background in the field of environmental sociology and political sciences as well as the green and socially aware values that I have both as a person and a member of a society in a northern European (former) welfare state. This does not, however, directly translate into the interpretations of the answers to these questions being equally perspectival. Throughout the course of analysis, I draw on excerpts from the original sources in order to highlight and demonstrate the empirical grounds on which the arguments are pursued.

While the empirical materials utilized in this study – verbal and visual components of northern media reporting and Arctic scientific assessments and reports – will be discussed in more detail in the context of each empirical chapter, some remarks on them are in order here. First, the materials investigated in this study have been *selected* due to their explicit focus on energy or the social or both in the context of the cir-

cumpolar north. What all the materials have in common is that, unlike interview materials or community-based photographic project images, for example, they are and for a while already have been "out there in the world" (Rose 2007, 6) and "already culturally available" (Emmison, Smith and Mayall 2012, 20). These kinds of texts and images are often referred to as "found images" (Pauwels 2011, 19) or "mute evidence" (Gagnon, Jacob and Holmes 2015, 286). Their analysis is grounded on the idea that such data "tell different stories that can be revealed through the careful analysis produced by and constituted through texts and images" (ibid.), assuming that the materials have been selected with adequate background knowledge on the topic and with the purposes of the research question in mind (cf. Pauwels 2011, 19).

The word "selected" here again echoes the active role of research as a practice that brings things "into being" instead of merely revealing "what is out there" and what "can be uncovered and brought to light" (Law and Urry 2004, 396) from an objective, independent reality. Indeed, a dramatic difference between the two perspectives cited above can be observed in terms of their underlying ontological presuppositions. The use of words like "evidence" and "revealed" in the remarks made by Gagnon, Jacob and Holmes indicates an objectivist stance on the essence of language and images, that is, one maintaining that there is an independent reality – and only one – in or behind the texts that can be somehow brought to light through systematic scientific inquiry. Meanwhile, Pauwels' emphasis on conscious selection and researchers' prior knowledge suggests a more constructivist stance. As made evident in the theoretical and methodological discussions above, the present study strongly adheres to the latter orientation.

The empirical materials utilized in this study have been gathered from different sources: from media reporting and from scientific assessments and reports. The inherent biases of these kinds of materials as well as the analytical limitations they have imposed will be addressed in the context of each analysis. However, all in all, utilizing multisite data is a common feature of SA-oriented research, in which the aim of gaining an understanding of the diversity of themes and issues shaping and constituting a certain concern is often a defining feature (Clarke

2010). The empirical materials, consisting of textual and visual elements, are also multimodal (cf. Pauwels 2011, Van Leeuwen 2011). The practice of combining materials from different sources or of different kinds has been labelled data triangulation. The idea behind drawing on different types of material is often justified by the advantages it can bring in reducing "biases or deficiencies caused by using only method of inquiry" (Rothbauer 2008, 893). Utilizing different kinds of data from a variety of sources can offer more insights into and a better understanding of the situation being studied. The use of a variety of sources has also been seen to enhance the credibility and confidence of the findings derived from the research process (Bryman 2004, Rothbauer 2008). In the context of this work, including an analysis of the visual materials is also motivated by an observed gap in the research in the field: despite the long-standing tradition of displaying the Arctic as a visual "spectacle" (Potter 2007) and despite the powerful roles that images have in communicating and constructing meanings and worlds (Seppänen and Väliverronen 2000; Rose 2007, 2–7), very little scholarly attention has been explicitly devoted to the Arctic region, let alone its social dimension, in the context of the regional energy concern. For this reason, the third empirical chapter of this work is dedicated solely to addressing the visual aspects in and of the Arctic energyscape. Before that, however, two case excursions will be made focusing on the textual part of the empirical materials – one on the energyscape as a whole, the other explicitly delving into its social dimension.

5. REMAPPING THE BARENTS ENERGYSCAPE

Thus far in the study, the discussion on the Arctic energyscape and its social dimension has proceeded mainly in conceptual and theoretical terms. I have presented tentative observations on how narrow the scope is with which energy, its social aspects and their political dimension have been treated in northern energy debates as well as Arctic scholarly contributions. These perceptions have then been juxtaposed with perspectives from the scholarly literature, which understands and constructs both energy and the social in much broader terms. In order to accommodate the diversity and discursivity of the energy concern as well as its inseparably social and situated nature, the notion of the energyscape has been put forward as a broader conceptual backdrop for considering the northern energy concern. This chapter is a step towards deploying the notion in an empirical setting, where it is applied to capture the energy situation in a sub-region in all its diversity, specifically *to remap the Barents energyscape*.

5.1 Putting the Barents region on the (energy) map

When the topic of Arctic energy is discussed, especially in European contexts, it is not usually the Arctic region as a whole that is being referred to. Instead, these debates focus on the Barents region or, to be exact, the prospective hydrocarbon fields of the high seas of the Euro-Arctic north. While these marine areas are officially not defined as parts of the Barents region, I will apply these broader understandings used in popular energy-related debates. The Barents was invented as a concept and as a region in 1993 following the dissolution of the Soviet Union and originally defined as the thirteen northernmost regions of Norway, Sweden, Finland, Russia and Norway (BEAC 2014); it will

Map 2: The Barents region (at the time of study)

soon include North Karelia, formerly an observer region (cf. International Barents Secretariat 2016).

While the Barents region is usually framed as and referred to as a resource storehouse for global markets (Elenius 2015, 138), as a region it is as varied as it is artificial. It spans the northern territories of four environmentally, culturally and politically diverse nation-states and it is home to more than five million people of non-indigenous and indigenous backgrounds (BEAC 2016). Economically, the region is characterized by raw-material-based low-development economies, as the vast renewable and non-renewable resources extracted or harvested in the

region are transported to be processed, refined or consumed elsewhere (cf. Tennberg, Riabova and Espirítu 2012, 15–18). Politically, the region remains rather loosely integrated, in terms of infrastructure, politics and regional identity alike (Elenius 2015). However, the increased international interest in the northern regions and the associated strategy work on the regional and state levels has contributed to an increasing emphasis on furthering northern (economic) development through, among other measures, support for local livelihoods, infrastructure, business clusters and knowledge economies (Norwegian Ministry of Foreign Affairs 2014, Prime Minister's Office of Finland 2013, Government Offices of Sweden 2011, Russian Federation Policy for the Arctic 2020). Nevertheless, it is the region's energy resources that play the crucial role when rethinking its socio-economic landscape.

The geographical focus and interest of this study lies in the northern regions of the globe. Why, then, begin with the Barents rather than the Arctic as a whole? First, the sub-regional focus offers an opportunity to begin the empirical venture in the Arctic energyscape with a more concrete view of the situated interweavings and entanglements that together constitute the regional energy concern. It is the first empirical chapter that engages in an explicit discussion of the notion of energyscape, presents its practical applications and demonstrates its empirical potential. This treatment will be followed by a more "abstract", less geographically down-to-earth excursion, so to speak, that explores the ways in which the social dimension of Arctic energy is verbally and visually defined and constructed. As in article-based dissertations, it is the case studies together that contribute insights and (some) answers to the research questions that inform the work as a whole.

The Arctic region is clearly an internally heterogeneous one and thus no generalizations regarding the region as a whole or other Arctic sub-regions can be made based on the observations made on the Barents energyscape. Yet, I would claim that, despite its uniqueness, the Euro-Arctic north in many respects exhibits a number of features and development trajectories that are at work in one form or another in the Arctic region at large but in a geographically tractable case study setting. These features include the significant renewable and non-renewa-

ble energy resources, climate change, environmental vulnerability, a wide range of actors and their complex (power) relations, the longstanding presence of local populations and indigenous peoples, traditional lifestyles and livelihoods, geopolitical concerns, as well as economic poverty and potential (cf. e.g. AHDR 2004). Issues of data availability and gathering have also played a role in limiting the focus here to the Barents. These will be addressed in the following.

5.2 On empirical materials

As made evident by the earlier discussions in this work, a research strategy is always the outcome of conscious choices motivated by the research questions presented. In this chapter, these choices have translated into a decision to begin the empirical ventures into the Arctic energyscape through a sub-regional case study. As my interest here lies in gaining as comprehensive an understanding as possible of the Barents energyscape, I decided to tap extensive media materials reporting on regional energy developments in the Euro-Arctic north. However, an inquiry using such materials inevitably raises issues and concerns that need to be acknowledged and addressed. Perhaps the principal source of concern is that despite its seeming objectivity media content cannot be perceived as offering objective representations of actual and factual developments and events taking place in the world any more than other linguistic presentations can. All depictions of the world-as-it-is are results of choosing what to represent and how and leaving other issues and angles out. In the case of media representations, these choices are made at and reflected on at least two levels. First, decisions are made about what to report and what not to: in the field of media studies, this is referred to as agenda setting (McCombs and Shaw 1972, McCombs 2005), Secondly, to make single, otherwise merely incidental concerns comprehensible, all issues and events are connected to broader contemporary, historical or future developments in the world. This is generally referred to as framing (Goffman 1974). Furthermore, certain reservations should be voiced when the interests and intentions behind

these choices are discussed, as the final media representations are always formed as a compromise in the interplay of (un)conscious practices of media production and consumption and the limitations set by media economics (cf. Cunningham, Flew and Smith 2015, Bräucher and Postill 2010, Wright 2011, 333).

Despite these biases and limitations, this chapter relies on and investigates media-based materials collected from the *BarentsObserver*, an online news service focused on reporting on and from the Barents region and the broader Arctic with a view to supporting "political, business and people-to-people contacts across the borders in the region" (BarentsObserver 2014). The Observer was selected as the source of empirical materials for this chapter for several interconnected and overlapping reasons. First, the regional focus of the news portal serves the purposes of the study and coincides with its geographical scope. Secondly, the media practice of citing a broad range of sources in producing news items brings together a wide array of actors, documents, policies, voices and interests that are crucial for understanding the issue at hand. Thirdly, as this research has an explicit interest in the soci(et)al aspects of energy, tracing the elusive social through the materials of a news service dedicated to providing information to promote regional cooperation and development on several levels and fronts – beyond state and corporate interests (cf. BarentsObserver 2014) – offers hope of capturing what are otherwise invisible soci(et)al dimensions. The fourth justification has to do with Russia, on the one hand, and the issue of language, on the other. While Russia is the largest Arctic energy producer – at least for as long as energy is understood as synonymous with hydrocarbons – for the non-Russian speaking research community the language barrier makes it challenging to address Russian perspectives and integrate them into the discussion and analysis. While the citations in the Observer's news items are naturally both carefully selected in the editorial process as well as translated into English, they still offer windows for at least attempting to grasp also the Russian side of the debate. This is a discourse that more often than not is either excluded from or mysticized in Western or Euro-centric academic debates – among which this research contribution to a great extent can be counted.

At the time the case study research was conducted, the BarentsObserver was run by the Norwegian Barents Secretariat and thus owned by the three northernmost counties of Norway, but the situation has changed dramatically since. In May 2015, the owners of the news portal approved a proposal to subject the Observer to stricter political control. Until that time it had operated as a journalistic entity following the principles of editorial independence, often taking a critical stance on the environmental and human rights issues associated with political and industrial developments in the region. The subsequent course of events led to the editor being dismissed, and while the dismissal was later withdrawn, the conflict over the principles of editorial freedom led to the employees of the earlier Observer establishing The Independent BarentsObserver. The original BarentsObserver continues to exist, but only as a news archive and it is no longer updated. All in all, the event prompted critical discussion and concern over freedom of the press both in Norway and elsewhere (for details on the course of events cf. BarentsObserver 21.5.2015; BarentsObserver 28.9.2015; BarentsObserver 14.10.2015; BarentsObserver 29.9.2015; The Independent BarentsObserver 2015). While the principles of freedom of the press are significant far beyond the modest scope of this study, the developments and drama around the BarentsObserver can be taken to strengthen the arguments made in favor of selecting the Observer as a source of relevant reporting on regional issues and thus as a relevant empirical point of departure in the case study.

The empirical materials utilized in this study were gathered from the BarentsObserver internet portal using two methods. First, all 936 entries classified under the section "Energy" were taken into account. Secondly, in order to retrieve articles related to energy that for one reason or another were not categorized under "energy" a keyword search using the term was conducted. After manually deleting overlapping entries – the keyword search naturally also returned entries already retrieved from the energy section – as well as several entries in which "energy" did not refer to energy as it is (open-endedly) conceptualized in this work, a total of 511 news articles were added to the research materials. As a result, a total of **1 447** entries dated between February 19, 2008 and July 31, 2014 were analyzed, the latter date being the date on which all existing entries

were retrieved from the database[21]. This timeframe, while ultimately dictated by the date of conducting the research for this first case study, also makes sense from the perspective of "real-world" developments. The articles reflect the discussions and developments taking place in the region during an era (mainly) characterized by rising and/or high oil prices (cf. OPEC 2016, 91) but one when it was yet to feel the full impacts of sanctions and cooling international relations in aftermath of the Ukraine crisis (for an overview cf. European Union Newsroom 2016).

In practice, the extensive empirical materials were analyzed manually by going through the entries repeatedly to identify the elements in whose interplay the energyscape is assembled and constructed. Although the total number of news entries was quite high, they focused on and followed the course of a limited number of developments and megaprojects, which meant that the same issues, themes and events recurred throughout the period investigated. This made it both possible and reasonable to forego computer-assisted analysis and to proceed with a more arts-and-crafts style, traditional deep reading. In practice, I read the materials over and over again, making note of the elements based on and around which the regional energy puzzle was assembled. I kept "asking" a number of questions of the media materials: What does energy in the Barents region mean? What are the issues forming the context where energy is written about? What are all the considerations relating to the question of energy in the Barents region and its reporting? Is there a space for a "social" and, if so, what kind of space? The answers to these questions are first laid out on the situational map below and then discussed in more detail.

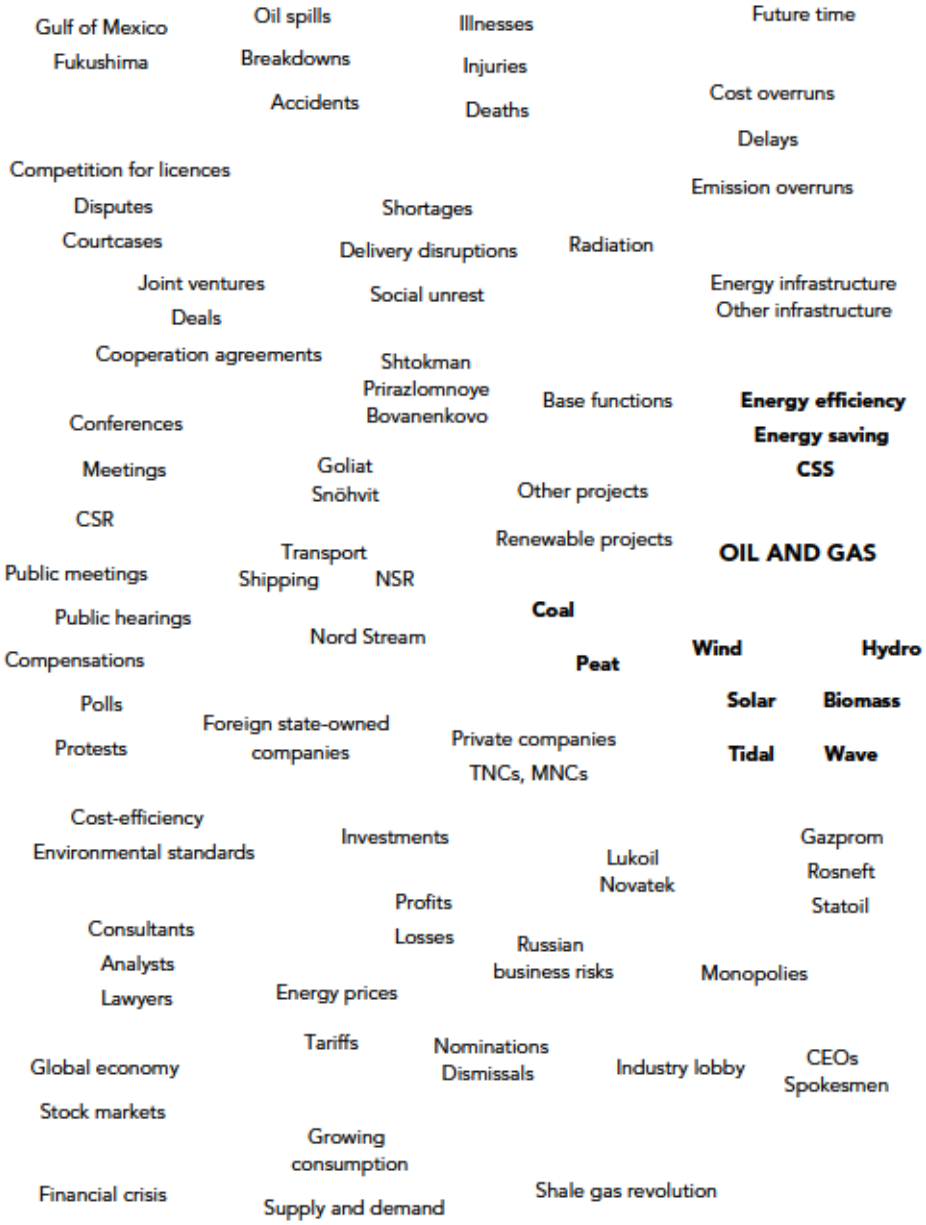
5.3 Situational map: The Barents energyscape

A situational map is above all a visual representational aid designed to assist in capturing the wide range of actors, factors, discourses and elements that constitute and construct the focal situation: it is a rep-

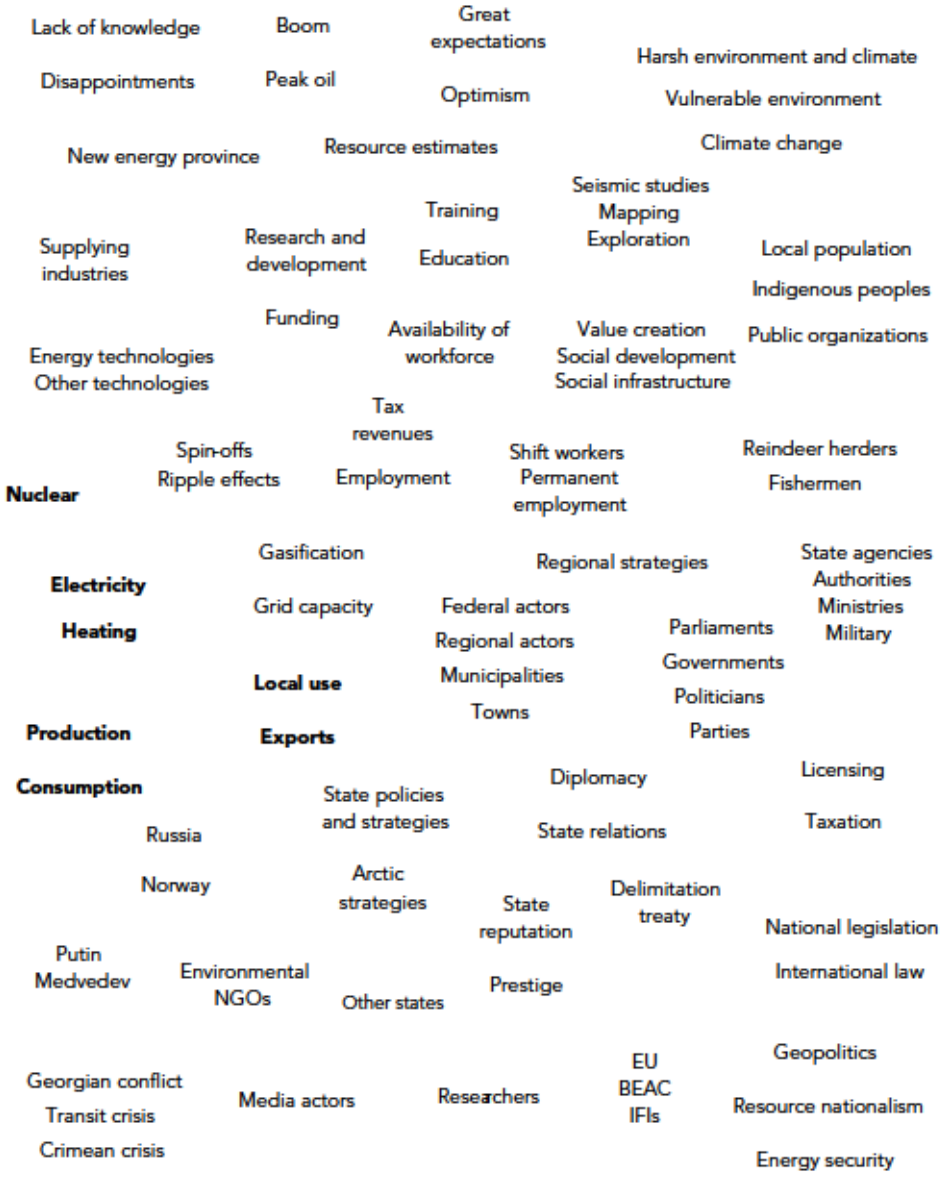
21. In the text, the BarentsObserver articles will be cited by their publication date in the form DD.MM.YYYY.

resentation of "*all* the actors and discourses in the situation regardless of their power" (Clarke, Friese and Washburn 2015a, 16; italics in original). The situational map of the Barents energyscape below thus lays out the elements that are connected, in one way or another, with the developments, debates and policies relating to the issue of energy in the empirical materials during the period under investigation. To enable a reader not yet familiar with the debates and developments taking place in the Barents region to comprehend the surface of the regional energyscape at one glance, the situational map presented below is an "ordered" one: attention has been paid to grouping and categorizing themes, elements and events that appear together in the materials analyzed or that are thematically linked in that they relate to energy from similar kinds of perspectives. However, as the relations change and elements and events emerge and disappear over time, the map should not in any respect be taken to represent "locations" of different elements or their relative distance from each other or the energy concern. The dynamic not captured in the seemingly static image, that is, the manifold and changing relations and framings of different concerns and elements, is discussed in more detail in textual form in the sections following the map. The energy concern itself, however, has been placed in the center of the map for the very reason that it is the core concern of this inquiry.

While the map is an illustrative method of accessibly showcasing the wide range of themes that are linked to the energy concern – "the situation of inquiry broadly conceived" (Clarke 2005, xxii) – it only enables one to address the diversity and controversy around these elements to a limited extent. Different arguments and actors perceive the characteristics, roles and functions of different elements, as well as their interrelations, causes and effects, in very different ways. It also merits pointing out that as a key motivation of both this research endeavor and situational analysis lies in capturing the elements and aspects *sidelined* and overridden by dominant perspectives, the presence of an element in the situational map does not signal equal weight, equal importance or an equal share of attention devoted to it in the original research materials. As this difference in emphasis is not indicated on the map, it needs to be explicated otherwise. In other studies, this consideration has been addressed through separate



Map 2: Situational map of the Barents energyscape


Lack of knowledge
Boom
Great expectations
Harsh environment and climate
Disappointments
Peak oil
Optimism
Vulnerable environment
New energy province
Resource estimates
Climate change
Seismic studies
Mapping
Exploration
Training
Supplying industries
Research and development
Education
Local population
Indigenous peoples
Funding
Availability of workforce
Value creation
Social development
Social infrastructure
Public organizations
Energy technologies
Other technologies
Tax revenues
Spin-offs
Ripple effects
Employment
Shift workers
Permanent employment
Reindeer herders
Fishermen
Nuclear
Gasification
Regional strategies
State agencies
Authorities
Ministries
Military
Electricity
Heating
Grid capacity
Federal actors
Regional actors
Municipalities
Towns
Parliaments
Governments
Politicians
Parties
Local use
Production
Exports
Consumption
Diplomacy
Licensing
State policies and strategies
Taxation
Russia
State relations
Norway
Arctic strategies
State reputation
Delimitation treaty
National legislation
Putin
Medvedev
Environmental NGOs
Other states
Prestige
International law
Georgian conflict
Transit crisis
Crimean crisis
Media actors
Researchers
EU
BEAC
IFIs
Geopolitics
Resource nationalism
Energy security

situational maps of rhetorical and discursive elements (cf. Peréz and Cannella 2013, 50) or relational maps (Clarke 2010, 870); in the present work, however, the relations of different elements and their rhetorical and discursive representations will be taken up thematically in the following.

A new energy province?

The Barents energyscape depicted by the regional energy reporting is without doubt an energyscape of "great expectations" (16.1.2012). Even "promising" (8.8.2011) is an understatement, for, as one source notes, the region's waters "could hide oil and gas resources of elephant proportions" (8.11.2013); they are expected to become the "treasure chamber" (20.6.2010) for the companies operating in the region and the "new petroleum province" (16.1.2012) for hydrocarbon-producing Russia and Norway, which derive a major share of their national budgets from oil and gas revenues and which need new production areas to compensate for the declining production of their maturing fields (cf. e.g. 2.4.2014, 3.1.2013, 22.11.2010; cf. also Statistics Norway 2015, World Bank 2015). This imminent "boom" (23.11.2011) in energy-related activity is expected to nothing less than thoroughly transform life in the region.

Alongside the optimism, one sees a future orientation as an equally prominent feature in the regional energy coverage: the ongoing developments are framed in temporal terms and in project development storylines. The corporate development and investment strategies paving the way for energy production in the region extend forward in time for "the next twenty years" (6.6.2014) or 2030 (8.12.2013); state policies revolving around energy (security) (10.11.2008), the Arctic region (26.5.2011) and climate (13.7.2009) refer to as distant a year as 2050. This is as far as imagining the "bright future" (7.4.2011) of the regional energyscape – the "visionscape" (Sejersen 2002) of Barents energy – extends. It does not, however, extend to a "post-petroleum" era, a time when the inescapably limited fossil fuel deposits of the region have been extracted permanently and there is no more oil and gas left to produce (cf. Kristoferssen and Dale 2014).

In the shorter term, the energy timeline is structured in terms of project phases and development plans. In fact, from a quantitative

perspective, much of the reporting is dedicated to following individual development projects, such as the Shtokman, Prirazlomnaya and Bovanenkovo in Russia or Snøhvit and Goliat in Norway. The histories of these discoveries and individual projects also structure the "memoryscape" (Sejersen 2002) of the energy region (cf. e.g. 10.6.2011, 30.6.2008, 23.4.2010, 28.4.2014). So, too, do dramatic incidents and accidents both within and outside the region, serving as sea changes in the history of the energyscape (cf. e.g. 11.6.2014, 27.6.2013, 15.11.2010, 9.12.2013). The time of energy is also techno-economic time in another sense: it is measured through corporate quarterly reports (e.g. 4.11.2010, 30.6.2010, 15.10.2010) and export, import and consumption statistics (e.g. 11.1.2011, 13.8.2008, 9.9.2009).

While the future of the energyscape extends far beyond its constructed past in years, this feature of the reporting cannot be reduced to a property of the (regional) energy debate. In news reporting in general, different temporal layers exist simultaneously and serve different functions: news serve not only to provide updates on present and immediate past and future developments or report on recent events, but also to analyze near-future impacts, longer-term project consequences and contextualize events from a perspective that makes them meaningful in the context of shared cultural and historical experience (cf. Neiger and Tenenboim-Weinblatt 2016). Particularly striking in the media representations of the Barents region are the ways in which the hopes for a better future are so closely intertwined with the expectations tied to regional energy development.

In addition to paving the way to a prosperous future of unforeseen proportions, oil and gas development in the Barents region becomes depicted as something unprecedented in magnitude. Projects that are unfolding in the cold and icy waters of the northern seas are portrayed as series of "first evers" (cf. e.g. 7.5.2014, 8.4.2014, 6.12.2012, 30.11.2010), as the "northernmost in the world ever" (8.5.2014, also 10.3.2010, 7.7.2008, 29.8.2012), as requiring investments that are the "biggest ever" (20.3.2014), as using technologies especially designed to overcome the extreme cold, darkness and depths of the extreme north (7.9.2010, 20.6.2010, 6.2.2012), but nevertheless as being realized within a "time

frame that is unprecedented" (28.8.2013). In the media citations, these technologies and developments are compared to the "moon landing" (20.1.2011) and the "conquering of the cosmos" (26.5.2011). In this vein, another item states that there is nothing that would prevent taking oil drilling "all the way to the North Pole" (23.9.2008).

The symbolic and mythological proportions of these conquests are also echoed in the names given to Norwegian oil and gas fields such as *Snøhvit* (Snow White) and *Goliat* (Goliath); in the same spirit, national history and identity and the crucial role that oil has had in building the Norwegian welfare society are reflected in the process of naming and re-naming oil fields after key national figures (cf. 23.4.2013). These observations on the geographically marginal but the "culturally central", even mythical, role that the circumpolar north has in Western imaginations (cf. also Hannigan 2015, 22) echo Desbiens' findings in her analysis of Canadian hydropower megaprojects: the narratives of northern energy development recycle and knit together traditional myths and figures in order to construct "a heroic endeavor in which ordinary men could participate and thus become larger than life" (Desbiens 2013, 134). Large-scale energy development does nothing less than bring "civilization to the extreme north" (Tynkkynen 2016b, 390). In the process, it weaves (national) identities and energy-related developments into a tightly-knit, symbolic whole (cf. also Bouzarovski and Bassin 2011, Tynkkynen and Tynkkynen, forthcoming).

Yet, there are challenges for the bright energy future. A crucial one is a lack of knowledge: the visions of the bountiful resources of the region are based on estimates only, and research, funding, cooperation and technological development are needed to turn the estimated resources into utilizable reserves (13.12.2012, 30.9.2012, 18.1.2014, 20.8.2012). In order to overcome the insecurity, mention is made of seismic studies, mapping, and exploration drillings continuously conducted in different corners of the vast region (e.g. 24.1.2012, 22.11.2010, 21.9.2010, 11.8.2009, 4.8.2008). Still, a grave concern remains: it might be shown that the estimates of the quantity of resources have been overly optimistic and unrealistic from the outset (e.g. 10.4.2014, 31.8.2010, 5.10.2012, 7.9.2011; see also Lähde 2015).

Furthermore, even if the resource estimates in the region would be accurate, the great expectations for tomorrow are tempered by the uncertainty created by the harsh circumstances and challenges of today (cf. also Aalto and Jaakkola 2015, 128). As in Desbiens' analysis of Canadian hydropower development, where the North was "a theatre where a confrontation between technology and nature was being played out" (Desbiens 2013, 34), in the Barents region the environmental and climatic conditions "get increasingly tough as the oil industry moves further north into Arctic waters" (31.10.2011). The long distances combined with the inadequate and/or non-existent infrastructure of what is a remote and sparsely populated region pose further operational and financial challenges (4.4.2014, 28.3.2014, 28.1.2014). What is more, the environment in the region is particularly vulnerable to the activities of the hydrocarbon industry (e.g. 14.3.2008, 8.10.2008); the same waters utilized or sought-after by the oil and gas industry are important habitats for birds and other animals and spawning grounds for fisheries (e.g. 23.4.2008, 27.6.2013, 20.8.2012). In addition, the areas most suitable for energy development are often among those high in nature values prized by the tourism industry (24.8.2012, 5.1.2010) or crucial for traditional livelihoods and activities (25.9.2008, 4.2.2011, 4.3.2010).

When the challenges faced by northern energy development are mapped, the changing climate also comes into play: the "happening" of climate change is a reality in the region (cf. e.g. 25.6.2012, 25.5.2010). However, in the energy-related reporting, it becomes framed mainly as an additional technological challenge posed by the requirements for CO2 capture and storage (24.4.2008, 27.7.2009, 10.3.2010). Very little voice or visibility is accorded to the justifications for or necessity of northern hydrocarbon development on climate grounds: scattered references to statements from the Church of Norway, the EU Parliament Environmental Committee and environmental organizations (19.2.2009, 3.10.2012, 6.8.2012) are the only instances where news items engage in the climate debate. This is not the first case, however, in which the lack of attention to climate change has been observed, although it has been noted that the motivations, reasons and strategies for omitting global warming from the processes of (energy-related) decision-making vary.

