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Trine E. Unander

Found in translation?

How environmental organisations acquire environmental knowledge and communicate it to policymakers

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Doctoral thesis

NTNU
Norwegian University of Science and Technology
Thesis for the Degree of
Philosophiae Doctor
Faculty of Humanities
Department of Interdisciplinary Studies of Culture

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Department of Interdisciplinary Studies of Culture
Science and Technology Studies (STS)
Faculty of Humanities
Norwegian University of Science and Technology

Contents

Preface

This thesis is the outcome of one of three PhD efforts within the project 'Practice, innovation, learning and knowledge' (PILK). The other two are Swensen (2015) and Jomisko (2015). As a whole, the three theses analyse how innovation and learning happen in energy and environmental policy.

PILK has been funded through the Centre for Sustainable Energy Studies (CenSES), whose main objective was to contribute with 'research that supports public and private decision makers in strategic decisions and policies that will promote environment-friendly energy technologies and lead to a sustainable energy system' (CenSES, n.d.).

The centre was one of 11 national Centres for Environment-friendly Energy Research (FME) established by The Research Council of Norway in 2011, and it was completed in May 2019. In June 2019, a continuation of the centre, the Norwegian Centre for Energy Transition Strategies (NTRANS), was granted 200 million kroner (≈ € 20 million) to conduct research on 'development of environmentally friendly energy, based on a social science perspective and on the interaction between technology and society'.

By making the results from this PhD project known – to policymakers, but also to business actors – the study aims to inform and to support decision makers within environmentally friendly energy in their choices.

Frontmatter

Acknowledgements

What to say… reaching the end of this everlasting journey... it is such an overwhelming feeling. It is nearly seven years since I started this endeavour and, admittedly, it has been much harder than expected. The idea that it would be just another master's thesis, only longer, was erroneous. Oh, yes, I have been filled with regret, having to repeat 'Not now, mummy's working!' And yes, I have wanted to shut my brain off from exhaustion at times. However, I have never been bored and finally, finally, I am actually here.

I owe particular thanks to my excellent supervisors, for their professional advice and kind support. To my main supervisor Professor Knut H. Sørensen: thank you for our collaboration, for being a major source of knowledge, wisdom and motivation, for generously sharing your ideas, expertise and advice. You supported me and pushed me to (try to) stay on track, to stay (almost) on time. Co-supervisors Professor Margrethe (Maggi) Aune, and Professor Nora Levold, thank you for adding insightful and creative input to my exceedingly competent 'advisory board', and for your kind words of encouragement. You generated invigorating discussions during supervision; at times leaving me with the feeling of having experienced a tornado in a ball pit. I hope I managed to catch some of the balls. It was also you that got me into this in the first place, through being splendid supervisors of my master's thesis, something for which I am profoundly grateful! Last, but not least, to Professor Wiebe Bijker, you will never understand how important you have been to me as mentor, motivator and support, especially through the last months of this work. I am not sure I would have managed without you.

I am incredibly grateful to my interviewees, who took time away from busy schedules and allowed me a privileged glimpse into their everyday work. Without you, there would be no thesis whatsoever. Thanks, also, to officers in

the central government administration, who helped me gain access to consultation documents, white papers and other information resting in the central government system.

Furthermore, I thank Professor Wiebe Bijker of Maastricht University; Professor Peter Munk Christiansen of Aarhus University; Associate Professor Robert Næss of Norwegian University of Science and Technology (NTNU), Professor Per Selle of University of Bergen; and Professor Per Østby of NTNU who most generously granted me some of their publications without compensation, and whose words of encouragement have been of great inspiration.

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Finally, I would like to express my most sincere thanks to my entire family. Til Oskar og Idunn: Tusen takk for at dere alltid er nysgjerrige, interesserte og tålmodige! More than anything, however, no words can express the thanks I owe to you, Tor Erling. You deserve a chapter of your own, for being master and crew of the vessel at home and for putting all other projects on hold so that I could complete this challenge.

Having finished this PhD thesis feels a bit like having reached **The End**. It is, however, just as much, the beginning of a new, exciting story. Whatever it turns out to be, it can hardly become more challenging, nor can it become more rewarding. Bring it on! For now, I wish you happy reading – may the work prove to be useful!

August 2019

Trine E. Unander

List of abbreviations

ANT	Actor–network theory
CenSES	Centre for Sustainable Energy Studies
CS	Civil servant
EC	Environmental communication
ENGO	Environmental non-governmental organisation
Meld. St.	Report to the Storting (Norwegian parliament)
MP	Member of Parliament
NGO	Non-governmental organisation
NOU	Norsk offentlig utredning [Official Norwegian report]
Prop. St.	Proposition to the Storting (Norwegian parliament)
STS	Science and technology studies

Glossary

Cognitive praxis	Core sets of ideas and practices concerning the production and use of knowledge. It describes different areas of knowledge interests – nature, humanity and technology.
Communication space	The physical or virtual locations ENGOs utilise when presenting knowledge and points of view orally and/or in writing to policymakers.
Cross-cutting analysis	Analysis where the contents and conclusions of different papers/analyses are juxtaposed and interpreted together, to get deeper into the issues investigated.
Factish	A combination of the concepts 'fetish' and 'fact' to describe entities that are put together from nature as well as culture (Latour, 2003). They are, thus, amalgams of knowledge and interests, facts and values.
Institutional entrepreneurs	Actors in society that are able to function as 'bridge builders' between public and government, and that may be able to induce changes to the system.
NOU	The published result when the government or a ministry has appointed committees or work groups to study different conditions in society. The end product of such a process may either take the shape of a plain report or an 'Official Norwegian Report' i.e. an 'NOU' from the Office of the Prime Minister or from ministries. An NOU is sometimes also referred to as a green paper, a government report of a proposal without any commitment to action or a discussion document.
Meld. St.	Report to the Storting. A tentative government report of a proposal for action in a specific area. The first step in changing the law, also referred to as a white paper.

Detailed Table of Contents

Chapter 1.

Studying ENGOs and environmental communication in Norway

Introduction

Environmental problems have been on the political agenda for a long time, not the least since the so-called Brundtland commission presented its report 'Our common future' in 1987 and made sustainable development an international concern. In recent years, global warming has added urgency to the issues. Around the world, champions of the sustainable development cause apply a variety of means and measures as they fight battles, large and small, against industry, corporations and governments.

ENGOs try to be players in these struggles, and social scientists have studied many aspects of these efforts. I will return to these contributions in the next main section of this introductory chapter. My study is a continuation of these efforts with its focus on a particular aspect of the ENGOs' methods of interacting with the outside world – namely their engagement with and communication of environmental knowledge as a strategy of influencing policy-making. A main assumption underlying my dissertation has been that knowledge is a prominent feature of ENGOs' dialogues with politicians and government administration. To better understand the conduct of environmental politics, I argue that we need to study the knowledge practices of ENGOs in such contexts.

In my dissertation, I study the role of environmental non-governmental organisations (ENGOs) in environmental policy learning. I use the concept of policy learning to designate broadly the cognitive and social dynamics involved when policy actors to reach political goals acquire, transform and enact new information and knowledge to make decisions and change policy-

related beliefs (Moyson et al. 2017, Dunlop et al. 2018).[1] This implies a main emphasis on the *processes* of knowledge acquisition and communication rather than on policy outcomes.

More particularly, I contribute by investigating three aspects that are important to the understanding of knowledge focused interaction between ENGOs and policymakers in the environmental area. Each of these aspects is analysed in a separate chapter, and in this manner, I want to promote a broader perspective of what is involved in environmental policy learning, and an improved understanding of the social dynamics underlying such processes. With the help of this introductory chapter, I aim to clarify the contribution of my thesis, which is inspired by work within science and technology studies, STS.

In the next chapter (paper one), I study rhizomic learning, how ENGO actors acquire the knowledge they may offer to policymakers. This learning process of the ENGOs is described as rhizomic to emphasise the complexity of sources and practices involved. In this manner, the chapter criticises the assumption that ENGOs mainly offer knowledge they retrieve directly from scientific institutions. The third chapter (paper two) analyses the communication spaces employed by ENGO actors as they interact with environmental policymakers. By communication spaces I mean the physical or virtual locations ENGOs utilise when presenting knowledge and points of view orally and/or in writing. This includes using a diversity of material facilitators staged within a diversity of cultural contexts. I identify five such spaces that the ENGOs conduct in their communication with policymakers, and highlight the organisations' reflective approaches, and skills in using comprehensive and flexible means in these spaces. In the fourth chapter (paper three), on epistemic cultures, I study how policymakers working with environmental issues -- Members of Parliament (MPs) and civil servants --

[1] The references of this introductory chapter and the concluding chapter can be found at the end of the thesis. The references of the empirical chapters are within each of those chapters.

perceive ENGO actors and assess their usefulness as providers of knowledge and points of view. Both MPs and civil servants recognise the expertise of the ENGO actors, and they particularly appreciate the accompanying value aspects. The fifth chapter is a tie-up and concluding essay. It focuses on the insights that may be drawn from the three preceding chapters (papers one till three) through a 'cross-cutting analysis'.

The methodology employed in the study is described briefly in each paper. In addition, a comprehensive account and discussion is provided in this introductory chapter. The most important data source has been qualitative interviews with central ENGO actors, MPs and civil servants working with environment, energy and climate issues. The interviews have focused on various aspects of environmental policy learning processes, emphasising the knowledge acquisition and transmission of ENGOs. They have provided rich descriptions of the kind of processes explored in the papers.

The interviewees generally required anonymity. This limits quite strictly the possibilities of discussing concrete environmental issues and particular achievements with respect to policy outcomes. It also did not allow me to identify ENGOs in the analysis. However, given my focus on processes, this has not created substantial difficulties.

The structure of the thesis

My thesis is a 'paper-based' thesis. It consists of this introductory chapter, three chapters each based on a paper discussing distinct aspects of the research questions of the study, and a tie-up essay with a conclusion. The intention of the tie-up essay is to provide a more comprehensive theoretical background of the study as well as to contribute with a cross-cutting analysis of the findings of the study. Finally, it concludes regarding the role of ENGOs in environmental policy learning processes.

This introductory chapter foregrounds the study, presents its rationale and describes what the research aims to do. Here, I furthermore explain the

structure of the thesis and provide a brief review of some previous research on ENGOs, environmental communication and policymaking. I discuss what aspects of this research that may be applied in my analysis, and I use the review to situate my study with respect to existing scholarly efforts. In this chapter, I also thoroughly discuss the methods used in the study. Chapters two, three and four (papers two till four) investigate the research questions in turn.

Finally, the tie-up and concluding essay pursues the three main research questions of the thesis. Before commencing the discussion of these questions, I introduce the concepts and theoretical approaches that I – besides the concepts already introduced – will employ in the 'cross-cutting analysis'. I briefly discuss STS research into experts and expertise, translation theory and the concept of reflexive governance, before finally, I outline an STS-based model of policy learning that combines insights from translation theory, providing a more comprehensive understanding of policy learning activities. On this basis, I carry out a cross-cutting analysis, before I summarise my findings and present my conclusions.

Context: Environmental policy and ENGOs in Norway

The topic of environmental concern is as relevant as it is old, and the motivation to conserve nature has varied. In Norway, the pressure on natural resources already demanded legislation in the Middle Ages. At that time, nature conservation was largely about securing supply and avoiding depletion of natural resources. Later, mining and woodworking industries added the threat of pollution. However, when the first environmental non-governmental organisation (ENGO) in Norway, The Norwegian Tracking Association, DNT, was established one and a half centuries ago, their main goal was conservation of nature for its mountain sceneries, and its recreational purposes (Berntsen, 2011).

Today, Norwegian ENGOs represent a broader and more diverse set of activities and a variety of strategies to influence environmental policy. One effort to understand this diversity is the classification Grendstad et al. (2006) made of 12 Norwegian ENGOs, For example, they argue that there are correlations between factors such as organisational structure, age and focus of the ENGOs, and the methods that they employ in their work. Until the 1960s, Norges Naturvernforbund (today Friends of the Earth Norway) dominated, and they worked largely in harmony with the government, using traditional case procedure to state their opinions and points of view.