In Norgaard's (2011, 9) community-level analysis of the "socially organized denial", the (ac)knowledge(ment) of climate change was not the root cause of the denial; it was regarded as a "response to social circumstances" and a "process of social interaction". By contrast, Tynkkynen and Tynkkynen's (forthcoming) state-level inquiry on climate denial in Russia observed outright climate denial and distrust in climate science that were constructed in the name of the country's national identity as an energy superpower. In the case of the Barents energyscape, this ominous silence, accompanied as it is by references to the role of CO2 capture and storage technologies and capping of climate gas emissions, implicitly ties the idea(l)s of northern energy developments to those of ecological modernization (cf. Hajer 1995) and elevates technology to a force reconciling the irreconcilable contradictions between the socio-environment and large-scale, CO2-intensive "development".

Despite the high hopes, the reporting on the today of the Barents energyscape also draws attention to continuous disappointments, setbacks and delays. Expected discoveries turn into dry wells or end up being economically unviable (23.10.2013, 8.4.2013, 5.5.2012, 22.7.2014). Projects under way suffer repeated delays (25.3.2014, 2.1.2014, 18.3.2013), with even the symbolically vital "prestige" projects (8.8.2012) being "postponed indefinitely" (29.8.2012) or plagued by cost and emission overruns, breakdowns and accidents (14.8.2018, 16.10.2008, 14.5.2008, for summary from 2012 cf. 3.10.2012). The contrast between the bright energy future and the contemporary "realities" reflected in and constructed by the regional energy reporting remains stark.

Beyond oil and gas

As discussed earlier, the energy resources of the Arctic as a whole tend to be conceptualized predominantly in terms of the region's vast hydrocarbon resources. This applies very much also to the Barents energyscape, despite the wealth of alternative energy resources available in the region (cf. e.g. Banul 2012, AES 2010, Megatrends 2011). The dozens and dozens of millions or even billions of barrels of oil (e.g. 10.5.2012, 4.9.2012, 26.4.2012, 4.9.2009) and trillions and trillions of cubic meters of gas (e.g. 16.6.2009, 17.10.2010, 27.9.2013) that are constantly

referred to serve as the building blocks of the fantasies envisioning a bright regional energy future. However, what "energy" actually refers to (also) in the context of the Barents energyscape is a concern far more complex and diverse.

Although oil and gas resources and development plans dominate the energy-related reporting in the region, one also find policies, investments and plans related to other energy resources and their production featuring in the debates on energy projects and development as well. In addition to the allegedly abundant oil and gas resources, other hydrocarbons still contribute to the regional energy puzzle: this is the case not only for coal, which continues to be produced in, transported from as well as still consumed in the region (e.g. 19.8.2010, 22.2.2012, 27.3.2014). Peat, too – falling between the (debated) categorizations of renewable and nonrenewable[22] and curiously framed as the "European approach" by a Russian politician (5.11.2011) – continues to play a role, although an admittedly marginal one.

However, it is not coal or peat but the diverse and expectedly massive renewable energy resource developments in all their various forms – wind, hydro, tidal, wave, solar, and biomass – that receive the bulk of the non-hydrocarbon attention in both the media materials analyzed here and regional renewable energy strategies (cf. e.g. 5.12.2013, 7.5.2013, 13.1.2014, 5.6.2009, 10.2.2009, 6.2.2009; for strategies see Banul 2012). Renewable energy is discussed within a variety of frames: in the con-

22. The scientific and political debates on the position of peat have been long and are to still some extent ongoing, as the position of peat as an energy source is ambivalent. While peat is a local energy source and thus a valuable contributor in terms of energy supply security, its use is incompatible with the emission reduction targets required to combat climate change. The IPCC has changed its classification from categorizing peat as a "solid fossil fuel" to regarding it as an energy source in its own category but still including emissions from combustion of peat in the calculations of fossil fuel emissions (cf. IPCC 2006). While the Finnish energy and climate strategies, for example, have shifted away from promoting peat as a renewable energy source to gradually phasing it out (cf. Finnish Ministry of Employment and the Economy 2008, 2013), peat is still considered a "renewable and local energy source" in Russia for instance (cf. Ministry of Energy of the Russian Federation 2010, 122).

text of individual project implementation (22.4.2014, 22.11.2012); as an issue of research and development (14.5.2010, 4.8.2009); in relation to regional economic development prospects (22.4.2014, 6.6.2009; cf. also Heinbach et al 2014); as a matter of security of supply and power generation (14.4.2010, 26.9.2013); and as a means of achieving the greenhouse gas emission reduction goals and renewable energy targets set by various policies (5.6.2008, 8.6.2010, 27.5.2008). While the "emission saving" aspects of renewable energy technologies are regularly cited, references to their environmental or social impacts are few and far between (for a brief summary see Fischhendler, Nathan and Boyme 2015, 198). The slighting of such impacts is to a great extent evident in the Barents energyscape as well, especially where the contexts and concerns relate to other than indigenous peoples.

The above remarks on renewable energy draw attention to one important point that the hydrocarbon discourse does not elaborate on: the fact that energy is not only produced in the region, but also *consumed* there in significant quantities by households and industries alike (4.11.2013, 5.9.2013, 26.5.2009). Just as with issues related to energy production, the concerns associated with the consumption of energy in the region are manifold, vary between different countries and regions and reach far beyond the question of mere amount of energy consumed. Reporting on consumer debts and tariffs highlights the aspects of affordability (e.g. 23.11.2009, 5.6.2009, 15.5.2009, 5.5.2012), whereas news entries on delivery disruptions and shortages demonstrate that the concern over availability still remains timely, especially in the Russian part of the region (22.2.2011, 5.9.2013). Such considerations, in turn, intertwine the regional energy situation with not only global energy markets but also the discussions on and demands for energy security and energy justice *within* the region (cf. chapter 3.1 earlier).

In coverage on the provision of energy for consumption in the region, references are made, for example, to the dire need for modernization and gasification of heating systems in Russia. This discussion revolves around questions of technological development, economic motives and environmental concerns alike (10.1.2012, 10.11.2010, 30.9.2008). In the reporting on Norwegian debates, electricity transmission and inad-

equate grid capacity, which might hinder regional energy development, are key issues (29.8.2008, 22.7.2009). In addition to security of supply, *limiting* the consumption of energy is taken up: entries are found calling for, advocating and formulating energy efficiency and saving measures in the energy industry and others alike. These aspirations, in turn, are motivated equally by the outright saving of resources for more profitable use and exports and concerns over climate change (cf. e.g. 4.7.2009, 30.5.2011, 12.5.2009, 20.4.2009).

As broad as the range of issues presented above is, a crucially important regional energy concern remains to be discussed. Nuclear power – a prominent impetus for political cooperation in the Barents region (cf. BEAC 1993) – remains on the agenda as both an environmental and human concern. The nuclear question manifests itself in discussions of electricity generation (16.12.2010, 27.1.2011, 26.2.2013), safety concerns related to the ageing reactors on the Kola Peninsula (20.5.2011, 27.4.2010, 22.11.2013), the processing and storage of nuclear waste (e.g. 27.11.2013, 29.11.2011, 8.7.2013, 12.2.2010) and the development of nuclear power(ed) technologies (20.1.2010, 8.9.2008, 24.2.2011). While references to the Soviet era are more common in the nuclear-focused reporting than in the other media materials, the time perspective of nuclear power is not exclusively historical. The items analyzed also deal with extensions of reactor lifetime in Russian facilities (27.6.2014), plans for additional nuclear power construction in the Finnish Barents (14.1.2014, 2.7.2010), as well as nuclear events around the world, such as the Fukushima incident (16.3.2011). This coverage ensures that nuclear concerns will continue to remain timely issues within the geographical boundaries of what is here understood as the Barents energyscape.

States and markets (intertwined)

The literature has devoted extensive attention to the diverse interpretations of the role(s) that energy has both in market economies and as a political tool and necessity. While at one extreme energy resources are perceived as a powerful tool of state politics, at the other it is viewed as a value-free commodity traded by the same rules and logic as any other product (cf. e.g. Di Muzio 2016, 201; Chester 2010, Ciutâ 2010). These

viewpoints intertwine with the positions taken on the roles and relations of key actors in the energy context. If understood in its most traditional sense, energy politics is defined as state measures aiming at guaranteeing the availability of energy (Ruostetsaari 1998): this, in turn, molds the perception of the regional energy terrain as a facet of "global geopolitics conceived not as the arena of autonomous nation-states fighting for the world's resources but using world resources as a way to delimit and secure these boundaries" (Desbiens 2013, 176). From a contradictory (or complementary?) perspective, energy-related decisions and choices are shaped in the interactions of different actors and interpretations – in the ongoing negotiations and processes of energy governance (cf. Bazilian, Nakhooda and Van de Graaf 2014, 219). The question of who acts, exists or matters when the energy concern is addressed is also among the themes that situational analysis might have the potential to illuminate. At least Clarke, Friese and Washburn (2015a, 18) emphasize the potential that the framework has for identifying and addressing the variety of "stakeholders", actors and institutions potentially affected by but not recognized in the processes of policy-making, this oversight being among "the most common errors" in policy development (ibid.). This section proceeds to illustrate the ways in which these viewpoints are empirically reflected in the reporting on the Barents energyscape.

In the Barents energyscape, states are portrayed as having a defining role in the processes of energy-related decision-making and developments. This "defining" occurs in a variety of ways: states regulate where, by whom and with what kind of fees energy is produced in the region by arranging tenders and auctions for licenses (22.2.2012, 8.5.2008, 4.8.2010), issuing special decrees (21.11.2013, 1.2.2013, 30.9.2010), developing favorable taxation regimes (e.g. 18.6.2012, 15.4.2012), as well as drafting energy-related legislation and upholding certain environmental standards (21.3.2012, 22.10.2010, 11.3.2011, 14.7.2009). Within the political system, parties aim to determine the courses taken and decisions made regarding which production areas to make available, when and for whom (22.4.2009, 7.4.2009, 19.12.2011). Meetings and negotiations between heads of state, as well as the emphasis on treaties and contracts, place the events in the Barents energyscape firmly

on state agendas (e.g. 8.6.2011, 27.4.2009, 14.5.2014, 26.4.2011). Yet, it must be noted that differences are found between the political and administrative systems in the region, spanning as it does the areas of four different nation-states, each with its distinctive ways of regulating and governing energy-related developments (cf. Economy of the North 2008, 17–22). The differences in this respect are not, however, at the focus of this study; what matters is the consistently mattering role of the state and the state-implemented measures and mechanisms that construct the content of the regional energy concern.

Alongside the "concrete" state-related interests and the implications for states of energy-related decisions and developments, energy-related projects, technologies and practices are questions of states' and industries' reputation (6.7.2009, 10.6.2011, 20.9.2009) and political "prestige" (8.8.2012). In the arena of state branding, adhering to environmental legislation and standards is of crucial importance: both companies and states are eager to position themselves as the developers of best practices and cleanest technologies and as the global leaders in stewardship of environmental values in the operations of the oil and gas industry (3.10.2012, 6.7.2009, 20.10.2008, 1.8.2008). In a related vein, numerous articles can be found in the materials that frame the delimitation treaty which settled the four-decade border dispute between Russia and Norway (cf. Government of Norway 2010) as setting a good example on the global level for solving international disputes peacefully and in accordance with the principles of international law (8.6.2011, 12.8.2013). This kind of "state branding" in the context of the Arctic is not unprecedented: similar tendencies on the part of states to enhance their image have been identified in their Arctic strategy work, with (allegedly) progressive policies on indigenous rights, environmental standards or clean technologies cited as arguments in the process of constructing an (Arctic) identity (cf. Lempinen and Heininen 2016, 13; for Russian state branding see also Larouelle 2014, 12–15).

However, the Barents states cannot be viewed as internally coherent and unitary actors. State policies and strategies which direct and limit the choices made within and in relation to the energy situation overlap and contradict each other, and different ministers and ministries, state

agencies and authorities and regional actors may disagree on the directions and decisions to be taken in regional energy development. This being the case, a state's "relations do not converge around a particular, shared point but produce fragmented institutions, priorities and practices that frequently work in tension rather than in tandem (or 'balance') with one another" (Kristoferssen and Young 2014, 578). In the media materials, this diversity of interests and interpretations between actors within a single state crystallizes into situations where, for example, military interests interfere with energy project implementation or locations (27.3.2012, 24.11.2011, 2.8.2010), where oil and gas production areas are opened up for exploration by one state authority despite the recommendations by another agency to do exactly the opposite (3.2.2013, 27.6.2013) or where one ministry tells another to stay within "their field of competence" (4.8.2010). This heterogeneity of voices from "within" the state does not vitiate, but rather highlights the important roles and the various forms, channels and levels through which energy becomes a political issue in the context of a given state. However, the diversity of voices does render conducting strict relational analyses (c.f. Clarke 2010, 870; Charmaz 2000) between different actors and institutions rather meaningless, as the coalitions and dividing lines between them vary at different times and in the context of different issues.

While state measures and policies undeniably play a crucial role in constructing and constituting the Barents energyscape, market actors and mechanisms are (equally) prominent factors in shaping and guiding regional energy development. Companies – national and transnational as well as state-owned and private – invest in and implement the projects and enact regional energy futures through corporate strategies of investment and development (e.g. 25.9.2012, 31.7.2008, 25.2.2013). They are, however, dependent on global capital and market developments in the implementation of these plans (Desbiens 2013, 173). Supply and demand (13.5.2009, 14.11.2011, 16.1.2014), profits and losses (3.6.2010, 30.7.2010, 9.2.2010) and energy price developments (25.6.2013, 1.7.2014, 15.4.2014) both in the region and elsewhere either provide initiative for implementation or render northern energy projects financially unviable altogether. In the reporting, economic interests are con-

sistently framed as overriding political tensions and concerns: borders are settled to enable energy production (8.6.2011) and the "Cold War" finally ends when a US and a Russian company join forces in search of financial gain (1.9.2011). From the viewpoint of corporate cooperation, energy is perceived and constructed as a value-free commodity traded in free markets and in a field of cooperation bridging political tensions in the name of economic cooperation and regional prosperity.

However, the complicated nature of the state-market distinction becomes apparent on many fronts. While it is at its most evident in the market-oriented tools states employ to regulate energy development or in the peculiar roles and (monopoly) positions of state-owned enterprises (cf. e.g. 1.10.2010, 5.6.2012), they are by no means the only contexts in which the artificial nature of the markets-politics dichotomy is reflected. Political tensions and events such as the Georgian conflict (22.9.2008, 20.8.2008), the transit crises between the Russian Federation and Ukraine (20.1.2010, 6.11.2008) as well as the crisis in Crimea and the subsequent sanctions imposed on Russia (22.5.2014, 19.5.2014, 29.4.2014) all intertwine the artificially separated "political" into the "economic" on the level of political talk as well as through their concrete implications for the energy markets (for how the depoliticized economy and the political always intertwine cf. e.g. De Goede 2003, Newell 2008). The entanglement of the political and corporate levels is evident in a very concrete manner in the reporting on political representation at signing ceremonies or production sites (19.2.2008, 3.12.2008 20.9.2012) as well as in stories of state and regional representatives cooperating with company actors through contracts and memorandums of understanding (30.8.2008, 25.5.2012); these settings indicate that the issue of energy in the north is as much one of markets as of politics.

A distinction similar to the markets-politics dichotomy is the conceptual segregation of the "political" into the sphere of "high politics" (Aalto et al 2013, 1) and the realm(s) of institutional politics. This has been deemed unsustainable in the earlier stages of this work. The broader understanding of the notion of the political allows for seeing the wide range of voices which aim to shape and have a say in the decisions made regarding the future of the regional energyscape.

Energy-related decisions are, first of all, commented on, promoted and influenced by a diverse range of subcontracting and supplying industries with both domestic and transnational backgrounds, often labelled "the industry lobby" (12.3.2013, 5.6.2012, 28.1.2010). Representatives of other regional livelihoods, such as reindeer husbandry and fishing are also involved in energy-related debates (3.2.2013, 8.6.2009, 4.3.2010). What is more, researchers, as well youth and environmental NGOs, both within and outside the region, are insisting on their right to participate in making the decisions concerning future energy developments that may shape the regional and global energy future indefinitely (c.f. e.g. 29.6.2012, 13.9.2010, 29.5.2009, 12.6.2013). What of course needs to be noted in this context is that *aiming* to have a say in the course of developments is not tantamount to having one, nor does being cited in media materials constitute having a say. However, from the viewpoint of this study, assessing these kinds of power relations and possibilities of influencing is, again, not a core interest; more salient is the diversity of different actors and factors making up the mosaic that is the ever-changing regional energyscape. Furthermore, through its reporting – the decisions regarding what to report on and how – the news service BarentsObserver itself does much to shape how the regional energyscape is perceived and comes into being.

Alongside the markets-politics axis – and in a closely intertwined manner – the energyscape of the region is fraught with tensions and polarized between the emphases on cooperation, on the one hand, and conflict, on the other. Both features are accentuated at and between different levels: states cooperate not only with each other, but with corporate actors within and outside the energy industry and, by the same token, end up in conflicts with each other and industry actors. While joint ventures, cooperation agreements, meetings, conferences, deals and negotiations between companies characterize the energy-related interactions in the region (e.g. 25.3.2011, 25.9.2012, 3.3.2011), competition is also a reality – even to the extent that disputes and court cases are not unheard of (25.3.2011, 19.1.2011, 5.8.3008). Companies cooperate with regions and cities, and cities collaborate and compete with each other (cf. e.g. 15.4.2012, 30.9.2008, 28.7.2009 17.2.2012, 10.7.2008). As a whole,

the Barents energyscape is thus formed in the interplay of changing relations of cooperation and conflict at various levels and scales; the actors are not unitary nor internally coherent in their views and positions may and do vary not only between issues, but also on the same issue at different times and in relation to different developments. The messy nature of the positions taken and the relations formed renders the often-presented "cooperation or conflict" configuration used to describe the nature of the energy concern quite absurd, as both of extremes can and do exist in the same energy situation, which, in turn, appears very different depending on the perspectives and actors involved.

Far away or a regional concern?

The remarks and observations made in the sections above have approached the regional energy concern to a great extent through state-centric terms and predominantly within the explicit geographical context of the Barents region and its surrounding marine areas. These emphases mainly derive from the manner in which the energy concern is reported on and constructed in the empirical materials used in the process of analysis. Thus, up until this point, only few references have been made to the connections and intertwinements between the Barents energyscape and events and developments taking place outside the region. Significantly, the regional debates and developments also address a broad range of "external" issues and concerns and on several fronts. While (Arctic) energy issues are often framed through and along the levels of the global, the international, the transnational and the regional (cf. e.g. Aalto and Jaakkola 2015, 128–129), the extent of all kinds of irregular, profound and unexpected linkages and chains of events call into question the conventionalized ways of thinking about (even interconnected) levels and invite conceptualizations that are able to capture the fluidity and mobility of the connections between different actors, elements and events at different spatial scales (cf. e.g. Appadurai 1996, Clarke 2005, Latour 2005).

Indeed, the Barents energyscape is molded by considerations, actors and issues originating from far outside the Barents region. Plans call for transporting the resources produced in the Barents away from the region

to European, Asian or global markets (29.6.2009, 8.5.2009, 27.5.2014, 23.5.2014), to be consumed far away from the locations where they were extracted (Holm 2015, xv). The global nature of energy commodity flows intertwines the regional energy futures with patterns of global energy demand, market fluctuations and technological breakthroughs such as the "shale gas revolution" (24.10.2012). Companies from around the world – in the energy industry as well as its subcontractors, ranging from Petrovietnam and Indian ONGC to Rolls Royce and Daewoo (2.8.2012, 21.8.2012, 7.6.2008, 10.2.2010) and from state-owned to private – have an interest in influencing and a desire to influence the course of energy developments in the region. International consulting companies, lawyers and analysts provide input to regional energy debates (2.4.2009, 21.8.2009, 10.9.2008, 16.9.2009), while institutions such as the World Bank (10.12.2010) and European Bank for Reconstruction and Development (9.6.2009) indirectly shape regional energy developments through their criteria for providing loans. Moreover, agreements entered into by states in the eyes of international law, such as the United Nations Convention on the Law of the Sea (22.11.2013, 21.9.2010), as well as intergovernmental entities such as the European Union (e.g. 3.6.2009, 24.2.2009, 22.11.2012),[23] cause the regional energy concerns to become entangled with broader international frameworks (cf. also Aalto et al 2012).

Not only international political tensions and conflicts, addressed earlier in this chapter, but also natural disasters and events far away impact the regional energy situation. This influence takes place both directly (cf. Latour 2005, 81; Giddens 1984, 61), for example through market mechanisms, as well as indirectly, through the interpretations of different actors (cf. Aalto et al 2012, 36). The Deepwater Horizon oil spill in the Gulf of Mexico – physically far away from the Barents region – led

23. In this context, a remark is in order regarding the terms of the Ukrainian crisis and the related sanctions: while references to the sanctions began to appear in the news data soon after they were first implemented (14.5.2014, 23.7.2014), the temporal scope of this case study has been limited to exclude discussions on the ways in which the sanctions began to be framed after the initial reactions claiming that they would "curb" (14.5.2014) Arctic oil.

to a temporary halt in deep-water drilling in the region and saw several actors within and outside the region voice concerns over the detrimental impacts a similar spill would have in the Arctic region (cf. e.g. 8.6.2010, 3.10.2012, 15.11.2011, 20.8.2012). A similar chain of events was triggered by the Fukushima disaster in Japan: it influenced regional debates over construction of additional nuclear power in Finland and contributed to changing energy policies in Germany, which again revised the future horizons for the Barents energyscape (cf. 16.3.2011) – at least for a limited time.

At the same time, and despite its inextricably inter- or transnational nature, the energy concern in the Barents region is also a profoundly regional one. The energy developments taking place in the region have been reserved an instrumental role in turning around the patterns of depopulation and economic decline plaguing the northern towns, counties and municipalities. Developing the energy industry has become synonymous with the urgent need to develop regional economies (cf. Aalto et al 2012, 22), as energy developments create "spin-offs" (12.7.2012, 7.4.2011), "ripple effects" (27.2.2013), business and knowledge clusters (15.4.2012, 17.2.2012, 11.6.2010) and service and base functions (12.10.2011, 13.7.2009, 5.6.2009). They contribute to improved infrastructure (28.6.2014, 1.12.2008), create incentives for training and education (26.1.2009, 9.7.2008) and bring tax revenues, employment and increased income (12.6.2013, 27.1.2012, 5.6.2011,1.7.2014). In sum, they mean *"taxes, roads, employment, expertise for the region"* (28.9.2012; italics mine). The bright regional futures are constructed around employment estimates of varying proportions, some suggesting that the availability of skilled workforce will become a concern (15.6.2011, 24.8.2012). In the wildest of estimations, Arctic projects in Russia alone were projected as bringing "200,000, 300,000 and probably even 400,000 jobs" (15.4.2012) to the otherwise economically challenged region.

This tendency to associate development in the extractive industries with prospects for employment in "economically weak remote regions" (Stammler and Wilson 2016, 1) is not a unique feature in the Barents energyscape. The expectations associated with energy development "tend to be the same, no matter how many times such expectations have been

disappointed or opportunities wasted in other regions in the past" (ibid.). As the region "needs the incentives (such as infrastructure, capital, and new workplaces/industries) that [only] petroleum is thought to be able to provide" (Kristoferssen and Dale 2014, 217), the local support for petroleum activities – the source of jobs opportunities, economic ripple effects, livability and local benefits of all imaginable kinds – often remains strong (Loe and Kelman 2016; Smits, Justinussen and Bertelsen 2016, 131).

However, regional responses are not wholly free of conflict. Alongside competition between different cities and municipalities, conflicts arise between the interests of different industries and livelihoods, especially the traditional ones whose "symbolic importance […] can often exceed their economic importance" (Kristoferssen and Dale 2014, 217). Around the region, energy infrastructure impacts the areas traditionally used for reindeer herding, as pasturelands become fragmented and the migration routes of the herds are blocked by energy installations (4.2.2011, 4.10.2010, 21.10.2008). Likewise, fishers raise concerns over the impacts of oil and gas activities and potential accidents on their livelihoods (3.2.2013, 29.6.2012). In extreme cases, areas reserved for energy development projects are being closed off, with their recreational use by the local populations[24] prohibited (5.8.2008). Furthermore, the tourism industry relies heavily on the nature values of what is an environmentally vulnerable region, values that potentially conflict with those that drive energy activities (5.6.3013).

Energy-related concerns are formally being heard and integrated into processes of decision-making through polls (24.1.2012, 15.4.2010) and participatory practices such as public hearings and meetings (4.2.2011, 5.3.2010, 3.3.2010, 17.4.2012). In some cases people are even being compensated financially (4.2.2011, 8.10.2009, 8.6.2009). Yet dissatisfaction and protests remain (13.7.2010, 27.4.2010, 19.9.2012). What all of these forms and spaces of political agency share is their *reactive* nature. As observed by Kristoferssen (2014, 7), the "movement northwards was

24. Despite the wealth of news items analyzed in this study, references to local residents or populations are extremely scant. In the very rare cases in which they are referred to, their presence in the Barents energyscape is implicated, as local residents are practically never directly cited and thus not given a voice of their own.

negotiated between the industry and the government". The northern communities were only left to discuss, debate and strategize "how to respond" to what were inevitable, large-scale, life-changing energy developments.

5.4 Intermediate conclusions: An Arctic energyscape remapped

The aim of this empirical chapter has been to remap the constituents of the regional energy debate in order to begin to grasp the diversity of elements and developments whose interplay shapes the Arctic energyscape of the Barents region and its social dimension. What has been extracted in the course of the analysis is a stunningly diverse range of issues that are intertwined with the perspectival whole of the Barents energyscape. As the empirical materials utilized in this case study consist of media representations only, all actors and elements that are constructed as meaningful in the context of energy are "implicated" (cf. Clarke 2005, 47) ones. This means that they are framed from certain perspectives by certain actors with certain aims, values and interests and through certain conventionalized practices of news reporting. The news entries not only borrow from the linguistic representations of other actors through citations, but also construct framings and windows of their own coloring how the energyscape is seen.

The titles or themes under which the sections above have been arranged can be taken as alternative, competing and/or complementary themes, storylines or discourses through, along and within which the regional energyscape becomes both understood and further constructed. In the light of the primary concern of this work, the most interesting observation might very well be what is *not* among these themes: indeed, the absence of a section dedicated to the explicit "social" in the energyscape directly reflects the relative weight assigned to that concern in the reporting. Any social aspects of the energy concern beyond socio-economic considerations remain elusive and implicit. The number of observations or findings is at best scanty, even in the context of an analysis of media materials which, by definition, could be expected to syn-

thesize different kinds of perspectives and voices into a comprehensive, potentially more balanced whole. However, beyond the socioeconomics of employment and income, (symbolic) practices of public participation and abstract references to "value creation" (30.6.2008), corporate social responsibility (25.5.2012) or "social development" (7.11.2008) and "social infrastructure" (22.10.2008), the 1447 news entries of energy talk succeed to a great extent in evading any explicit and extensive attention to the social dimension associated with energy at least as the concern would be conceptualized in broader contemporary academic debates (cf. chapter 3).

These observations are not meaningless: the ways in which the energyscape is reported on and depicted not only reflects the (energy) situation but also creates understandings of what is important, noteworthy and, in the end, what matters or exists in the situation in and based on which the choices and decisions about energy are being made. Indeed, every bit as important as analyzing what is made visible and meaningful is drawing attention to who or what is "there", but whose presence is not made explicit (cf. Clarke 2005, 47). At the same time, the lack of attention devoted to the social dimension in its explicit articulations does not mean that the regional energy concern is not an intrinsically social phenomenon: all the talk about energy in the Barents region would make very little sense indeed without the meanings and functions that are assigned to energy soci(et)ally and culturally, even if these are not articulated and specifically addressed.

Although the aim of this case study has not been to compare reporting between the energy-related news coverage categorized under the "Energy" section and other energy-related materials, a remark is in order on a crucial difference observed between the two sets of news items reporting on energy. Whereas the entries classified as "energy news" to a great extent revolved around and borrow from the vocabularies of economics, engineering, technology and environmental concerns, the entries retrieved by the keyword search revealed a broader range of issues, themes and developments taking place and relating to the Barents region that energy is inseparably intertwined with. This observation only confirms earlier findings in the academic literature that energy continues to be discussed through the frameworks of economy/econom-

ics and the environment despite the multitude and complexity of ways in which energy in all its phases, forms, interpretations and side effects is linked to all aspects of soci(et)al life.

Energy development and related decisions are not taking place in a void or separate from other regional development issues and trajectories. Thus, a full understanding of the regional energyscape would require taking into account factors beyond discoveries, projects, resources and investments: what would be needed is an analysis of how "economic development, environmental concerns, personal and professional growth, family relations, work-life balance, and other quality-of-life topics" (Sørnes, Browning and Henriksen 2015, 3) come into play and come together when looking at the region through the culturally mediated prism of the energy concern. As a region, the Barents is thus not one of resource production only: it is at the same time "a region made up of fragmented peoples, resources and territories linked by many asymmetrical relations, flows and networks of political and economic power" (Tennberg 2015, 92) – even if this multiplicity is not reflected in the political debates or majority of scholarly contributions on the regional energy concern.

Before moving on, one additional point that needs to be clarified is the relationship between this chapter and the notion and/or the goal of development in the context of the regional economy. The "great expectations", fears and concerns for the future are not those of the author: they are represented in this study only insofar they are reflected in the research materials. Indeed, what I wish to highlight is that the Barents – a region depicted predominantly in terms of investments, economic development prospects and enormous energy potential – is also the living environment of people(s) with various (energy) needs and interests, sociocultural and economic backgrounds and livelihoods that are often in conflict with the requirements and consequences of local energy development. The narrow, explicit "social" and its unquestioned "development", framed as they are in terms of the twofold goal of employment and income prospects, reduce impacts on lives in and beyond the region to measurable, quantifiable indicators which are blind to aspects of life and changes in the world that cannot be reduced to numbers.

6. TRACING THE ELUSIVE SOCIAL: A PAN-ARCTIC PERSPECTIVE

In the previous chapter, the question of northern energy was open-endedly explored in a sub-regional case study of the Barents energyscape. The study drew on research materials consisting of media representations relying on and citing a broad spectrum of other voices and sources ranging from corporate press releases to political statements, research findings and NGO campaigners; the only sources lacking were non-expert human beings. On this basis, the empirical analysis sketched an astonishingly multifaceted as well as disturbingly biased understanding of the diverse aspects that are woven together to comprise the regional energy concern. On the one hand, the case study demonstrated the intertwinements of energy in all its forms and in all its phases with the acute concern of regional development in the north; on the other, it showed how few if any explicitly social considerations, especially those beyond socioeconomic concerns, were integrated into the regional energy debate. The discussion on the issue of energy in its own right bore a strong resemblance to this, as "energy" appeared, if not completely reduced to, then at least as revolving around regional oil and gas production. It was these observations that prompted an interest in delving deeper into the ways in which both of the notions – energy and the social – as well as their interrelations, have been conceptualized in scholarly contributions on the Arctic. The present chapter undertakes to ascertain what exactly are we talking about when we discuss energy and the soci(et)al in the context of the circumpolar north.

6.1 Eyes on the Arctic: The empirical data set

Where the previous chapter focused on the empirical applicability of the notion of energyscape, this chapter does not occupy itself as much with the different constituents of the regional energy concern as with the explicit ways in which the social dimension is defined and constructed in the Arctic energy region. Furthermore, the geographical focus of inquiry is expanded from the "sub-region" of the Barents to the Arctic as a whole and as a(n energy) situation. As is common practice in SA-inspired research settings, the empirical materials utilized in this study have been gathered from multisite sources. Accordingly, the process of data selection and gathering has been informed by the goal of comprehending the regional energy concern as well as its social dimension at different levels and contexts, from different perspectives and through different kinds of practices and cultures of knowledge production. If the focus in the previous chapter was on the analysis of media materials – deemed to be the best available source for gaining an overview of the diversity of the issues comprising the regional energy concern – the following empirical analysis attempts to fill the gaps in the reporting and the silence around the social. It does so by examining assessments and reports that reflect and construct the scientific understandings of energy and the social in the region. This choice of materials has been made on the assumption that despite its limitations as a cultural practice (cf. e.g. Epple and Zittel 2014), scientific inquiry can potentially provide a systematic, in-depth perspective on the focal issue – the Arctic energyscape and its social dimension.

For the purposes of this empirical study, a total of 12 documents have been analyzed with a view to the rather openly formulated research questions presented above. The reports and assessments analyzed were the *Arctic Human Development Report I* (2004) & *II* (2015); *Arctic Social Indicators I* (2010) & *II* (2014); *Arctic Resilience Interim Report* (2014); *Arctic Energy Summit* final report[25] (2010); *AMAP Oil and Gas Assess-*

25. The 2010 Arctic Energy Summit report was the only one of its kind at the time of conducting the research for this case study. The Summit has later developed into a biannual event (cf. Arctic Energy Summit 2016).

ment (2010); AMAP's *Arctic Oil and Gas* report (2007); AACA-C report on *Socioeconomic Drivers in the Arctic* (2014); *Economy of the North* I (2006) & II (2008) reports; and *Megatrends* (2011). Of these, the first *Arctic Human Development Report* (AHDR 2004) set the goal of developing baseline knowledge for human development in the north; the second AHRD (2015) gives a ten-year update on the picture of Arctic human development. The *Arctic Social Indicator* project (ASI-I; ASI-II) built on the findings of the first AHDR and sought to develop concrete indicators for tracking and grasping social change and human development. The *Arctic Resilience Interim Report*[26] (2013) aimed at identifying drivers, thresholds, shocks and shifts crucial for human well-being in the rapidly changing Arctic in order to develop strategies for adaptation and transformation (ARR 2013, xi). The *Arctic Energy Summit* project was initiated to stimulate dialogue and a "balanced approach" to "creating energy wealth while eliminating energy poverty" in the north (AES 2010, 5). AMAP's *Oil and Gas Assessment* (AMAP 2010), as well as its summary report *Arctic Oil and Gas* (AMAP 2007), undertook to expand on earlier work focusing on environmental aspects of Arctic energy developments by providing a "holistic assessment" (AMAP 2007, iii) of social, health and economic concerns related to energy in the north[27]. As its title indicates, *Socioeconomic Drivers in the Arctic* (Socioeconomic Drivers 2014) focuses on the drivers of societal and economic changes in the north and devotes special attention to the issue of energy in the region. Finally, the *Economy of the North* reports (2006, 2008) delve deeper into the complexities of northern economies, while *Megatrends* (2011) outlines the nine major development trajectories shaping the futures of Arctic societies.

26. The final version of the Arctic Resilience Report was not yet available when this study was conducted. At the time of writing, the report was expected to be published in May 2016 (Arctic Council 2016).
27. As a whole, the AMAP's Oil and Gas Assessment is a massive piece of work which reports also on environmental and health effects of Arctic oil and gas in addition to socioeconomic effects. However, for the purposes of this study, only the introduction, conclusion / summary and the chapter specifically dealing with socioeconomic effects have been analyzed.

While all of the reports focus on or touch upon either the human or social dimensions of the north, energy or their complex interface, there are differences in emphases between the publications. Some attempt to give an overview and capture the state of "human development" (AHDR I, AHDR II, Economy of the North I & II) in the Arctic at a given point in time, some focus on attempting to monitor ongoing and anticipated developments (ASI-I, ASI-II) and others seek to learn from past experiences (AMAP 2010) or to project and prepare for the future in the region (Socioeconomic Drivers 2014, ARR 2013, AES 2010, Megatrends 2011). Most importantly, what the reports and assessments share is their geographical or regional approach: the Arctic is discussed and thereby also constructed as a distinctive region (AHDR-II, 45), "the emerging energy province" (AES 2010, 12), through a "pan-Arctic perspective" (ARR 2013, 10) and, from the conceptual points of departure of this work, as a situation. Together, the reports span a decade of scientific attention dedicated to questions of energy and the social in the Arctic. In taking up overlapping themes and referencing one another amply, the reports can be seen as bound closely together into a coherent whole.

Naturally, there are grounds for ultimately drawing on this particular combination of documents. First, several of the documents share a direct connection to the Arctic Council, which is the primary "platform through which knowledge on the Arctic, its development and changing environment is constituted" (Sinevaara-Niskanen 2015, 23). The AMAP oil and gas documents, AHDRs, AACA-C's *Socioeconomic Drivers* report, the *Arctic Resilience Interim Report*, as well as the *Arctic Energy Summit* project, all represent work done directly under the auspices of the Council and its working groups. The *Arctic Social Indicators* documents, while published by the Nordic Council of Ministers, are a direct outgrowth of the Council's 2004 *Arctic Human Development Report*. The *Economy of the North* reports I and II, also published by the Nordic Council of Ministers, were also outcomes of projects carried out under the Council's Sustainable Development Working Group (cf. Statistics Norway 2015). Likewise, the Nordic Council of Ministers was responsible for the publication of the *Megatrends* report. The science-based documents cited here serve the interest of this chapter, which is to

expand the geographical focus of inquiry from the Barents region to the broader (Euro-)Arctic and to bring forth scientific perspectives to complement and deepen the media depictions of the (social in the) Arctic energyscape. The validity of these documents for the purpose derives in part from their sources, the Arctic Council and the Nordic Council of Ministers. The former is "the leading intergovernmental forum promoting cooperation, coordination and interaction among the Arctic states, Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic" (Arctic Council 2015), the latter the primary forum for Nordic governmental co-operation (Nordic Council of Ministers 2015).

The analysis of these documents again loosely follows the basic principles of situational analysis applied in the previous chapter on the Barents energyscape and discussed in detail in chapter 4.3; however, in this chapter a situational map is not used, as textual clarifications enable a more detailed and more informative approach. In the process of analysis, the materials were read thoroughly and repeatedly keeping in mind the sensitizing concepts of "energy" and "the social" and asking how energy is understood in the Arctic and how its social dimension is perceived. While these questions might sound simplistic, the findings of the first case study analysis confirm the need for such basic and fundamental concerns. After thematically dealing with what energy and then the social encompass, I provide what could best be described as a relational analysis; that is, I present in explicit detail the ways in which energy and the social relate to each other in this set of scientific assessments and reports dealing with the Arctic.

6.2 On energy

Before addressing the intertwinements and entanglements of energy and soci(et)al development in the circumpolar north, attention must be directed to the question of energy itself – in all its diversity and complexity. In the assessments and reports, questions associated with energy are often bundled under the umbrella of "industrial development" (e.g. Economy of the North 2008, 11–12) or "economic activity" (AHDR-II II, 151). When energy is explicitly addressed, discussion tends to begin with references to the huge share of global hydrocarbon resources that the Arctic holds[28] (cf. e.g. Economy of the North 2006, 36; Socioeconomic Drivers 2014; AHDR-II, 158) and the significant role that energy extraction activities have in the northern economies; petroleum is described as the region's most valuable natural resource (Economy of the North 2008, 30; Megatrends 2011, 62). As the report goes on to point out, most of the Arctic resources continue to be transported elsewhere for processing (Economy of the North 2006, 20, 27) and the Arctic appears to remain the "frontiers" region (Megatrends 2011, 10) and the global storehouse for resources (AHDR-I, 22) that it was already before developing the region's energy potential emerged as an economic possibility in regional development debates. However, one also sees voices that call for developing the Arctic as "an energy province" by and for the people of the north (AES 2010); that is, there has been discussion, albeit limited, on the ways in which resources and their value become defined. For instance, the *Arctic Resilience Interim* report (2013, 63) explicitly defines valuation as "a social (multi-actor) process" and expresses concern over "collective recognition of the values embedded in the Arctic" (ibid.), noting that "societies place different values on different aspects of nature" (ibid., 20)[29]. However, the economic potential

28. Numerous uncertainties related to accessibility, technology and costs remain in relation to actual implementation of the projects and they are acknowledged and addressed in the reports (c.f. AHDR-II, Socioeconomic Drivers 2014, Economy of the North I, II).

29. Indeed, perceiving values as fixed, let alone prices as absolute expressions of value and/or "unitary prime movers" (Ferry 2016, 82), ignores the processes through and

of the region's energy endowments remains the defining frame through which the issue of energy is addressed.

In the majority of the reports (e.g. AHDRs, Socioeconomic Drivers 2014, AMAP 2010), the discussion surrounding energy is limited to the *production* of oil and gas, related projects and the impacts of the different stages in their lifecycles from prospecting to decommissioning (especially AMAP 2010, 3_2). At the other end of the spectrum, the final report of the *Arctic Energy Summit* adopts an approach that differs in two respects. First, the report places an emphasis on the development of Arctic coal (cf. also Economy of the North 2006, 30), which requires "[e]ducation and communication programs" in order to enable a "paradigm shift that will allow the world to view coal as a transformational fuel and a transitional hydrocarbon resource, rather than a "dirty combustion fuel" (AES 2010, 11). Secondly, the report highlights the "wealth of renewable energy resources including wind, hydro, tidal and geothermal" (AES 2010, 7) in the Arctic energyscape. The *Megatrends* report discusses the role and development of renewable energy alternatives and their status around the Arctic region in great detail (Megatrends 2011, 149–168), while the utilization of further alternatives, such as biomass, are also mentioned (Economy of the North 2006, 35). Both coal and renewables, burgeoning topics covered in the Barents energy reporting, also feature in scientific assessments of the energy potential of the Arctic region. However, also in the Arctic at large the role envisioned for them is mainly a complementary one.

While the assessments and reports focus predominantly on energy production throughout, they also broach the issue of energy *consumption* and its "use for the people of the North" (AES 2010, 5; also ibid., 7). Paradoxically, the north is not only framed as a region of tremendous energy wealth but also one of energy poverty (AES 2010, 12), which, in the specific context of northern communities is understood as vulnerability to the "uncontrolled price increases or loss of reliability of energy

by which they have become to be considered as such: they do not account for the sociocultural encounters within which "they got to appear as packaged, how exactly they interact with other things, and how they come apart"(ibid., 83). Thus, also the notion of value should be seen as situated and contextual (De Goede 2003, 91).

supply" (ibid., 24) and the "debilitating" costs for energy, especially for rural settlements and subsistence livelihoods (ibid., 5). In short, "*quality of life* in these rural villages is *dictated* by the cost and availability of electricity" (ibid., 8; italics mine). In the work underlying the AES report, the ultimate goal set is "energy self-sufficiency in the Arctic" (ibid., 13), which according to the report can be achieved by limiting energy consumption and developing the region's energy resources "by and for the residents of the Arctic" (ibid.,7, 11). For its part, the *Megatrends* report deals with strengthening energy security in the region by reducing its dependence on oil and gas (2011, 12) and developing of technologies for energy efficiency and saving (ibid., 200). As a whole, the consumption of energy is a nuanced and complex topic in its own right, one deserving much closer scrutiny than it has been given thus far in other than academic debates.

In the Arctic assessments and reports, the energy concern is at once an inseparably global and an undeniably regional concern. On the one hand, the prospects of local energy projects depend on and interact with economies, markets and trends on the global scale and with the fallout of events far beyond the imaginary boundaries of the geographical Arctic (ARR 2013, 62; Socioeconomic Drivers 2014; AHDR-II, 152); on the other hand, the Arctic energy reserves are frequently framed as one of the crucial factors behind the increasing interest in the Arctic region at large (cf. e.g. Socioeconomic Drivers 2014, 17; Megatrends 2011, 200). In fact, Arctic energy developments are seen as shaping "how the world defines energy security" (AES 2010, 24). The question of consumption cross-cuts this debate: there is a need to balance the concern over "local energy needs" and Arctic "energy poverty" (ibid., 7) with the role reserved for the "High North as a source of new energy for the world" (ibid., 6). Energy production is thus not only a significant commercial activity for Arctic nations and communities; increasing attention is paid to the foundational role the resources (would) have in satisfying the region's own energy needs (Socioeconomic Drivers 2014, 8).

An interesting feature in the hydrocarbon-dominated Arctic energyscape is the ambivalent relationship that the energy discourse as a whole has to the hot issue of climate change. Indeed, most of the reports ana-

lyzed make no reference at all to the connection between the region's hydrocarbons and climate change. Only in few instances is an explicit stand taken on the climate concern: where this occurs, (green) energy is framed as a requirement "to tackle climate change and other environmental problems" (Megatrends 2011, 163). Technology, as is often the case, is seen as having the potential to reconcile the clash between hydrocarbon energy production and global climate concerns by solving issues ranging from carbon capture and storage (AES 2010, 17) to how Arctic coal is used "elsewhere in the world" (ibid., 11). These observations echo the findings from the media representations of the Barents energyscape. In the context of Arctic energy, climate change is above all a technological challenge to be successfully tackled rather than an instance of "force majeure" that would require the region's hydrocarbon resources to be left untouched. This remains the case despite the explicit acknowledgement that "parts of the Arctic are seriously involved in the global greenhouse gas balance", owing to both the comparatively high levels of per capita consumption (Megatrends 2011, 151) and the energy intensity of large-scale extractive operations (Economy of the North 2006, 12; see also ARR 2013, 43). There is very little mention of what happens to resources originating in the Arctic that end up being consumed elsewhere.

6.3 Integrating the social: The human dimension

Background: An Arctic "social" in change

Before moving on to address the societal in relation to the energy concern, a brief account will be given of some perspectives on the "baseline social" in the assessments and reports analyzed. These viewpoints merit pointing out in their own right as well as for the implications they might have in beginning to grasp the social in the explicit context of energy.

In readings of the ways in which the social is portrayed in the assessments and reports, there appears to be something very distinctive about the social dimension of the Arctic compared to "the social" in the abstract elsewhere: its features are considered "unique" (Socioeconomic Drivers 2014, ix) and "special" (AHDR-I, 17), even to the extent that a

particular set of region-specific indicators has been developed to monitor its development (ASI-I, ASI-II). In addition to being globally distinctive, the region is demographically (AHDR-II, 53–104) and "socially and culturally" (AHDR-I, 45) diverse. Indeed, it is far from homogeneous when measured by any number of parameters: there are differences between and within regions and gaps in terms of rural-urban and gender divides (AHDR-II, 20). Furthermore, "development" as measured by different indicators does not follow similar directions even within the same sub-region (ASI-II, 88). All of these complexities are amplified by the widely acknowledged lack of data on social issues in the region[30], which the reports and assessments, for their part, have set out to rectify. As a result of all this diversity and uncertainty, the very same assessments and reports attempting to comprehend the soci(et)al situation in the Arctic from a pan-regional perspective are forced to approach their topic through fragmented and fragmenting case study perspectives and construct it on that basis (AMAP 2010, ASI-II, AHDR-I, AHDR-II).

Although the Arctic social remains situated, diverse, unequally and unevenly developed and inadequately known, the discussions on the soci(et)al aspects of the region seem to agree that the region is undergoing a *change*. The reports portray "the Arctic [as] one of the most rapidly changing regions on the planet" (ARR 2013, ix). This change is described as "rapid and fundamental" (Socioeconomic Drivers 2014, iii) and unprecedented in rate and magnitude (AHDR-I, 249). The causes of this change are seen as originating both within and outside the region (ARR 2013, 35); they are frequently categorized under the umbrellas of environmental and/or biophysical and social processes of change (e.g. AHDR-I, ARR 2013; Socioeconomic Drivers 2014), all of which, in turn, have "complex interactions" (ASI-I, 21) with each other and are interconnected and mutually reinforcing (ARR 2013, x; AHDR-I, 20; Socioeconomic Drivers 2014, iii). The reports frequently

30. Interestingly enough, it is the process of resource development that has contributed beneficially to data availability in the Arctic. However, as a result, data is available mainly from the regions where large-scale industrial developments have been planned or have occurred while communities located further away from prospective sites "many not have ever been surveyed" (ASI-II, 204).

note the existence of "multiple stressors of change" (ASI-I, 11), and point out that other processes of change – "social, economic, political, and cultural trends" (ARR 2013, 35) and globalization [31](AHDR-I, 20) – can in many cases have impacts that locally outweigh the magnitude of the climate concern (ARR 2013, x; AHDR-II, 29), which elsewhere is often depicted as *the* threat to the Arctic and its societies.

However, while the change in and of Arctic societies tends to be framed in terms of concerns over "cultural losses and social ills" (AHDR-I, 45) and as a threat to the resilience and sustainability of Arctic communities, the assessments, albeit rarely, point to the necessary and healthy nature of change. As they note, change should be perceived as "an aspect of all societies and cultures" and "more "normal" and in that sense "healthier" than stagnation" (AHDR-I, 50). Furthermore, not all change is undesirable: some changes are essential in order "to ensure the long-term viability of Arctic social and economic systems" (ARR 2013, 4), as not everything we might want to sustain or maintain is actually *sustainable* in the strict sense of the term (cf. Vallance, Perkins and Dixon 2011, also Sneddon 2000). Some changes in the Arctic will be "deliberate transformations", while others will originate in and be reinforced by the actions taken to "cope with and adapt to the changing drivers and new combinations of pressures" (ibid., 35). All in all, the overall impact that the ongoing and accelerating developments and processes of change have already had on the Arctic region is described as "decisive" (Megatrends 2011, 9). The assessments and reports portray an Arctic where the rapid and overlapping changes continue to "challenge" (AHDR-II, 21) and "have profound implications" (ARR 2013, xi) for Arctic communities and societies.

31. Overland (2016) has pointed out the largely neglected role that energy has in the context of globalization. In his view, energy cannot be perceived as "a set of simple commodities" owing to the "crucial role in the functioning of societies" that it has. From this perspective, energy can be perceived as an individual, under-discussed driver of globalization. In his words, "the accelerating globalization of energy works both ways": the world's energy supplies are increasingly interconnected and greater volumes of resources are moving across constantly greater distances (ibid., 123).

The role of energy-related developments cannot be overlooked in these processes of change or the debates on them. In fact, the assessments tend to frame energy as a *driver*[32] of change in the contemporary Arctic region. It is described as a "significant new driver" (ARR 2013, 5), an "important economic driver" (AHDR-II, 402), a "major driver of social and economic change" (AMAP 2010, 7_4) and as a driver "external" (AHDR-II, 183) to Arctic communities and societies[33]. Energy, categorized among the "social" and/or "non-climatic" drivers in the region (Socioeconomic Drivers 2014, iii; ARR 2013, xiii), is, as a whole, nothing less than one of the fundamental "driving forces in society" (ibid., 21), an impersonal force of change in its own right. However, while energy is repeatedly referred to as such, it is of course not energy itself that "drives" the events and developments taking place in the Arctic. The demand for energy resources and development is driven by economic and political interests and actors (AMAP 2010, 2_4) and predicated on future-oriented scenarios conceived based on "a function of population, affluence and technology" (Socioeconomic Drivers 2014, 8). While energy demand is clearly driven by accessibility, energy prices, improved technology and aspirations of (energy) sovereignty and independence (ibid., 18), these factors are not discussed or acknowledged to any major extent. Instead the Arctic, its energy project and its energy developments are constructed as "subject to outside forces" (AES 2010, 15) or even "determined" (AHDR-I, 157) by outside events and developments in very abstract and imprecise terms.

Development – or sustainability? Or well-being? Or resilience?

Against the background of rapid change, uneven and unequal conditions, a lack of knowledge and unpredictably interacting drivers of change – among which the role of energy cannot be downplayed – the ultimate concern to emerge in the Arctic energyscape is *human development*. The human or social dimension in the north has become "a matter

32. The Arctic Resilience Interim Report defines a driver as a "natural or human-induced factor that causes change in a system" (ARR 2013, viii, also 43).
33. The perspectival nature of the internal-external categorization is also noted in passing in the ARR (ibid., viii).

of widespread concern and interest" (ASI-I, 7) and a target of tracking, quantifying and measuring (ASI-II, ASI-II; cf. also Sinevaara-Niskanen 2015). Much of the concern revolves around the rapid increase in large-scale industrial activity in the region, especially combined with other "stressors" (ARR 2013, xi) associated with change. The fundamental question to be addressed is: Does the "growth in this area of the economy favor human development, the capacity of indigenous and other local Arctic residents to control their fate, to allow the development of their full potential?" (Economy of the North 2008, 12).

In many instances, the assessments employ the term "(human) development" without defining it or use it nearly interchangeably with other closely related concepts. There is, however, a shared underlying assumption of the GDP as an inadequate indicator of human development in the Arctic (cf. e.g. AHDR-I, AHDR-II, Economy of the North 2006, Economy of the North 2008, ASI-I, 54–56). Thus, while it is noted that "human development may also be fostered by growth", and economic theory assumes an increase in welfare as a result of economic growth (Economy of the North 2008, 12), no direct link between economic growth and human development in the Arctic has been established (ibid., 22; AHDR-I, 82). The notion of human development is thus employed as an alternative to GDP (AHDR-I, 16). The Arctic Social Indicators (ASIs) have been developed as a response to the need to capture and conceptualize development in a broader manner and beyond monetary terms (AHDR-I, ASI-I, ASI-II), that is, to highlight "dimensions of human well-being that are not prominent" (AHDR-I, 15) and to grasp the aspects of well-being that are specific to the Arctic as a region (ASI-II, II). Despite their region-specific nature and good intentions, the ASIs are not immune to the criticism directed at indicators as means of depicting the social and its development: as a result of both scientific practice and political choice, they prioritize certain aspects of life over others and squeeze the diversity of the lived and experienced world into measurable, manageable and governable indicators (cf. also Sinevaara-Niskanen 2015).

What is especially interesting is that the assessments and reports use expressions such as (human) "development" (AHDR-I, II, ASI-I, II),

"human capital" (AHDR-I, 389; AHDR-II, Megatrends 2011, 11), "resilience" (ARR 2013) "quality of life (ARR 2013, 5), "social welfare", (ARR 2013, 61), "community viability" (AHDR-I, 139) and "well-being" (ASI-II, 40; ASI-I, 47) rather interchangeably. More remarkably, they do so despite their scientific nature and despite the obvious differences in emphasis between the terms and the undoubtedly diverse understandings of each of them. However, similar tendencies can be observed in the research literature and in assessments conducted in other settings (AHDR-II, 313; ASI-I, 47). While the different notions are generally treated synonymously, in some instances they are analytically broken down into different dimensions and categories. Whereas a "holistic" (ASI-II, 15) understanding of "overall well-being" (ASI-I, 47) is seen as constituted by material, social, emotional, physical (ibid.) and even cultural (ibid., 92) dimensions, the assessments point out that "quality of life is not one dimensional" (ibid., 41) either. While the majority of the reports present sustainable development and sustainability as self-evident goals, also the applicability of the whole notion of "sustainability as an achievable steady-state" (ARR 2013, 89) has recently been questioned, one alternative suggested being the concept of resilience. Amid this conceptual diversity, only one conclusion can be made: the social dimension in the Arctic entails improving the living conditions in the Arctic in broad terms, which, in turn, should be defined, understood, observed and tracked in a manner sensitive to the specificities of social life in the Arctic region.

It must be noted at this point that the elusiveness of, and overlaps between, different notions attempting to capture the social dimension of the north are not features peculiar to Arctic debates: each of the terms used in assessments and reports is debated in the scholarly literature as well. However, crucial distinctions between the key notions can be pointed out. To begin with, the concepts of sustainability and resilience are far from synonymous. While the notion of (un)sustainability intertwines with that of Ulrich Beck's risk society (1992) in that it is the system's *own and internal* logic and workings that are undermining its sustainability or even its very existence, the notion of resilience appears to refer to the capacity of a system to cope with and recover from *exter-*

nal forces and stressors without profound qualitative change (for discussion on resilience cf. Reghezza-Zigg et al 2013)[34]. Furthermore, the ways in which the Arctic region and its economies and communities are depicted as driven by and to a great extent dependent on fossil fuel extraction (and consumption) set an uneasy backdrop for the sustainability debate: how can "sustainable human development" (AHDR-II, 15) in the circumpolar north be conceptualized or achieved for an "unlimited period" (Tynkkynen 2016b, 390) based on non-renewable resources, which are finite by definition (AMAP 2010, 3_69)?

However, the focal concepts of sustainability and resilience also share common ground: they both approach and construct the social in terms of systems language and thinking. Throughout the assessments and reports, the social dimension of the Arctic is increasingly conceptualized in terms of systems language: it is described as a "complex" (ASI-II, 32), "social" (ARR 2013, 89) or "human system" (AHDR-II, 24) and as "integrated system" (Socioeconomic Drivers 2014, iii) or "social-ecological system" (ARR 2013, 11) that requires a "systems approach" (AES 2010, 10) in order to be fully comprehended (also Megatrends 2011, 19). This dominance of systems rhetoric and its questionable relationship with some other institutionalized ways of conceptualizing the Arctic energy concern will be taken up later in this work.

Energy is a prerequisite for social life and human development in the Arctic: it is portrayed as being fundamental to Arctic economies, communities and the quality of life in the North and framed in Brundtlandian, developmental terms (cf. AHDR-I-122; AMAP 2010, 3_69; also Bertelsen, Justinussen and Smits 2016). In this process of broader sustainable development, Arctic energy resources – incompatible with the very notion of sustainability due to their finite, non-renewable nature – are thus assigned an instrumental role. While "sustainability usually relates whether the use of the natural environment can be sustained indefinitely" (AMAP 2010, 3_58), pursuing sustainable develop-

34. However, instead of resisting change, other definitions and understandings, such as the one(s) advocated in the Arctic Resilience Report analyzed here, explicitly call for actively navigating change and the ability of systems to successfully *transform*.

ment based on non-renewable resources forces an alternative definition that revolves around minimizing environmental harm and "sustaining economical and social viability of societies" (ibid., 3_69). Thus, what is being sustained is not the resource base, but the societies and communities and their needs, preferences and quality of life. However, based on at least some of the reports, the question of substitutability of capital, touched upon earlier in this work (cf. 3.1) can be raised here, as concerns do remain over the extent to which other kinds of capital can compensate for the loss of natural wealth. In contrast to the currently applied practices of accounting for wealth and resources, the reports recommend that "resources that have been extracted from the ground represent a loss of wealth that should not be counted as income" (Economy of the North 2006, 10; also 12).

While much of the discussion in the Arctic reports focuses on the interrelations of sustainable development in broad terms and extraction and export of non-renewable energy resources, the question of what sustainability means *in the context of* energy activities is also addressed. Attention is turned away from the roles and functions energy in the overall Arctic sustainability puzzle and focused on what is required from Arctic energy in order for *it* to be sustainable. These conceptualizations engage in a debate with the "classical" Brundtlandian views on sustainability, contending, for example, that "[i]n exploring the concept of a sustainable Arctic energy project, three key topics must be examined and addressed: economics, environment and impact on the people of the North" (AES 2010, 7). Indeed, what is interesting is the detailed manner in which sustainability and its requirements and prerequisites – "deceptively simple in concept" but "critical to a successful and appropriately deployed Arctic energy project" (ibid., 9) – are addressed at the level of individual projects (cf. ibid., 17–22). At the same time, one sees sustainability in the context of Arctic energy in a broader sense and developmental view translate into "no lasting harm [being] done, for example through environmental degradation" and "lasting benefits" being generated for "cultural, economic, environmental, and social viability of a region or society" (AMAP 2010, 3_69, also AES 2010, 7). All in all, in the energy sustainability debate, the reports and assessments focus on

energy production, with consumption-related questions assigned a minimal role, as is the case in other contexts (c.f. Megatrends 2011, AES 2010). The relationship between energy and the social dimension is an inseparably instrumental one, as it is northern hydrocarbon energy that will continue to fuel (sustainable) development in the Arctic.

Whose "development"?

At this point, the reference made to the "impacts on the people of the North" (AES 2010, 7) above deserves closer scrutiny, as it reflects a stand taken on a crucial question posed in both welfare economics and the sustainability debate: *whose* well-being, quality of life, development and needs are being considered? In the assessments and reports, these concerns are – rather understandably – predominantly addressed in the specific context of the north. These are described variously as "the well-being of northern peoples (ARR 2013, 74), "rural communities (ARR 2013, x), "Arctic residents" (ASI-II, 12), "indigenous and non-indigenous peoples" and "northern communities" (AHRD-I, 21) "as well as quality of life in the North" (ASI-I, 147). While the need to consider the situation of both indigenous and non-indigenous populations is repeatedly mentioned (e.g. ARR 2013, xii), the case studies addressing the human dimension of the Arctic (cf. ASI-I, ASI-II) and the social indicators through which its development is measured "may be more relevant to indigenous livelihoods" (ASI-II, 16). This observation about the ways in which the Arctic social becomes portrayed, constructed and presented predominantly in indigenous terms will be revisited in the context of the third, visually oriented case study.

Despite the frequently emphasized interconnections between developments within and outside the Arctic, references to concerns related to well-being, human development or quality of life *outside* the Arctic region are scant. The relationship between Arctic energy developments and the world outside the Arctic are mainly discussed in abstract terms through vague references to feeding "the energy needs of developed countries" (AHDR-I, 74) and responding to "global resource demand" (Economy of the North 2008, 7). Demands for intragenerational justice and intergenerational equity (Megatrends 2011, 200) as well as for

the equal distribution of benefits of large-scale resources development (AHDR-II, 273) – both crucial in terms of sustainability related to any events or developments – are not addressed to any meaningful extent[35]. These concerns are, however, explicitly voiced in some of the reports, although the attention they receive is at best marginal. The reports refer to an "increasing awareness that the fate of Arctic resources affects the well-being of people in distant regions" (AHDR-II, 256), that "the prospects for people's livelihoods in Arctic communities are entwined with the concerns and ambitions of people far away from Arctic landscapes and seascapes" (ARR 2013, 62) and that "the stakeholders of interest now include not just the local inhabitants of the Arctic but also a much broader swathe of the global community" (ibid., 64). All in all, where promoting development with regard to non-renewable resources is concerned, it appears that "drawbacks might be global and in the distant future, but there are local balances and trade-offs for people" (Loe and Kelman 2016, 32) *in* the region that outweigh the concerns about the impacts outside it. At the end of the day, "those who use and those who produce a resource share the common fate of dependency" (Economy of the North 2006, 12) – even if this is not explicitly acknowledged.

35. The reports do not express too much concern over the impacts of Arctic developments on well-being / development / quality of life outside the northern regions, but this limitation is understandable: what is always included in any presentation is "an element of social or political choice, in that resources allocated to one purpose are not readily available for something else" (ARR 2013, 24).

6.4 Impacts and effects

> Who are right – those who predict prosperity and welfare resulting from industrial development or those who recommend development of small-scale local economies giving benefits for the people directly involved?
>
> (Economy of the North 2008, 11)

Compared to the attention dedicated to environmental issues, the concerns over the social and human dimension as a whole as well as over social aspects of energy and related developments are a relatively new phenomenon. In fact, most of the reports and assessment analyzed in this study have been created as a response to the growing need to shed light on human impacts that until very recently have been dismissed "with vague references, effectively ignoring the questions of social and cultural stresses" (AHDR-I, 133) that accompany both overall societal change as well as large-scale resource development projects. Nonrenewable resource extraction – including but not limited to energy resources – has had (AMAP 2010), has (AHDR-II, 257) and will continue to have impacts, "social consequences" (Economy of the North 2008, 12) and effects "on social life in the Arctic" (Megatrends 2011, 16). The manner in which these impacts and effects are conceptualized in the reports will be investigated in the following.