Sørensen (1992) describes a shift from 'Early Nature Conservation' towards 'The New Environmental Movement' occurring during the 1960s. The main issue was the development of hydro power stations and the need to conserve mountain areas. Approaching the golden era of environmentalism in the early 1970s (Berntsen, 2011, p. 183), nature protection activities continued to increase, but pollution concerns also grew. From the last half of the 1970s and onwards, a growing specialisation and fragmentation of the environmental movement occurred (Sørensen, 1992). This meant greater diversity with respect to the way protests were organised but also with regard to the communication with authorities. During the 1990s, the Norwegian ENGOs became increasingly professionalised. They started hiring paid staff. Some of them, like Bellona, Greenpeace, World Wildlife Foundation and later ZERO, became more specialised and centralised. They also tended to put less emphasis on ideology and democratic membership. Instead, in particular Bellona, started collaborating with industry and gained funding from such actors. Simultaneously, the organisations tried to strengthen their position as knowledge providers for politicians (Sørensen, 1992). An interesting point in our context is that at the same time, environmentalists increasingly started referring to 'science' when explaining their actions. Among the emerging array of ENGOs, there was a new kind of environmental organisation, building and mobilising experience and knowledge as part of their strategies. From the late 1980s, these were characterised as 'mainstream' (Jamison, 2003).

The ENGOs' role as knowledge providers today is tightly interwoven with their role as lobbyists. This is a role most of the organisations now to some degree undertake. Hence, no matter what methods or strategies that are the most central to an ENGO -- chaining up in front of excavators or performing as revivalists at conferences – supply of environmental knowledge has become an increasingly important strategy for all of them. Also, collaboration with industry grew in importance. In 2018, environmental organisations in Norway[2] had a total income of 314 million NOK (≈ € 31,3 million), 20 per cent – or 64 million – (≈ € 6,4 million) of which came from industrial actors (Hinna, 2019). The rest mainly came from government subsidies and membership or associate membership fees.

One might expect that this economic dependence on industry and government would harm their public credibility and integrity. However, in media and public spaces, there are few indications that the organisations are not taken seriously. On the contrary, when matters relating to the environment are discussed in public, some of the ENGO actors often get quite a lot of coverage. When reports on environment related issues are published, representatives of established ENGOs are readily represented side by side with academic experts. Parallel to this, environmental activists are still able to catch attention and reach the headlines by for instance blocking electricity companies from intervening into nature by building power lines. These groups are still able to turn political processes around, or at least to stall them – even as every appellate body within normal case procedure has been tried. Interestingly, it is now predominantly smaller, local ad hoc groups that perform these kind of civil disobedience actions, while most of the established ENGOs keep a lower profile, acting on a higher political level. For example, this is

[2] Compared to this study it excludes DNT and includes Norges Miljøvernforbund [Green Warriors of Norway].

quite evident from the ongoing controversies related to new construction of wind farms onshore in Norway.

My interest in ENGOs was aroused through working with my master's thesis. This was a study of the casework and environmentalists' activities carried out in connection with the development of a high voltage overhead transmission line (HVOTL) through the Hardangerfjord landscape in Norway. Hardanger is widely known for its beautiful sceneries, and during the procedure of the case, actors expressed strong emotions and opinions about the grid development plans. Environmental organisations and other adversaries of the power line held demonstrations and carried out actions and protests from 2005 till 2012, long after the construction work had started.

At an early stage, the protests found calm expressions, including mass meetings, torchlight processions, postal card actions and report writing. However, at the point when the Ministry of Oil and Energy had made their final decision, the antagonists of the HVOTL intensified their actions. They now held more heavily promoted, visually enticing public events, amongst others symbolic burning of pylons, and a ‘grandparents' action’ where grandparents travelled together from Hardanger to Oslo, carrying banners with children’s footprints all over. The markings and demonstrations were held both locally in the Hardanger region, and in Oslo, often in front of the parliament, the Stortinget. By time, the opposition became so burdensome to the government that although they now had started building the line, they also appointed four partly international committees to investigate an alternative solution anew. The vast efforts made by the protesters yet again prolonged the process. Nevertheless, the complaints were dismissed anew, and in December 2013 the 420-kV line through Hardanger was completed.

What fascinated me about the Hardanger case was the endurance of the environmental activist, and how well they knew the policy system and where to go to have the case investigated in steadily new ways. Moreover, I found it intriguing that while these actors quite obviously were able to influence the

political process thoroughly, at the end of the day, their efforts did not bring about any radical changes to the development of the line. Thus, I was motivated to study in greater detail how the ENGOs communicated with policymakers, in particular how they engaged with environmental knowledge as a way of trying to gain influence. While the struggle against the HVOTL peaked as an activist campaign, it started as comprehensive efforts to supply knowledge to show the harmful effect of the pylon plans. I became interested in studying how the ENGOs collated such knowledge and what their strategies to communicate this to policymakers were. This came to be the main focus of my dissertation work.

As main research question I ask how ENGOs influence environmental policymaking. In the attempt to answer this question, I ask three secondary questions 1) What kinds of proficiencies do ENGO actors possess that earn them the position they hold among policymakers? 2) How do the ENGOs go about translating interests and knowledge to policymakers? 3) How do policymakers learn from ENGO actors in environmental policymaking processes? Through seeking answers to these secondary questions, I aim at getting closer to an answer to my main research question.

The landscape of ENGOs in Norway and the selection of organisations to study

To be able to answer these research questions, I have carried out empirical studies of eight Norwegian and international ENGOs that are engaged in environmental policy development today. The organisations have different profiles; however, they share one goal. They all, in diverse ways, work towards creating a sustainable environment. Structurally, there is a major distinction between the member-based and the professionalised organisations. Otherwise, the topics they emphasise vary mainly within the areas of biodiversity, environmental protection, pollution and climate. There is partially a division of labour between the organisations in the sense that they

each tend to focus on a confined range of issues. However, this division does not seem to be orchestrated.

There are three member-based, democratic organisations in the study. Founded in 1868, the Norwegian Tracking Association, DNT, with its more than 300,000 members is the oldest and largest of them (DNT, n.d., '150 År med turglede'). While originally working mainly to facilitate tourism, today, their focus is just as much on preserving nature (DNT, n.d., 'Om DNT'). The Norwegian Society for the Conservation of Nature[3], NNV, has about 22,000 members, and is, like DNT, a national organisation (NNV, n.d., 'Om Naturvernforbundet'). They have never had any other agenda than environmental protection, though, but focus on nature conservation, climate, energy and transport (NNV, n.d., 'About us'). The third member based, democratic ENGO in the study is the youth organisation of NNV, Nature and Youth, NU. They have a more uninhibited profile than its mother organisation. Although democratic, they are also action-oriented, and might even engage in civil disobedience. The focus areas of NU are many, covering among others pollution and climate, transport and agriculture. (NU, n.d., 'Plattform og vedtekter'). The fourth member-based organisation taking part in the study is Future in Our Hands Norway, FiOH. This is, however, not a democratically governed organisation. In addition to describing themselves as an environmental organisation they also define themselves as a 'solidarity organisation' (FIOH, n.d., 'Hvem vi er'), and their main focus, in addition to fighting the destruction of nature, is to fight global injustice by avoiding material overconsumption and squandering.

The four last organisations of the study are neither member-based nor democratically governed, but professionalised. In a Norwegian context they are all small, although two of them, Greenpeace and WWF, are big internationally. Greenpeace, according to themselves, work to reveal global

[3] Friends of the Earth Norway

environmental problems and to force the necessary solutions for a ‘green and peaceful future’ (Greenpeace Norway, 2013). WWF additionally has a pronounced focus on fauna preservation (WWF, n.d., ‘Om WWF’). The Environment Foundation Bellona (in short, Bellona) has been a central actor in Norway since it was founded in 1986. It has, however, transmuted radically from being an action-oriented break-away group from NU, fighting pollution, to becoming a well-established, professionalised group developing reports, appearing in media and speaking at conferences. Focus areas today among others cover climate change, CCS, and nuclear issues (Bellona, n.d., ‘Om Bellona’). The final member of the study is the foundation ZERO Emission Resource Organisation (in short, ZERO). As the name suggests, it works to find emission-free solutions for energy use. ZERO, unlike the other organisations, has narrowed their scope from originally also aiming to keep the environment undamaged (ZERO, 2013) to now uncompromisingly fighting climate change (ZERO, c2016 ‘Om ZERO’).

Although the organisations involved in this study are, in principle, Norwegian, all but one of them, in some way or another, are connected to a larger international network. The most obvious international connections are found in the organisations representing a branch of an, in principle, international organisation, like, for instance, World Wildlife Fund (WWF). As a contrast, Future In Our Hands Norway (FIOH), is only loosely affiliated with Future In Our Hands International Network, a ‘network of FIOH groups, non-government organisations, and individuals from around the world having a similar approach to development and world problems’ (Future In Our Hands International Network, 2018). Between these two extremes, there are also organisations cooperating with fluctuating frequency and closeness with sister organisations abroad, and organisations acting transboundary, with their own international offices and projects. However, in my study, I have not addressed the international networks as they were given little mention in the interviews.

A review of previous research: ENGOs, environmental communication and policy learning

This thesis focuses on how environmental organisations try to provide knowledge on and communicate around environmental issues to policy makers. To better be able to understand how this happens, I in this chapter review existing research on three topics relating to ENGOs, environmental communication and policy learning. First, I briefly present the field of environmental communication. Second, I explore key features of previous studies of ENGOs. How does previous research describe their characteristics, their means and measures, and their relationship to knowledge? In this section, I also touch upon some of the issues that challenge the organisations in their work. Finally, I review some studies of policy making.

I present this review to help create a picture of what positions the ENGO actors hold as environmental communicators in society and the role they play in environmental policymaking. By addressing the above topics, I intend to build a framework for understanding the processes the ENGOs take part in to exert influence on environmental policymaking. Mainly, I use the review to situate my own study with respect to existing scholarly efforts.

Research on environmental communication and knowledge transfer

Environmental communication (EC) has been an established field within research, practice and education for more than twenty years (Irwin et al., 2018; Davis et al., 2018), and according to Irwin et al. (ibid.), it involves 'deliberate attempts to influence decision making through public relations, environmental campaigns and lobbying' (ibid., p. 20). Lidskog and Sundqvist (2018) emphasise that EC happens at various places among various social actors spread throughout society. This is because there is no single solution

to any environmental problem and there is also no sole solution to where to turn for the ‘right’ or useful knowledge or expertise.

Berny and Rootes (2018) claim that a variety of actors have become important participants in transferring knowledge on environmental issues. NGOs are among them, but also organisations not normally regarded as belonging to the NGO sector, and the range of actors rapidly increases. The need to address NGOs and their roles in society is of key importance, Davis et al. (2018) and Irwin et al. (2018) assert, and public dialogue and engagement are essential elements.

A central observation that arises when studying the communication of scientific knowledge to potential users as for instance environmental policymakers, is that there exists a cognitive crevice between the ‘science side’ and the ‘user side’ of scientific knowledge. While the users typically need easily accessible, timely and well-arranged knowledge, making it easier to handle the tasks they continuously face, the producers are typically professional scientists engaged in long-term, specialised research projects. This dilemma is the core of Caplan’s (1977) two-community-theory, which says that the diverging foci of the two communities make the communication between them very difficult. To solve the issues, research must be steered to become more user-friendly, users must adapt better to the knowledge society, and the dissemination process must be made more efficient. According to Guy and Shove (2000) the critical point is that scientists and practitioners use diverging conventions and definitions and assign contradictory meanings to what ‘relevance’ and ‘evidence’ mean.

Moncaster et al. (2010) also support the ‘two-world-perspective’; however, they assert that there are many ways to produce and communicate scientific knowledge to users. Weiss’ (1979) seven models for transferring science to policy can be used as an illustration. Knowledge transfer, she asserts, can be both linear and governed by the natural sciences, it can be interactively

shaped by ‘all kinds of people’ (ibid., p. 428) or it can happen through an evolutionary change of society.

Several approaches have been used to study the knowledge transfer process between science and policy. Guston (2001) proposes the concept of ‘boundary organisations’, describing organisations residing on the threshold between ‘the two relatively different social worlds of politics and science’ (ibid., p. 401). Such organisations have clearly defined lines of responsibility to the actors on both sides of the border, and act as facilitators of the communication process between the parties. A central task for the organisations is to secure that nothing disturbs the balance between the communicating parties. It is thus central to the boundary organisation theory that the organisations show dual responsibility and use a strategy of impartiality when acting as facilitators. Instead of an organisation ensuring the balance on the border between the two parties, so-called ‘boundary objects’ (Star and Griesemer, 1989) or ‘standardised packages’ (Fujimura, 1992) might also gain function as ‘balance-keeping arrangements’ to communicate around. These are entities to which both communicating parties can relate, albeit in diverse ways.