While the Arctic assessments agree unanimously that northern communities and societies are being impacted by activities associated with energy, few if any generalization can be drawn on this basis about the nature of the impacts. These effects or impacts are seen as "rarely static" (AMAP 2010, 3_3), as differing "in relation to the specific economic, political, cultural, and geographic circumstances of a given time and place" (ibid.), as being either direct or indirect (AHDR-II, 257) and as varying according to the scale of and life-cycle stage from evaluation to decommissioning of an individual project[36] (AMAP 2010). Further-

36. If the diversity of energy (beyond oil and gas) and considerations of consumption were to be integrated, the discussion on impacts would become even more

more, the impacts are not equally dispersed or distributed (Economy of the North 2006, 16; AHDR-II, 479) and the perceptions of them are not uniform. Impacts depend on experience and perception, and "different groups have different views on the allocation of costs and benefits" (AMAP 2010, 3_63; also Del Río and Burguillo 2008). From this perspective, the question of impacts is also linked to geographical scales: "the social effects are generally the greatest at the local level, while economic effects are often also evident at the regional and national levels" (AMAP 2010, 7_1). At the same time, however, crude distinctions between the social, environmental and economic impacts are conceptually unviable to begin with: economic effects have the potential to impact human well-being and social welfare (Economy of the North I, II) and environmental degradation can turn into a social impact as a source of social and cultural distress (AMAP 2007, 26).

In sum, the reports portray the actual and concrete impacts and effects associated with energy (production) in a very open-ended and situational manner. In this respect, they echo the ways in which the social as well as impacts are conceptualized in the literature on social impact assessments (cf. Vanclay 2002, 2003; also 3.2 in this work). In this same spirit, the notion of "interactive effects" is invoked: similar effects or "stimuli" are seen to lead to radically different outcomes in different situational settings (AMAP 2010, 3_66). At the same time, despite the striking diversity of natural and cultural geographies in the Arctic, a number of pan-Arctic similarities are identified (AMAP 2010). To accommodate this conceptual and geographical diversity, most of the reports deal with the Arctic energy concern through and in the context of case studies, which point towards an uneven track record of energy projects and their impacts both historically as well as in the context of contemporary energy developments (AMAP 2007, 26–27; AMAP 2010, AES 2010).

Social impacts tend to be viewed by default in the context of negative effects on communities and societies in the broader social impact

complicated than it is at present. However, the limited manner in which energy is addressed predominantly in terms of oil and gas production also limits the discussion on and understanding of energy-related impacts in the north.

assessment debates and oftentimes in the Arctic as well. Impacts are conceived as increased dependence on outside forces and market volatilities (AHDR-I, 20) and as coming in the form of destructive boom-and-bust economies (Economy of the North 2006, 18; AMAP 2007, x); that is, the descriptions share a focus on increased "risks and threats" (AHDR-II, 467) of various kinds. These range from social, cultural and health disruptions in families and communities (AMAP 2007, 26) to deterioration of traditional livelihoods, subsistence lifestyles, cultures and identities (AHDR-II, 137, 463; AES 2010, 17), the loss of which cannot be compensated monetarily (AHDR-II, 273). Despite the negative connotation of the notion of impact, energy-related developments in the north and elsewhere have also been observed to bring about effects and developments perceived as positive. Industrial projects – including energy developments – can contribute to "welcome changes" through brighter employment prospects, improvements in physical and social infrastructure, healthcare and education and, with these, an improved quality of life and "an increased possibility to choose lifestyles and careers" (AHDR-II, 463; cf. also AMAP 2007, x; AHDR-1, 122). Yet, these references to individual freedom and choice and living up to one's full potential do not come without underlying value presuppositions. Indeed, they signal a certain understanding of what human life in the region should be like, what qualities are desired and to be promoted in northern individuals and what constitutes development and desirable northern communities and societies (cf. also Lempinen and Heininen 2016).

All in all, the categories of effects and impacts elaborated in the materials analyzed pervade all aspects of Arctic societies: these classifications, all listed in AMAP's Oil and Gas Assessment (AMAP 2010, 6_64–66), for example, include macroeconomic effects, microeconomic effects, effects on demography, health effects, effects on education and training, effects on governance, effects on cultural integrity, effects on contact with nature, as well interactive effects. Furthermore, these considerations are intertwined with those to be seen in the full list of social indicators designed to measure and track Arctic human development in the fields of health and population, material well-being, contact with nature, cultural integrity and fate control (ASI-I, ASI-II). In a similar

manner, the broad understanding of Arctic energy sustainability laid out in the *Arctic Energy Summit* final report links energy and its impacts as affecting all aspects of life in northern communities and societies: it highlights the interrelations between energy and policy, education and human resources, rural energy solutions, energy transportation and environmental concern, the impacts of the changing climate on energy infrastructure, the situation of the people in the north and concerns over energy security (AES 2010). On balance, there is no aspect of human or societal life in the Arctic that is not impacted by energy-related developments.

This discussion on impacts and effects revisits the theme of change already addressed in the broader context of Arctic societies. First, isolating the effects, impacts or changes stemming specifically, either directly or indirectly, from energy-related developments is a highly problematic, unrealistic and very likely also an undesirable exercise. Energy – in all its diversity – is not the only factor contributing to the ongoing transformation of Arctic societies (AMAP 2010, 3_2). Indeed, "[c]limate change, increased resource development, and social and economic change add layers of unpredictability in what is already a stressful milieu for the players involved, particularly those who possess less economic or political power" (AHDR-II, 254). Secondly, the interactive effects of energy-induced impacts and change both complicate conceptualizing the impacts and add to the already perceived and experienced impacts (AMAP 2010, 6_66). Amid all the changes and impacts, the notion of thresholds in the context of social systems is invoked: thresholds refer to context-dependent "triggers (either negative or positive) for social change and development" and draw attention to the limits of "socially acceptable change" (ARR 2013, 40–41).

In sum, the discussion on the effects and impacts of energy – predominantly still focused on its production – portrays a complex and nuanced picture of, as well as an unpredictable and unstable relationship between, energy and the social in the north. Amid all this diversity, however, there seems to be somewhat of a consensus that "*extractive development could bring wealth and jobs but impact a subsistence lifestyle*" (AES 2010, 23; italics mine). This viewpoint is problematic in the sense

that it conceptualizes and, as a result, may highlight impacts considered negative only for the traditional lifestyles of indigenous communities. What is more, little conceptual room for choice is left for the non-indigenous residents in the north *not* to embrace the "positive impacts" brought by energy developments. Indeed, much of the discussion in the reports revolves around the question of how to concretely "conduct" development and how to reconcile its contradicting dimensions. In this respect, the reports fail to escape the "planner's triangle" of balancing the conflict between the economy, the societal and the environmental (c.f. e.g. Campbell 1996, Tynkkynen 2010) and to even begin questioning the whole paradigm, content and definitions of development or the idea(l) of successful, apolitical compromise and conflict resolution.

6.5 Governing energy (and) development

The discussion in this chapter has thus far not only substantiated the well-known conclusion that there is a change in progress in the Arctic, but also analyzed the ways in which energy and its role as a driver of societal change in the region are discussed; the conception of societal change in this connection included the impacts and effects of energy on the society's human dimension. The discourse examined spans the contexts of well-being, sustainability or development, with the salient terms shown to be used rather interchangeably throughout the set of materials. However, a crucial component mediating the impacts and effects of energy, perceived predominantly as an external driver, still remains to be addressed: the notion and practice of governance, the tool which the assessments and reports expect to "meet the challenges of sustainability" (AHDR-II, 254) in the context of Artic energy, the social and beyond. These challenges are reflected in AMAP (2007, v), when it notes that oil and gas developments will, alongside climate change, "pose the most significant challenges to balancing resource development, socio-cultural effects and environmental protection in the Arctic in the next few decades". It can be seen in the AHDR as well, which points out that "human societies are not impacted as dead matter but react creatively

within social and cultural structures that guide actions and adaptations" (AHDR-I, 16).

In the second AHDR resource governance is defined as "the collective efforts of society to define and achieve societal goals related to human interactions with the environment" (ibid., 253). This multi-actor and multi-level view of governance is shared throughout the Arctic reports and assessments. Effective resource governance in the globalized Arctic is seen as taking place in the interplay and interaction of political institutions at the local level and beyond; market actors and forces; legislative frameworks; and civil society participation (cf. e.g. AMAP 2010, 7_4; AHDR-I, 121; AHDR-II, 48; AHDR-II, 161). The relationship between (energy) resources and their governance is viewed as a reciprocal one: on the one hand, governance shapes and directs (the impacts of) energy activities; on the other, energy and other industrial developments challenge, contribute to and shape the institutions of governance (AHDR-II, 401). All in all, (AMAP 2010, 3_69), "[t]he lesson is that institutions matter" and they are needed to "improve the sustainability of resource wealth" (Economy of the North 2006, 10). These references work together to support the broad understanding of political agency in relation to energy described earlier in this work; it is not only states or corporations that bring about changes in how issues related to energy play out.

In the context of regional energy developments, "good" energy governance refers to the measures taken to ensure "that the environmental impacts will be minimized or that the economic spin-offs for the local populations will be maximized" (AHDR-I, 81). Indeed, with energy portrayed as an impersonal, overarching, independent driver of societal change, governance is the only available tool for mediating its impacts (AMAP 2010; ARR 2013, 21; Socioeconomic Drivers 2014, 8). While "some degree" (AMAP 2007, x) of risk is seen as unavoidable in energy development, social impacts need to be reduced and managed and the risk of "major disruptions" needs to be minimized (ibid., ix). Governance is needed to develop best practices in order to fully take into account "environmental, social and cultural costs and benefits" (AHDR-II, 25), to "sustain important living resources and cultural integrity of northern peoples" (ibid., 256), and to "mediate the impacts and influence of

neoliberal practice" (ibid., 402). Energy (developments) need to be governed "to grapple with different and sometimes conflicting priorities" (ARR 2013, xi) and to resolve the "conundrum" of taking advantage of economic development without compromising "indigenous and local" interests and values (AHDR-I, 192).

Thus, the requirements set for governing Arctic resource developments are high indeed. However, doubts remain whether "existing resource governance systems in the Arctic are able to respond quickly and flexibly to emerging opportunities in a way that contributes to healthy communities and sustainable economies" (AHDR-I, 134). Some historical and ongoing hydrocarbon developments have demonstrated "little concern" (ibid., 81) for balancing environmental and social impacts with economic interests. Indeed, the Arctic region is not homogenous in terms of governance, either: while the "signals from world markets" are similar throughout the Arctic, "local response may differ from the response in other parts of the North" (AHDR-II, 152, also 121; AMAP 2007, vii; AMAP 2010).

In reference to governance, the theme of (local) participation is elevated to a crucial position as a measure to counteract the possible situation where "large-scale resource exploitation [as] currently organized in the Arctic is characterized by outside control and resources moving out of the region" (AHDR-I, 71). Energy developments are implemented by external capital and through decisions made "in far-flung nation-state capitals" and "corporate boardrooms" (ASI-I, 129) "with very limited influence exercised by local communities" (Megatrends 2011, 16). At the same time, *fate control* – one of the Arctic-specific social indicators, defined as the ability to control one's own destiny "whether political, economic or along other axes" (ASI-I, 16) – is seen as "critical" in terms of both human well-being and the sustainability of energy developments (ASI-I, 129). Whereas the ability to exert influence on decisions shaping one's daily life, living conditions and surroundings and on the pace of (industrial) development is seen as promoting well-being on both the individual and community level, lack of control is associated with contradictory experiences and feelings of "anomie" (ASI-I, 129). The two alternatives seem irreconcilable. The question that arises

is: How can one maintain control over one's fate when in practice decisions extending to all aspects of northern life are made elsewhere? (cf. also Tennberg and Lempinen 2015)

Derived from the idea(l) of participation, a normative stance on local inclusion and participation is adopted throughout the reports and assessments. The "underlying assumption" is that "sustainable development in the Arctic is connected to how well people can assert or reassert their local control of land and resources" (AHDR 2004, 116; also Megatrends 2011, 76). Local participation is unquestioningly seen as an encouraging development trend that should be further promoted (AHDR-II, 23; ARR 2013, 23; Socioeconomic Drivers 2014, iii). There are calls for more examples of "innovative" solutions (ARR 2013, xiii) and "success stories" (AHDR-II, 229) of enabling and enhancing local participation given that "past decisions have eroded traditional safeguards" (ARR 2013, xi) and the control over local lands and resources has been compromised by "outside forces" (ASI-I, 129) and (neo)colonial encounters (ibid., 16).

In this spirit, a key role is assigned to not only the capacity and motivation of individuals and communities to influence and make decisions, but also to the resources that they have to implement these decisions (ibid., 129; Economy of the North 2008, 21). While participatory processes are increasing, making a broader range of voices heard in the processes of (energy-related) decision-making (ARR 2013, xii), devolution, increased self-determination as well as in the processes of production (AHDR, 232), the challenge of "meaningful consultation" (AHDR-II, 483) remains, as it "does not mean that citizen involvement in the public debate is a guarantee for beneficial human development" (Economy of the North 2008, 22). New ways of governing the resource potential of the north can, indeed, "either support or undermine self-determination and self-reliance" (AHDR-I, 122). As a whole, the discussion on governing energy development speaks to several ideas through which the social dimension has been conceptualized in scholarly writings: the participatory policy goals of sustainable development literature and the procedural understanding of socially sustainable energy. Yet, in practice, although responsibilized, local populations are not afforded the

resources and opportunities needed for effective participation and are relegated to a reactive role which offers few possibilities for influencing ongoing developments.

6.6 Intermediate conclusions II: Energy for (sustainable) development

As a whole, by delving deeper into energy, the social dimension and their interrelations in the Arctic, this chapter has attempted to respond to the questions raised and left open in the first empirical excursion into the Barents energyscape. In theory it is acknowledged that energy concerns in all their diversity intertwine with and include "various questions of rights, ownership, access, economic benefit distribution, sharing, extraction, exploration, sustainable management, subsistence, conservation, the impacts of industrial development, etc." (Megatrends 2011, 191). Yet, the terms by and the levels on which these concerns are taken into account very seldom live up to these standards.

From the perspective of energy, the scrutiny of Arctic assessments and reports adds little content but does provide conceptual depth to the observations made in the media case study analysis; the term "energy" continues to refer to the production of oil, gas and, in some instances, coal for the consumers of the global markets. However, the analysis shows that increasing attention is being paid to renewable energy production, energy consumption and the development of energy technologies, with these themes constituting a "megatrend" in the Arctic in the decades to come. Still, it is fossil fuel production and demand that are still expected to remain significant "drivers" behind energy development and social change in the Arctic.

As regards the social dimension, the assessments and reports portray and construct an Arctic "social" as a social (socio-ecological) system in change and impacted by several overlapping and mutually reinforcing drivers and developments. This social dimension is, in several and often unspecific ways, portrayed as unique in the global context; at the same time, it is situated, diverse, unequally and unevenly developed *within the*

region and inadequately known throughout it. The goal of the assessments and reports was, on the one hand, to generate knowledge to fill this gap and, on the other, to develop specific indicators for the region and for traditional (/indigenous?) livelihoods suitable for monitoring human/social "development". These findings confirm and augment the observations made by Jacobsen and Delaney (2014, 7) that the discourse on the social is "specifically attuned to producing truths about the positive significance and importance of local livelihoods and local resource usage and local inclusion into decision-making processes *in the Arctic*" (italics mine). However, these framings also resonate with the theoretical debates on the notion of the more-than-human social, addressed earlier in this work, insofar that they advocate an understanding of an Arctic social in which nonhuman, especially natural and/or ecological, elements are weighty and meaningful constituents of everyday life and experience.

Yet, the task remains of analyzing the relations between energy and this diverse, situated and systemic social. While the terms applied to refer to the soci(et)al, in the context of energy and beyond, vary wildly from sustainability to resilience to well-being, quality of life and back to human development – a topic that would be worthy of analysis in its own right – the core concern is clear: (sustainable) development of the region through good and participatory energy resource governance. Furthermore, as things stand, it is exactly the region's energy resources on which the future prospects of its social dimension hinge: very little room is left for imagining ways to sustain or develop Arctic communities that are not based on fossil fuels or natural resources. Themes familiar from the scholarly sustainability debate are reflected in the strong emphasis on participation as well as on minimizing the impacts of energy-related activities, again predominantly *in* the Arctic region.

This "regionalized" version of the sustainability of energy activities stands in stark contrast to the systems language that has infiltrated the discourse on the social dimension in the Arctic as and the ways in which the Arctic as a whole, as well as its relationship to the rest of the globe, are perceived. Curiously enough, the Arctic region constructed in the assessments and reports is at once connected in very many ways to global natural and cultural developments *and* a distinctive region within

which (energy) sustainability concerns ought to be and are addressed. It merits pointing out at this juncture that despite their decreasing popularity in addressing the social as a broader whole, the frameworks of sustainability and sustainable development continue to function largely as tools for approaching the energy concern.

Probably the most thought-provoking observation in the context of energy in the Arctic has to do with the ways in which the assessments and reports – scientific in their nature – portray energy demand and development as impersonal drivers, unquestioned statements of fact or an independent laws of nature of sorts. They are deemed so inevitable and unquestionable that their course and impacts can, even at best, only be mediated and gently directed through modes and measures of multi-level and participatory governance. This manner of framing energy in the Arctic reflects Elias' (1978, 20) thoughts that "[t]oo often we speak and think as though […] villages and states, the economy and politics, factors of production and technological advances, the sciences and the industrial system, among countless other social structures, were all extra-human entities with their own inner laws and thus quite independent of human action and inaction". By doing so, the power to define the content of the Arctic energy concern is efficiently placed beyond the region's reach.

7. IMAG(IN)ING THE SOCIAL: VISUAL REPRESENTATIONS AND THE SOCIAL IN THE ARCTIC ENERGYSCAPE

> Gazing at those images, it is easy to forget that their presence rearranges an entire geography, from an environmental point of view but also from a social and political one.
>
> (Desbiens 2013, 182)

Thus far, the empirical part of this study has focused on the ways in which Arctic energy and its elusive social dimension are reflected and constructed in and by the words used and stories being told about the region's energyscape. The first empirical chapter fleshed out an understanding of the diversity of issues that constitutes the regional energy situation as a whole, while the second delved into the concerns that were *not* explicitly addressed in the first one to any meaningful extent, that is, the ways in which energy and the social dimension relate to one another and how their intertwinements have been conceptualized. In this process, a variety of empirical materials from a range of sources – regional media representations and Arctic scientific assessments and reports – have been used side by side in an effort to gain a more profound and nuanced understanding of the focal issues of northern energy and the Arctic social. The present chapter sets out to add an additional perspective on the regional energy situation, with all eyes now turned (literally) to the ways in which Arctic energy and its social dimension are represented visually.

The chapter draws on the same set of materials analyzed in the earlier chapters. However, it will now be the images accompanying the news entries as well as the photographs and illustrations in the scientific assessments and reports that will be examined. Methodologically, this decision can be seen as embracing the principles and goals of data tri-

angulation touched upon earlier, that is, addressing and approaching the same concern through different sets of materials. This can, at best, support some observations made in the context of earlier analysis or, even better, provide insights which would not have been gained otherwise (cf. Bryman 2004, Rothbauer 2008). One question to pose and answer is: Do the visual representations of the materials already analyzed merely reinforce and illustrate the verbal storylines of what matters in and constitutes "the social" in relation to northern energyscape, or do the images construct and communicate a story of their own? Focusing on the visual representations of energy and the social in the Arctic is also especially interesting against the backdrop of the scholarly literature. Visual representations continue to be underinvestigated in both the regional context and in social scientific research more broadly – despite the powerful, even spectacular, images through and in which our understanding of the Arctic as a region has been constructed historically and continues to be constructed today (cf. Potter 2007).

7.1 Researching the visual: Constructing a case study on the Arctic energyscape

While the mainstream of research addressing language as a means of persuasion and as a tool for constructing social realities has focused on verbal representation, the last several decades have seen increasing interest in the human and social sciences in visual materials and their roles in language and communication. This growing attention to researching visual materials has not emerged in a void: not only research, but also the means and cultures of communication being studied have become increasingly visual at an ever-quickening pace (Rose 2007, 2–7; Lehtonen 2002, 56–58). While the interest in researching images in these fields is often traced back to the "visual turn" of the late 1990s and early 2000s (e.g. Mitchell 1994, 13; Helmers and Hill 2004, ix), in recent years the scholarly interest in visual materials has peaked, manifesting itself in, among other sources, several detailed and in-depth contributions on the roles and functions of visual elements and methodologies

for their analysis (cf. e.g. Rose 2007, Mitchell 2011, Margolis and Pauwels 2011, Harper 2012, Emmison, Smith and Mayall 2012). In this process, what is meant by visual materials has also expanded greatly from "two-dimensional" (Emmison, Smith and Mayall 2012, 63) materials such as photographs to include objects, built environments and multimodal representations; the scope of methodologies utilized to make meaning of the visual has expanded correspondingly (Pauwels 2011, Rose 2007, Mitchell 2011, Van Leeuwen 2011). However, this trend has not rendered the analysis of photographic images or the use of more traditional analytical approaches obsolete. Like textual materials and linguistic representations, images remain political and "problematic" (Mitchell 2011, 98) and thus worthy "texts for analysis and interpretation" (Emmison, Smith and Mayall 2012, 47).

While the debate about nature and role of images is very much ongoing (cf. Rose 2007, 21), there appears to be a widely shared consensus that although images can be analyzed like any other texts, they still are somehow "special" compared to verbal language in terms of the roles they serve and reactions they evoke. Traditionally, images – although considered irrational and inferior to written text – have been seen as mattering, and this "mattering" has been theorized to work through the emotional[37] responses they trigger in anyone who viewing them. (cf. e.g. Blair 2004, 41–42, 45–46; Hill 2004, 26–27; Helmers and Hill 2004, 1–2). Images have been likened to metaphors in written texts (Seppänen and Väliverronen 2000, 346; Inayatullah 2005, 17–18; Hill 2004, 31–14) and examined for their enormous rhetorical potential (Blair 2004). While images cannot necessarily be considered arguments in the same sense as textual statements in that they might include conclusions,

37. Relegating visuals and images to the sphere of emotions is problematic in various senses, not least owing to the artificial nature of the rational-emotional binary. A distinction between text / language and image, however rough, is also difficult to uphold conceptually, as the notions of "text" and "language" are equally used to refer to and/or to include visual language and images or even completely different systems of communicating meanings (e.g. Lehtonen 2002, 49; Guggin 2004). Van Leeuwen (2011) has also used the expression "new writing" to refer to textual entities in which visual and verbal content has merged to the extent that reading the pieces of writing out loud would no longer be possible in a meaningful way.

justifications or the like (cf. e.g. Toulmin 2003), they have been seen as serving to strengthen, challenge or refute the arguments made in a text. Indeed, visual elements can illustrate and underline the content of a written text as readily as they may challenge and augment it (Seppänen and Väliverronen 2002; Van Leeuwen 2011, 51; Rose 2007, 11). However, what is also noteworthy in the case of visual representations is that they are open to interpretation and readings of different kinds as much or even more than textual materials, as looking at an image is not a neutral biological process but one mediated by personal experience and cultural practices of seeing (Harper 2012, 4).

While the analysis of visual materials has gained a foothold on several fronts in the field of human and social scientific studies, the research conducted thus far on the roles and content of visual representations of energy-related concerns is limited, and much of the existing literature revolves around the roles of images in energy campaigning and advertising. Livesey (2002) focused on the ways in which images were used to promote and reinforce the core message of ExxonMobil's US anti-climate change campaign; Mason (2016a) has looked at the ways in which aesthetics and artistic expression has been utilized in corporate Arctic energy campaigning. In my earlier work (cf. Lempinen 2013) I have addressed the ways in which visual representations were utilized in the promotional campaign of an energy company designed to influence peat-related political debates in Finland. Tynkkynen's (2016b) visual analysis of Gazprom's promotional video materials adopts similar points of departure. While the methodologies and emphases of these research contributions vary, together they serve to point out the powerful and highly political nature that energy imageries have in making certain (energy) worldviews into being at the expense of others.

Despite the less-researched nature of the visual dimension in and of the Arctic, this study is not the first to investigate the visual content of the Arctic Council documents. As the empirical analysis in this chapter will later demonstrate, Long Martello's (2008) findings on visual components of the Arctic Climate Impact Assessment are relevant for the observations made in the present case study. Some remarks on the nature of visual representations of the Arctic in general can also be

found in the literature. Potter's (2007) analysis of 19th century Arctic imageries highlights that the ways of representing the Arctic have not changed much in the last two hundred years. Powerful images of vast emptiness, majestic icebergs, iconic polar bears and white glaciers (now crumbling into turquoise, icy seas) still dominate the ways in which the extensive and diverse north is (re)presented.

As a whole, this study and its focus on the social dimension in the northern energyscape have been structured on and by the principles of situational analysis. There is no reason to suspect that a similar approach could not be fruitfully applied in analyzing visual materials reflecting, communicating and constructing the Arctic as an energyscape and -space: after all, situational analysis presents itself as a methodology compatible with both multisite and multimodal data and as one able to "draw together different kinds of data about a particular phenomenon or sets of data about different sites, or both" (Clarke, Friese and Washburn 2015a, 16). In this chapter, the practical adaptation of situational analysis combines elements of visual content analysis and visual discourse analysis (cf. Rose 2007, 59–73, 141–171). Attention is trained on 1) how Arctic energy and the northern social are represented and illustrated and 2) the kinds of thematic categories, coherent storylines or visual discourses that can be sewn together based on those representations. The focus is predominantly on the content of images themselves with less consideration given to either the contexts in which they have been produced or the sociocultural environments in which they are received (cf. Rose 2007).

As in the context of the previous case studies, in this chapter the manner in which the tools of situational analysis are again adapted and applied in a loose manner. In this chapter, this flexibility includes keeping in mind also two other concepts that need to be acknowledged in analyzing the visual – ones naturally relevant in analyzing verbal texts as well –: those of denotation and connotation (Barthes 1984; cf. also Van Leeuwen 2011, 2003; Mitchell 2012, 41–42; Emmison, Smith and Mayall 2012, 47–47). While denotation can be taken to refer to the most apparent and self-evident views of what an image represents, that is, *what* is in the picture, connotation points towards the underlying meanings associated with the content of the image: these include the

myths and metaphors as well cultural meanings and categorizations by and through which the elements in a given image are interpreted in a given cultural context. Of course, (also) this conceptual distinction is highly artificial and the connotation and denotation of an image are difficult to differentiate in practice. How can one separate the symbolic elements embedded in and intertwined with any given object of representation from its immediate essence and content?

Especially when a wealth of empirical materials is involved, an SA-oriented content analysis will inevitably leave interesting considerations and themes outside the scope of the inquiry. Among these is an examination of the production context, that is, the choices made with regard to cropping, perspective / angle or metaphorical facets of the objects of representation. Furthermore, a large number of images precludes analyzing the "internal" dynamics of images in any great detail (cf. also Rose 2007, 11). In the present case, this constraint has meant excluding consideration of the relationship between texts and images in the materials. However, this be compensated for in the concluding section of this work, where I undertake to knit together the findings of the verbal and visual analyses into a meaningful, coherent whole.

A background note

In order to ground and contextualize the forthcoming discussion, a note is order on the nature, or genre, of the images. In visual research, genres serve as the starting point for interpreting images: it is important to acknowledge what kinds of photographs being analyzed in order to understand their roles, goals and conventions of representation (cf. Emmison, Smith and Mayall 2012, 74). The imageries of the assessments and reports could easily be seen as falling under the broad umbrella notion of documentary photography. As a genre, this "usually pictures the relatively powerless to the relatively powerful" (Rose 2007, 16), from a perspective that is considered truthful to "reality" with an aim to inspire societal change. While this can be taken to apply to the reports and assessments, as they aim to support and spur regional human development, the pictures may also be considered examples of street photography. As a genre, street photography also shares the aim

of documentary photography of "pictur[ing] life as it apparently is", but the setting in which the photographs are taken and displayed differs from that in the documentary tradition with respect to the reactions the images are designed to evoke. Instead of inspiring or calling for change (with goals often defined from the perspectives of people other than those who the images represent), street photography tries to evoke a sense of awe and wonder for the world as it already is (ibid.). Although it is not wholly unproblematic to determine the category into which the imageries of the assessments and reports would fall, it is important – even where, as here, definitive categorization is not the primary concern – to acknowledge the implications that categorizations have for the ways in which images may be perceived and read.

The images in the BarentsObserver can be seen as (stereo)typical examples of press photography (cf. Wright 2011). Like documentary photography, press photographs are perceived as showing the world and its phenomena as they "really" are, but like any other (visual) representations, they too are "much more than mere 'mirrors' of society" (ibid., 333). Although news photographs are implicitly seen as truthful witnesses of the state of the events and conveyors of up-to-date information about the world, they also work on metaphorical levels, creating "a visual identity" for each story. This being the case, they need to be read as the outcome of varied journalistic practices and as "part of a complex network of cultural phenomena" (ibid., 317). These remarks also bear on the ways in which the visual representations of the Barents energyscape are addressed in the following.

One last remark is in order on the images and the reasons why none of them have ended up as pictures on the pages that follow. While their inclusion here would make both the process of analysis more transparent to the reader and the chapter a more entertaining read, they have been omitted owing to the difficulty of obtaining the rights to reprint the images. However, all of the images used can be found either in the BarentsObserver news archive or in the assessments and reports, all of which can be downloaded online. The references to the images in the text make it possible to locate them either by date in the news archive or by page number in the reports.

7.2 The Barents energyscape revisited

Backdrop: Imagining an energy region

Regardless of an item's textual content, many of the images used in reporting the energy news are images of landscapes. The visual focus is on the natural environments and beautiful, pristine and dramatic scenes of the north: mountainous islands and fjords (18.11.2011, 5.5.2012, 29.4.2014), sleepy settlements lit by a wintery Arctic sunset (24.1.2011), vast northern seas (7.1.2013, 6.8.2013, 10.4.2014) and iconic polar bears on Arctic ice (e.g. 20.8.2012, 28.3.2014, 1.7.2014). These echo familiar and popular representations of the Arctic as a pristine, uninhabited nature reserve on which few of those residing outside the region have or will ever set foot (Potter 2007). To a great extent, these images accentuate the ways in which the understandings of the Barents region as an energy province are associated with the offshore resources the waters in the north are estimated to possess: visual representations of nature on land are relatively rare (11.12.2012, 18.4.2012), the sea being if not a dominant element, at least a distinctive one in visually framing the Barents (as an) energyscape.

However, the news images also illustrate and imply a region of a very different character: the stage on which large-scale energy developments will play out is not only a pristine natural environment, but also a highly urbanized and densely populated region. Photographs of and from large cities are abundant (cf. e.g. 20.10.2011, 25.10.2011, 22.7.2009, 22.3.2013); smaller settlements, towns and villages are also represented (e.g. 20.7.2009, 25.5.2010, 24.7.2009). In fact, the region on the brink of becoming the world's new energy province is pictured as a predominantly urbanized one; traditional indigenous settlements are displayed in only one of the images in the entire dataset (cf. 11.11.2014). In the same vein, the Barents visually depicted and constructed by the news reporting is not a region of traditional livelihoods and small-scale economic activities: rather, the images convey an idea of a heavily industrialized region with huge factories (8.5.2012, 21.1.2015), mines (16.4.2009, 28.5.2014) and busy shipyards (16.4.2009, 23.11.2010, 6.6.2011). Trucks (18.6.2015) export the region's resource produced on land, while ice-

breakers (30.4.2015) and ships of various kinds loaded with goods (e.g. 16.6.2015, 17.12.2012, 18.11.2014) sail back and forth across the northern seas. As such, the visual representations echo the portrait painted by the regional statistics and existing literature on the "resource region" (cf. Economy of the North 2006, Economy of the North 2008; Tennberg, Riabova and Espiritu 2012, 17–18). Yet they juxtapose it with another prominent Arctic storyline, that of a region of pristine nature. The visuals of unspoiled nature clash with the ways in the region is presented and further constructed as the world's large-scale resource storehouse.

Visualizing energy

Even the most superficial reading of the visual representations of the Barents energyscape reveals an understanding of energy as hydrocarbon production. A considerable amount of energy-related imagery focuses on portraying energy as oil rigs defying the vast open Arctic seas, even to the extent that the lonely rig at sea becomes a visual icon of what (Euro-) Arctic energy means (e.g. 14.10.2014, 26.11.2014, 10.9.2014, 16.4.2015). This is, however, not the first time "the creation and circulation of dramatic photographs of the engineering structures" (Desbiens 2013, 180) has played a part in constructing an energy future as a facet of a region's identity: in her study on Canadian hydroelectricity, cited several times in the chapters above, Desbiens found similar means and mechanisms at work. As visual symbols of energy in the Barents region, images of drilling technology (27.1.2015, 25.3.2014, 30.1.2015), exploration vessels (e.g. 22.7.2014, 26.8.2014, 20.4.2015) or spill mitigation equipment (1.6.2010) do not come even close to fulfilling their rhetorical potential; that is, unlike oil rigs they fail to crystallize the idea(l) of what energy in the Arctic means in a single powerful image of nearly artistic, iconic appeal. Indeed, the role of aesthetics in constructing an understanding of energy cannot be underestimated: visual representations and aesthetic images have the potential of shaping not only energy idea(l)s but also actions and attitudes (cf. Mason 2016a).

Besides focusing to a great extent on hydrocarbon installations, the images of northern energy construct energy production as a distinctively offshore activity: only a fraction of the images offer representations of

energy being extracted on land and the ones that do, rather simplistically, provide no more than aerial views of existing production sites (e.g. 30.7.2010, 4.6.2015, 21.8.2014, 11.2.2015). Even fewer visual materials communicate or construct aspects of onshore oil and gas activities beyond their extraction: among the very few are a clean-up boat fighting a spill on a tundra river turned black from oil (14.6.2013) alongside a picture of workers attempting to battle another oil spill on land (11.6.2013). As a whole, the images of drilling installations standing alone amidst the vast emptiness of Arctic landscapes portray an energy future that is yet to come: it is one of large-scale offshore production and a new "cultural relationship to the land that unfolds within the paradigm of progress, productivity and triumphant modernity" (Desbiens 2013, 39).

While a major share of the visual representations of energy in the Barents region focus on (predominantly offshore) hydrocarbon production, this visual discourse is complemented by another category of images: those focusing on and displaying the channels and manners through which the resources extracted in the region are exported. What one sees is an array of storage facilities and containers (14.4.2011), trucks and roads (23.10.2013, 17.10.2014, 11.6.2014) pipelines (17.4.2009, 17.6.2010, 18.11.2010) and tank cars on railways (30.8.2010, 6.10.2010) and LNG terminals (22.12.2014) and tankers (e.g. 3.11.2014, 11.11.2014, 25.11.2014, 19.3.2015). Furthermore, it is not only and gas that are being transported. Electricity lines are also a recurrent visual theme (e.g. 25.10.2010; 20.1.2011, 21.8.2009): the electricity generated in the power plants of the region (19.1.2011) is transported both within and away from the region by the electricity lines standing high against the blue northern skies. Together, the many images of the energy export infrastructure not only underline the verbal discourse on the region but also – again – visually reinforce the idea of the Barents as a resource-*exporting* region.

The visual depictions of the region do not center exclusively on oil and gas. As in the textual materials, the production / generation of renewable energy is represented to a some extent; there are pictures of tidal power plants (22.2.2008; 2.6.2008), solar panels (21.1.2013, 11.6.2015), piles of logs (12.1.2011), hydropower (17.6. 2013) and wind

power facilities (e.g. 4.3.2010, 27.6.2008, 4.10. 2010, 12.1.2015), the last of these being the most often pictured "renewable"[38]. The ways in which renewable energy sources are visually depicted do not in general add to the textual narratives; they serve mainly an illustrative role (cf. Van Leeuwen 2011, 551). In the case of wind power in particular, the images convey the inseparably northern essence of the regional energyscape: echoing and entangling with the ways in which both the northern regions and its settlements are represented, windmills stand on snowy fells (22.7.2009, 4.3.2010), on majestic cliffs by open wintry seas (28.5.2015) or amid small wooden houses against a landscape of snowy mountains (22.9.2009).

Considering the special role that issues related to nuclear power, nuclear radiation and nuclear waste were observed to have in the textual representations of the Barents energyscape, the ways in which that same concern is visually displayed and articulated hardly comes as a surprise. What one sees are images of old nuclear submarines (29.11.2011), nuclear reactors (e.g. 4.10.2013, 22.4.2015) and designs for future floating nuclear power plants and other futuristic nuclear-powered designs (9.1.2011, 24.2.2011) accompanied by images of radioactive waste treatment plants (17.7.2012) and waste transportation (4.4.2013). Curiously enough, nuclear waste is the only issue whose treatment also addresses the emissions from northern energy in any manner. The broadly iconic image of a nuclear power plant's cooling tower is presented only once in the discourse (2.12.2008); more frequent are very different regional tokens representing the nuclear concern: the "aging Kola NPP", located in Polarnye Zori (28.1.2014), appears a number of times, seen from both the outside (cf. e.g. 25.11.2013, 25.8.2014) and inside (cf. e.g.

38. Alongside Desbiens' (2013) analysis of the visualities associated with hydropower development, Fergen and Jacquet's (2016) inquiry on the values and attitudes related to wind power development are among the very few contributions explicitly assessing the visual side of energy production from a social scientific perspective. In Fergen and Jacquet's work the visual aspects have only a nominal role, however; the researchers only refer to their poll indicating that turbines in motion are experienced as more aesthetically appealing than stationary ones.

27.6.2014, 13.2.2013), as do campaign logos and posters of the region's anti-nuclear campaigns (16.6.2011, 15.2.2012).

Coal, on the other hand, is (re)present(ed) through images of coal mines (16.2.2014, 29.10.2014), heaps of coal waiting for loading (28.5.2014), dusty loads of coal being transported by rail (5.3.2015, 27.3.2014), coal-fired power plants (29.5.2010) and the blackened face of a coal mine worker (26.11.2011), all of these accentuating the grey and dirt associated with coal as an energy source. In a similar manner, peat – albeit very rarely – is presented as a part of the energyscape of the region that is far more versatile than hydrocarbons (10.11.2010). Again, images are not used for much more than merely illustrating the verbal energy concern; faithful to the conventions of news photography, the images give the stories a "visual identity" and in doing so connect the individual news entries to broader storylines of regional energy developments (cf. Wright 2011).

Although the dominant discourse on the Barents region frames the regional energyscape in terms of energy production and transporting the extracted resources away from the region through electricity lines, container ships, railways and pipelines, there are nevertheless depictions of the region as an area where energy is consumed. While undeniably only a fraction of the materials in quantitative terms, images occur showing large industrial installations (6.6.2011, 28.5.2011, 21.1.2015), solar-powered lighthouses (9.12.2008, 12.4.2013), small-scale wind power installations in local villages (8.12.2009), gasoline stations (23.11.2009, 12.3.2012), electric cars (15.10.2013), thermal plants (8.10.2010) and heating pipes (10.1.2012, 23.11.2009), phototherapy lights at Swedish bus stops (3.12.2012) and the eternal gas flame of the Alyesha war memorial (5.9.2013). These draw at least some visual attention not only to the ways in which energy is consumed in the region but also to the practical, cultural and symbolic aspects that its consumption is entangled with.

Populating the Barents energyscape

While the above remarks on energy consumption in what appears to be a highly industrialized and urbanized region, as well as the observations on the functions and meanings assigned to energy use, are highly intriguing, they will not be discussed in further detail: all in all, the visual representations which comprise the empirical materials leave little or no room for such discussion. Beyond urban jungles of concrete buildings, networks of pipeline systems or large industrial facilities with their continuous streams of emissions dispersing in the northern skies, the issue of how and by whom the energy in the region is consumed is not broached. However, this does not mean that the regional energyscape is not "inhabited"; indeed, actors of various kinds are frequently portrayed, although from a different perspective.

It is a striking feature of the news images that "ordinary" people and their everyday life in the region seem to have disappeared from the regional energyscape. Contrastingly, a considerable amount of visual presence is allocated to actors and entities from the realms of "high politics", that is, the political and market actors also traditionally understood as the primary actors and most influential constructors of energy-related decisions and debates. Presidents (e.g. 8.6.2010, 11.6.2010) as well as politicians at different levels pose for cameras with national flags (11.5.2012, 3.9.2009) and shake hands with other politicians and corporate representatives (e.g. 30.9.3014, 10.6.2013, 9.12.2013); they are portrayed giving speeches and presentations (30.5.2011, 15.4.2014, 5.4.2012) and interviews (3.10.2014, 27.2.2013), attending meetings (17.7.2009, 12.8.2009, 24.6.2014) and making ceremonial visits to energy facilities (10.4.2014, 20.2.2013, 13.10.2010). Through these repeated inclusions and exclusions (cf. Rose 2007, 12), that is, choices of whom to picture and whom not to, these series of images construct an understanding of the regional energy concern that has very much to do with state authorities and high-level politicians and very little to do with "normal people" or any aspects of everyday life and existence in the region.

In addition to policymakers and state officials, corporate representatives receive considerable attention. The ways in which these corporate leaders are depicted echo the manners of representation familiar from the

images of decision-makers: they are (re)presented through photographs taken during interviews (e.g. 15.6.2009, 20.3.2014), meetings and conferences (e.g. 29.4.2014, 6.2.2014, 26.8.2014) and visits to energy installations (e.g. 28.6.2014, 15.8.2014, 15.6.2015) and when signing documents and shaking hands (e.g. 18.8.2014). The leaders receive attention comparable to that received by political representatives, and members of the two groups are very often photographed together. The images of corporate actors resemble the photographs of state leaders also in another respect: where the former have the flags of nation-states on their desks, the latter are pictured with company logos (18.8.2014, 20.1.2015, 20.3.2014). The striking similarities between the ways in which the high-level state officials and top-end corporate representatives are presented visually evoke one of the recurrent themes of both the textual reporting on the Barents energyscape and the literature on energy-related decision-making: Is energy an issue of interstate politics or one of international markets?

While the official stages and settings appear to be occupied by political and corporate actors, NGO actors and representatives are also accorded some space in the images. Some photographs show groups of people gathered for meetings posing for the camera (13.11.2013, 27.4.2010, 20.9.2011); others have been taken during interviews (e.g. 22.1.205, 20.3.2015, 8.6.2013). However, the most powerful images show the NGOs "in action" through images of demonstrators with signs (5.9.2012, 11.6.2010, 26.3.2011, 18.10.2013) and the different stages of the Greenpeace activities against the Prirazlomnaya oil drilling platform (e.g. 18.9.2013, 20.9.2013, 1.8.2014). In addition a space – albeit small – is carved out for science in the visuals of the regional energyscape: researchers, scientists and analysts pose for cameras (presumably) during press interviews (e.g. 7.9.2011, 6.11.2012, 3.3.2014, 19.1.2015), at work or presenting their work or findings (e.g. 19.1.2015, 7.10.2011, 7.3.2012, 8.1.2015). While the opinions voiced and stands taken by the researchers in the textual news reports are not visually conveyed to the reader or reinforced, the visual reference to and presence of the members and practices of the mainly natural scientific research community do add implicit meaning to the regional energy reporting; they signal that, as a concern, energy is of a techno-scientific nature.

All in all, the images discussed above echo and illustrate both the textual reports on regional events and earlier scholarly observations: while the role of scientific and non-governmental actors in taking part and shaping energy-related developments has been observed (cf. Prontera, 2009; Newell 2008, Mitchell et al 2001), the invisible position, or at best reactive role, that the public and regional population tend to have in the face of decisions regarding large-scale resource developments is visually only further underlined. Images of "ordinary" people and their everyday lives are scant; among the very few presented are photographs of indigenous reindeer herders (8.10.2009) or people driving their cars on the snowy northern streets (7.12.2010) The energy stage – set against a highly urbanized and environmentally pristine backdrop – is occupied by politicians at all levels, NGO activists, company CEOs and representatives and highly specialized experts and researchers, but for the most part actors and entities beyond the sphere of high politics are left out of these visual constructions of the Barents energyscape. Regardless of whether the choices at work in the process were intentional or not, the decisions on what and whom to portray and why in the context of the regional energyscape construct and promote an understanding of who "matters" in terms of the energy-related debates and decisions in the region. So far, the analysis of visual discourse on energy developments and debates in and from the Barents region has portrayed the regional energyscape as a sphere of political and corporate agency.

However, one thematic category of representations in this context still remains to be addressed: while "life" in the energyscape does is not portrayed or visualized, *working life* in the energy industry is. Several images represent people at work at the energy installations in the region: (consistently male) workers at oil and gas facilities (e.g. 26.6.2009, 31.10.2011, 1.7.2013, 4.4.2014, 6.8.2014 etc.) and in coal mines (26.11.2011), employees wearing the overalls of power companies (26.2.2013, 3.12.2014, 5.1.2015), energy subcontractors (25.5.2010) and workers handling nuclear waste (11.11.2008) or wearing helmets and standing next to windmills (7.5.2013). Again, regardless of how consciously and intentionally these images were chosen, the ways in which the humans in the energyscape are portrayed leave little room for inter-

pretation in terms of the roles assigned to the people living in the region. The mantra-like verbal discourse on employment and income is echoed and accentuated by the visual illustrations of the energy debate. The images of male workers at energy installations also hint at *whose* employment and income it is that is at stake in northern energy development.

There is one other rather crucial question to be asked and answered with regard to who is present and represented in the Barents energyscape: What is the one quality or attribute shared by the politicians, corporate leaders, researchers and the blue-collar workers in the images. The answer is: their gender is male. While this study is not a quantitative study of the visual representations of the Barents energyscape, the striking difference between the number of male and female individuals pictured in the news items simply cannot go unnoticed. The regional energy concern is not only an issue of high politics, international markets and techno-scientific rationalities but, more often than not, a blatantly, unashamedly masculine one (cf. also Desbiens 2013, 159; Tynkkynen 2016b, 387).

Illustration, manipulation and the energyscape

Up until this point, the discussion has focused on photographic images and the ways in which they represent and construct the regional energyscape. There are also other types of visuals in the news reporting, ones that could best be described as illustrations. Of these, many are photographs which have simply been manipulated in one way or another to underline and – again – literally illustrate the message of the article texts. The images include light bulbs held gently by human hands (27.10.2010), blue-and-white mittens holding an electrical cord by a socket and a Russian flag (14.10.2010) and the nuclear symbol (e.g. 30.10.2008). One also sees flags (3.6.2011), coats of arms (19.2.2005) or logos (cf. e.g. 25.5.2009, 16.4.2013, 22.8.2013), each superimposed on an Arctic landscape or an energy project (on image manipulation as visual argumentation cf. Blair 2004). The diversity of issues that energy as a concern is interconnected with is reflected in the illustrations: searches for news entries using the keyword energy return images of visas (22.6.2010), cash (20.8.2008), newspapers (17.12.2012) or even a (indeed very metaphori-

cal) pack of cards (5.5.2015). Representations of flags and logos occupy a prominent role in the visual dimension of constructing the Barents energyscape; among others, the US flag (15.9.2008), the flag of the Kingdom of Denmark (16.4.2010), the Canadian flag (3.5.2011), the Russian flag (8.12.2009) and even the flag of India (3.6.2011) are represented, as are the logos and/or the headquarters of oil and gas (e.g. 12.10.2009, 15.3.2011, 25.3.2011) and other energy companies (e.g. 12.8.2008, 17.2.2011). While it can be debated how deliberate the choices were in the case of these particular visualizations, their presence still conveys and constructs a certain kind of understanding of what actors or entities matter in the context of the energy debate: nation-states and corporate actors, not only within the region but also far beyond.

However, a special case where the illustrations are concerned is the way in which energy and related projects and technologies being planned and under construction are displayed: through them, the new "energy province" (AES 2010, 12) of the Barents region and the developed technologies, which to a large extent still only exist on the level of political speeches, corporate strategies and engineering agencies, is visually made "real" and into being (cf. e.g. 16.9.2009, 8.1.2010, 14.9.2010, 3.7.2013). However, these images not only construct the energy future of the region but also contribute to the (self-)understanding of the Barents region of today (cf. Mason 2006a, 1).

From this perspective, the ways in which maps are used in communicating about energy in the region tightly overlap: while they sometimes are used to indicate the geographical location of a given discussion or development (e.g. 16.10.2008, 10.2.2009, 11.10.2010), oftentimes their function is to make visible the energy (future) potential of a given area or region (cf. also Corner 1999). Maps showcase the region in terms of its prospective resources (5.2.2009), blocks reserved for oil and gas exploration and development (28.1.2014, 8.5.2009, 23.2.2009, 12.9.2008) and the locations of future production sites and transportation corridors (21.1.2009, 30.9.2009, 15.11.2013). Kristoferssen and Young (2014) have also noted the instrumental role that such maps have in constructing the northern seas as a new promising and productive region for economic development. Together, the illustrations make visible an energy

province that is only yet to come: amid the disappointments, delays and declining economies it is possible that the value of "the drama and the character of today's images of the energy future lie[s] in their capacity for governing over the decay of the present" (Mason 2006, 4). If, as in Corner's (1999, 212) view, "the function of mapping is less to mirror reality than to engender the re-shaping of the worlds in which people live", the maps of northern region depicting the region in terms of its resource endowments construct a future lifeworld of a very techno-econo-scientific kind.

7.3 Illustrating the Arctic energyscape

Setting the stage: The documents and the Arctic

In the context of the scientific assessments and reports which together form the second empirical data set in this chapter, the natural way to begin opening up the themes and topics of the visual discourse on the axis of energy and the social in the region is to have a look at the covers of the reports. While some do not have illustrated covers (Economy of the North 2006, Economy of the North 2008), most set the stage for the discussion taking place between the covers through the images they deploy. Some present a single image, which may be a long line of people on snowmobiles crossing a snowy Arctic landscape on a sunny winter day (AHDR-II), a town view of small wooden houses (ASI-II), a house lit in the blue late-day light of the polar night (AES 2010), pipelines (AMAP 2007, AMAP 2010) and a gas flare at an installation with the moon in the sky (Socioeconomic Drivers 2014). On other report covers, the themes and topics of the book are visually highlighted through a set of several images (Megatrends 2011) or through illustrations where several images have been merged into one. This is the case in the first Arctic Human Development Report (2004), where a map, indigenous residents of a town, a ship in icy waters and a town view have all been brought together to represent the different face(t)s of the social in the Arctic.

One theme that was illustrated in the analysis of the energy-related media materials in the previous section was the manner in which the

northern regions themselves were portrayed and presented. Pictures of Arctic landscapes abound in the reports, as elsewhere, being at their most iconic where they show majestic icebergs floating on the still surfaces of the waters in the bays and fjords (ARR 2013, 63; Economy of the North 2006, 63, 88–89: Economy of the North 2008, 36), formations and patterns of breaking sea ice (ARR 2013, xiii; ASI-I, 127; ASI-I, 111), snowy fjords (AHDR 2, 481), as well as mountains (AES 2010, back cover), forests (Economy of the North 2006, 52) and tracts of land. In this respect, the Arctic assessments and reports use ways of visually making the Arctic into being that rely on and borrow from the "already established visual vocabulary of Arctic imagery" (Potter 2007, 209), which can be traced back to the traditional ways in which the "seldom-visited but uncannily familiar realm of eternal frost" (ibid., 210) has been represented to the wider public. However, the Arctic of today is not solely a winter wonderland: among the images of the region one sees green fields and moors (Megatrends 2011, 92, ASI-II, 83, Megatrends 2011, 103), ice-free, open seas (ASI-I, 32), rivers (ARR 2013, 21), lakes (Economy of the North 2008, 48), as well as mountain paths and walking bridges surrounded by green, summery scenery (ARR 2013, 50; AHDR-II, 264).

The images used in the assessments and reports feature the iconic polar bears, with large photographs of them spanning their pages (Economy of the North 2006, 92–93; Economy of the North 2008, 16: AHDR-I, 129; ARR 2013, 64); however, they are accompanied by other Arctic animals, such as walruses (ARR 2013, 103), seals (ARR 2013, 114), an Arctic fox (180) and even flocks of birds (Economy of the North 2008, 32; AMAP 2007, 4). Also represented are more domesticated animals, such as the huskies that pull dogsleds (ARR 2013, 31; Economy of the North 2006, 72; AHDR-II, 228), reindeer herds (AHDR-II, 49; ARR 2013, 32; AHRD-I, 120) and even a brown bear wandering in an industrial landscape (Economy of the North 2008, 71). The considerable extent to which the assessments and reports present animals of all kinds alongside the countless imaginaries of Arctic nature is one of the approaches used to construct the region that did not feature significantly in the Barents news reporting. By visually constructing and contributing to an understanding of the Arctic region as an area of great

ecological diversity and as one of not-so-rare and distant human-animal encounters and relations, the images engage with the textual matter of the reports, prompting consideration of the Arctic living world as a system of an inherently social-ecological nature.

However, as in the case of the media representations of the Barents region, the Arctic constructed by and in the images of the reports is not one untouched by humans but rather a diversely populated region. Images vary from abandoned housing (ASI-I, 103; Megatrends 2011, 80) to villages and settlements with small wooden houses (ASI-I, 62; ARR 2013, xii) to urbanized megacities of the North (ASI-II, 29; AHDR-II, 485; Economy of the North 2006, 48, Megatrends 2011, 125) and the small towns in between (ASI-II, 287; ASI-I, 20). Together, they illustrate the diversity of the north as a populated region. By the same token, within the settlements, anything ranging from children's swings (ASI-I, 58) to road signs (ASI-I, 100, ASI-II, 131) and buildings forming social, political and cultural landmarks (Megatrends 2011, 26, AHDR-II; 22, AHDR-II, 42) are portrayed. Another distinctive feature in the visual materials is the omnipresence of village docks, harbors and small boats, elements which together construct and underline the region's maritime history, economy and identity (Megatrends, 30; AHDR 1, 123; Economy of the North 2006, 20, 22; Megatrends, 68).

Again, as in the context of the Barents energyscape, the broader Arctic is presented as a region where economic activities already exist. However, compared to the industrialized factory views surrounded by smog, the picture portrayed by the reports of the economic activity in the north is far more diverse and nuanced. While images of factories (ASI-I, 56; AHDR II, 39, ASI-I, 59) and mines (Economy of the North 2006, 131; Megatrends 2011, 62) are accorded much attention, as are the railways, roads and ships that transport the region's products away to be consumed elsewhere (Megatrends 2011, 183), other industries are represented as well. Alongside the heavy industry imag(in)eries, timber (Economy of the North 2006, 51), fisheries (AHDR-II, 268, 454; Economy of the North 2006, 60), a great deal of attention is given to traditional livelihoods such as whaling (ASI-II, 185; AHDR-I, 126) and reindeer herding (e.g. ARR 2013, 24; ASI-I, 152; AHDR-I, 49), the sale and preparation of tra-

ditional foods (ASI-II, 170; ARR 2013, 115; AHDR-II, 46; Economy of the North 2006, 70) and agriculture (ASI-II, 80; AHDR-II, 161). Furthermore, forms of economic activity typical of service industries are made visible and present through the images of the reports; these include as sales (AHDR-II, 436; Economy of the North 2008, 24; Megatrends 2011, 64), tourism (ASI-I, 13; AHDR-I, 151; Economy of the North 2008, 54), restaurants (AHDR-I, 399; Megatrends 2011, 122, 123), textile industry (ASI-I, 63) and promoting local products (Megatrends 2011, 184). If one only takes a closer look at the visual representations, the "world's new energy province" is not only a resource storehouse, but a dynamic and diverse (economic) space.

Bringing in the people

One of the most prominent features of the images of the media reporting in and on the Barents energyscape was the rather striking absence of ordinary human beings and (their) everyday life. Another, equally or potentially even more disturbing tendency was the obvious exclusion of human beings other than male workers and high-level representatives from the ways in which the region and its energy concern are conveyed and constructed. However, the presence and ways of presenting people constitute one of the features differentiating the Arctic assessments and reports, and dramatically so, from the other accounts of the energyscape. There are numerous pictures indeed in which people are represented and brought to the fore. The will be discussed in more detail in the following.

The assessments and reports indeed include people in the pictures and photographs they use. There are little children (AHDR-I, 145; AHDR-I, 20; AHDR 2, 241; ASI-I, 31), teenagers (ASI-I, 42; Megatrends 2011, 177) and elderly people (AHDR-I, 55; Megatrends 2011, 8; ASI-I, 43, Megatrends, 38) – people of any and all ages – pictured both on their own, with someone else and in groups[39]. (AHDR-II, 68; ASI-II, 39;

39. The findings of Long Martello's (2008) analysis of the ACIA report differ from the observations made in the context of this study. While the climate report could be observed to have a bias towards both indigenous and male representation, the Arctic assessments and reports analyzed here feature a far more diverse Arctic human dimension, at least in terms of gender and age distribution.

ASI-I, 60; ASI-I, 71; ASI-I, 91). They are portrayed in a wide variety of activities: taking a walk in town (Megatrends 2011, 45), shopping (ibid., 131), playing games outside (Megatrends 2011, 30; AHDR 2, 125), attending community meetings (ASI-II, 259; AMAP 2007, 33, 37), graduation ceremonies (AHDR-II, 208) and festivals (AHDR 1, 59), studying in classrooms (AHDR-II, 236) or hunting, fishing and roaming in nature (Economy of the North 2008, 69; AHDR-I, 126). Together, the images fill the Arctic and its landscapes, seas and towns with bubbling human life.

However, there is something distinctive about this human and social life that echoes the findings of Long Martello's (2008) visual analysis. The overwhelming majority of the people portrayed in all of the assessments and reports are of indigenous background and often shown engaged in traditional activities. In this respect, the reports visually convey and construct an understanding of the indigenous populations not only as "poster children" (ibid., 352) of climate change, as in Long Martello's ACIA analysis, but also of the Arctic social and the change in it. While the boundaries between and the fluid nature of these categorizations and identities has been and continues to be debated, the "human" in the Arctic is, to judge by the visuals on the pages of the assessments and reports, distinctively indigenous. The images show people wearing traditional clothing (e.g. ASI-II, 285; ASI-II, 246; ASI-I, 85; Economy of the North 2008, 90; Economy of the North 2008, 60; Economy of the North 2006, 10–11; Economy of the North 2008, 12), practicing traditional livelihoods such as reindeer herding (ARR 2013, 88; ASI-I, 12; ASI-I, 116) and engaged in the preparation and consumption of traditional foods (ASI-II, 119, 121). This emphasis on indigeneity in the assessment is a marked difference between the two sets of visual materials analyzed for this study.[40]

40. While the metaphorical aspects and symbolic meanings of the images analyzed are beyond the scope of this study, some of them would provide a fruitful platform for an analysis of visually negotiating indigeneity and modernity. The static images of traditional Arctic (indigenous) cultures such as carvings (ASI-1, 110) and sculptures (AHDR-I, 236) are challenged and complemented by images of musical performances (AHDR-II, 415), breakdancing (AHDR-II, 124), fashion shows (AHDR-II, 367), graffiti (AHDR-II, 141) and contemporary arts and crafts (AHDR-II, 142), blurring the idea(l) of binaries between the modern and traditional / indigenous in Arctic culture.

In any case, the ways in which people are represented and present is in general one of the crucial points where the visual discourses of the two sets of empirical materials differ. Indeed, in the assessments and reports there are no images in which corporate leaders are depicted in a manner similar to that in the news entries: there are no handshakes, no symbolic visits to production sites nor corporate emblems or company logos to be seen. Moreover, images of politicians are rarely encountered: photos of policymakers are present mainly in forewords or introductions, symbolizing their political blessing or approval of the science in the reports (AHDR-II, 9; ARR 2013, ix; Megatrends, foreword). A few other pictures show them giving speeches (AES 2010, 13, 14; ARR 2013; 81), signing documents (Economy of the North 2008, 62; AHDR II, 230) or attending meetings (AHDR-II; 210, ARR 2013, 81; AHDR-II, 209). In addition to the considerably more modest presence of images from the sphere of "high politics", there is also a crucial difference between the datasets in the ways in which the politicians appear in the photographs. While the front stage of the Barents energyscape was populated by figures in dark suits, in most of the pictures in the assessments and reports, the images of politicians include individuals dressed in clothing clearly underlining and performing their indigenous identities (Economy of the North 2008, 62; AHDR-II, 206; AHDR-II, 210).

Compared with the astonishing number of people portrayed in the media materials with helmets and company overalls on and engaged in work at energy installations, the people in the assessments and reports are pictured mostly engaged in activities of all sorts other than work, although there still are some representations of industrial workers, both on energy installations and elsewhere (e.g. AMAP 2007, 13; AMAP 2010, 2_175; AMAP 2007, 29). The case is very similar with the images of researchers and scientists: while there are some pictures from conferences and workshops (e.g. ARR 2013, 12; AES 2010, 6, 35, 37, 85), there none of researchers either in the field or presenting their work. However, there are several images of regionally important educational institutions, such as the University of Akureyri (AHDR-I, 372) or the University of Svalbard (AHDR-II, 32). As a whole, these observations again echo and constitute a social sphere of a very different kind to that

vaguely sketched in the news coverage on the Barents energyscape: a human dimension of everyday life in all its colorful diversity.

Picturing energy

While the discussion on the visuals of the Barents energyscape energy was taken up among the very first thematic topics, in this chapter the order has been the reverse. This approach can be attributed to a large extent to the different orientations of the two datasets: the visual discourse in the media materials centers on issues related to energy, where the assessment and reports – both verbally and visually – focus on the human dimension in the north. Indeed, in many of the documents, energy – while, as a concern, it is verbally addressed – is not represented in the images to any meaningful extent. This discrepancy, as it were, reflects the ways in which, in many instances, energy is dealt with in the reports under the umbrella notion of economic activity. Then again, some of the reports are wholly dedicated to dealing with energy as an Arctic concern, visually discussing and displaying their topic in great detail even beyond the iconic drilling rig (e.g. AMAP 2007, 2; AMAP 2010, 2_182; AMAP 2_184; Economy of the North 2006, 48–49).

Indeed, when Arctic energy activities are represented in the assessments and reports, the offshore oil platform is not their icon of choice or their visual synonym. In most of the images in which energy-related activities are pictured, what is displayed are onshore energy infrastructure and land-based energy development (e.g. AHDR-I, 130; AMAP 2010, 2_187; Economy of the North 2008, 70). Aerial views of land areas that have been impacted by oil and gas development are frequently presented (AMAP 2010, 2_17, 2_178; AMAP 2007, 22) and there are also a few dramatic photographs of gas flares (AMAP 2007, 28, 29) used to visually illustrate the essence and existence of energy activities in the region. However, even more dramatic are the pictures in which the impacts of energy-related incidents feature prominently: dead birds (AMAP 2007, 24), oil spill combating equipment (ibid., 25) and pictures from clean-up operations (ibid., 23) portray an Arctic energy landscape of a dramatically different kind, and one very different from the nearly artistic representations observed by Mason (2016a) as recently

having taken on a central role as iconic images of Arctic energy. The image conveyed by the visual material examined in the present study is one of impacts and persistent marks on the land instead of one of glorious expectations.

Unlike the images in the news coverage of the Barents energyscape, most of the energy-related activity depicted in the assessments and reports takes place on land. These representations of what energy activities look like in the north again differs markedly from the Barents region's iconic oil rigs. This difference might have to do with the different temporal orientation of the empirical datasets: while media representations tend to report on "future time", the aims and scopes of the reports and assessments centered on contemporary developments and the historical trajectories leading up to them. The temporal orientation might also contribute to explaining the scant visual attention devoted to renewable energy: renewables are only visualized in two of all assessments and reports. There is a smiling man showing wood pellets to the camera (Megatrends 2011, 156), an image of technologies for renewable energy storage (ibid., 155), a bio-powered heat and power plant (Megatrends 2001, 162) and wind turbine (AES 2010, 57), all of which can be read as visual cues indicating the Arctic's energy future beyond hydrocarbon extraction.