Cash et al. (2003) discuss the need for a systematic and effective way of linking knowledge to action and they call for ‘boundary management’ between knowledge supplier and knowledge user. On the two sides of this boundary, they assert, there are contradictory understandings of standards and beliefs as to what constitutes reliable evidence and as to what is needed for an argument to be convincing, for an approach to be seen as fair and for a characterization of uncertainty to be appropriate. Consequently, boundary work at the interface between experts and policy is vital. Efforts to mobilise science and technology for sustainability, they claim, are more likely to be effective when the knowledge produced is salient, credible and legitimate. Such features can be expressed through proper communication, translation and mediation.

Eden et al. (2006) have studied how ENGOs carry out boundary work. They find that while these organisations on the one hand do perform boundary work, they simultaneously work in a more diverse, networked way. Expertise and socially distributed knowledge seem to be constructed in a more complex context. The organisations can 'produce and consume science, as well as act as brokers for environmental information and scientific credibility' simultaneously (ibid., p. 1061).

Another concept used to describe the process of transferring knowledge from research to policy is 'knowledge brokering'. Head (2010) asserts that the central focus of knowledge brokering is about 'harnessing the diverse insights of various professions and academic disciplines around key problems of understanding and actions' (ibid., p. 110). Following this theoretical perspective, as problems become complex, science, policy and practice should preferably collaborate to find the best solutions to issues that need to be handled.

Concepts like boundary organisation and knowledge brokering suggest possible ways of understanding the processes of knowledge communication. Weiss' categories can be helpful in reminding us that policymakers may have different strategies of appropriating knowledge. However, the focus of this thesis is neither on knowledge transfer nor on environmental communication *as such*. Rather, it focuses on the processes in which ENGOs' endeavour to influence environmental policymaking through communicating environmental knowledge and transferring knowledge. While ENGOs clearly have been seen to interact with scientific communities, albeit in ambivalent ways (Yearley, 1991), they may be positioned differently from scientists in the communication of environmental knowledge. To study this question, I will explore whether concepts like boundary organisations, two worlds and knowledge brokering are useful. Now, I turn to reviewing a selection of studies that have been made on ENGOs.

Research on ENGOs' characteristics and knowledge management

When Dalton et al. (2003) seek to determine what best explains ENGOs' choice of actions, they discuss a topic that has long been central for scholars in assessing how ENGOs most effectively work to gain impact. This is the dilemma of working in harmony from within established governance institutions or working from the outside and taking a confrontational stance when seeking to achieve organisational objectives. According to Alcock (2008), this constitutes the most prominent dividing line within academic literature on ENGOs, referred to as the divide between 'engagers' and 'confronters', 'insiders' and 'outsiders', and 'politics of partnership' versus 'politics of blame' (ibid., p. 67).

Dalton et al. (2003) state that while this dichotomy is real, it is overstated. They delineate a repertoire of 13 activities regularly employed by ENGOs in their work and distribute the activities between the organisations. A main finding is that most of the ENGOs employ many different means and measures in their work. Outside of the system, the organisations among other engage in what Dalton et al. call 'fundamentalist activities' like demonstrations, protests and direct actions. Still, the most used activity here is 'contact with people in the media'. Inside the system, ENGOs participate in commissions and government advisory committees and stay in touch with representatives of the authorities. The most frequent activity happening within the system is having informal meetings with civil servants or ministers. What determines ENGOs' choices of actions and their patterns of behaviour, Dalton et al. claim, is a combination of organisational resources and ideologies. I explore this with respect to engagement with environmental knowledge.

Several scholars have developed categories to describe ENGOs' and their performance, features and methods. This could serve as a backdrop for the analysis of Norwegian ENGOs. For example, Clapp and Dauvergne (2005) distinguish between four 'environmentalist archetypes' in their categorisation,

which largely focuses on the ENGO actors' ideological convictions. For my purposes, it is more useful how both Carter (2007) and Jamison (2003) in their classifications observe professionalism as an important category of ENGOs. This seems to fit quite well with the Norwegian ENGOs, and their focus on environmental knowledge reflects the professionalism. Jamison's third category, 'militant environmentalism', has definitely lost terrain, even if the Hardanger pylon case mentioned earlier show that it still may play a role.

Davidson and de Loë (2016) observe how the role of ENGOs has changed. As the state simultaneously has changed its role, they assert, the ENGOs have become able to participate in and influence governance processes. ENGOs thus become 'institutional entrepreneurs'. In my study, I build on this insight.

The knowledge-intensive strategies that many ENGOs employ to influence policymaking today mean that acquiring knowledge and building expertise have become central elements of ENGO activities. Scholars have studied how ENGOs relate to (scientific) knowledge, but the focus has largely been on how the organisations act as some kind of knowledge vendors, providing information that exists independently from the organisations. The focus has been less on how the ENGO actors acquire, are affected by, and utilise knowledge themselves.

One perspective on ENGOs use of knowledge is found in Eyerman and Jamison (1989). They see the knowledge and expertise that the ENGOs possess as a 'weapon' in the ENGOs' fight to be heard. Using Greenpeace as a case, they show how public success was in fact achieved partly as a result of the organisation's *rejection* of ideological discourse. As a substitute, making 'cognitive praxis' became central to the ENGOs. This supports my focus on ENGOs dealing with environmental knowledge.

Cognitive praxis, according to Eyerman and Jamison (ibid.), comprises a core set of ideas and practices concerning the production and use of knowledge,

describing different areas of knowledge interest. Further, Jamison (2003) claims that ENGOs can be characterised by acquiring particular kinds of expertise such as project management and particular techniques of public participation and collaboration (ibid., p. 706). Within these specialist fields, Jamison specifies legal, scientific, administrative, commercial, educational, disruptive and activist competences as common ENGO areas of expertise. To appear to policymakers and industrialists as interesting and trustworthy partners, the organisations need to navigate carefully between these competencies as they develop their knowledge.

Steven Yearley argues that environmentalists at some point started turning to science for credibility and legitimacy for their activities (Yearley, 1991). This, he claims, was largely due to the environmentalists building their cases on 'objective reasoning' (ibid., p. 37) and scientific evidence. However, as the ENGOs have to make interpretations and translations of the information they wish to utilise, he elaborates, referring to objective facts becomes difficult. That the environmental movement depends on moral considerations as well as scientific makes science an even more 'unreliable ally' (ibid., p. 37). More than any other actors, Yearley (2018) upholds, ENGOs depend upon their claims to be scientifically founded. Without being rooted in science, their messages lose significance, and as a consequence of this, the organisations become important science communicators. In this study, I will look further into this argument.

As much as their activity clearly depends on being rooted in science, ENGOs still face a standing demand for organisational accountability This is a topic investigated by for instance Peeters (2018), Balboa (2017), Gneiting (2008) and Ebrahim (2005). Ebrahim addresses NGOs in general as he claims that, especially when having to show accountability upwards, for example towards beneficiaries that demand proof of what donor money has been spent on, the demand for accountability might create a very arduous situation and may in fact hinder the (E)NGOs in achieving their missions. One element that may

add to the already strained situation is that the organisations must often show accountability towards multiple actors, proving that they have been following rules and agreements. This cramped situation might, according to Ebrahim, limit the ability of the organisations to look at the big picture. It may become difficult to work with complex ideas as well as with matters that demand long-term perspectives. I will return to this issue in my analysis.

Closely connected to issues relating to accountability is the standing demand for legitimacy that the ENGOs face. This demand comes from several parties and it is a topic studied by, among others, Collingwood (2006), Herlin (2015), Appe (2016) and Walton et al. (2016). The central focus for Walton et al. is how the all-round pressure stemming from a need for top-down and bottom-up legitimacy simultaneously, creates challenges for non-profit organisations working with environmental issues. While top-down legitimacy implies legitimisation by following norms, rules and regulations, bottom-up legitimacy develops from the relationships that organisations have with groups of people. Due to changed funding mechanisms, Walton et al. claim, the organisations have become de-politicised, over-professionalised and less autonomous. As a result, conflict arises between those who see legitimacy as being rooted in status, performance and impact, and those who see it as based on representativeness and moral position. This may affect the relations between Norwegian ENGOs and policymakers.

Asserting that the purpose of ENGOs is to ‘make a difference’, then to try to gain influence on policymaking seems reasonable. Several scholars have explored the implications of this. The possible impact of the organisations appears often to be linked to the *positions* that the organisations obtain in society (Davidson and de Loë, 2016; Rosenbaum, 2017; Betsill, 2015; Grendstad et al., 2006; and Kadirbeyoğlu et al., 2017). Kadirbeyoğlu et al. analyse organisational characteristics and contextual factors that might explain why certain environmental organisations are able to advance the development towards environmental sustainability while others are only to a

limited extent able to gain impact on the environmental cause. However, in my study I have to be careful in making such assessments as this would endanger the anonymity that I promised my interviewees. Moreover, arguably, such assessments are difficult because they assume that the effects of the work of single ENGOs may be unambiguously identified.

As we have seen, previous work on ENGOs and similar organisations has addressed topics as their characteristics, the diversity of their methods and the changes in their strategies. Studies have also addressed features of the challenges the ENGOs face, including the use of scientific knowledge to prove the truth value of their claims. However, explaining how the organisations work to find the knowledge they use, and explaining how they act when trying to gain impact on policymaking does not explain how they might actually gain influence. For science-based knowledge to be able to influence policymaking it must reach the policymakers. While ENGOs might be able to support the 'knowledge travel', possibly acting as translating mediators, boundary organisations or whatever else, a successful transfer of knowledge also depends on the willingness and ability of the recipients to appropriate it. The role of the policymakers is, consequently, of utmost importance. They have to engage with policy learning, to which I now turn.

Research on policy learning

The study of policy learning has occupied many scholars for a long time (Page, 2018). Dunlop et al. (2018) explain that whereas the need for a knowledge base from which to make decisions is huge, the potential access to research for policymakers may be insufficient. This, they claim, reveals that learning mechanisms are often stymied. For example, the challenges might have to do with that 'evidence-based policy' does not work or that it works differently than expected. Further, learning may not be desirable or may not fulfil the criteria of democratic quality (ibid., pp.1–2).

According to Moyson et al. (2017), policy learning is a concept pertaining to a cognitive and social dynamic. Any topic handled within politics and policy involves collecting data about problems and resolutions, they assert, and this happens through interactions within a social context. Drawing on the data they gather, the policymakers develop and distribute information and knowledge, which they utilise to achieve political objectives. Dunlop (2017) suggests turning the focus around, asserting that policy failures represent rewarding opportunities for policy learning. This is, however, something that policymakers usually fail to recognise. Hence, they miss the opportunity to learn valuable lessons from the mistakes they make.

Dunlop and Radaelli (2018) ask whether policy learning can result in wrong learning. While analysing why many attempts at policy learning fail, they provide three 'lessons for policymaking', of which two are relevant for ENGOs. First, they claim, policy learning is not something that 'just happens'. While certain events might trigger it, others might contravene it. Hence, it might also be facilitated by actors knowing the system well enough to be able to get into the right positions. ENGOs might be able to do this. Second, a policy learning process does not, as such, guarantee that its outcomes will be constructively useful, neither for groups in society, nor for policy or even democracy. If ENGOs are to successfully influence environmental policy learning, this require particular expertise.

Witting (2017) introduces a four-step method for apprehending and thinking about policy learning. First, she states that policy actors interpret the world in a way that is influenced by their own convictions; hence, they learn through a process composed of heuristic as well as analytic elements. Second, she states that the dissimilar roles and ranks that people hold make them learn in separate ways. Third, she asserts the need to acknowledge that, since learning is a political process, some voices are better listened to than others. Finally, as a conclusion, Witting suggests that one should foster learning from 'scientific evidence' not merely through communication of information, but

through interaction, entrepreneurship and brokerage. Thus, ENGOs need to be knowledgeable about environmental policy learning processes.

When I analyse the role of ENGOs in environmental policy learning, I have taken particular inspiration from the doctoral dissertation of Robert Jomisko (2015), who worked in the same research group as I have. He proposes a more complex model for policy learning, using as his starting point Latour's (2004) 'bicameral model' for bringing the sciences into democracy. Jomisko then transposes it into a bicameral model for policy learning. The bicameral model proposed by Latour is a normative model of political ecology, entailing a precise description of how scientific processes should be organised and carried out within society. According to this model, scientific knowledge should be 'democratised' trough developing as much within the sciences as within society. To succeed with the mission, a new separation of powers is needed, Latour argues – a new organisation of the collective, where there is no disjunction between facts and values. To explain the bicameral model, Latour uses the metaphor of a parliament of four 'chambers', and for a scientific development process to become democratic, any project must pass through all four chambers.