A focus on export is apparent in the scientific assessments and reports, seen in the inclusion of images of oil tankers (AMAP 2010, 2_226) and pipelines (Economy of the North 2006, 45; AMAP 2007, 14; AMAP 2007, 2010, covers), for example, but is not as visually dominant as in other sources. Representations explicitly dealing with the consumption side in any manner are rare. At the same time, however, the entire front cover of the *Arctic Energy Summit* report is dedicated to a small wooden house pictured in the late evening Arctic twilight with a warm light glowing from its small windows (AES 2010, front), visually symbolizing the verbal emphasis of the report, which is the ambition of making the north an energy province for the benefit, wealth and well-being of the people of the north.

Mapping and illustrating energy and the social

As in the case of the news entries and media reports, most of the images discussed up until this point have mainly been photographic. However, the reports and assessments include a wealth of maps and illustrations, as well as graphs, tables and statistics. While the maps portray and define the Arctic region (e.g. AHDR-I, 18; ARR 2013, ii) and frame both energy and the social under discussion on its territory (AHDR-I, 19; AMAP 2010, 2_164-2_165), the science behind the reports is condensed into endless arrays of statistics, graphs, and tables (e.g. Economy of the North 2006, Economy of the North 2008, AMAP 2010, AHDR-I & II). Clearly, the representational form of a graph or a diagram – characterized by "language and visual fusion" (Van Leeuwen 2011, 560) – has gained popularity far beyond the Arctic region, but in its condensing large numbers of events and phenomena into a clear-cut, self-evident, unquestionable form, it is far from being a value-free representation of the lived social in the Arctic or, for that matter, anywhere else. Instead, graphs and tables are embedded in a scientific rationality which has its own distinct, seemingly objectivist logic in rendering the social sphere knowable and understandable (cf. Sinevaara-Niskanen 2015, 25–26). Color-coded graphs forcefully condense a wild diversity of lived and experienced human life into a quantifiable, governable whole (cf. also Long Martello 2008, 364).

In addition to highlighting the distribution of people, money and resources, the illustrations in the reports also draw attention to and simplify complex networks of relations and cause and effect in nature in the Arctic (Economy of the North 2006, 85) and in the processes of energy production (AMAP 2010, 2_179), its intertwinements with the food chain (AMAP 2007, 25) and the surrounding social and natural world (ibid., 6). In the context of more social scientific topics, illustrations are also employed to make the theories, concepts and approaches applied in the research process simpler for and more transparent to the reader (ASI-II, 290; ARR 2013, 7, 5). However, overall the illustrations in the assessments and reports appear to echo those of the visual media materials: while the regional energy future was visually made into being in them, the illustrations in the reports tend more to describe existing

states, basic processes and research outcomes, one exception being graphs forecasting scenarios for future (energy) development (cf. Socioeconomic Drivers 2014). In any case, what all of these illustrations – along with the graphs, statistics and textual content of the documents – represent and advocate is not only a resource-based region, but also one constructed on the terms of and through the practices of technologies and science.

7.4 Intermediate conclusions, part III: Unrelated worlds

> It is as if representations of the future have taken on an agency of their own and are acting as key players in the construction of the present, and thereby the very future they purport to represent.
>
> (Mason 2006, 1)

The discussion above sought to delve deeper into the ways in which energy and the social (and their often far-ranging intertwinements) are visually represented in the context of the Arctic energyscape(s). The foregoing detailed scrutiny of the visual representations in both the news coverage on the Barents energyscape and the scientific assessments and reports analyzing the Arctic mainly serves to underline the observations made earlier on the textual content of the materials. Even visually, "energy" has the tendency to translate into oil and gas; in the news coverage, little or no visual attention is devoted to any human actors beyond the spheres of markets and politics; and in the assessments and reports, indigenous residents of the Arctic more or less become the face and the visual symbol of the entire human dimension in the region (cf. Long Martello 2008). All in all, there is very little overlap between the ways in which the energy concern and the social dimension are visually depicted and dealt with, an observation that only underlines the findings made both earlier in this work and in earlier analyses of the intertwinements of energy and the social at large.

However, drawing attention to the visual does not only highlight the ways in which the social dimension and energy do not in general interact; it also makes more evident certain features left only implicit in tex-

tual materials. One is the theme of absence (Mitchell 2011, 107–108): in the regional energy reporting, representatives of the female gender are essentially lacking. The way in which male workers become the (only) visual embodiment of the interrelations of energy development and everyday life is equally striking. Another observation relates to the way in which energy is represented: where in the Arctic assessments and reports it is mainly present(ed) as marks and traces of energy-related activities onshore, the news coverage elevates the image of a lonely oil rig at sea to a nearly iconic position in depicting the northern energyscape. In doing so, it answers Wright's (2011, 318) question "[t]o what extent can a single picture be representative of the wider situation?" in one, powerful image. In the images, the energy future that is yet to come is made visible through models and project designs (cf. Mason 2006, 2); the estimated resources are made more concrete through pie charts; and the diversity of the Arctic social is squeezed into statistics, graphs and visualized indigeneity, which in no way interact with the ways in which energy is represented. What all this means in the context of the overall scope of this study will be knit together in the concluding chapter that follows.

The above discussion on images and visuals implicitly commits to at least two ideas that are worth pointing out. The first is an assumption that has already been touched upon: the choice of which images to use and how has been considered as a conscious and a well-planned one. In the reports, many of the pictures appear to have been taken by the authors of the reports during their research trips or fieldwork. Perhaps they have been selected based of their availability and/or ease of use? In a similar manner, images and photographs augmenting the media representations of the Barents region are sometimes repeated in different news entries. What is more, promotional photographic materials obtained from the energy actors in the region have been used. How deliberate can the use of these images be considered in this light? While this question of intentionality must be taken into account, as analyzing these kinds of sets of images is a slightly different kind of endeavor than an analysis of advertisement campaigns or other such materials created specifically to send out a message and to create an impact, it is not the focus of discussion here. Regardless of the reasons why certain images

have ended up where they are, that is, being used to visually represent and construct the northern energyscape(s), they are still there; and as long as they are there, they still communicate and contribute to a certain kind of understanding of energy debates and developments in the north, as well as their relationships to the social in the region.

8. CONCLUDING THOUGHTS

8.1 The three case studies: A brief reminder

This work has approached the questions of energy, the social and their intertwinements through a situational analysis of multisite, multimodal empirical materials constituting three northern case studies. In order to begin to grasp the social dimension and how it is addressed in Arctic energyscape, the first empirical chapter mapped the sub-regional case of the Barents region. Energy – defined largely in terms of producing oil and gas for global exports – appeared as entangled with a stunningly diverse scope of issues ranging from technology and science to international politics and global markets, the environmental concern and regional socioeconomic development. Also highlighted, however, were the very limited ways in which any considerations regarded as "social" even in the traditional sense of the word were addressed in the entire set of 1447 news entries on the regional energy concern.

The first empirical chapter focused on the empirical operationalization of the concept of energyscape, open-endedly (re)mapping themes and issues through which the energy concern in the region is constructed and constituted and, conversely, the things that energy matters in relation to. The second went on to delve into how the notions of energy, the social and their interface have been conceptualized in a wealth of Arctic scientific assessments and reports. The analysis of the documents again highlighted an understanding – although admittedly a much more nuanced one – of Arctic energy as oil and gas and their production for export and international markets. Furthermore, also the articulations of the social dimension, despite receiving much greater attention, appeared to follow the lines set by the first case study: the social in relation to energy was found to relate to and revolve around

(and be reduced to) mediating social impacts and maximizing benefits; it was essentially equated with "development" as measured or defined through socioeconomic indicators and as participatory mechanisms and modes of decision-making and governance *in the Arctic region*.

In the third and final case study, the focus of inquiry was shifted to the generally underresearched visual representations of the regional energyscape in the empirical materials in order to complement, challenge and contribute to the observations made in the two analyses above. The visual analysis painted a picture (literally) and further reinforced an understanding of Arctic energy as the production of oil and gas and as a concern of technoscience and masculine labor. The news coverage of the regional energyscape also visually relegated energy to the spheres of high politics and global markets, which, in turn, has little or nothing in common with the "visually indigenous" Arctic social under stress and change as portrayed by and in the Arctic assessments and reports. All in all, the findings and observations highlighted above bear significance beyond their specific contexts: these themes and their implications will be discussed in the following.

8.2 The social dimension and the Arctic energyscape

The title of this work in itself gives away something distinctive about the nature of the discussion revolving around "the social" on the conceptual level. In debates related to energy and beyond, the social has been broadly acknowledged as elusive and, as such, the discussions of the notion in this work further underline the messy nature of what is very much an ongoing debate. While some conclusions and clarifications can be made, they are mainly of a conceptual nature, the most important one being the inherently situated and always potentially more-than-human nature of whatever the social might entail. As such, this claim no more revolutionary than, on the one hand, stating that the aspects of any given phenomenon cannot be reduced to human actors and institutions only and that also other elements matter in terms of everyday life and experience and human societies; or, on the other hand, than arguing

that the elements of this "social" are not necessarily the same in different situations or even in the same situation when it is seen from different perspectives. Whether approached through Latour's "networks", Elias' "figurations", Appadurai's "scapes" or Clarke's "situations", the social and the energyscape appear as "neither an absolute or a constant" (Dempsey et al 2009, 292) but as dynamic, temporally and spatially situated concepts of a profoundly perspectival and political nature.

However, operationalizing this broader understanding of the social in the context of the empirical analysis proved to be rather complicated, making the social not only conceptually elusive but also empirically evasive. As such, the social dimension as it is portrayed in the analyzed materials does not really offer any concrete contributions in terms of the "heterogeneous and sorely needed conceptualizations of the social per se" (Clarke, Friese and Washburn 2015a, 44), with the exception of the references to the social-ecological systems of the north made in some of the Arctic assessments and reports. By both visually and verbally emphasizing the ways in which human societies remain inseparably embedded in their natural and biophysical setting, these observations at least begin to open the door to conceptualizations of the social beyond its development-related articulations.

This remark does not, however, imply that the framework through which the energy-social interface in the empirical materials was approached was not a suitable one; what it does, however, underline the wide gap that remains between the "best practices" of scholarly understandings of the social dimension and the institutionalized way in which Arctic social sciences still address the Arctic societal very much in developmental terms. Thus, it demonstrates a dire need to readjust our vocabularies and understandings in order to better understand what might constitute the social and its intertwinements with the energy concern (in the north).

Based on the discussion above, I suggest we think about the social dimension of energy using the terms "explicit" and "implicit" social. The former refers to definitions and conceptualizations of the social aspects in more concrete terms, that is, socioeconomic indicators, impacts and developments, as in the materials analyzed in this study. The *implicit*

social, for its part, refers to the inseparably social nature of energy and all energy-related talk and activities. The difference between these two understandings is also where the political nature of all energy-related talk crystallizes: only the explicit articulations of energy as well as its social dimension are the ones that are included in and taken into account when decisions about energy are made and debated in the north, and not all perspectives are weighed or heard equally in the process.

Indeed, although no such thing as a social dimension can fruitfully be separated and neatly sliced from the overall energy concern, energy is an intrinsically social issue. There would not be discussion of energy if it were not one. Everything that energy is seen as connected with and made meaningful in relation to is in one way or another relevant in the context of our societies and living worlds and thus inevitably and indivisibly "social" in nature: it all is positioned and assembled in one way or another, from one perspective or another, as a part of what is happening in our social world. This standpoint is also behind the generous use of the expression "soci(et)al" on the pages of this work: it does not distinguish a certain social sphere from the broader societal ones any more than – from the perspectives of environmental sociology or systems rhetoric – it draws an unnecessary and artificial boundary between society and the environment. In the end, the idea of an energyscape is not more complex than looking at a given situation – in the context of this study, the contemporary Arctic energyscape – through the prism of energy and asking, what matters in relation to energy and why does energy matter? This question is also at the core of understanding the social dimension of energy.

8.3 Energy, the Arctic and "regionalized sustainability"

Indeed, owing to the foundational ways in which energy as a concern can be and is entangled with so many actors and interests and, in the end, with pretty much everything that happens in the world, the Arctic energyscape is not just an issue of energy; neither is it solely an issue of extracting oil and gas for global markets, as indicated by some of the observations made in the three case studies in this work. Earlier in this study energy

was conceptualized as a boundary object (with some reservations raised in the footnote), a concern that cross-cuts an astonishing spectrum of other societal concerns and is relevant for different reasons for a wide range of different perspectives. It is precisely because of this diversity of interests and interpretations that investigating the ways in which boundary objects such as energy are discussed and dealt with "can be an important pathway into often complicated situations, allowing the analyst to study the different participants through their distinctive relations with and discourses about the specific boundary object in question. This can help frame the broader situation of inquiry as well" (Clarke 2003, 51).

This is also very much the case in the context of the Arctic energyscape: the talk about the energy concern can also be seen to work as a window to the complex and often contradictory and conflicting dynamics of social and natural change and human (un)development in the Arctic region at large. Regionally, the Arctic energy discourse is not so much about sustaining resources as it is about sustaining and developing communities, life and regional development. What also needs to be noted in this context is that while other concepts have gained foothold in addressing the social dimension per se, the terminology and approaches of sustainability hold their ground at least in energy-related contexts: the social dimension becomes addressed through vocabularies of sustainable development and the energy concern as an issue of technoscientific and econo-environmental nature.

Indeed, the region's energy resource endowments continue to be consistently framed in developmental terms: as *the* developmental strategy for Arctic communities and societies whose existence, well-being and development "hinges on being able to capture the value and benefits of their natural resources" (Bertelsen, Justinussen and Smits 2015, 22) for something that can be loosely defined in terms of a greater public good (cf. Strauss 2011). Curiously enough, this remains the case even in a situation where previous experiences have repeatedly demonstrated "that societies cannot necessarily rely on extractive industries as a secure foundation for future development" (Stammler and Wilson 2016, 3). Hydrocarbon development projects are not only established on a finite resource base, but they are also dependent on "large-scale external fac-

tors" (ibid.) such as commodity prices, political events and corporate priorities – all factors far beyond regional reach and control.

In this vein, the scientific and assessments analyzed for this study repeatedly refer to energy as a "driver", as if it were an independent force in its own right beyond the influence of regional decision-making. This manner of speaking, writing and thinking constructs the global demand for energy as well as energy production in the north as something that resembles a force of nature of sorts, with internal laws, workings and a logic of its own. The talk about a faceless, insatiable demand for energy and an impersonal, energy-hungry world works to both outsource responsibility about our energy choices and further blur the fact that all decisions related to energy are indeed *choices* with consequences (cf. also Tynkkynen 2016b, 395) and thus inevitably political, despite being represented on several fronts as everything but political (cf. also Stirling 2014).

While these framings of energy as a driver construct the regional energy concern as a value-neutral and law-of-nature-like force, this manner of understanding energy demand and development is neither free of underlying value commitments nor innocent in its potential consequences. Constructing energy as an independent driver with its objective logic instead of as a contested cultural artifact comprised of and constituted by a perplexing multitude of situated values, practices and choices places the ways in which energy is thought about more in the realms of natural science and technology than in those of societal discussion and debate. Energy becomes an issue that is placed in the hands of experts in order for it to be quantified, modelled, predicted and projected. It is only natural that a logic of this kind is found in close relation to a certain understanding of what constitutes the social aspects that energy might relate to or entail: it is a logic that constructs, advocates and, essentially, is conceptually only able to grasp the parts of the lived and experienced social world that can be reduced to measurable, manageable and governable indicators (cf. also Sinevaara-Niskanen 2015, Dale 2016). Together, these framings work to mask the "work of culture" (Desbiens 2013, 10); that is, they sustain techno-scientific, neoliberal values and assumptions, as well as the choices and decisions made based on these values, that we do not even come to think of as values

and decisions but which still underpin the whole energy debate. They underlie the dominant understandings of both what the Arctic region is and what constitutes – and is defined and desired as – "development" within and beyond the region's contested boundaries.

At the same time as energy in the Arctic is entangled with more or less all major challenges and developments that are unfolding in the region, there is one grand concern to which surprisingly little attention is devoted within the explicit framework of energy: climate change. While the impact of fossil fuel extraction and combustion on global warming goes relatively unquestioned on broader energy agendas, whether to go forward with northern oil and gas developments is *not* debated on climatic grounds: the energy-climate axis is to a great extent reduced to a matter of introducing cleaner energy technologies, renewable energy alternatives, energy efficiency and saving as well as carbon capture and storage. This "absence" (Clarke 2015, 105) of and silence on – or, in some cases, even outright denial (cf. Norgaard 2011, Tynkkynen and Tynkkynen, forthcoming) of – the climate concern in the context of energy appears especially peculiar against the background of accelerating natural and social change in the region. Although climate change is seen as among the biggest stressors of change and as one of the greatest threats to sustaining societal and cultural well-being and human development in the Arctic region, the climate impacts of Arctic energy developments are overlooked. The main regional concern in the context of Arctic energy developments is how to minimize their negative impacts *in* the region as well as how to maximize and distribute the potential benefits derived from them.

This observation on the relative absence of explicit attention devoted to the relationship between energy and climate in the region is noteworthy also from another perspective, one with implications on both the empirical and conceptual fronts. The impacts of Arctic energy developments are discussed in the empirical materials only insofar they affect the Arctic region and its inhabitants. This, in turn, stands in stark contrast to the way in which systems rhetoric has gained a dominant position in describing and conceptualizing the Arctic and its position in and relationship with the rest of the biophysical world. How is it possible

that in a world where everything is interconnected and where the resilience and vulnerability of Arctic societies are inextricably dependent on social-ecological systems and feedback loops, and in a region which is, by a similar logic, embedded in global processes, the impacts of energy activities can somehow be confined to the region? How can the sustainability of Arctic energy developments – which are, despite the gradually rising interest in and applications of far-from-straightforward renewable energy alternatives still perceived as hydrocarbon-based grand-scale industrial projects – be framed using regional terms and definitions when the greenhouse gas emissions have consequences that are worldwide and the resources extracted in the region are consumed elsewhere?

8.4 The Arctic energyscape and the energy (political) research agenda

In the conclusions drawn above, as well as throughout this work, repeated references have been made to the inevitably and inseparably political nature of the ways in which equally energy and its social dimension are defined and debated. From the perspective of the political, the energy concern in the Arctic energyscape manifests itself in rather paradoxical ways. On the one hand, the repoliticization of energy has given rise to perspectives that strategically frame energy as an issue of state security and strategic leverage (cf. e.g. Favennec 2011, Newnham 2011, Sussex and Kanet 2015). On the other hand, energy is dealt with and discussed in highly depoliticized ways, in both senses of the word, that is, by framing energy as a value-free object and subject to market transactions as well as in technocratic terms (cf. Chester 2010). What these two seemingly opposite viewpoints share is that they both suppress any meaningful public discourse addressing the question "what is energy for"? (Sidortsov 2016, 4) or dealing with the societal values underpinning energy-related decisions and solutions (cf. Kuzemko 2015). Dale (2016) perceives this not only as a modality of managing resources, but also as one of managing mentalities: "the dominant techno-scientific governmentality" (ibid., 15) of resource management is

intertwined with a "specific ordering of the world" (ibid., 9) in which (seemingly) objective natural science comes together with a neoliberal economic rationality to constitute a truth which leaves very little room for non-expert voices to participate in the processes of its definition (cf. also Desbiens 2013, 139–40). It has also been suggested that there might be something about the materialities of oil and gas in their own right that conspires to construct hydrocarbon-based energy as a field and sphere of high-level expertise: before they are consumed, oil and gas go through complex processes of transformations requiring technoscientific and economic capacity and expertise (Mitchell 2009, 420), rendering energy a specialist issue also in material terms.

While many features of this study – its focus on the sidelined social dimension as well as the approaches derived and refined from those of the loosely defined and partly overlapping disciplines of (environmental) sociology, social impact assessment literature as well as welfare and sustainability studies – could be seen as placing its contributions outside what is normally considered the disciplinary umbrella of IR, I argue that it is precisely the attention paid to the "political" of energy *and* the social that makes this work highly relevant for the field. First of all, owing to both the porous nature of the disciplinary boundaries between IR and political science in a globalizing world and the well-institutionalized "aspectual" understanding of the political as discursive instead of strictly institutional (cf. Linjakumpu 2005, Palonen 1983, Scrase and Ockwell 2010), the approaches applied here fall under the "broad concept of the subject" of IR (Wilkinson 2007, 1), as do many of the themes it touches upon: (international) cooperation and conflictual relationships, the roles and responsibilities of different actors as well as the globalized issues of energy (trade) and climate change. Through its focus on energy, this dissertation also engages in the debates on the roles that natural resources have from the perspective of the international system. While these ongoing discussions have to a great extent proceeded along the axes of states and markets and politics and economics – on energy as a tool of state power play, a value-free commodity traded, or both (cf. e.g. Paillard 2010, Aalto et al 2012, Chester 2010, Ciutâ 2010) – the approaches embraced and advocated in this work can be grouped under the "socially fragmented

and marginal" but still distinctively emerging array of perspectives on the international energy concern focusing on foundational questions of a completely different kind. These include the sustainability and resilience of our energy systems, which for too long have been all but excluded from studies of the international system, its status and its anticipated developments (cf. Di Muzio 2016, 201; also Di Muzio and Ovadia 2016).

In his analysis of over 4000 scholarly contributions focusing on the issue of energy, Sovacool (2014, 2) found "that the typical author of an energy studies article is at a North American institution; male; trained in science, economics, or energy studies; affiliated with a university or research institute; and worked within traditional disciplinary boundaries when publishing their article". In the light of the discussions above, this study has responded to Sovacool's (2014, 2) urgent call for increasing interdisciplinarity in energy-related studies and on several fronts. The awareness of and attention to the role that the non-human world might have in constructing our energy world is among the most important contributions of this work to its own field of study. Despite the extent to which these approaches have become institutionalized parts of, among other fields, environmental sociology, science and technology studies or geography, even in all of their cautiousness and incompleteness the discussions pursued in this work venture quite far from the mainstream debates of IR or political scientific takes on the Arctic energy debate. The most tangible conceptual contribution based on these discussions has been the attempt to introduce and further develop the notion of the energyscape. Although further empirical and conceptual work certainly remains to be done, I argue that research proceeding from the notion of the energyscape has the potential to complement existing approaches to the study of the political nature of energy, for such research will be able to grasp the broad societal whole that the energy concern both relates to and constitutes. As an open-ended approach to any energy-related situation or case study, the energyscape can serve as a tool to tease out the profound ways in which energy and related developments intertwine with the lives we live and the societies we are a part of, patterns that would not necessarily be rendered visible through more institutionalized approaches to the study of energy politics.

The term "situation" here warrants closer attention from at least two perspectives. My first remarks have to do with the ways in which the notion can be used and how a situation can be delimited: can something as abstract as the Arctic energy debate be scrutinized and constructed as a situation in cases where the term "situation" is often taken to refer to more concrete, spatially more localized settings? The interpretation adopted in this work – that they can – is based on Clarke's formulation that "[c]ases cannot be abstracted from situations" as they "are situations" (2010, 870), not "out there" just waiting to be researched but formed in the engagements of the researcher and the subject of the inquiry. Applying the notion of situation is also justified by the conceptual advantages it has compared with, for example, the concept of context, which automatically assigns importance and agency to some elements and deals with the rest as a mere backdrop to events. The focus on situations does, however, have implications for the generalizability of the findings of this work, as the knowledge acquired from and within a given situation is inevitably situated. Since both energy and its social dimension can and do take different forms and meanings in different societal and spatio-temporal settings and when viewed through the prisms of different conceptual and methodological tools utilized by different researchers, there is very little universally valid that can be concluded about them. Focusing on the Arctic as a distinct energyscape – as it continues to be portrayed on political, economic, and scientific agendas – suggests that while energy as a concern is both inseparably social and inherently global, debates revolving around and the concerns related to energy might be distinctively different in different places or areas and during different times.

In addition, an open-ended approach to what might constitute the energy concern in a given situation requires methodologies that are at least in principle able to grasp the inherently diverse views on what energy means. In this work, the tool applied in this process has been refined from situational analysis, acclaimed as particularly capable of "explor[ing] collective processes of meaning-making while being attentive to the importance of non-humans and materials in social interaction" (Borie and Hulme 2015, 489). As such, it is at least in principle

able to accommodate empirical diversity both in the sense of identifying a broader range of concerns and constituents of the energy concern from the same sets of materials as well as combining different types of data sets as avenues to carry out the inquiry. Furthermore, its practical applications come surprisingly close to an already more institutionalized way of dealing with large-scale extractive industry projects on the practical side of things: social impact assessments. While further work needs to be done in order to develop the empirical applications of the theory-method framework, at least in this study and in combination with the notion of energyscape it has served to identify "ruptures" (Haarstad and Wanwik 2016) in the sense of being able to highlight issues otherwise left in the margins of the regional energy debate.

In the context of this work, the decision to tap media representations and scientific assessments and reports as the targets of empirical scrutiny was mainly motivated by two reasons. On the one hand, media and science are probably among the strongest voices in portraying and constructing the Arctic region and its energyscape to broad audiences. On the other hand, their institutionalized practices share the same idea(l) of aspiring towards balanced representations and integrating a diversity of perspectives (at least on the level of principle). The decision to explicitly investigate the visual representations in the same materials was motivated by the lack of attention to date to the visual in the Arctic, despite not only the power that visual representations have in contemporary modes of communications but also their acknowledged role historically in the constructing and understanding of the Arctic (cf. Potter 2007). There is also a dire need to analyze the ways in which both energy and the social in the Arctic are visually represented as, like verbal language, visuals work to construct, relay and advocate certain understandings of the (energy) world at the expense of, that is, sidelining, others.

The choice to analyze exactly two seemingly unrelated sets of Arctic data (in two senses of the word, that is, data from and on the Arctic) – media entries on the one hand and images of scientific reports and assessments on the other, as well as both textual and visual materials – might at first seem arbitrary and thus, as a result, the findings derived from the process seemingly insignificant and irrelevant. However, the

very idea of utilizing multisite and multimodal data is founded on the idea of potential benefits brought by data triangulation: the assumption that approaching the same question or situation through different sets of empirical materials can serve to draw attention to different sides of the same issue and, as a consequence, may highlight some perspectives that might otherwise have gone unnoticed. Drawing on different materials to approach the same research question also has the potential benefit of making it easier to justify and demonstrate the observations made and the arguments pursued based on the materials. The plentiful use of direct citations from empirical materials used throughout this work was intended to serve the same purpose: to make the steps of the process of analysis as clear as possible and thus enable the reader to assess and judge the materials in the absence of quantitative data and positivist points of departure. The sheer amount of materials used in the empirical sections of course complicated achieving this goal. However, in the cases where the use of excerpts as confirmations of what is "happening" in the materials was not possible, detailed references to the sources of those claims served as guides to the exact locations where the basis of the interpretations and arguments can be found.

This aspiration towards being transparent in the process of dealing with the empirical side of the debate is also the primary reason why no computer-assisted analysis programs have been used in the process of analysis, although issues of personal preference as well as the established conventions of analysis within the discipline of political science – where researcher-based, hands-on analysis still holds its ground – played a role as well. While use of software is gaining popularity in other fields of science (although the debate about their benefits and pitfalls continues) (cf. e.g. Seror 2012), it is certain that in the hands of a researcher with limited computer abilities and suspicions towards technology they do not serve to strengthen the process of analysis but may in fact may undermine it. A computer-assisted analysis might of course have yielded slightly different kinds of results, but the same applies if any other research methodology had been chosen. Indeed, a research strategy is always the outcome of conscious *choice* and, as such, the "best" it can offer is a systematic, internally consistent perspective on the issue at hand and challenge, add to

and complement the other scholarly perspectives that together shed light on the same issue, but from different angles.

The aim of this work has not been to take a stand on how things "really are" in the Arctic energyscape; to be exact, from the ontological and epistemological standpoints of this work, this "really" is in the end an issue of perspective and all knowledge that can be gained from this reality is situated both geographically and in terms of the researcher's own stance. Instead, it is the inherently political nature of the language that is used to define and discuss energy and its social dimension – in the Arctic and beyond – that has been one of the core concerns of this work. This focus is not, however, only on the "political" dimension of this study, as taking an interest in the social – more often than not sidelined, silenced and simplified when energy in the context of the north is debated and decided upon – is already a political act in the broad sense of the term. Chasing, tracing and shedding light on what the social is, is not and might be in relation to energy works to draw attention to viewpoints that are "missing" from the regional energy debate and by participating in making something visible and acknowledged takes a stand on the issue. For Law and Urry (2004, 396), the process of research "is not simply how what is out there can be uncovered and brought to light", but "also about what might be made in the relations of investigation, what might be brought into being" and, essentially also about "what should be brought into being." By explicitly delving into energy and (its) soci(et)al, this study also takes part in bringing them into being, partially in a manner in which they did not exist before in the context of Arctic and/or energy studies.

8.5 Afterword

Throughout the years I have been working with the concepts of energy and the social and how they play out in the Arctic energyscape, I have been – at conferences, during seminars, by my supervisors, in the comments of the thesis pre-examiners – urged to offer my own definition of what the social in relation to energy entails. The best answers I have

been able to provide have often remained on a very abstract level and been of a very conceptual nature, revolving around the situated, more-than-human, ever-changing and perspectival nature of the term. It can be questioned whether posing such fundamental questions to a PhD candidate with the expectation of receiving a universally applicable definition as an answer is a "fair" move to begin with: after all, even in the history of modern sociology, the term "social" has been used mainly in explanatory terms without much success in articulating its actual meanings and content (cf. Latour 2005). These kinds of questions also echo an understanding of science of a very specific kind: one that is able to provide models and universally applicable definitions; one that weighs and grades its outcomes based on criteria derived from these expectations; and one that has the role or even the duty to translate its findings into coherent policy recommendations that can be swiftly implemented.

If we agree to embrace the inescapably situated, always different and constantly fluid nature of the social, I believe that some tools for beginning to piece together its puzzle can be derived from the principles of situational analysis, particularly in the form in which they can be observed in the social impact assessment literature; indeed, the principles of those two approaches bear significant resemblance to one another despite the differences in the applications for and intentions by which they have been designed. However, what cannot be emphasized enough is that, considering the value presuppositions at work in conducting social impact assessments, this is far from an unproblematic move. How "genuine" can the intentions and interests behind comprehending the social dimension be when the ideas of both getting to implement the project in question and promoting overall development of a certain kind are embedded in the framework to begin with? I am quite unsure whether the questions regarding the "content" of the social have been presented with a conceptual interest mind or whether they have been posed with the concern of how to conveniently operationalize the term for practical purposes of very versatile kinds.

Indeed, what is most problematic is the inherently instrumental nature of the inquiries which take an explicit focus on the social in relation to energy. They always appear to have already set the goal of going

forward with energy developments with their only aim being to seek an acceptable compromise between the standpoints of the population or the community and those of the enterprise or the state. Negotiations such as these are not free from power relations or from requirements of intellectual resources and expertise of a very specific kind. Furthermore, communities are heterogeneous. From these vantage points, there is very little reason to be hopeful that the "development conflict", that is, the conflicting priorities between different dimensions of what we have learned to label "development", could be solved in any manner that could or even would truly want to understand or take into account the social in its broadest terms and often contradicting interpretations, or that the resolution of development conflicts could actually exist free from pre-assigned power relations. I doubt there is very little genuine interest in actually understanding, let alone "celebrating", the social, but instead in cost-efficiently instrumentalizing and operationalizing it into a calculable, governable whole that can be embedded in the existing frameworks of consultation and compensation, which can then be implemented to bring about what has been defined in advance as desirable: as "development".

9. LIST OF REFERENCES

Aalto, Pami and Iina Jaakkola (2015). Arctic Energy Policy: Global, International, Transnational and Regional levels. In Jensen, Leif Christian and Geir Hønneland (editors), *Handbook of the Politics of the Arctic*, 128–143. Cheltenham: Edward Elgar.

Aalto, Pami and Kirsten Westphal (2007). Introduction. In Aalto, Pami (editor), *EU-Russian Energy Dialogue: Europe's Future Energy Security*, 1–21. Aldershot: Ashgate.

Aalto, Pami (2012). Introduction. In Aalto, Pami (editor), *Russia's Energy Policies: National, International and Global Levels*, 3–19. Cheltenham: Edward Elgar.

Aalto, Pami, David Dusseault, Markku Kivinen and Michael D. Kennedy (2012). How Are Russian Energy Policies Formulated? Linking the Actors and Structures of Energy Policy. In Aalto, Pami (editor). *Russia's Energy Policies: National, International and Global Levels*, 20–42. Cheltenham: Edward Elgar.

Aalto, Pami, David Dusseault, Michael D. Kennedy and Markku Kivinen (2013). Russia's Energy Relations in Europe and the Far East: Towards a Social Structurationist Model of Energy Policy Formation. *Journal of International Relations and Development* 17:1, 11–29.

AES (2010). *Arctic Energy Summit 2007–2009 Final Report and Technical Proceedings*. Available at: http://www.sdwg.org/media.php?mid=1205. Accessed 10.8.2013.

AMAP (2016). *Adaptation Actions for a Changing Arctic*. Available at: http://www.amap.no/adaptation-actions-for-a-changing-arctic-part-c. Accessed 27.9.2016.

AMAP (2010). *AMAP Assessment 2007. Oil and Gas Activities in the Arctic: Effects and Potential Effects*. Volume 1. Oslo: Arctic Monitoring and Assessment Programme.

AMAP (2007). *Arctic Oil and Gas 2007*. Oslo: Arctic Monitoring and Assessment Programme.

Andreassen, Natalia (2016). Arctic Energy Development in Russia – How "Sustainability" Can Fit? *Energy Research & Social Science* 16, 78–88.

Anshelm, Jonas (2010). Among Demons and Wizards: The Nuclear Discourse in Sweden and the Re-enchantment of the World. *Bulletin of Science, Technology and Society* 30:1, 43–53.

Appadurai, Arjun (1996) *Modernity at Large: Cultural Dimensions of Globalization.* Minnesota University Press.

Arctic Council (2016). *Arctic Resilience Report*. Available at: http://arctic-council.org/arr/about/. Accessed 10.2.2015.

Arctic Council (2015). *The Arctic Council: A Backgrounder*. Available at: http://www.arctic-council.org/index.php/en/about-us. Accessed 17.12.2015.

Arctic Energy Summit (2016). *2017 Arctic Energy Summit*. Available at: http://arcticenergysummit.com/. Accessed 22.11.2016.

Aquilera-Klink, Fererico, Eduardo Pérez-Moriana and Juan Sánchez-García (2000). The Social Construction of Scarcity: The Case of Tenerifé (Canary Islands). *Environmental Economics* 34, 233–245.

Ashmore, Malcolm, Robin Wooffit and Stella Harding (1994). Humans and Others, Agents and Things: Agency, Sociology and Actor Network Theory. *The American Behavioral Scientist* 37:6, 733–740.

Axelsson, Robert, Per Angelstam, Erik Degerman, Sara Teitelbaum, Kjell Andersson, Marine Elbakidze, Marcus K. Drotz (2013). Social and Cultural Sustainability: Criteria, Indicators, Verifier Variables for Measurement and Maps for Visualization to Support Planning. *Ambio* 42, 215–228.

Bauman, Zygmunt (1989). Hermeneutics and Modern Social Theory. In Held, David and John B. Thompson (editors), *Social Theory of Modern Societies: Anthony Giddens and His Critics*, 34–55. Cambridge University Press.

Banerjee, Subhabrata Bobby (2008). Corporate Social Responsibility: The Good, the Bad and the Ugly. *Critical Sociology* 34:1, 51–79.

Banul, Karolina (2012). Mapping Renewable Energy Policies in the Barents Region from a Multi-Level Governance Perspective. In Tennberg, Monica (editor), *Politics of Development in the Barents Region*, 265–297. Rovaniemi: Lapland University Press.

Bakker, Karen and Gavin Bridge (2006). Material Worlds? Resource Geographies and the 'Matter of Nature'. *Progress in Human Geography* 30:1, 5–27.

BarentsObserver (21.5.2015). *Owners clamp down on BarentsObserver*. Available at: http://barentsobserver.com/en/politics/2015/05/owners-clamp-down-barentsobserver-21-05. Accessed 26.10.2015.

BarentsObserver (28.9.2015). *Owners fire BarentsObserver editor*. Available at: http://barentsobserver.com/en/society/2015/09/owners-fire-barentsobserver-editor-28-09. Accessed 26.10.2015.

BarentsObserver (29.9.2015). *Massive support to BarentsObserver*. Available at: http://barentsobserver.com/en/society/2015/09/massive-support-barentsobserver-29-09. Accessed 26.10.2015.

BarentsObserver (14.10.2015). *Owners withdraw dismissal of Thomas Nilsen*. Available at: http://barentsobserver.com/en/society/2015/10/owners-withdraw-dismissal-thomas-nilsen-14-10. Accessed 26.10.2015.

BarentsObserver (2014). *About: News from the Barents Region*. Available at: http://barentsobserver.com/en/news-barents-region. Accessed 10.10.2014.

Barthes, Roland (1984). Sanoma valokuvassa. In Lintunen, Martti (editor). *Kuvasta sanoin 2*, 120–137. Helsinki: Suomen valokuvataiteen museon säätiö.

Bartiaux, Francoise, Nathalie Frogneux and Olivier Servais (2011). Energy "Needs", Desires and Wishes: Anthropological Insights and Prospective Views. In Sioshans, Fedeiron P. (editor), *Energy, Sustainability and the Environment: Technology, Incentives, Behavior*. Boston: Elsevier.

Basiago, Andrew D (1995). Methods of Defining Sustainability. *Sustainable Development* 3:3, 109–119.

Bazilian, Morgan, Smita Nakhooda and Thijs Van de Graaf (2015). Energy Governance and Poverty. *Energy Research & Social Science* 1, 217–225.

BEAC (1993). *Kirkenes Declaration*. Available at: https://www.barentsinfo.fi/beac/docs/459_doc_KirkenesDeclaration.pdf. Accessed 31.1.2013.

BEAC (2013). *The Barents Cooperation*. Available at: http://www.barentsinfo.fi/beac/docs/Barents_Cooperation_information_English_March_2012.pdf. Accessed 31.1.2013.

BEAC (2016). *The Barents Region*. Available at: http://www.beac.st/en/About/Barents-region. Accessed 4.3.2016.

Bent, Robert, Randall Baker and Lloyd Orr (2002). Introduction. In Bent, Robert, Randall Baker and Lloyd Orr (editors), *Energy: Science, Policy, and the Pursuit of Sustainability*, 1–10. Washington D.C: Island Press.

Berger, Peter L. and Thomas Luckmann (1966). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Garden City: Anchor Books.

Bertelsen, Rasmus Gjedssø, Jens Christian Justinussen and Coco Smits (2015). Energy as a Developmental Strategy: Creating Knowledge-Based Energy Sectors in Iceland, the Faroe Islands and Greenland. In Jensen, Leif Christian and Geir Hønneland (editors), *Handbook of the Politics* of the Arctic, 3–25. Cheltenham: Edward Elgar.

Boardman, Brenda (1991). *Fuel Poverty*. London: Belhaven Press.

Boström, Magnus (2012). A Missing Pillar? Challenges in Theorizing and Practicing Social Sustainability: Introduction to the Special Issue. *Sustainability: Science, Practice and Policy* 8:1, 1–14.

Borie, Maude and Mike Hulme (2015). Framing Global Biodiversity: IPBES Between Mother Earth and Ecosystem Services. *Environmental Science and Policy* 54, 487–496.

Bouzarovski, Stefan and Mark Bassin (2011) Energy and Identity: Imagining Russia as a Hydrocarbon Superpower. *Annals of the Association of American Geographers* 101:4, 783–794.

Bradshaw, Michael (2014). *Global Energy Dilemmas: Energy Security, Globalization and Climate Change*. Cambridge: Polity Press.

Bridge, Gavin (2011). Past Peak Oil: Political Economy of Energy Crises. In Peet, Richard, Paul Robbins and Michael Watts (editors), *Global Political Ecology,* 307–324. London: Routledge.

Bridge, Gavin (2009). Material Worlds: Natural Resources, Resource Geography and the Material Economy. *Geography Compass* 3:3, 1217–1244.

Brown, Linda and William H. Walker (2008). Prologue: Archaeology, Animism and Non-Human Agents. *Journal of Archaeological Method and Theory* 15, 297–299.

Bryman, Alan (2004). Triangulation. In Lewis-Beck, Michael S., Alan Bryman and Tim Futing Liao (editors), *The SAGE Encyclopedia of Social Science Research Methods,* 1143. Thousand Oaks: Sage.

Bräuchler, Birgitte and Postill, John (editors) (2010). *Theorizing Media and Practice*. New York: Berghahn Publishers.

Carson, Rachel (1962). *Silent Spring*. New York: Houghton Mifflin.

Casper, Monica (1994). Reframing and Grounding Nonhuman Agency: What Makes a Fetus an Agent. *American Behavioral Scientist* 37:6, 839–856.

Chapman, Chelsea (2013). Multinational Resources: Ontologies of Energy and the Politics of Inevitability in Alaska. In Strauss, Sarah, Stephanie Rupp and Thomas Love (editors), *Cultures of Energy: Power, Practices and Technologies*, 96–109. Walnut Creek: Left Coast Press.

Charmaz, Kathy (2000). Grounded Theory: Constructivist and Objectivist Methods. In Denzin, Norman K. and Yvonna S. Lincoln (editors), *Handbook of Qualitative Research*, 509–535. Thousand Oaks: Sage.

Charmaz, Kathy (2015). Grounded Theory: Methodology and Theory Construction. In Wright, James D. (editor), *International Encyclopedia of the Social & Behavioral Sciences*, 402–407. Oxford: Elsevier.

Ciutâ, Felix (2010). Conceptual Notes on Energy Security: Total or Banal Security? *Security Dialogue* 41:2, 123–144.

Claes, Dag Harald and Arild Moe (2014). Arctic Petroleum Resources in a Regional and Global Perspective. In Tamnes, Rolf and Kristine Offerdal (editors), *Geopolitics and Security in the Arctic: Regional Dynamics in a Global World*, 97–120. Routledge: London.

Clarke, Adele E. (2010). Situational Analysis. In Mills, Albert J., Gabrielle Durepos and Elden Wiebe (editors), *Encyclopedia of Case Study Research*, 871–875. Thousand Oaks: Sage.

Clarke, Adele E. (2003). Situational Analyses: Grounded Theory Mapping after the Postmodern Turn. *Symbolic Interactionism* 26:4, 553–576.

Clarke, Adele E. (2005). *Situational Analysis: Grounded Theory After the Postmodern Turn*. Thousand Oaks: Sage.

Clarke, Adele E. (2015). From Grounded Theory to Situational Analysis: What's New? Why? How? In Clarke, Adele E., Carrie Friese and Rachel Washburn (editors), *Situational Analysis in Practice: Mapping Research with Grounded Theory*, 84–118. Walnut Creek: Left Coast Press.

Clarke, Adele E., Friese, Carrie and Rachel Washburn (2015a). Introduction to Situational Analysis. In Clarke, Adele E., Carrie Friese and Rachel Washburn (editors), *Situational Analysis in Practice: Mapping Research with Grounded Theory,* 11–75. Walnut Creek: Left Coast Press.

Clarke, Adele E., Carrie Friese and Rachel Washburn (2015b). On Situational Analysis as an Interpretive Qualitative Method: An Introduction. In Clarke, Adele E., Carrie Friese and Rachel Washburn (editors), *Situational Analysis in Practice: Mapping Research with Grounded Theory*, 77–83. Walnut Creek: Left Coast Press.

Clarke, Adele E., Friese, Carrie and Rachel Washburn (2015c). Appendix C. In Clarke, Adele E., Carrie Friese and Rachel Washburn (editors), *Situational Analysis in Practice: Mapping Research with Grounded Theory*, 330–333. Walnut Creek: Left Coast Press.

Corner, James (1999). The Agency of Mapping: Speculation, Critique and Commentary. In Cosgrove, Denis (editor), *Mappings*, 213–252. London: Reaktion Books.

Corvellec, Hervé (2007). Arguing for a License to Operate: The Case of Swedish Wind Power Industry. *Corporate Communications: An International Journal* 12:2, 129–144.

Cunningham, Stewart, Terry Flew and Adam Swift (2015). *Media Economics*. London: Palgrave McMillan.

Cuthill, Michael (2010). Strengthening the 'Social' in Sustainable Development: Developing a Conceptual Framework for Social Sustainability in a Rapid Urban Growth Region in Australia. *Sustainable Development* 17, 362–373.

Da Costa, Márcio Macedo, Claude Cohen and Roberto Schaeffer (2007). Social Features of Energy Production and Use in Brazil: Goals for a Sustainable Energy Future. *Natural Resources Forum* 31:1, 11–20.

Dale, Bruce E. and Rebecca G. Ong (2014). Design, Implementation, and Evaluation of Sustainable Bioenergy Production Systems. *Biofuels, Bioproducts and Biorefining* 8:4, 487–503.

Dale, Bright (2016). Governing Resources, Governing Mentalities. Petroleum and the Norwegian Integrated Ecosystem-Based Management Plan for the Barents and Lofoten Seas in 2011. *The Extractive Industries and Society* 3, 9–16.

Dale, Brigt and Berit Kristoferssen (2016). Imagining a Postpetroleum Arctic. *Cultural Anthropology Hot Spots: Arctic Abstractive Industries*. Available at: https://culanth.org/fieldsights/943-imagining-a-postpetroleum-arctic. Accessed 20.8.2016.

Daly, Herman E. (1996). *Beyond Growth: The Economics of Sustainable Development*. Boston: Beacon Press.

Davidson, Kathryn M. (2011). Reporting Systems for Sustainability: What Are They Measuring? *Social Indicators Research* 100:2, 351–365.

De Goede, Marieke. (2003) Beyond Economism in International Political Economy. *Review of International Studies* 29, 79–97.

Epple, Moritz and Claus Zittel (editors) (2014). *Science as Cultural Practice: Cultures and Politics of Research from the Early Modern Period to the Age of Extremes*. Berlin: De Gruyter.

Del Río, Pablo and Mercedes Burguillo (2008). Assessing the Impact of Renewable Energy Deployment on Local Sustainability: Towards a Theoretical Framework. *Renewable and Sustainable Energy Reviews* 12, 1325–1344.

Dempsey, Nicola, Glen Bramley, Sinéad Power and Caroline Brown (2009). The Social Dimension of Sustainable Development: Defining Urban Social Sustainability. *Sustainability* 19:5, 289–300.

Desbiens, Caroline (2013). *Power from the North: Territory, Identity, and the Culture of Hydroelectricity in Quebec*. Vancouver: University of British Columbia Press.

Dessein, Joost, Katriina Soini, Graham Fairclough and Lummina Horlings (editors) (2015). *Culture in, for and as Sustainable Development. Conclusions from the COST Action IS1007 Investigating Cultural Sustainability*. Jyväskylä: Jyväskylä University Press.

Di Muzio, Tim (2016). Critical Theory, the Open Range and the Illusion of the Epoch. In Di Muzio, Tim and Jesse Salah Ovadia (editors), *Energy, Capitalism and World Order. Toward a New Agenda in International Political Economy*, 201–217. Basingstoke: Palgrave MacMillan.

Di Muzio, Tim and Jesse Salah Ovadia (2016). Energy, Capitalism and World Order in IPE. In Di Muzio, Tim and Jesse Salah Ovadia (editors), *Energy, Capitalism and World Order. Toward a New Agenda in International Political Economy*, 1–19. Basingstoke: Palgrave MacMillan.

Dryzek, John S. (2005) *Politics of the Earth: Environmental Discourses*. Oxford University Press.

Dryzek, John S., David Downes, Christian Hunold, David Schlosberg and Hans-Kristian Hernes (2003). *Green States and Social Movements: Environmentalism in the United States, United Kingdom, Germany, and Norway*. Oxford University Press.

Dunlap, Riley (2008). Current Trends in American Environmental Sociology. In Karjalainen, Timo P., Pentti Luoma and Kalle Reinikainen (editors), *Flows and Networks of Environmental Sociology*, 49–68. Oulu: Oulu University Press.

Dunlap, Riley and William Catton (1979). Environmental Sociology. *Annual Review of Sociology* 5, 243–273.

Elenius, Lars (editor) (2015). *The Barents Region: A Transnational History of Subarctic Europe*. Oslo: Pax.

Elias, Norbert (1978). *What is Sociology?* Columbia University Press.

Emmerson, Charles and Glada Lahn (2012). *Arctic Opening: Opportunity and Risk in the High North. Chatham House-Lloyd's Risk Insight Report.* Available at: https://www.chathamhouse.org/publications/papers/view/182839. Accessed 16.6.2014.

ENI Norge (2012). *Production start-up at Goliat postponed.* Available at: http://www.eninorge.com/en/News--Media/News-Archive/2012/Production-start-up-at-Goliat-postponed/. Accessed 12.6.2013.

Esteves, Ana Maria (2008). Mining and Social Development: Refocusing Community Investment Using Multi-Criteria Decision Analysis. *Resources Policy* 33:1, 39–47.

Esteves, Ana Maria and Frank Vanclay (2009). Social Development Needs Analysis as a Tool for SIA to Guide Corporate-Community Investment: Applications in the Minerals Industry. *Environmental Impact Assessment Review* 29:2, 137–145.

European Union Newsroom (2016). *Highlights: EU sanctions against Russia over Ukraine crisis*. Available at: https://europa.eu/newsroom/highlights/special-coverage/eu_sanctions_en?. Accessed 12.6.2016.

Fairclough, Norman (1989). *Language and Power*. London: Longman.

Favennec, Jean-Pierre (2011). *The Geopolitics of Energy*. Paris: Editions Technip.

Fergen, Joshua and Jeffrey B. Jacquet (2016). Beauty in Motion: Expectations, Attitudes and Values of Wind Energy Development in the Rural US. *Energy Research & Social Science* 11, 133–141.

Ferry, Elizabeth (2016). Gold Prices as Material-Social Actors: The case of the London Gold Fix. *The Extractive Industries and Society* 3, 82–85.

Financial Times (27.7.2008). *Deep freeze entices energy hungry world.* Available at: https://www.ft.com/content/7c257be8-5bf1-11dd-9e99-000077b07658. Accessed 12.8.2012.

Finnish Ministry of Employment and the Economy (2008). *Pitkän aikavälin ilmasto- ja energiastrategia*. Available at: https://www.tem.fi/energia/energia-_ja_ilmastostrategiat/ vuoden_2008_strategia. Accessed 17.8.2015.

Finnish Ministry of Employment and the Economy (2013). *Kansallinen energia- ja ilmastostrategia*. Työ- ja elinkeinoministeriön julkaisuja 8/2013. Helsinki: TEM.

Fischhendler, Itay, Danial Nathan and Dror Boymel (2015). Marketing Renewable Energy through Geopolitics: Solar Farms in Israel. *Global Environmental Politics* 15:2, 98–120.

Fitzgerald, Jenrose (2012). The Messy Politics of "Clean Coal": The Shaping of a Contested Term in Appalachia's Energy Debate. *Organization & Environment* 25, 4437–451.

Fleurbaey, Marc and Didier Blanchet (2013). *Beyond GDP: Measuring Welfare and Assessing Sustainability.* Oxford University Press.

Fuller, Steve (1994). Making Agency Count: A Brief Foray into the Foundations of Social Theory. *American Behavioral Scientist* 37:6, 741–753.

Fuller, Sara and Darren MacCauley (2016). Framing Energy Justice: Perspectives from Activism and Advocacy. *Energy Reseach & Social Science* 11, 1–8.

Gagnon, Marilou, Jean Daniel Jacob and Dave Holmes (2015). Reflection: Allowing Mute Evidence to Be Heard. In Clarke, Adele, Carrie Friese and Rachel Washburn (editors), *Situational Analysis in Practice: Mapping Research With Grounded Theory,* 285–291. Walnut Creek: Left Coast Press.

Gamborg, Christian, Helle Tegner Anker and Peter Sandøe (2014). Ethical and Legal Challenges in Bioenergy Governance: Coping with Value Disagreement and Regulatory Complexity. *Energy Policy* 69, 326–333.

German, Laura and George Schoneveld (2012). A Review of Social Sustainability Considerations Among EU-Approved Voluntary Schemes for Biofuels, with Implications for Rural Livelihoods. *Energy Policy* 51, 765–778.

Giovannoni, Elena and Giacomo Fabietti (2013). What is Sustainability: A Review of the Concept and Its Applications. In Busco, Christiano, Mark L. Frigo, Paolo Quattrone and Angelo Riccaboni (editors), *Integrated Reporting: Concepts and Cases that Redefine Corporate Accountability*, 21–40. Dordrecht: Springer.

Glaser, Barney G. and Anselm L. Strauss (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research.* New York: Aldine de Gruyter.

Goffman, Erving (1974). *Frame Analysis: An Essay on the Organization of Experience.* Harvard University Press.

Government of Norway (2010). *Treaty between the Kingdom of Norway and the Russian Federation concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean.* Available at: https://www.regjeringen.no/.../ud/.../avtale_engelsk.pdf. Accessed 15.3.2013.

Government Offices of Sweden (2011). *Sweden's Strategy for the Arctic Region*. Available at: http://www.government.se/content/1/c6/16/78/59/3baa039d.pdf. Accessed 24.11.2014.

Grundwald, Armin and Christine Rösch (2011). Sustainability Assessment of Energy Technologies: Towards an Integrative Framework. *Energy, Sustainability and Society* 1:3, 1–10.

Haarstad, Håvard and Tarje I. Wanvik (2016). Carbonscapes and Beyond: Conceptualizing the Instability of Oil Landscapes. *Progress in Human Geography*. http://dx.doi.org/10.1177/0309132516648007.

Hajer, Maarten (1995). *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process.* Oxford University Press.

Han Onn, A. and A. Woodley (2014). A Discourse Analysis on how the Sustainability Agenda is Defined within the Mining Industry. *Journal of Cleaner Production*. http://dx.doi.org/10.1016/j.jclepro.2014.03.086.

Hanna, Philippe and Frank Vanclay (2013), Human Rights, Indigenous Peoples and the Concept of Free, Prior and Informed Consent. *Impact Assessment and Project Appraisal* 31:2, 146–157.

Hannigan, John (2015). *The Geopolitics of Deep Oceans*. Cambridge: Polity.

Hall, Charles, Pradeep Thakaran, John Hallock, Cutler Cleveland and Michael Jefferson (2003). Hydrocarbons and the Evolution of Human Culture. *Nature* 426:6964, 318–322.

Hall, Stuart (1980). Encoding / Decoding. In Hall, Stuart (editor), *Culture, Media and Language*, 128–138. London: Hutchinson.

Haraway, Donna (1996) *Modest_Witness@Second_Millennium.FemaleMan© _Meets_ OncoMouse™: Feminism and Technoscience.* London: Routledge.

Haraway, Donna (1991). *Simians, Cyborgs and Women: The Reinvention of Nature*. Routledge: New York.

Harper, Douglas A. (2012). *Visual Sociology*. London: Routledge.

Harsem, Øistein, Arne Eide and Knut Heen (2011). Factors Influencing Future Oil and Gas Prospects in the Arctic. *Energy Policy* 39:12, 8037–8045.

Harvey, Bruce (2014). Social Development Will Not Deliver Social Licence to Operate for the Extractive Sector. *The Extractive Industries and Society* 1:1, 7–11.

Heinbach, Katharina, Astrid Aretz, Bernd Hirschl, Andreas Prahl and Steven Salecki (2014). Renewable Energies and Their Impact on Local Value Added Employment. *Energy, Sustainability and Society* 4:1, 1–10.

Hiedanpää, Juha, Ari Jokinen and Pekka Jokinen (2012). Making Sense of the Social: Human-Nonhuman Constellations and the Wicked Road to Sustainability. *Sustainability: Science, Practice & Policy* 8:1, 40–49.

Hildebrandt, Leandri and Luke A. Sandham (2014). Social Impact Assessment: The Lesser Sibling in the South African EIA Process. *Environmental Impact Assessment Review* 48, 20–26.

Hill, Charles A. (2004). The Psychology of Rhetorical Images. In Hill, Charles and Marguerite Helmers (editors), *Defining Visual Rhetorics,* 25–40. London: Lawrence Erlbaum Associates.

Hill, Charles A. & Helmers, Marguerite (2004). Introduction. In Hill, Charles and Marguerite Helmers (editors), *Defining Visual Rhetorics,* 1–24. London: Lawrence Erlbaum Associates.

Hjerpe, Mattias and Björn-Ola Linnér (2009). Utopian and Dystopian Thought in Climate Science and Policy. *Futures* 41, 234–245.

Hoel, Alf Håkon (2015). Oceans Governance, the Arctic Council and Ecosystem-Based Management. In Jensen, Leif Christian and Geir Hønneland (editors), *Handbook of the Politics of the Arctic*, 265–280. Cheltenham: Edward Elgar.

Holm, Arne O. (2015). Prologue. In Sørnes, Jan-Oddvar, Larry D. Browning and Jan Terje Henriksen (editors), *Culture, Development and Petroleum: An Ethnography of the High North*, xiv–xvii. London: Routledge.

Huggan, Grahan and Lars Jensen (editors). (2016). *Postcolonial Perspectives on the European High North: Unscrambling the Arctic*. Basingstoke: Palgrave MacMillan.

IEA (2015a). *World Energy Outlook 2015: Executive Summary*. Paris: International Energy Agency.

IEA (2015b). *Energy and Climate Change. World Energy Outlook Special Report*. Available at: https://www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf. Accessed 27.9.2016.

Inayatullah, Sohail (2004). Introduction to the Reader. In Inayatullah, Sohail (editor), *The Causal Layered Analysis. Theory and Case Studies of an Integrative and Transformative Methodology*, 8–49. Tamkang University Press.

Ingold, Tim (1997). Life Beyond the Edge of Nature? Or, the mirage of Society. In Greenwood, John D. (editor), *The Mark of the Social,* 231–252. Lanham, MD: Rowman and Littlefield.

International Barents Secretariat (2016). *Barents Regional Council and Committee gathered in Luleå.* Available at: http://www.barentscooperation.org/news/Barents-Regional-Council-and-Committee-gathered-in-Lulea/9629/9543be9c-58a4-4087-afd2-d95e3bc97cda. Accessed 22.11.2016.

IPCC (2014). *Climate Change 2014: Synthesis Report: Summary for Policymakers.* Available at: https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf. Accessed 13.5.2015.

IPCC (2006). *2006 IPCC Guidelines for National Greenhouse Gas Inventories: Glossary.*

Irwin, Alan (2001). *Sociology and the Environment: A Critical Introduction to Society, Nature and Knowledge*. Cambridge: Polity Press.

Jacobsen, Rikke B. and Alyne E. Delaney (2014). When Social Sustainability Becomes Politics: Perspectives from Greenlandic Fisheries Governance. *Maritime Studies* 13:6, 1–14.

Jenkins, Kirsten, Darren McCauley, Raphael Heffron, Hannes Stephanc and Robert Rehnera (2016). Energy Justice: A Conceptual Review. *Energy Research and Social Science* 11, 174–182.

Julien, Heidi (2008). Content Analysis. In Given, Lisa M. (editor). *The SAGE Encyclopedia of Qualitative Research,* 121–122. Thousand Oaks: Sage.

Kaisti, Hanna and Mira Käkönen (2012). Actors, Interests and Forces Shaping the Energyscape of the Mekong Region. *Forum for Development Studies* 39:2, 147–158.

Kamminga, Menno R. (2008). The Ethics of Climate Politics: Four Modes of Moral Discourse. *Environmental Politics* 17:4, 673–692.

Karjalainen, Timo P. and Kalle Reinikainen (2008). Sosiaalisen kestävyyden arviointi: esimerkkinä vesistöjen käyttö. In Karjainen, Timo P., Pentti Luoma and Kalle Reinikainen (editors), *Flows and networks of Environmental Sociology*, 265–283. Oulu: Oulu University Press.

Kassel, Kerul (2012). The Circle of Inclusion: Sustainability, CSR and the Values that Drive Them. *Journal of Human Values* 18:2, 133–146.

Keskitalo, E. Carina H. (2015). The Role of Discourse Analysis in Understanding Spatial Systems. In Jensen, Leif Christian and Geir Hønneland (editors), *Handbook of the Politics of the Arctic*, 421–433. Cheltenham: Edward Elgar.

Kokko, Kai, Anniina Oksanen, Sanna Hast, Hannu I. Heikkinen, Helka-Liisa Hentilä, Mikko Jokinen, Teresa Komu, Marika Kunnari, Élise Lépy, Leena Soudunsaari, Asko Suikkanen and Leena Suopajärvi (2013). *Hyvä kaivos pohjoisessa: opaskirja ympäristösääntelyyn ja sosiaalista kestävyyttä tukeviin parhaisiin käytäntöihin*. Available at: http://www.doria.fi/bitstream/handle/10024/96388/Hyv%C3%A4%20kaivos%20pohjoisessa.pdf?sequence=3. Accessed 23.4.2014.

Kristoferssen, Berit (2014). *Drilling Oil into Arctic Minds? State Security, Industry Consensus and Local Contestation.* Troms: Troms University Press.

Kristoferssen, Berit and Brigt Dale (2014). Post Petroleum Security in Lofoten: How Identity Matters. *Arctic Review on Law and Politics* 5:2, 201–226.

Kristoferssen, Berit and Stephen Young (2010). Geographies of Security and Statehood in Norway's 'Battle of the North'. *Geoforum* 41, 577–584.

Kunelius, Risto (2003). *Viestinnän vallassa: Johdatus joukkoviestinnän kysymyksiin*. Helsinki: WSOY.

Kuzemko, Caroline (2015). Energy Depoliticisation in the UK: Destroying Political Capacity. *The British Journal of Politics and International Relations*. http://dx.doi.org/10.1111/1467-856X.12068.

Laborgne, Pia (2011). Energy Sustainability: The Role of Small Local Communities. In Järvelä, Marja and Sirkku Juhola (editors), *Energy, Policy and the Environment: Modeling Sustainable Development for the North*, 196–214. Berlin: Springer.

Lakoff, George and Mark Johnson (1980). *Metaphors We Live By*. Chicago: Chicago University Press.

Langhelle, Oluf, Björn-Ture Blindheim and Olaug Öygaarden (2008). Framing Oil and Gas in the Arctic from a Sustainable Development Perpective. In Mikkelsen, Aslaug and Oluf Langhelle (editors), *Arctic Oil and Gas: Sustainability at Risk?* 15–44. New York: Routledge.

Larouelle, Marlene (2014). *Russia's Arctic Strategies and the Future of the Far North.* Armonk: M.E. Sharpe.

Latour, Bruno (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford University Press.

Latour, Bruno (1993). *We Have Never Been Modern*. Harvester Wheatsheaf: New York.

Law, John and John Urry (2004). Enacting the Social. *Economy and Society* 33:3, 390–410.

Lawhon, Mary and James T. Murphy (2012). Socio-Technical Regimes and Sustainability Transitions: Insights from Political Ecology. *Progress in Human Geography* 36:3, 354–378.

Lawrence, Rebecca (2014). Internal Colonisation and Indigenous Resource Sovereignty: Wind Power Developments on Traditional Saami Lands. *Environment and Planning D: Society and Space* 32, 1036–1053.

Lee, Nick and Steve Brown (1994). Otherness and the Actor Network: The Undiscovered Continent. *American Behavioral Scientist* 37:6, 772–790.

Lehtonen, Markku (2004). The Environmental-Social Interface of Sustainable Development: Capabilities, Social Capital, Institutions. *Ecological Economics* 49:2, 199–214.