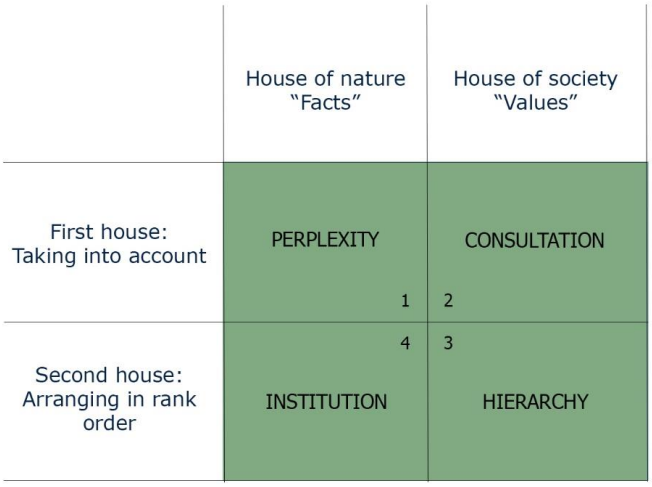

Figure 1 – Latour's bicameral model for bringing the sciences into democracy.

In the first chamber, which Latour calls ‘perplexity’, the aim is for researchers and others to raise questions and consider viable solutions to these. The most relevant proposals are then taken further in the process. In the second chamber, called ‘consultation’, various actors must be involved to evaluate the different proposals and bring different views and values into play. They must discuss and judge the effects of each proposition relative to each other, so that it becomes possible in the third chamber of ‘hierarchy’ to arrange the different propositions in a suitable order. This is done through consulting relevant actors. Finally, as the involved actors have hierarchised the feasible solutions, the process moves into the fourth and final stage. In this chamber of ‘institution’, agreements must be reached, political processes must be concluded, and routines need to be established.

As Jomisko points out, Latour’s bicameral model needs to be transposed or turned around to analyse policy learning. Although any actor is allowed into any of the chambers of Latour’s model, the process of ‘taking into account’ in the first chamber is primarily related to scientific pondering. Jomisko asserts that when studying policy learning processes, we must assume that it is the questions of the policymakers that initiate the processes of pondering, and not those of scientists. Thus, the logic of a bicameral model for policy learning becomes different. Values and knowledge switch position; the chambers that were dominated by values become dominated by knowledge and vice versa. Jomisko accordingly adjusts the bicameral model to be based on political issues rather than scientific problems, and the contents and functions of the chambers are consequently given new meaning. In this way, the model is a starting point for examining knowledge management and policy learning.

In the revised ‘perplexity’ chamber, the question becomes what the policymakers need to find answers to, and whom they address to acquire knowledge or help. The different answers to these questions are taken into the ‘consultation’ chamber, where various experts come together to advise the government. This makes it possible for the policymakers —who govern

based on values— to make decisions on (scientifically) complicated issues. In Jomisko's words, science or scientific expertise is consulted. This may, for instance, happen through panels being appointed with a mandate to elucidate on given issues. Through this, opinions on the need for policy interventions and on the appropriateness of policy tools can be extricated.

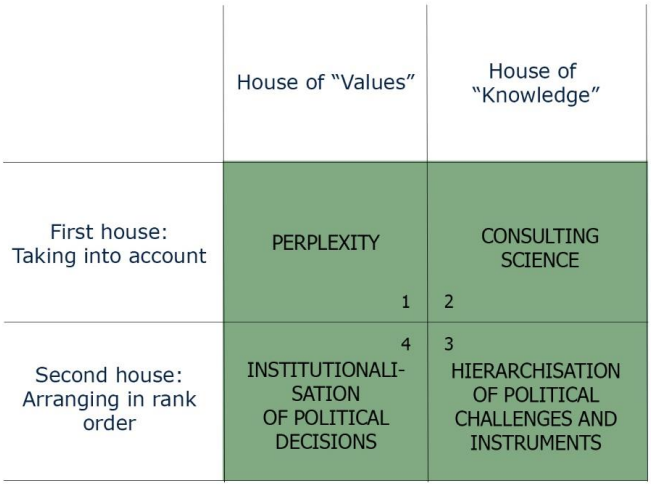

Figure 2 – Jomisko's bicameral model for policy learning.

Further, the 'hierarchy' chamber in Jomisko's version entails the ranking of political challenges and instruments. For example, in political decision-making processes, a ministry may have distributed consultation papers to figure out what stakeholders have to say to a proposal. This makes it possible to uncover unfortunate conditions before action is taken and thus to prevent unfavourable outcomes. In Jomisko's final chamber of 'institutionalisation', political decisions are institutionalised. While some suggestions are set aside or put on hold, others are immediately embedded, for instance in 'white papers'. Interesting questions in my context are about the kind of knowledge policymakers choose to build their decisions on, and about the arrangements for stabilising policies. These are questions that Jomisko's reversed version of Latour's bicameral model can help finding answers to.

The research reviewed above relates to the main topic of this thesis: how do ENGOs participate in the process of environmental communication to policymakers? In this thesis, I focus specifically on the role of knowledge in these contexts, and on how the ENGOs employ knowledge in their attempts to influence policy learning. Rather than focusing on the variations among the organisations and their methods or on how they may be stymied by failing to validate the knowledge they use, I investigate how and why ENGO actors in general are seen as professional knowledge vendors, even without explicit validation of their input. What knowledge practices and what cognitive and social dynamics play a role when ENGO actors acquire the knowledge they need, in order to make policymakers adopt their suggestions? In the conclusion, I return to Jomisko's model of policy learning to see whether it can help answering these questions.

Methodology: Researching ENGOs supplying environmental knowledge

The framework for this thesis was set by the project funder, CenSES, and the title of the project gave reasonably clear guidelines regarding what to investigate: 'Innovation and learning in energy policy: The role of environmental organisations in energy policy innovation'. Although the assignment was defined, it was not readily interpreted. In fact, the data that was gathered resulted in the focus of the project shifting somewhat. The reason for this was that when the ENGOs were asked about energy issues, their answers very often turned out to be just as much about environmental issues in general. As a result, I hardly had any information describing ENGOs' influence on energy policy specifically in my data. This, however, might also indicate that the organisations, to a limited degree, separated the issues from each other in their work.

Before commencing the study, and also as it progressed, there were many methodological parameters that needed to be sorted out. In the following sections I account for how these choices were made. First, I describe the research design. I then continue by explaining the selection of sources. Next, I delineate the implementation of the study's data gathering, before providing an account of how the analysis was carried out. Finally, I make an evaluation of the methods applied and hence the validity of the study.

Research design

The study has primarily been based on qualitative research methods. This was an obvious choice, since such methods are concerned with understanding underlying reasons, motivations and perspectives among people and groups and policymakers act the way they do when trying to achieve their objectives within environmental policymaking. ENGO actors seek to influence policy, while policymakers seek to both obtain the best

possible foundation for decision- making and also to have their ambitions put into action.

I have employed three methods for gathering data in the study in order to achieve a solid foundation on which to carry out the analysis. While the main bulk ofdata has been gathered through interviews, document (physical and online) analyses as well as observational studies have been carried out to supplement them.

Gathering qualitative data demands open-ended questions. Hence, the research design should be flexible and allow for changes along the way. The data obtained are provided as narratives and not numbers; consequently, they are not of a character applicable for statistical analysis. Moreover, as it is not the intention to provide any countable 'truth', only a limited number of non-representative but comprehensive accounts are gathered.

I chose to make the interviews semi-structured, as I needed comprehensive accounts from the interviewees to be able to answer my research questions. To be able to procure such narratives, I considered semi-structured interviews tobe most suitable. As a preparation, before conducting the real interviews, I carried out two test interviews with colleagues and one with an ENGO employee, who was also a former employee of my own department. Since this ENGO employee was used for a test interview, she was interviewed again after the interview guide had been adjusted. The second of these interviews was the only interview not performed by me, but by my main supervisor, Professor Knut H. Sørensen. After making the test interviews, I made a few adjustments to the questionnaire and I then commenced with the interviews.

All the interviews had the same framework and largely the same interview guide as a starting point (see Appendix D for an example). They focused on the strategies and activities used by ENGOs to gain influence on energy policy development. The semi-structured interviews worked out very well, as most of the interviewees were very eager to share their stories. I very quickly

realised that they performed best when they were not interrupted by my attempts to push the direction of the conversation too much. In two cases it did, however, become necessary to control the interview somewhat more. This was, in both cases, due to the interviewees having limited time to spend on the interview. In order to obtain somewhat shorter answers to more numerous questions, I had to be quite strict in preventing digressions.

Selection of sources

The reason for applying several data gathering methods to this study is that it involves many different actors participating in many complex interactions. The participants of the study are considered both as individuals and as groups and, as is also the main focus in chapter three (paper two), they act on various stages.

Documents

The documents that were used as the foundation for understanding the situation within contemporary environmental policy were 'Official Norwegian Reports' (abbreviated NOUs, sometimes also referred to as green papers) and accompanying white papers produced in Norway between 2002 and 2014. The reason for choosing this specific period was firstly that it covered the years immediately prior to the investigations, hence, constituting fresh material, and secondly that it was a long enough period to provide a reasonable amount of elucidations. Altogether, there were 251 NOUs produced in the chosen period[4] and among these, there were ten that related to the topic studied (see Appendix B) Nevertheless, examining all of the selected NOUs, it was hard to find any clear indications that ENGOs provided them with substantial amounts of expert advice.

[4] 22 in 2002, 34 in 2003, 29 in 2004, 19 in 2005, 19 in 2006, 17 in 2007, 21 in 2008, 22 in 2009, 16 in 2010, 21 in 2011, 18 in 2012, 13 in 2013.

Organisations

The decision as to which organisations to include in the study was based on general knowledge: knowledge obtained through working with my master's thesis and through scanning the internet. The aim was to select enough organisations to cover the different means and measures applied by ENGOs. The eight organisations that were included in the study were: The Norwegian Trekking Association (DNT), Norwegian Society for the Conservation of Nature (NNV), The Bellona Foundation, Zero Emission Resource Organisation (ZERO) and World Wide Fund for Nature (WWF), Future In Our Hands (FIOH), Greenpeace and Nature and Youth (NU). These organisations were big, small, national, international, democratic, non-democratic, member-based and non-member- based. NU was initially considered merely as a sub-organisation of NNV; however, after having carried out several interviews among both MPs and civil servants, where the organisation was pointed out as worth listening and relating to, they were included into the study. According to the interviewees, it was the overwhelming enthusiasm and agitated demonstrations, combined with very thorough, professional paperwork that made these ENGO actors interesting.

The intention behind the selection of ENGOs has been to cover all aspects of ENGOs that could be conclusive as to their influence on policy development. Appendix A presents descriptions of the eight organisations.

Interviewees

The three main groups of interviewees in the study are: 1) ENGO actors; 2) civil servants; and 3) politicians i.e. Members of Parliament. The selection of the interviewees was made with the use of several methods and was a continuous process happening throughout the whole period of interviewing. A total of 38 semi-structured, in-depth interviews were made between April 2015 and January 2016, 16 within ENGOs, 15 within public administration, and 7 with MPs.

Knowing from the beginning that the ENGO leaders were to be part of the study, and knowing the names of the leaders, the plan was to start there. It appeared, however, that figuring out who these actors ought to be was not as straightforward as expected. This was mainly because the organisational structure of the different organisations varied. Nevertheless, having made some investigations, the interviewees were approached. While some of the leaders responded quickly, confirming their willingness to participate, some of them were harder to get. In these cases, regular employees of the organisations answered in the place of the leaders, arguing that it would not be possible to get the right information from the leader. Consequently, partly due to not having any choice, but partly also as the title of the interviewee was less important than his or her knowledge about the work of the organisation, it would, in some cases, end up being the professional directors that represented the top leaders of the organisation. This was the case for three organisations. As for one of the organisations, the technical director I had interviewed shortly after the interview advanced to become next-in-command of the organisation, indicating that this person's knowledge and overview of the organisation was likely to be similar to that of the leader.