Lehtonen, Mikko (2002). Surmaako kuva sanan? Multimodaalisuuden haasteet tekstintutkimukselle. In Mauranen, Anna and Liisa Tiittula (editors), *Kieli yhteiskunnassa: Yhteiskunta kielessä*, 45–60. Jyväskylä: Soveltavan kielitieteen yhdistys AFinLa.

Leiwo, Matti ja Sari Pietikäinen (1998). Kieli vuorovaikutuksen ja vallankäytön välineenä. In Palonen, Kari and Hilkka Summa (editors), *Pelkkää retoriikkaa: Tutkimuksen ja politiikan retoriikat*, 85–108. Tampere: Vastapaino.

Lempinen, Hanna and Lassi Heininen (2016). Paikallisten elämäntyylit, alkuperäiskansojen kulttuurit? Kulttuuri ja sen kestävyydet arktisten valtioiden strategioissa. *Alue ja ympäristö* 45:1, 4–14.

Lempinen, Hanna (2013). "Jos se ei riitä, siitä riidellään": energiaturvallisuuden kieli ja kuvakieli turve-energian markkina-argumentteina. *Alue ja ympäristö* 42:2, 53–63.

Linjakumpu, Aini (2005). Näkökulmia politiikan käsitteeseen. In Luoma-aho, Mika, Sami Moisio and Monica Tennberg (editors), *Politiikan tutkimus Lapin yliopistossa*. Rovaniemi: P.S.C. Inter.

Lister, Martin & Wells, Liz (2003). Seeing Beyond Belief: Cultural Studies as an Approach to Analyzing the Visual. In Van Leeuwen, Theo and Carey Jewitt (editors), *Handbook of Visual Analysis*, 61–91. London: Sage.

Littlefield, Scott R. (2013). Security, Independence and Sustainability. Imprecise Language and the Manipulation of Energy Policy in the United States. *Energy Policy* 52:1, 779–788.

Liuhto, Kari (editor) (2009). *The EU-Russia Gas Connection: Pipes, Politics and Problems.* Available at: https://www.utu.fi/fi/yksikot/tse/yksikot/PEI/raportit-ja tietopaketit/Documents/Liuhto%200809%20web.pdf. Accessed 10.4.2013.

Livesey, Sharon M. (2002). Global Warming Wars: Rhetorical and Discourse Analytic Approaches to Exxonmobil's Corporate Public Discourse. *Journal of Business Communication* 39:1, 117–146.

Loe, Julia S.P. and Ian Kelman (2016). Arctic Petroleum's Community Impacts: Local Perceptions from Hammerfest, Norway. *Energy Research & Social Science* 16, 25–34.

Long Martello, Marybeth (2004). Arctic Indigenous Peoples as Representations and Representatives of Climate Change. *Social Studies of Science* 38:3, 351–376.

Luukkanen, Jyrki, Visa Tuominen and Jarmo Vehmas (2012). Scales and Fields of Electricity Production: Sustainability Discourses of Electricity Production in Cambodia and Laos. *Forum for Development Studies* 39:2, 209–230.

Lähde, Ville (2015). Politics in a World of Scarcity. In Bergnäs, Kaisa, Teppo Eskelinen, Johanna Perkiö and Rikard Warlenius (editors), *The Politics of Ecosocialism: Transforming Welfare*, 55–67. Oxon: Routledge.

MacCauley, Darren, Raphael Heffron, Maria Pavlenko, Robert Rehner and Ryan Holmes (2016). Energy Justice in the Arctic: Implications for Energy Infrastructural Development in the Arctic. *Energy Research & Social Science* 16, 141–146.

Magis, Kristen and Craig Shinn (2009). Emergent Principles of Social Sustainability. In Dillard, Jesse, Veronica Dujon & Mary C. King (editors), *Understanding the Social Aspect of Sustainability*, 15–44. New York: Routledge.

Málovics, György, Noémi Nagypál Csignéné and Sascha Kraus (2008). The Role of Corporate Social Responsibility in Strong Sustainability. *The Journal of Socio-Economics* 37, 907–918.

Margolis, Eric and Luc Pauwels (2011). *The SAGE Handbook of Visual Research Methods*. Thousand Oaks: Sage.

Mason, Arthur (2016a). Arctic Energy Image: Hydrocarbon Aesthetics of Progress and Form. *Polar Geography* 39:2, 130–143.

Mason, Arthur (2016b). Introduction: Assembling the Valuable and Vulnerable North. *Cultural Anthropology Hot Spots: Arctic Abstractive Industries*. Available at: https://culanth.org/fieldsights/938-introduction-assembling-the-valuable-and-vulnerable-north. Accessed 20.8.2016.

Mason, Arthur (2006). Images of the Energy Future. *Environmental Research Letters* 1, 1–4.

McCombs, Max (2005). A Look at Agenda-Setting: Past, Present and Future. *Journalism Studies* 6:4, 543–557.

McCombs, Max and Daniel Shaw (1972). The Agenda-Setting Function of Mass Media. *Public Opinion Quarterly* 36:2, 176–87.

McGlade, Christophe and Paul Ekins (2015). The Geographical Distribution of Fossil Fuels Unused when Limiting Global Warming to 2°C. *Nature* 517, 187–190.

Meadows, Donella, Gary Meadows, Jorgen Randers and William W. Behrens III (1972). *The Limits to Growth*. New York: Universe Books.

Mikkelsen, Aslaug and Oluf Langhelle (editors) (2010). *Arctic Oil and Gas: Sustainability at Risk?* London: Routledge.

Mikkola, Harri and Juha Käpylä (2014). The Uncertain Future of the Global Arctic. *Baltic Rim Economies Review* 2014:5, 16–17.

Ministry of Energy of the Russian Federeration (2010). *Energy Strategy of Russia for the Period up to 2030*. Available at: www.energystrategy.ru/projects/docs/ES-2030_(Eng).pdf. Accessed 20.10.2015.

Missimer, Merlina, Karl-Henrik Robèrt, Göran Broman and Harald Sverdrup (2010). Exploring the Possibility of a Systematic and Generic Approach to Social Sustainability. *Journal of Cleaner Production* 18, 1107–1112.

Mitchell, Claudia (2011). *Doing Visual Research*. London: Sage.

Mitchell, John, Koji Morita, Norman Selley and Jonathan Stern (2001). *The New Economy of Oil: Impacts on Businesses, Geopolitics and Society*. London: Earthscan.

Timothy Mitchell (2009). Carbon Democracy. *Economy and Society* 38:3, 399–432.

Mitchell, W.J. Thomas (1994). *Picture Theory: Essays on Verbal and Visual Representation*. University of Chicago Press.

Montefrio, Marvin Joseph F. (2012). Privileged Biofuels, Marginalized Indigenous Peoples: The Coevolution of Biofuels Development in the Tropics. *Bulletin of Science, Technology & Society* 31:1, 41–55.

Morrione, Thomas J. (1985). Situated Interaction. In Faberman, Harvey M. and R. S. Perinbanayagam (editors), *Studies in Symbolic Interactionism: Foundations*

of Interpretive Sociology. Original Essays in Symbolic Interactionism, 161–192 Greenwich: Jai PR.

Mulligan, Shane (2016). Reassessing the Crisis: Ecology and Liberal International Relations. In Di Muzio, Tim and Jesse Salah Ovadia (editors), *Energy, Capitalism and the World Order. Toward a New Agenda in International Political Economy*, 41–56. Basingstoke: Palgrave MacMillan.

Murphy, Kevin (2012). The Social Pillar of Sustainable Development: A Literature Review and Framework for Policy Analysis. *Sustainability: Science, Practice and Policy* 8:1, 15–29.

Neiger, Motti and Keren Tenenboim-Weinblatt (2016). Understanding Journalism Through a Nuanced Deconstruction of Temporal Layers in News Narratives. *Journal of Communication* 66, 139–60.

Neumann, Cecile Basberg and Iver B. Neumann (2015). Uses of the Self: Two Ways of Thinking about Scholarly Situatedness and Method. *Millennium: Journal of International Studies* 43:3, 798–819.

Newberry, Derek (2013). Energy Affects: Proximity and Distance in the Production of Expert Knowledge About Biofuel Sustainability. In Strauss, Sarah, Stephanie Rupp and Thomas Love (editors), *Cultures of Energy: Power, Practices and Technologies,* 227–241. Walnut Creek: Left Coast Press.

Newell, Peter (2008). The Political Economy of Global Environmental Governance. *Review of International Studies* 34:3, 507–529.

Newnham, Randall (2011). Oil, Carrots and Sticks: Russia's Energy Resources as a Foreign Policy Tool. *Journal of Eurasian Studies* 2:2, 134–143.

Nilsson, Annika and Nadezhda Filimonova (2013*). Russian Interests in Oil and Gas Resources in the Barents Sea*. Stockholm Environment Institute Working Paper 2013: 5. Stockholm Environment Institute.

Nobbs, Christopher (2013). *Economics, Sustainability and Democracy: Economics in the Era of Climate Change*. New York: Routledge.

Nordic Council of Ministers (2015). *About the Nordic Council of Ministers*. Available at: http://www.norden.org/en/nordic-council-of-ministers/the-nordic-council-of-ministers/about-the-nordic-council-of-ministers. Accessed 17.12.2015.

Norgaard, Kari Marie (2011). *Living in Denial: Climate Change, Emotions and Everyday Life.* Cambridge: MIT Press.

Norwegian Ministry of Foreign Affairs (2014). *Norway's Arctic Policy*. Available at: https://www.regjeringen.no/globalassets/departementene/ud/vedlegg/nord/nordkloden_en.pdf. Accessed 12.5.2016.

Nussbaumer, P., Morgan Bazilian and Anthon Patt (2013). A Statistical Analysis of the Link Between Energy and the Millenium Development Goals. *Climate and Development* 5:2, 101–112.

Nuttall, Mark and Kathrin Wessendorf (2006). Editorial. *Indigenous Affairs* 2–3/06, 4–6.

OPEC (2016). OPEC Annual Statistical Bulletin. Available at: http://www.opec.org/opec_web/static_files_project/media/downloads/publications/ASB2016.pdf. Accessed 28.10.2016.

Overland, Indra (2016). Energy: The Missing Link in Globalization. *Energy Research & Social Science* 16, 122–130.

Owen, John R. and Deanna Kemp (2014).'Free Prior and Informed Consent', Social Complexity and the Mining Industry: Establishing a Knowledge Base. *Resources Policy* 41, 91–100.

Owen, Nick A., Oliver R. Inderwildi and David A. King (2010). The Status of Conventional World Oil Reserves: Hype or Cause for Concern. *Energy Policy* 38:8, 4743–4749.

Paillard, Christophe-Alexandre (2010). Russia and Europe's Mutual Energy Dependence. *Journal of International Affairs* 63:2, 65–84.

Palonen, Kari (1998). Retorinen käänne? In Palonen, Kari ja Hilkka Summa (editors), *Pelkkää retoriikkaa: Tutkimuksen ja politiikan retoriikat*, 7–24. Tampere: Vastapaino.

Palonen, Kari (1983). Politics as a Dramatic Action Situation. In Heiskanen, Ilkka and Sakari Hänninen (editors), *Exploring the Basis of Politics: Five Essays on the Politics of Experience, Language, Knowledge and History*, 15–33. Tampere: The Finnish Political Association.

PAME (2009). *Arctic Marine Shipping Assessment 2009*. Available at: www.pmel.noaa.gov/arctic-zone/detect/documents/AMSA_2009_Report_2nd_print.pdf. Accessed 10.10.2016.

Par, Hester (2006). Situated Knowledge. In Warf, Barney (editor), *Encyclopedia of Human Geography*, 431. Thousand Oaks: Sage.

Partridge, Emma (2014). Social Sustainability. In Michalos, Alex C. (editor), *Encyclopedia of Quality of Life and Well-Being Research*, 6178–6186. Dordrecht: Springer.

Pauwels, Luc (2011). An Integrated Conceptual Framework for Visual Social Research. In Margolis, Eric and Luc Pauwels (editors), *The SAGE Handbook of Visual Research Methods*, 3–23. Thousand Oaks: Sage

Pickering, Michael J. (2004). Qualitative Content Analysis. In Lewis-Beck, Michael, Alan Bryman and Tim Futing Liao (editors), *The SAGE Encyclopedia of Social Science Research Methods*, 890. Thousand Oaks: Sage.

Pietikäinen, Sari ja Mäntynen Anne (2009). *Kurssi kohti diskurssia*. Tampere: Vastapaino.

Potter, Jonathan (1996). *Representing Reality: Discourse, Rhetoric and Social Construction*. London: Sage.

Potter, Russell Alan (2007). *Arctic Spectacles: The Frozen North in Visual Culture, 1818–1875*. University of Washington Press.

Prime Minister's Office of Finland (2013). *Finland's Strategy for the Arctic Region 2013*. Available at: http://vnk.fi/julkaisut/julkaisusarja/julkaisu/en.jsp?oid=395580. Accessed 20.11.2014.

Prno, Jason and D. Scott Slocombe (2012). Exploring the Origins of 'Social Licence to Operate' in the Mining Sector: Perspectives from Governance and Sustainability Theories. *Resources Policy* 37, 346–357.

Prontera, Andrea (2009). Energy Policy: Concepts, Actors, Instruments and Recent Developments. *World Political Science Review* 5:1, 1–30.

Psaridikou, Katerina and Bronislaw Szerszynski (2012). Growing the Social: Alternative Agrofood Networks and Social Sustainability in the Urban Ethical Foodscape. *Sustainability: Science, Practice and Policy* 8:1, 30–39.

Pulkkinen, Tuija (1996). *The Postmodern and Political Agency*. Helsinki University Press.

Redclift, Michael (2009). The Environment and Carbon Dependence: Landscapes of Sustainability and Materiality. *Current Sociology* 57:3, 369–387.

Reghezza-Zitt, Magalai, Samuel Rufeat, Géraldine Djament-Dran, Antione Le Blanc and Serge Lhomme (2013). What Resilience is Not: Uses and Abuses. *Cybergeo: European Journal of Geography.* http://dx.doi.org/10.4000/cybergeo.25554.

Rehn, Olli (2016). Towards Revival of Arctic Cooperation. *Shared Voices Special Issue: The Arctic Council at 20,* 40–41. UArctic Magazine.

Ribeiro, Fernando, Paula Ferreira and Madalena Araújo (2011). The Inclusion of Social Aspects in Power Planning. *Renewable and Sustainable Energy Reviews* 15, 4261–4369.

Robinson, John (2004). Squaring the Circle? Some Thoughts on the Idea of Sustainable Development. *Ecological Economics* 48:4, 369–384.

Rogers, Douglas (2012). The Materiality of the Corporation: Oil, Gas, and Corporate Social Technologies in the Remaking of a Russian Region. *American Ethnologist* 39:2, 284–296.

Rose, Gillian (2007). *Visual Methodologies: An Introduction to Researching with Visual Materials*. London: Sage.

Rothbauer, Paulette M. (2008). Triangulation. In Given, Lisa M. (editor), *The SAGE Encyclopedia of Qualitative Research Methods*, 893–894. Thousand Oaks: Sage.

Ross, Dyann (2013). Social Sustainability. In Idowu, Samuel A., Nicholas Capaldi, Liangrong Zu and Ananda Das Gupta (editors), *Encyclopedia of Corporate Social Responsibility*, 2245–2249. Berlin: Springer.

Ruostetsaari, Ilkka (1998). *Energiapolitiikka käännekohdassa: Järjestöt ja yritykset vaikuttajina vapautuvilla energiamarkkinoilla*. University of Tampere Research Reports 8/1998.

Ruostetsaari, Ilkka (2010). *Energiavalta: Eliitti ja kansalaiset muuttuvilla energiamarkkinoilla*. Tampere University Press.

Rupp, Stephanie (2013). Considering Energy: E = mc2 = (Magic * Culture)2. In Strauss, Sarah, Rupp, Stephanie & Love, Thomas (editors), *Cultures of Energy: Power, Practices, Technologies*, 79–85. Left Coast Press: Walnut Creek.

Russian Federation Policy for the Arctic 2020 (2009). Unofficial English translation. Available at: http://www.iecca.ru/en/legislation/strategies/item/99-the-development-strategyof-the-arctic-zone-of-the-russian-federation. Accessed 20.10.2014

Rüdiger, Mogens (2008). Introduction. In Rüdiger, Mogens (editor), *Culture of Energy*, vii–x. Newcastle: Cambridge Scholars Publishing.

Salminen, Antti and Tere Vadén (2013). *Energia ja kokemus: Naftologinen essee*. Tampere: Eurooppalaisen filosofian seura ry.

Scrase, J. Ian and David G. Ockwell (2010). The Role of Discourse and Linguistic Framing in Effects in Sustaining High Carbon Energy Policy: An Accessible Introduction. *Energy Policy* 38:5, 2225–2233.
Sengers, Frans, Rob P.J.M. Raven and Alex Van Venrooij (2010). From Riches to Rags: Biofuels, Media Discourses and Resistance to Sustainable Energy Technologies. *Energy Policy* 38, 5013–5027.
Seppänen, Janne (2005). *Visuaalinen kulttuuri: teoriaa ja metodeja mediakuvan tulkitsijalle*. Tampere: Vastapaino.
Seppänen, Janne & Väliverronen, Esa (2000). Lehtikuvan luonto: kuvan ja tekstin suhteista ympäristödiskurssissa. *Sosiologia* 37:4, 330–348.
Seror, Jeromie (2012). Computer-Assisted Qualitative Data Analysis Software (CAQDAS). *The Encyclopedia of Applied Linguistics*.
Shields, Deborah J. (1998). Nonrenewable Resources in Economic, Social, and Environmental Sustainability. *Nonrenewable Resources* 7:4, 251–261.
Sidortsov, Roman (2016). A Perfect Moment During Imperfect Times: Arctic Energy Research in a Low-Carbon Era. *Energy Research & Social Science* 16, 1–7.
Sinevaara-Niskanen, Heidi (2015). *Setting the Stage for Arctic Development: Politics of Knowledge and the Power of Presence*. Acta Universitas Lapponiensis 304. Rovaniemi: Lapland University Press.
Slootweeg, Roel, Frank Vanclay and Marlies van Schooten (2001). Function Evaluation as Framework for the Integration of Social and Environmental Impact Assessment. *Impact Assessment and Project Appraisal* 19:1, 19–28.
Smits, Coco C.A., Jens Christian S. Justinussen and Rasmus G. Bertelsen (2016). Human Capital Development and a Social License to Operate: Examples from Arctic energy development in the Faroe Islands, Iceland and Greenland. *Energy Research & Social Science* 16, 122–131.
Sneddon, Christopher S. (2000). 'Sustainability' in Ecological Economics, Ecology and Livelihoods: A review. *Progress in Human Geography* 24:4, 521–549.
Soini, Katriina and Inger Birkeland (2014). Exploring the Scientific Discourse on Cultural Sustainability. *Geoforum* 51, 213–223.
Sorsa, Ville-Pekka (2015). Johdatus symposiumiin: Kestävän talouden ja vahvan kestävyyden jäljillä. *Poliittinen talous* 3:1, 11–28.
Sovacool, Benjamin K., Sarah E. Ryan, Paul C. Stern, Katy Janda, Gene Rochlin, Daniel Spreng, Martin J. Pasqualetti, Harold Wilhite and Loren Lutzenhiser (2015). Integrating Social Science in Energy Research. *Energy Research & Social Science* 6, 95–99.
Sovacool, Benjamin K. (2014). What are we doing here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda. *Energy Research & Social Science* 1, 1–29.
Srivastava, Jayati (2011). 'Norm' of Sustainable Development: Predicament and the Problematique. *India Quarterly: A Journal of International Affairs* 67:2. 93–110.
Stevens, Paul (2012). Towards an Ecosociology. *Sociology* 46:4, 579–595.
Stammler, Florian and Ivanova, Aytalina (2016). Resources, Rights and Communities: Extractive Mega-Projects and Local People in the Russian Arctic. *Europe-Asia Studies*. http://dx.doi.org/10.1080/09668136.2016.1222605.

Stammler, Florian and Emma Wilson (2016). Beyond Extractivism and Alternative Cosmologies: Arctic Communities and Extractive Industries in Uncertain Times. *The Extractive Industries and Society* 3, 1–8.

Star, Susan Leigh and James R. Griesemer (1989). Institutional Ecology, "Translations" and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907–39. *Social Studies of Science* 19:3, 387–420.

Star, Susan Leigh (2010). This is Not a Boundary Object: Reflections on the Origin of a Concept. *Science, Technology and Human Values* 35:5, 601–617.

Statistics Norway (2015). *Project: ECONOR III – Economy of the North*. Available at: https://www.ssb.no/en/forskning/energi-og-miljookonomi/baerekraftig-utvikling/econor-the-economy-of-the-north. Accessed 16.12.2015.

Statistics Norway (2015). *Central Government Revenue and Expenditure, 2014*. Available at: https://www.ssb.no/en/offentlig-sektor/statistikker/statsregn/aar/20150519?fane=tabell&sort= nummer&tabell=227945. Accessed 27.10.2015.

Stephenson, Janet, Barry Barton, Gerry Carrington, Adam Doering, Rebecca Ford, Debbie Hopkins, Rob Lawson, Alaric McCarthy, David Rees, Michelle Scott, Paul Thorsnes, Sara Walton, John Williams and Ben Wooliscrof (2015). The Energy Cultures Framework: Exploring the Role of Norms, Practices and Material Culture in Shaping Energy Behaviour in New Zealand. *Energy Research & Social Science* 7, 117–123.

Stirling, Andy (2014). Transforming Power: Social Science and the Politics of Energy Choices. *Energy Research & Social Science* 1, 83–95.

Strauss, Anselm and Juliet Corbin (1997). *Grounded Theory in Practice*. Thousand Oaks: Sage.

Strauss, Hannah (2011). *For the Good of Society: Public Participation in the Siting of Nuclear and Hydro Power Projects in Finland*. Acta Universitas Ouluensis: E Scientiae Rerum Socialium 118. Tampere: Juvenes Print.

Strauss, Sarah, Stephanie Rupp and Thomas Love (2013). Powerlines: Cultures of Energy in the Twenty-First Century. In Strauss, Sarah, Stephanie Rupp and Thomas Love (editors), *Cultures of Energy: Power, Practices and Technologies*, 10–38. Walnut Creek: Left Coast Press.

Suopajärvi, Leena, Gregory A. Poelzer, Thomas Ejdemo, Elena Klyuchnikova, Elena Korchak and Vigdis Nygaard (2016). Social Sustainability in Northern Mining Communities: A Study of the European North and Northwest Russia. *Resources Policy* 47, 61–68.

Suopajärvi, Leena (2015). The Right to Mine: Discourse Analysis of Social Impact Assessments of Mining Projects in Finnish Lapland in the 2000s. *Barents Studies* 1:3, 36–54.

Suopajärvi, Leena (2013). Social Impact Assessment in Mining Projects in Northern Finland: Comparing Practice to Theory. *Environmental Impact Assessment Review* 42, 25–30.

Sussex, Matthew and Robert E. Kanet (editors) (2015). *Russia, Eurasia and the New Geopolitics of Energy: Confrontation and Consolidation*. Basingstoke: Palgrave McMillan.

Sørnes, Jan-Oddvar, Larry D. Browning and Jan Terje Henriksen (2015). Introduction. In Sørnes, Jan-Oddvar, Larry D. Browning and Jan Terje Henriksen (editors), *Culture, Development and Petroleum: An Ethnography of the High North*, 1–12. London: Routledge.

The Independent Barents Observer (2015). *About Us*. Available at: http://thebarentsobserver.com/content/about-us. Accessed 26.10.2015.

Tennberg, Monica and Hanna Lempinen (2015). Sosiaalista kestävyyttä etsimässä: tapaustutkimuksena Salla. *Kosmopolis* 45:3, 27–43.

Tennberg, Monica (2015). The Need to Know: Governing a Region and its Economy. *Barents Studies* 1:3, 82–97.

Tennberg, Monica and Joonas Vola (2014). Myrskyjä ei voi hallita: Haavoittuvuuden poliittinen talous. *Alue ja ympäristö* 43:1, 73–84.

Tennberg, Monica, Larissa Riabova and Aileen A. Espiritu (2012). Introduction to Politics of Development in the Barents Region. In Monica Tennberg (editor), *Politics of Development in the Barents Region*, 16–29. Rovaniemi: Lapland University Press.

Teräväinen, Tuula (2010). Political Opportunities and Storylines in Finnish Climate Policy Negotiations. *Environmental Politics* 19:2, 196–216.

Tester, Jefferson W, Elizabeth M. Drake, Michael J. Driscoll, Michael W. Golay and William A. Peters (2005). *Sustainable Energy: Choosing Among Options*. Cambridge: MIT.

The Economist (3.10.2015). *Oil companies in the Arctic: A rig too far.* Available at: http://www.economist.com/news/business/21669912-shells-retreat-frozen-north-shows-new-realities-big-oil-rig-too-far. Accessed 16.4.2016.

Tiainen, Heidi (2016). Contemplating Governance for Social Sustainability in Mining in Greenland. *Resources Policy* 49, 282–289.

Till, Jeremy (2011). Constructed Scarcity. *Scarcity + Creativity in the Built Environment Working Papers 1*. Available at: http://www.scibe.eu/wp-content/uploads/2010/11/01-JT.pdf. Accessed 16.8.2013.

Tuomi, Jouni and Anneli Sarajärvi (2013). *Laadullinen tutkimus ja sisällönanalyysi*. Porvoo: Tammi.

Tynkkynen, Veli-Pekka and Nina Tynkkynen (forthcoming). Climate Denial Revisited: (Re)contextualising Russian Public Discourse on Climate Change during Putin 2.0. *Europe–Asia Studies.*

Tynkkynen, Veli-Pekka (2010). From Mute to Reflective: Changing Governmentality in St Petersburg and the Priorities of Russian Environmental Planning. *Journal of Environmental Planning and Management* 53:2, 1-16.

Tynkkynen, Veli-Pekka (2016a). Russia's Arctic Natural Gas and the Definition of Sustainability. *Cultural Anthropology Hot Spots: Arctic Abstractive Industries*. Available at: https://culanth.org/fieldsights/929-russia-s-arctic-natural-gas-and-the-definition-of-sustainability. Accessed 20.8.2016.

Tynkkynen, Veli-Pekka (2016b). Energy as Power: Gazprom, Gas Infrastructure and Geo-Governmentality in Putin's Russia. *Slavic Review* 75:2, 374–395.

UNDP (1990). *Human Development Report 1990*. Oxford: Oxford University Press

USGS (2009). *Assessment of Undiscovered Petroleum Resources of the Barents Sea Shelf*. United States Geological Survey Fact Sheet. Available at: http://pubs.usgs.gov/fs/2009/3037/pdf/FS09-3037.pdf. Accessed 5.8.2013.

Vanclay, Frank (2002). Conceptualising Social Impacts. *Environmental Impact Assessment Review* 22, 183–211.

Vanclay, Frank (2003). International Principles for Social Impact Assessment. *Impact Assessment and Project Appraisal* 21:1, 5–11.

Van de Kerk, Gert and Arthur R. Manuel (2008). A Comprehensive Index for a Sustainable Society: The SSI – the Sustainable Society Index. *Ecological Economics* 66, 228–242.

Van Leeuwen, Theo (2011). Multimodality and Multimodal Research. In Margolis, Eric and Luc Pauwels (editors), *The SAGE Handbook of Visual Research Methods*, 549–569. Thousand Oaks: Sage.

Van Leeuwen, Theo (2004). Ten Reasons Why Linguists Should Pay Attention to Visual Communication. In Levine, Philip and Ron Scollon (editors), *Discourse & Technology: Multimodal Discourse Analysis*, 7–19. Washington D.C.: Georgetown University Press.

Vannini, Philip (2008). Situatedness. In Given, Lisa M. (editor), *The SAGE Encyclopedia of Qualitative Research Methods*, 816. Thousand Oaks: Sage.

Vallance, Suzanne, Harvey C. Perkins and Jennifer E. Dixon (2011). What is Social Sustainability? A Clarification of Concepts. *Geoforum* 42, 342–348.

Victor, Peter A. (2008). *Managing Without Growth: Slower by Design, Not Disaster*. Cheltenham: Edward Elgar.

WCED (1987). *Our Common Future*. United Nations World Commission on Environment and Development. Available at: http://www.un-documents.net/our-common-future.pdf. Accessed 15.7.2014.

Wendt, Alexander (1999). *The Social Theory of International Politics*. Cambridge: Cambridge University Press.

Whitton, John, Ioan Mihangel Parry, Mito Akiyoshi and William Lawless (2015). Conceptualizing a Social Sustainability Framework for Energy Infrastructure Decisions. *Energy Research & Social Science* 8, 127–138.

Wilkinson, Paul (2007). *International Relations: A Very Short Introduction*. Oxford University Press.

Wilson Rowe, Elana (2016). The Unbuilt Environments of Arctic Offshore Oil and Gas Development. *Cultural Anthropology Hot Spots: Arctic Abstractive Industries.* Available at: https://culanth.org/fieldsights/933-the-unbuilt-environments-of-arctic-offshore-oil-and-gas-development. Accessed 20.8.2016.

Windisch, Uli (2008). Daily Political Communication and Argumentation in Direct Democracy: Advocates and Opponents of Nuclear Energy. *Discourse and Society* 19:1, 85–98.

Wright, Terence (2011). Press Photography and Visual Rhetoric. In Margolis, Eric and Luc Pauwels (editors), *The SAGE Handbook of Visual Research Methods*, 317–336. Thousand Oaks: Sage.

Wynn, Graeme (2013). Foreword. In Desbiens, Caroline. *Power from the North: Territory, Identity, and the Culture of Hydroelectricity in Quebec*, xi–xix. Vancouver: University of British Columbia Press.

World Bank (2015). *World Development Indicators: Contribution of Natural Resources to Gross Domestic Product*. Available at: http://wdi.worldbank.org/table/3.15. Accessed 20.9.2015.

Youatt, Rafi (2007). *Nonhuman Agency and the Politics of Global Biodiversity*. Chicago University Press.

Empirical references

AES (2010). *Arctic Energy Summit: Final Report and Technical Proceedings*. Hemsath, James R. (editor). Anchorage: The Institute of the North.

AHRD-I (2004). *Arctic Human Development* Report. Einarsson, Niels, Joan Nymand Larsen, Annika Nilsson and Oran R. Young (editors). Akureyri: Stefansson Arctic Institute.

AHDR-II (2015). *Arctic Human Development Report: Regional Processes and Global Linkages*. Nymand Larsen, Joan and Gail Fondahl (editors). Akureyri: Stefansson Arctic Institute.

AMAP (2007). *Arctic Oil and Gas. Arctic Monitoring and Assessment Programme*. Huntington, Henry P. (editor). Oslo: Norway.

AMAP (2010). *Arctic Oil and Gas Activities: Effects and Potential Effects.* Arctic Monitoring and Assessment Programme. Oslo: Norway.

Socioeconomic Drivers (2014). *Socio-Economic Drivers of Change in the Arctic*. Andrews, Robbie AMAP Technical Reports No. 9 (2014). Arctic Monitoring and Assessment Programme. Oslo: Norway.

ASI-I (2010). *Arctic Social Indicators: Follow-up to the Arctic Human Development Report*. Nymand Larsen, Joan, Peter Schweitzer and Gail Fondahl (editors). Copenhagen: Nordic Council of Ministers.

ASI-II (2013). *Arctic Social Indicators: Implementation*. Nymand Larsen, Joan, Peter Schweitzer and Andrey Petrov (editors). Copenhagen: Nordic Council of Ministers.

Economy of the North I (2006). Glomsrød, Solveig and Iulie Aslaksen (editors). Statistics Norway.

Economy of the North II (2008). Glomsrød, Solveig and Iulie Aslaksen (editors). Statistics Norway.

Megatrends (2011). Rasmussen, Rasmus Ole and Johanna Roto (editors). Copenhagen: Nordic Council of Ministers.