Quite early on, it was clear that within the ENGOs there ought to be representatives both from regular employees and leaders. On the one hand, the leaders were likely to have the best overview of the work of the organisation as a whole, and hence, they would be able to give the most complete picture of it. (This was confirmed by the first couple of interviews with leaders.) On the other hand, there was an impression that their answers were, at times, somewhat idealised, perhaps to attract favourable notice. Consequently, two or three consultants were added to the study from three of the organisations. As for these 'regular' employees, they were selected based on their task descriptions and information about job titles found on the organisations' webpages. Table 1 shows an overview over the eight organisations of the study, with some key features highlighted. The

genders of the interviewees are not stated, as this might make it possible to reveal the identities of some of the interviewees.

Table 1: Overview of the interviews with ENGO representatives.

Name of organisation	Type of organisation	Main policy-oriented activities	Inter-viewees
DNT	Member-based, large, national, democratic	Petitions, hearings, campaigns, media input	1
FIOH	Member-based, large, national, non-democratic	Petitions, hearings, media input	1
NNV	Member-based, large, national, democratic	Petitions, hearings, media input	3
NU	Member-based, action- oriented, national, democratic	Direct action, civil disobedience, media input	1
Greenpeace	Not member-based, small, (big internationally), action-oriented, non-democratic	Direct action, campaigns, civil disobedience, media input	1
The Bellona Foundation	Not member-based, small, national, with some international activities, non-democratic	Lobbying/networking, conferences, media input (Traditionally activist)	3
WWF	Not member-based, small, (big internationally), action-oriented, non-democratic	Lobbying/networking, conferences, media input	1
Zero	Not member-based, small, national, non-democratic	Lobbying/networking, conferences, media input	4*
Total			15

***** One of the interviewees of this organisation was interviewed twice.

When starting the search for politicians to interview, the criteria for selection was not yet decided. The first MP that joined the study was approached via a contact that happened to know an MP that had worked with environmental issues. It appeared that she had been a member of the Parliament's Committee on Energy and the Environment from 2009 to 2013. While needing to find a systematic, unbiased way of selecting interviewees, as well as realising the importance of obtaining information that was somewhat up to date, I decided to try to get to talk to people who had been part of this committee. It was also notable that the members of this committee spanned people with little political experience as well as a lot of political experience. They represented both larger and smaller parties, and parties in power and not. Furthermore, their parties' environmental engagement varied. One representative had also quit working in politics on a national level, something which I hoped could make it easier for him to talk openly about potentially sensitive topics. Within this group it was also easy to get a good gender balance among the interviewees. The only MP in the study who was not part of the Parliament's Committee on Energy and the Environment from 2009 to 2013 was approached as a result of an incidental encounter during a coffee break of a conference that we both attended. Table 2 shows an overview of the political parties that the seven MPs of the study represented.

Table 2: Overview of the interviews with Members of Parliament.

Political party	**Interviewees**
The Christian Democratic Party	1 woman
The Labour Party	1 man and 1 woman
The Conservative Party	1 man
The Socialist Party	1 man
The Centre Party	1 man
The Liberal Party	1 woman
Total	3 women and 4 men

The final group of interviewees consisted of 15 public administration employees, representing both higher and lower administrative levels. They were selected largely based on the so-called 'snowball method', where interviewees are asked to suggest other people to interview. Ministries, subordinate agencies/directorates and a state agency were represented, based on the assumption that these were the groups that work most directly with environmental topics. Table 3 shows an overview of the public administration employees that participated in the study.

Table 3: Overview of the interviews with employees of public administration.

Type of agency	**Name of agency**	**Abbr.**	**Interviewees**
Ministry	The Ministry of Climate and Environment	KLD	2 women and 1 man
Ministry	The Ministry of Petroleum and Energy	OED	1 woman and 1 man
Subordinate agency	The Norwegian Water Resources and Energy Directorate	NVE	3 men
Subordinate agency	Norwegian Environment Agency		1 woman and 3 men
State enterprise	Enova		3 men
Total			4 women and 11 men

Unstructured participatory observation

To support the interviews and document studies I performed, I also chose to visit the yearly, international 'Zerokonferansen' twice. The reason I chose this conference was that they described themselves as Northern Europe's biggest in the field. However, it was admittedly also the only climate or environment conference I had heard of at that time. Moreover, I was advised to go there by colleagues to experience their big-stage performances.

Accomplishment

Getting the overview

Commencing the study, the aim was initially to find traces of ENGO input into NOUs. The idea was that it should provide a backdrop for understanding the environmental political situation in Norway; possibly also constituting the basis for a paper in the thesis. The search for data was approached by scanning the complete list of NOUs produced in Norway from 2002 until 2014, singling out relevant information.

Searching for relevant NOUs, I first looked for titles that clearly disclosed that the document handled energy, climate or environmental issues. Simultaneously, I excluded those obviously not handling such issues. In the cases where the headings did not reveal the topic of the NOUs, sometimes subheadings did, or it could be determined by which ministries had published them, combined with the title. This method was primarily used to determine which content to include or exclude, but in some cases, there was still doubt, and so I scanned the indexes of the document and examined its commission. In this way it became relatively straightforward to conclude the selection.

I now turned to determining which NOUs had turned into white papers. Since the time of publication of the green papers, also called 'Official Norwegian Reports', abbreviated NOU, was known, so was the approximate point in time around which to search for relevant white papers or parliamentary bills. This made it easy to find a couple of 'Reports to the Storting' (Meld. St.), as their titles referred reasonably directly to the NOUs that they had received input from. Apart from these, however, finding links between NOUs and Reports to the Storting or Propositions to the Storting (Prop. St.) was more time consuming. It was solved through a combination of excluding possible documents by title, looking through lists of Meld. St. and Prop. St. at the website of Stortingsarkivet [The Storting archives], by searching through index volumes and collections of parliamentary proceedings over Meld. St.

and Prop. St. for the period at the library and finally, through having telephone conversations with an employee at Stortingsarkivet.

The reason for having the telephone conversations was, for one, that it was too time consuming to physically look through the appendices of every Meld. St. and Prop. St. whose title did not reveal its content. Second, the online search engine of Stortingsarkivet was, at that point in time, very sensitive not just towards search phrases but also erroneous punctuation, spaces or captions. Hence, in the case of searching using the main title of an NOU, this might not bring about any hits if that very NOU happened to be registered on title *and* number in the archives. An employee at the archives, however, showed a great amount of patience, goodwill and helpfulness, and thanks to this, I believe the search for white papers and parliamentary bills most likely ended up being reasonably complete. It turned out that half of the NOUs of the study had allegedly been used as background material for Meld. St. or Prop. St.

Searching the internet

To get to know the organisations somewhat better before going out to meet their employees, I carried out 'website interviews'. This was done by using a list of questions as interview guide and surfing the organisations' home pages for answers. Consequently, I performed some sort of 'digital, structured interviews'. Sometimes it was easy to find longer texts, or at least text excerpts that seemed to have been written on request to fit my interview guide. In other cases, only small text segments that barely touched upon the issues at hand were to be found. Nevertheless, the website interviews brought about many pages of information about the organisations that gave solid background knowledge for commencing the 'live' interviews.

Interviewing

Mostly, the interviews with policy actors lasted about one hour, while those with ENGO actors lasted somewhat longer. Only one interview was shorter,

due to a mix-up with the interview appointment, and one was substantially longer, as the interviewee was very eager to talk about issues that were deviating from the interview guide. I allowed these extra reflections in order to keep the interviewee willing to talk about the issues in which I was interested. Most of the interviews were carried out within the premises of the interviewees' workplaces; sometimes in their personal offices, sometimes in canteens, sometimes in meeting rooms or shared areas. One interview was made via telephone, one was made via Skype (only sound) and three were made at cafés. Mainly, I suggested coming to their workplace to make it as easy as possible for them to fit into their schedules and to create as relaxed an atmosphere as possible but, in some cases, this was not convenient for the interviewees and so they got to suggest how to carry out the interview.

There is no doubt that more information came out of those interviews made face- to-face than those not. This, I presume, had to do with not nearly being able to build as good an atmosphere via telephone, and hence it was harder to build trust. Shaking hands, commenting on the weather or some artwork in a hallway, and having coffee at a place where the interviewees felt 'safe' and 'at home' built a much better environment for the interviewees to feel free to share stories and embellish or expand on things.

I got permission to record all the interviews, and hence this was done. One of the interviewees seemed to get nervous by the idea though, expressing that it would be great to give me as much information as possible, but that this might not be strategic for her in a job context, definitively not for being promoted. However, if I promised to delete the material before the day was over, audiotaping was accepted. Several other interviewees, in ENGOs as well as in government administration, upheld, as an explicit prerequisite for giving the interviews, fearing possible disclosure of sensitive information through the interview, that potential quotes in papers should not unveil their identity. To protect interviewee confidentiality, therefore, the interviewees names are presented with codes in the papers.

Mingling at conferences

The field work I carried out was done through participation at the ‘Zerokonferansen’ which is, according to the organising ENGO, ZERO, ‘Norway’s largest and most important meeting place for all those who are engaged in climate’ (Zerokonferansen, 2018). Both times I attended the event, I spent every coffee break as well as lunches and dinners actively mingling with other participants, aiming to get to talk to as many people as possible. The objective was to figure out what the participants got out of being there. I tried to talk to directors of big companies as well as keynote speakers, exhibitors, sponsors, politicians, ‘ordinary people’ and arrangers of the conference. I made short notes, filmed and audio recorded the events to build documented evidence. In addition, all of the talks given became available online following the events.

Table 4: Overview of data gathering and analyses.

Data type	Data	Analysis methods
Documents	Official Norwegian Reports: NOU 2002: 7, NOU 2004: 11, NOU 2005: 4, NOU 2005: 5, NOU 2006: 18, NOU 2009: 16, NOU 2010: 9, NOU 2010: 10, NOU 2012: 9, NOU 2013: 10 White papers: Meld. St. no. 9 (2002–2003), Meld. St. no. 26 (2006–2007), St. meld. no. 34 (2006–2007), Prop. St. no. 145 (2007–2008), Prop. 1 S (2012–2013), Meld. St. 21 (2011–2012), Meld. St. 33 (2012–2013) Hearing submissions made by ENGOs to the NOUs listed	Read-through/ simple content analysis
'Web Interviews'	Text segments from webpages of the eight ENGOs	Read-through/ simple content analysis
Semi-structured, in-depth interviews	Eight ENGO leaders, seven additional ENGO employees, seven higher-ranking civil servants, eight lower-ranking civil servants and seven Members of Parliament	Summary writing, résumé writing, grounded theory- inspired content analysis
Partici-patory observation	Participation at 'Zerokonferansen' in 2015 and 2017	Memo writing

Analysis

An early decision was made not to use any of the NOUs or white papers as key sources in my study. Consequently, I did not carry out any in-depth analysis of them. I read parts of the documents but did not go on to analyse them beyond a relatively superficial contents analysis. This was also the way I related to the material retrieved from the 'web interviews'. Indeed, this material was read through and through, but as it was meant only to function as a backdrop for the study, it was not analysed in detail. Nor was the documentation from the 'participatory observation' at the Zerokonferansen analysed, as such. Like the official documents and the web interviews, it did however constitute a substantial contribution to the study, functioning as a backdrop. Considering that none of this background data was employed directly in any of the analyses, it might seem redundant to mention it in this analysis section; however, using the expression 'backdrop' about all of this material, might make it sound less important than it is. Considering the constructivist tradition within which this work is carried out, there is little doubt that the diverse impressions I have received through these various channels have influenced my expectations and shaped my pre-understanding of the topic under investigation. In this sense, the background (backdrop) material really is not *just* a backdrop but, does in fact have substantial influence on the analysis.

The main bulk of data utilised in this study is semi-structured, in-depth interviews, and as these were audiotaped, they had to be transcribed. The complete transcriptions constituted more than 650 pages of text telling the stories of the interviewees. After commencing the work to turn the seemingly unsurmountable quantity of information into material feasible for analysis, the transcriptions were rewritten into shorter (about 200 pages) form, but they remained exhaustive. In these reproductions I noted particularly interesting quotes. I was getting to know my empirical material quite well, but still the format was rather extensive and hence, to facilitate a complete and accurate content analysis, I now summarised the reproductions into condensed

resumés. The thorough work with the interview material had now brought about two important results: getting to know the material well and making it feasible to analyse.

Although I did not make any conscious choice for a certain method beforehand, the analytical method can be said to be inspired by 'grounded theory'. Grounded theory is a research method used by many researchers working within a qualitative methods tradition, and understandingly so, as the method(s) have long traditions and appear in many variants. It was first described by Glaser and Strauss (1967), and while it was initially presented as a method to develop theory from empirical data – instead of applying existing theories onto data – the approach has later developed in various directions. Charmaz (2006) renders some of the elements that, according to her, were Glaser and Strauss' defining components of grounded theory practice, and some of these can clearly be said to describe my method of analysis:

- Constructing analytic codes and categories from data, not from preconceived logically deduced hypotheses;
- Using the constant comparative method, which involves making comparisons during each stage of the analysis;
- Memo writing to elaborate categories, specify their properties, define relationships between categories and identify gaps.

My study might also, to some extent, be said to be inspired by grounded theory as grounded theory disputes the separation of the data collection and analysis phases of research. I, for instance, added organisations to the study based on what I discovered when reading NOUs and based on what interviewees said. However, this might also be said to be about analysis, about involving data collection and early stage analysis simultaneously.

Commencing the analysis, I went through the rewritten transcriptions anew, extracting text elements that described topics important to my research questions. I placed them in a matrix where the different ENGO actors were

arranged along the x-axis, and different topics discussed were placed along the y-axis. This made it possible to overview, compare and explore the utterances from the different ENGO actors. As I now scanned the text sections, I started coding the material on a more detailed level, by highlighting words that dealt with the same issues with colour codes. I compared the various utterances made by each individual interviewee. I also compared those of interviewees within the same organisation as well as those of interviewees across different organisations. By doing so, certain patterns stood out regarding strategies, attitudes and understandings found among the organisations and from this I made categories of activities and behaviour.

Reflection on methods used

Written within a constructivist tradition, the thesis has focused on the accounts of interviewees and documents without independently assessing the quality of the knowledge assembled and supplied to policymakers. All such assessments are made by the actors themselves. My concerns have been with the processes of the ENGOs in assembling and disseminating what the actors considered environmental knowledge, not with the content of the knowledge. When I have discussed forms of expertise held by the ENGO employees, this is based on what policymakers ascribe to them or the process expertise displayed in the interviews. These constructions exist in the accounts of the interviewees. Thus, they exist even if there may also be other ways of characterising the work of the ENGOs or criticising their priorities and preferred ways of interacting with policymakers. However, this consideration is beyond the scope of the thesis.

Regarding the selection of green and white papers to use as backdrop for the study, there is always the chance that some of the elucidations handling relevant topics were left out. This might happen, for instance, in cases where the titles of the elucidations were metaphorical and not descriptive, or in cases where environmental topics were secondary to the main issue treated in the report. Being aware of the risk of titles being metaphorical, however, I

aimed at rather checking one report too many than one too few. Still, there is no way to guarantee that I did not miss any of them. That said, I consider it as likely that I got the big picture right as for the green and white papers. Moreover, having ten elucidations to look into, it provided me with a solid amount of this kind of information to enable me to carry out the rest of the study.

When it came to selecting interviewees, this was, as said, done by using several methods. Whether I got to talk to the 'right' representatives of the separate groups I wanted to hear from, though, is difficult to say. Making use of the 'snowball method' clearly constitutes an element of uncertainty when it comes to finding the 'right' interviewees. It is not unlikely that when somebody is asked to suggest somebody else for an interview, this person chooses somebody that is likely to give the 'right' answers to questions, or answers following the preferences of the first. Whether this happened is difficult to evaluate. To avoid it, I tried to be very clear about what subjects I wanted the person to be able to talk about, and I always stressed that I was not looking for 'right' answers, but diverse and frank ones. Still, I did, especially in one case, feel that a civil servant tried not just to suggest, but to actually decide for me who to talk to. To avoid possible imbalances this might result in, I, to as large an extent as possible, tried to find interviewees in other ways, which in practice meant through the internet. Especially among the civil servants this was not always easy, though, and consequently I had to settle for interviewees that had been suggested to me. Unfortunately, this also created a gender imbalance within the group of civil servants.

When sending out inquiries for interviews, there is always the risk that it is 'the same kind of people' that accept, and that the kind of answers one gets through the interviews then tend to become undiversified. I tried to avoid this by not sending out copious amounts of invitations simultaneously, hoping for someone to reply. Rather, I approached a couple of people at the time, aiming at keeping the diversity. With some of the interviewees, I had to nag and work

quite hard to convince them to accept my inquiry, hence, they were not likely to be 'the same kind of respondents' as those who very quickly responded with an enthusiastic 'yes!'. Considering the sometimes-heavy preliminary work I had to carry out to gain entrance, I expected that the more hesitant participants in the study would be less open and outspoken. What was interesting though, was that as soon as they got started, they seemed to be very willing to talk. The leaders of the ENGOs were the hardest to get to talk to and consequently I had to settle with talking to somewhat sceptical professional directors in three of the organisations. Nevertheless, these were also generally quite open and outspoken when it came down to it.

In one of the very last interviews I carried out, I was told by the leader of one ENGO that, to them, it was more important to work with other ministries – not the ones that I had asked questions about, like for instance the Ministry of Transport and Communications and the Ministry of Finance. However, trying to follow up on this topic via emails to other interviewees did not bring up much useful information; only a couple answered, and their answers were short on useful information. This issue clearly should have been considered at an earlier point, so it could have been implemented in the interview guide. It could be investigated further. Nevertheless, I have been able to investigate many meeting points between ENGO actors and policymakers. Moreover, the agenda of this thesis is not to give a complete account of every meeting point the ENGOs might have with policymakers but to investigate the role of ENGOs with respect to communicating environmental knowledge.

Finalising the project, a reasonable question becomes whether I should have done things differently. There is no way of verifying objectively what would be the best way to solve the tasks this project entails. Choices of methods, measures and means will always be biased and influenced by values or predispositions. Nevertheless, by using triangulation methods I have gained a quite good overview of the field. This technique has also given me an improved basis to select the most relevant factors to focus on in the study.

While I cannot claim to have found *the* answer to anything, since I have asked the interviewees how they construct their realities, I can claim to have obtained data about the 'construction work' that the interviewees have undergone in creating their realities. It is this material that I have described and analysed. The story as told by others. Then, the question of course becomes if these stories are credible. I cannot prove this to be true; however, I have seen that people representing very different positions in the field of study tell very similar stories.

Although I have tried hard to get as wide and solid a perspective as possible on the topics I have explored, there is wisdom in the saying: 'The more you know, the more you know you don't know' (attributed to Aristotle). Hence, as the explorations progressed, I kept getting ideas for complementary investigations that should have been carried out, or topics that could have been studied in other ways. I could have been reading other kinds of hearing statements and I could have interviewed MPs in other committees or civil servants in other ministries. Nevertheless, when listening to the interviewees, I did by time reach a certain 'point of saturation', i.e. I stopped getting contradictory replies to what I had already heard. I cannot thereby guarantee that I might not have missed some details, however, it makes me quite confident that I have gathered enough information for making an analysis that holds.

Chapter 2.

First paper: Rhizomic learning: How environmental non-governmental organisations (ENGOs) acquire and assemble knowledge[5]

Introduction

To environmental non-governmental organisations (ENGOs), environmental knowledge is of strategic importance, not the least when they try to influence policy development (e.g., Jamison, 2011; Yearley, 2005; Eden et al., 2006). These observations raise questions about how ENGO actors acquire and assemble environmental knowledge when working in a context of increasing professional environmentalism and institutionalisation (Jamison, 2003; Berny, 2018). To respond to such queries, this paper analyses their learning practices based on interviews with leaders and employees of eight main ENGOs in Norway.[6]

Previous research has argued that scientific knowledge is vital to the environmental expertise of ENGOs. For example, the organisations that Eden et al. (2006) studied often referred to scientific sources as preeminent authorities in environmental debates. According to Yearley (2018, p. 11)

> Environmentalists … are obliged to act as communicators of science and technology because empirical claims about the state of the natural environment are core to their message.

[5] Accepted with revisions by Social Studies of Science as: Trine Unander and Knut Holtan Sørensen, 31. January 2019. Revised version.

[6] This refers to endnote 1 of this paper (p. 80).

This suggests that ENGOs are what Guston (2001) calls boundary organisations, working at the border between 'the two relatively different social worlds of politics and science' (ibid., p. 401). From this perspective, ENGO actors would be expected primarily to engage in knowledge brokering, facilitating the communication between scientists and policymakers in the environmental area.

No doubt, scientific knowledge and interaction with scientists were important to our interviewees. However, in their accounts, scientific knowledge was largely present in a ubiquitous and opaque manner. The interviewees did not consider that they brokered particular instances of scientific knowledge, and they did not report much direct contact with scientists. Rather, they articulated a more general appraisal of a wider set of knowledge and expertise as necessary assets in their work.

> Expertise is essential, right. At least the green movement in Norway and in the Nordic countries, they are in a way so nerdy, 'knowledge-nerdy'. […] We live in a kind of paradigm where expertise, not being wrong – being precise – is mandatory for being allowed to enter to the table [of policy exchanges] (B1).[7]

This point of view was shared across the organisations, independent of their mode of operation. While some of the ENGOs had several scientists as members, the interviewees did not talk much about these members or other scientists disseminating knowledge to them. Rather, they described the interaction with science and scientists as indirect. Moreover, they emphasised that they also used many other sources when they compiled the knowledge they needed in a particular case (see also Cash et al., 2003; Eden et al., 2006). In this manner, the interviewees argued that they were the main active party in their acquisition and assembling of environmental knowledge usually driven by demand. They searched for knowledge when needed in their

[7] This refers to endnote 2 of this paper (p. 80).

engagement with a particular issue, a controversial construction project, a public hearing, or a policy proposal.

The searches were described as pragmatic, using a wide range of sources. They were frequently referred to as projects to identify and organise acquisition and assemblage of the knowledge they needed. Such projects were not the outcome of advance planning or formatted by standard procedures. The individual ENGO employee decided case by case how to proceed and the interviewees told that their strategies for gathering knowledge were exploratory, to some extent idiosyncratic and embedded in networking.

> [Knowledge acquisition] is a somewhat stone-by-stone-project, to connect with actors that might be relevant. We work with very different partners, like [Company X], [Company Y], and [Municipality Z], if you understand (E2).

Thus, it seems misleading to characterise the ENGOs as boundary organisations. We found no clear indications that they occupied the expected intermediate position in a chain of knowledge displacements, making the interviewees primarily engage in knowledge brokering. Their accounts suggested more complex practices where ENGO actors played an active role in acquiring, interpreting and assembling environmental knowledge from a multitude of sources. Science was important, but in a diffuse manner. Thus, we need different concepts to make sense of the learning processes of the ENGOs.

Mediation and Rhizomic Learning

Innovation studies (e.g., Lundvall, 2016) and knowledge management (e.g., Choo, 2016) have for a long time been concerned with learning and acquisition of knowledge through search procedures. Still, these contributions are less useful to us because they analyse processes related to economic achievements and in more resource rich contexts than ENGOs. Turning to STS, this field offers other relevant concepts and approaches as alternatives to considering ENGOs as boundary organisations. For example, we could follow Nowotny et al. (2003) arguing that their demand-driven knowledge acquisition and assemblage exemplifies 'problem-solving in the context of application' and thus a transdisciplinary approach where ENGO actors combine science-based and experience-based knowledge. Jasanoff (1997) makes a related argument where she emphasises how such organisations may gain access to domains of localised experience and knowledge from the grass roots. However, these approaches offer less insight into the processes of knowledge acquisition, knowledge assemblage and learning that concerns us. They do not sufficiently engage with the complexity that we observed from the interviewees' accounts (see also Eden et al., 2006; Fähnrich, 2018).

Alternatively, we may turn to Bruno Latour (2005), who argues that such knowledge related activities should be understood as processes of mediation where knowledge may change rather than simply involve circulation of unchangeable intermediaries. Movement of knowledge should be expected to involve change; what he calls acts of mediation. These acts involve the work of for instance ENGO actors of identifying and eventually transforming, translating, and modifying knowledge. When they prepare to communicate with policymakers in particular decision-making contexts by acquiring and assembling knowledge, we expect them to adapt this knowledge to make it relevant and to appear as trustworthy.

However, mediation is a broad concept that above all highlights the malleability of circulating knowledge. Therefore, we introduce the concept

rhizomic learning. We believe this concept better captures the multiplicity of sources and the complexity of the processes involved in the ENGOs' acquirement and assemblage of environmental knowledge, including the diffuse but still vital role of science. Deleuze and Guattari (1987) introduced the rhizome as a metaphor to capture the non-linear and non-hierarchical features of knowledge. According to Emily Martin, it captures the fractured, intermittent relationships between science (knowledge) and the rest of the culture (Martin, 1998, p. 31). Latour (1999) links 'rhizome' to actor-network theory also because it suggests a similar application of the rhizome and because it signifies series of transformations.

We observe that the ENGO actors engaged in rhizomic learning through situating themselves in the flows of environmental knowledge – from a matrix of sources – assembling and transforming these flows into particular, policy relevant knowledge claims about the environment and how environmental issues should be addressed. They connected different pieces of knowledge into heterogeneous statements that included value assessments and suggestion of actions.

> [We try] to influence the perception of reality. Because efforts to influence bureaucrats are about the perception of fact or, often, interpretation of what the facts mean, or eventually, indicating what possible instruments to suggest (E4).

To provide more concrete insights into what we mean by rhizomic learning, our strategy was to analyse the interviewees' accounts of how they identified and related to different sources of knowledge. We were told about four main sources: (1) Reading papers and reports, (2) Networking and direct communication with relevant people, (3) Internet searches, and (4) Their own and colleagues' education and experience. This list of sources is not very surprising, although the ways in which the sources were combined and assembled gave evidence of rhizomic connections and transformation. More telling details about the rhizomic properties of the learning process of the

ENGO actors became evident from how they described and reflected about the activities they engaged in.

Rhizomic learning through assembling and assessing sources of environmental knowledge

Source 1: Reading

Unsurprisingly, reading was an important part of the acquisition and assembling of environmental knowledge, and it was usually initiated through a project where an ENGO actor needed more knowledge. The most common motivation to search for knowledge through reading was to obtain specific knowledge, relevant to a current concern, whenever needed. The interviewees told that they seldom had the opportunity to study a text just to get a professional update. Rather, the acquisition of new knowledge was hurried.

> I've got a list of things I wish I could read up on, kind of, but I very rarely find the time to do so. So, the result's that I do it [read up] whenever I need to […] sometimes you need to send out a press release within an hour and have to collect the [required] knowledge; and something you have from before (F2).

We asked about what kind of documents the interviewees read as well as how they identified items to read. Reading is mediation, since readers interpret the texts they acquire, and through the process of assembling it is intertextual work. Interviewees said they seldom based their learning about an issue on one single text only. Rhizomic features were also apparent in the accounts of how the interviewees related to science. As noted, direct communication with scientists was less frequent than anticipated from previous research. Nevertheless, we expected scientific papers to be important sources of knowledge in the learning processes of the ENGO actors. However, when we asked interviewees about what they read, such documents were rarely mentioned. Only a couple of the interviewees said they found peer-reviewed scientific papers to be vital because of their

reliability as sources of expert knowledge. Rather, a common and often prompt response to the question of what they read was ‘reports’.

When inquired about further details, the interviewees tended to be more hesitant and staggering, chiefly stating that their reading could be documents of any kind, from several kinds of sources. When pressed for examples, several mentioned reports from the Intergovernmental Panel on Climate Change (IPCC) and from research institutions. However, only a few of the interviewees who mentioned the latter were able to exemplify what this might entail. Again, they became vague in their answers, using phrases like ‘that depends’ and ’it varies’; or they extended their answer to include reports from ministries, local governments and other sources, including their own organisation. We see this as reflecting the rhizomic quality of their learning in the sense that their acquisition and assembling of knowledge was perceived as messy and opaque. Moreover, we see that science-based knowledge could come from a multitude of sources, mediated by other actors, and without a clear origin.

At the same time, the interviewees pointed out that it was important to be critical, not only to look for knowledge and information that supported their own view. Being caught doing that would not serve their case.

> There is no doubt that when we read, we also do this with a critical eye; exactly because we don’t want to be accused of promoting somebody else’s work without having thought of the fact that it only supports our case (C1).

Still, a few acknowledged that, given the huge amount of information available, there was always the risk of being biased when choosing what information to trust. Nevertheless, they maintained that the ability to assess the quality of particular pieces of environmental knowledge was one of their core competences.

> We are, just like everybody else, I believe, running the risk of using the knowledge that best fits our system of beliefs, kind of. That's something towards which we always have to be sensitive (A1).

Thus, rhizomic learning involves informal assessment of validity rather than being consciously based on peer review.

This reflected that scientific and trade journals came a bit down on the list of what the ENGO employees said they read to acquire knowledge, but so did news media, newsletters and digital media like blogs and twitter messages. However, the interviewees mentioned academic databases as important sources, ResearchGate in particular, but they described the usefulness of these sources to knowledge in contradictory ways. It appeared that most of the interviewees dealt with these sources rhizomically also in the sense that they used them quite unsystematically.

To summarise, gathering information and learning through reading printed documents was problem driven and frequently shaped by tight time constraints. This could limit the scope of the ENGO actors' search for sources, constrain their learning and consequently reduce the extent and amount of rhizomic flows into their acquisition and assembling of environmental knowledge. On the other hand, according to the interviewees, written documents were not their most important sources of knowledge. Almost without exception, the interviewees expressed that they usually preferred other sources. In particular, they favoured oral input which they gained by contacting people assumed to possess the knowledge they needed, like colleagues or others.

Source 2: Networking and verbal communication

Talking to other people was a route to knowledge and expertise that was applied by all interviewees, providing a strong oral feature to their acquisition work. Yet, again, they found it difficult to provide clear, plain and

unambiguous descriptions of such communication; how it was initiated and conducted. Also with respect to such acquisition and assembling efforts, the interviewees seemed to lack a systematic approach. The strategy they followed appeared incidental and contingent on whoever the ENGO representative knew, knew of, had any kind of personal link to, or simply happened to meet. Many mentioned the internal movement of knowledge within their organisation as useful and vitally important, but also this tended to happen accidentally.

> [It] can involve anything from having meetings, informal chats during lunch, but it's just as much going with that person to different – yes, external meetings and other encounters like that (F2).

When asked for further details or examples, interviewees mentioned that they knew university professors whom they could call if needed, or employees at research institutions or from organisations that they had worked with before. Many also had contacts within industry that they could approach. As one interviewee described oral communication partners: 'It is often people you have met a few times' (E2). Communication, of varying degree of formality, took place by phone, via email, through meetings or happened simply when somebody relevant happened to be in the neighbourhood. In general, though, acquaintances were not contacted on a regular basis or in formalised ways. Instead, encounters were based on case-specific needs. The ENGO actors described their sources of verbal knowledge by referring to their more or less rhizomic networks, usually approached in incidental and contingent ways.

> It might be … I know people at [Research Institute X], you know. [Competence Centre Y], that deal with the kind, anything from research to kind of applied use of knowledge, that know of … maybe other research results (F3).

This quote also exemplifies how science could be considered as ubiquitous and accessible in complex and composite ways, which meant that the

process of acquiring such knowledge was rhizomic. Scientific knowledge tended not to be flowing linearly to the ENGOs. One of the interviewees also pointed out that with respect to certain organisations, especially within industry, it was important to know somebody to get access to their information or knowledge. On the other hand, getting to know practically anybody in Norway appeared to be unproblematic to the interviewees. Almost without exception, they described the people that they communicated with as quite enthusiastic about providing information to ENGOs. The interviewees experienced to be seen as actors with good intentions, not constituting any threat to the parties they cooperated with. In particular, those with previous experience from industry seemed surprised but also enthusiastic about this benevolence of the people they approached and who even might approach the ENGO on their own initiative to supply them with information.

> [This experience] is also something that's quite unique compared to when I worked as a consultant for instance; it's how much good information that just keeps falling into our laps. When we were consultants, we sat there searching, reading reports. Now, it's like if you go to a meeting with [State enterprise X], the CEO greets you, and well, they give you their core information and estimates, kind of, and you get so much information made so easily available. The research department of [State enterprise Y] is kind of – is considered one of the best in the country, and not even the Ministry of Petroleum and Energy, kind of, has free access to [their data]. Moreover, we receive so nicely quantified, extrapolative scenarios and that kind of stuff. Incredibly useful! (A2).

Largely, and in line with the idea of rhizomic learning, the interviewees described their acquisition and assembling of environmental knowledge as frequently depending upon luck and coincidence. On the other hand, many of them also stressed the importance of their networks. Clearly, network building was an intentional, strategic part of their job. Some even told that their

organisation sought a somewhat high labour turnover as a deliberate network building strategy. In this manner, the ENGO was able to utilise a broad spectrum of human resources, with diverse forms of education, experience and contacts. The interviewees who told of such a strategy primarily accentuated the movement of people between political parties, relevant parts of public administration, and ENGOs. Many also mentioned the loyalty they experienced, not only from existing but also from former employees, who were willing to share their professional knowledge, expertise and experience. The interviewees also told that they interacted with civil servants. However, these actors were rarely presented as pivotal sources of knowledge but rather as partners in factual exchanges that could take place, for instance, during board meetings where both parties were represented or at conferences, seminars and such.

Commonly, the interviewed ENGO employees reported that the number of people involved in environmental policymaking in Norway really was quite limited. We were told that the people involved in such affairs kept running into each other at different venues and meetings. This means that they were exposed to largely the same news, information and knowledge. As a result, several of the interviewees argued that the people involved chiefly were in agreement with respect to the quality and reliability of existing environmental knowledge. This situation also meant that, normally, it was just a matter of time when new insights into relevant issues would be shared by everyone engaged in the environmental policy field.

We see this communal approach to sharing and assessing knowledge as an important ingredient of rhizomic learning. The interviewees described a network-based traffic in environmental knowledge, where added information and insights could have many roots and result from distributed knowledge practices. This has several interesting aspects. First, the rhizomic features of the communal practice meant that often, it was difficult to trace knowledge to a single source, and this was not considered a problem. Second, the

community involved in environmental policymaking interacted in ways that we interpret as a process of collective assessment of the quality of new knowledge, including its policy relevance. In this context, rhizomic learning meant addressing a complex of sources but also a shared engagement with sense-making of environmental knowledge among relevant actors. Third, the rhizomic qualities of the ENGO-based appropriation of knowledge made the outcome of the process less predictable, since access to people with relevant insight might not be possible within the timeframe of the relevant project. Digital media could be helpful in overcoming this latter challenge.

Source 3: digital media

The interviewees mentioned digital media, especially the internet, as a main vehicle of the rapid and comprehensive spread of knowledge throughout the environmental policymaking community. How was this used? All the interviewed ENGO employees confirmed that they used digital media, in particular internet search engines, to acquire relevant knowledge and information. To what extent and in what way varied. Some of the interviewees remarked that to ask whether they googled was silly because the answer was so obvious. Whenever convenient, they might even perform 'open' searches for relevant information to update themselves:

> Well, it's not uncommon to use Google, you know, to put it like that. Searching for stuff, to look if something comes up that – either a good article or reports or well, something like that. […] Yes, also if there are discussions about environmental consequences of things, well, then it's often to look up life-cycle analyses. […] I would certainly say that if I am uncertain about something, it often becomes like – search online (F3).

Others were more reluctant to admit that they used the internet to acquire environmental knowledge. Thus, they would emphasise that they were always very critical of what they read on digital media. These interviewees were also

careful to stress that they only used Google to find concrete pieces of information that they already knew existed, like data that they needed to look more into, or that they wanted to read to refresh their mind, but that had been acknowledged as valid through other channels.

> Eh well, [I] am a bit sceptical towards just blind googling. Then it must be at a very early stage of something. I rarely think that I'm working at a very early stage of something. There is always something you can find a bit about through the network [of people], I think (A2).

Largely, the interviewees expressed scepticism towards accepting information found online unless it could be assessed through other sources. On the other hand, they also seemed to feel quite confident that they were able to do such assessments themselves even if they found it difficult to exemplify how they did this. Often, they would just refer in a general way to 'contacts'. Surprisingly, only a couple of the interviewees mentioned their educational background as a resource of assessing the quality of the information they found on internet. To what other ends did they consider their formal education useful?

Source 4: Education-based expertise in their own organisation

Most of the ENGO interviewees held master's degrees, some even PhDs. Their educational background was diverse, covering fields like nature and resource management, biology, geography, environmental politics and regulations, architecture, policy studies and sociology. Presumably, they held expertise relevant to their appropriation of environmental knowledge. How was this expertise employed?

In general, the interviewees agreed that in their line of work, they needed a considerable amount of environmental expertise to be able to carry out their

job. This was due to the kind of tasks they engaged with, like influencing public opinion and providing advice to public and private decision makers. There were, as expected, those who deemed their educational background as necessary, or at least very useful, to make them able to carry out their work in a satisfactory manner. Nevertheless, many shared the opinion that no single educational background provided the kind of expertise they needed to succeed in their work. Other key skills were required as well.

> Now, we have a specialist department, which is made up of quite a few people who have […] academic qualifications, right? Thus, there are master students in renewable energy, people with a background in law, engineers, and so on … and that is important, but this is not the only thing needed to succeed with what we want to achieve. Thus, the professional understanding, the ability to understand problem complexes from having a professional background is increasingly necessary to be able to succeed with some of the things that we are doing. Nevertheless, you have to have a talent in thinking holistically, generally, and the ability to extract the essence of already existing knowledge, right? (A1).

Other interviewees valued their educational background differently in relation to their current work. They expressed that their education probably made a difference, making them better at their job. However, they considered their education to be more of a backdrop for their efforts of acquiring and assembling environmental knowledge, arguing that such specialist competence was not required or vital to their ability to perform their professional work.

> My education was merely a five-year education in common sense; hence, that I think I use all the time. No, but we use to twaddle a bit about that, because there is a methodology there, you know, that I probably subconsciously … Because it [my kind

> of education] is primarily a study in methodology (…). I probably use it [my education] very much, but, like, I don't think it is crucial (E3).

A common narrative of the interviewees was that whatever background they had, with a degree in social science, economics, natural science or merely organisational experience, in practice, the important part was their personal skills and ability to manage the tasks they faced. Hence, being a generalist was just as useful as anything else. The most surprising finding from this part of the interviews was how frequently some interviewees expressed that specialist knowledge obtained through formal education made little or no difference whatsoever to their ability to adequately fulfil their everyday tasks. These interviewees largely expressed that the core skill for somebody like them was the ability to keep up to date regarding the issues they were dealing with.

> You don't have to be an economist to do these calculations [that I do]. They are only about being able to calculate (…). Expertise is having followed a field for a while (E1).

Furthermore, some interviewees expressed that what really mattered to succeed in keeping up to date was enthusiasm and 'hands-on experience'. For example, they could emphasise engagement in ENGO activism as a primary road to success. They even explicitly expressed that if they had to choose between distinct types of knowledge, they would prefer experience-based knowledge – acquired from having worked within their organisation for a while – over knowledge acquired through education. Nevertheless, it was more common to express the need to be able to combine a variety of knowledge.

The moderate appreciation of their educational background suggests that the ENGO actors did not use this source to access knowledge in a linear fashion but rather as a rhizomic competence. When they appreciated method skills

and analytic training, they saw this as helpful to navigate the multiplicity of sources they used as well as their management of the sense-making activities and assessment of validity of knowledge claims involved in the assembling of environmental knowledge.

Conclusion: Features of rhizomic learning

Previous research suggests that ENGOs depend on science as an authoritative source of environmental knowledge (e.g., Yearley, 2018). We do not dispute this claim, but our study suggests that ENGOs mainly learn about scientific findings in a complex, distributed, non-linear and mediated manner. Moreover, in the process of assembling environmental knowledge, science is combined with experience, political savoir faire and value assessment. We describe this as rhizomic learning, which provides a rather different understanding of science communication than the common focus on scientists as more or less troubled communicators of science (see, e.g., Davies and Horst, 2016). Usually, to the ENGO actors, science was not a directly assessed source of knowledge. For example, few of our interviewees read scientific papers. Rather, science was described as ubiquitous, as available through a multitude of voices and connections. Typically, the ENGO actors found it difficult to specify how they engaged with scientific sources while emphasising the importance of scientific knowledge.

We have discussed rhizomic learning based on the interviewees' accounts of how they engaged with their four main sources of knowledge; written material, networks, digital media and educational background. To conclude, we want to highlight five key features of this way of relating to environmental knowledge to clarify rhizomic learning as an empirical concept. First, rhizomic learning is meant to engage in contingent ways with a complex diversity of sources. From the accounts of the interviewees, it was clear that environmental knowledge was distributed across a multitude of loosely connected actors, nodes and institutions. The interviewees needed to navigate this multitude. Networking was a main strategy to engage with the complex flows of environmental knowledge and thus a vital ingredient of the rhizomic learning practices.

Second, the rhizomic learning was characterised by pragmatism. The interviewees emphasised their pragmatic engagement with environmental

knowledge, which also reflected an unsystematic relationship with scientific knowledge, a lack of standardised approach to the acquisition of knowledge, and a practice of learning that was problem-based and needs-driven. This pragmatism contributed to the complexity of acquiring and assembling knowledge because the choice of and approach to sources of knowledge were contingent on the actual context of the learning.

A third feature of rhizomic learning was the opacity of the process of acquiring and assembling environmental knowledge. Generally, the interviewees found it difficult to provide concrete answers when they were asked about the sources they used and their strategies of acquiring the knowledge they needed. The opacity of rhizomic learning was clearly co-produced with the two characteristics mentioned above, not the least the pragmatism of the ENGO actors in their engagement with environmental knowledge.

Fourth, we observed outspoken communal qualities in the interviewees' accounts; qualities that shaped their rhizomic learning. As noted, they told about their engagement with a diversity of sources of knowledge. However, at the same time, they emphasised how environmental knowledge was distributed across a community that provided multiple ways of acquiring insights as well as validation of knowledge claims. The community of environmental policy actors was more important to establish trust in knowledge than scientific peer review. Thus, rhizomic learning appeared to be situated in this community in a fundamental manner, which shaped the assessment practices.

Finally, and in line with our initial argument, mediation was an integrated feature of rhizomic learning, meaning that knowledge tended to be translated or adapted to the problem context. When the interviewees said it was important to combine sources, this clearly meant that they engaged in situated forms of interpretation and synthesis also to make sure that the knowledge they would supply, e.g., to policymakers, was considered relevant and reliable.

Most of the interviewees agreed that relevant environmental knowledge was, in principle, available to everybody engaged in the environmental field at any time. Thus, merely providing knowledge could not be what made ENGOs interesting to their partners. Rather, we have observed that it was their capacity of rhizomic learning – not the least mediation – that the ENGO actors expected to make them appear as competent, relevant and reliable. Their extensive networking activities were an important ingredient of this. It helped the ENGO actors to achieve a good overview of possible partners and accessible sources of knowledge. In addition, they learned the rules of the game, such as the policy culture of government. This facilitated their moving within and between public administration and policymakers as well as science.

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[1] The paper is based on semi-structured, in-depth interviews with 15 representatives of eight Norwegian ENGOs. This group of both member- and non-member based organisations included the most influential and publicly visible ENGOs in Norway while providing diversity with respect to size and focus areas. Some were national; some were parts of international networks. All interviews were conducted by the first author. She also interviewed 15 government employees working with environmental, climate and energy issues and seven politicians from six different parties who had been members of the Parliament's Standing Committee on Energy and the Environment from 2009 to 2013 but they are only used as a backdrop in this paper. The interview guide focused on the knowledge-related strategies and activities of the ENGOs. Mostly, the interviews lasted between one and two hours, and they were audiotaped and fully transcribed. We promised to anonymise the interviewees to create a trustful and open exchange. This was also explicitly requested by several of them. This means that their organisational affiliation is not disclosed, so we do not analyse differences between the knowledge assembling practices of the ENGOs.

[2] The organisations are referred to by letters (A to H), and the interviewees from the same organisation by numbers. Thus, when we quote E2, we quote interviewee 2 from ENGO E. In this way, we distinguish the interviewees and allow readers to see if they belong to the same organisation or not.

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Chapter 3.

Second paper: Engaging policymakers through environmental communication. Environmental non-governmental organisations (ENGOs) and their use of communication spaces[8]

This paper is awaiting publication and is not included in NTNU Open

[8] Submitted to Environmental Space as Trine E. Unander and Knut H. Sørensen, 21. August 2019

Chapter 4.

Third paper:

Epistemic cultures in environmental policymaking: How policy actors warrant and utilise the expertise of environmental non-governmental organisations (ENGOs)

This paper is awaiting publication and is not included in NTNU Open

Chapter 5.

ENGOs, environmental communication and policy learning. Tie-up and concluding essay

In this tie-up and concluding essay I take as my starting point the three preceding chapters and carry out an analysis based on the findings in all three of them held together. This 'cross-cutting analysis' is directed by the three main questions 1) What kinds of proficiencies do ENGO actors possess that earn them the position they hold among policymakers? 2) How do the ENGOs go about translating interests and knowledge to policymakers? 3) Do policymakers learn from ENGO actors in environmental policymaking processes? Through seeking answers to these questions, I aim at getting closer to an answer to the main research question of my thesis: How do ENGOs influence environmental policymaking? Having carried out the cross-cutting analysis, I summarise my findings and present my conclusions. In the conclusion, I also return to the issue of environmental policy learning and the model proposed by Jomisko (2015), as outlined in Chapter 1.

Concepts and theoretical approaches employed in the analysis

Before commencing the cross-cutting analysis, I introduce three theoretical concepts and approaches within STS research. I will employ these as I carry out the succeeding 'cross-cutting analysis', meaning that I juxtapose findings presented in the three empirical chapters to develop new insights. I introduce and discuss STS research into experts and expertise, translation theory and reflexive governance. Then the cross-cutting analysis follows with three subsections, each using one of these concepts. Finally, I answer the research question of this thesis by introducing an STS-based model related to translation and communication of research to policymakers. The latter

combines insights from the cross-cutting analysis to provide a more comprehensive understanding of policy learning activities.

Expertise

What was striking when observing the selected environmental organisations, was how easily they move about, get in the right positions, get to talk to the 'right people' and get to participate whenever something of relevance to their field is put on the political agenda. Actors within these organisations undoubtedly have some kind of specialist knowledge that goes beyond what the average layperson has. That considered, it is worthwhile attending to the notion of expertise. Can ENGO actors be characterised as experts?

Collins and Evans (2002) present a typology of expertise involving three distinct levels. ENGO actors are clearly not at the level of no expertise. They are also not 'contributory experts' who engage in specialist scientific work. This leaves them at Collins and Evans' second level, which they call 'interactional expertise'. By this they mean expertise where the holders have sufficient competence to be able to 'interact interestingly' with members of specialist communities. In a more recent explication, Collins and Evans (2015) refer to interactional expertise as having a sufficient comprehension of a specialist field to be able to talk a 'practice language' (ibid., p. 119).

It is not straightforward to decide who should be counted as experts and thereby be allowed to provide input into decision-making processes. According to Collins et al. (2016), technological decision-making within the public domain entails both technical and political aspects. They claim that whereas the technical connects to production of knowledge, the political handles preferences and priorities. It suffices to be a stakeholder in a case in order to be allowed to contribute to the latter. This contrasts with the technical phase of a process, where only those with the right kind or level of expertise can take part. Nevertheless, it might sometimes be possible to contribute to the technical phase even without expertise in the target domain. This might

happen, for example, as experts from one target domain hire experts from another domain to execute tasks or provide ‘deliverables’ for them. It might also happen in the shape of providing support and/or facilitation to experts through ‘detached’ services, where the parties do not require deep understanding of each other’s specialist expertise (ibid., p. 107).

According to Lidskog and Sundqvist (2018), within STS, all social transformation is explained as being connected to actors (including groups) consisting of among other scientific experts, bureaucrats, politicians and NGOs, as well as institutions. They claim that environmental expertise is multifaceted, and whereas specialist competence is a necessary element, it only constitutes one part of the requisite components. It is also a prerequisite that the specialist competence is acknowledged and approved by others, and it must be attained through socialisation within particular groups and contexts. Consequently, it concerns group belonging as well as professional socialisation around specialised skills.

When, in this thesis, I consider ENGO employees as communicating environmental knowledge to policymakers, the implication is that they are, or are considered to be, experts. However, observing the arguments of Collins et al. (2016) outlined above, it is relevant to ask what kind of expertise it is that is exercised by the ENGO employees and how they are seen by policymakers. For example, should they be seen as interactional experts only or are there other key features of their engagement in environmental communication? Clearly, ENGOs are not scientific institutions. Nevertheless, they employ people who are considered experts with respect to environmental issues. It is through this expertise that ENGOs may play a role in policy learning. How may we understand the expertise wielded by the ENGOs?

Translation

The concept of translation is complex, and it has been described and developed in diverse ways and directions by several scholars (see, for

example, Callon, 1986; Latour, 1987, 2005; Star and Griesemer, 1989; Law, 1992). In Actor Network Theory it is used to describe a dual process: of moving through a network, and of the changing of meaning that happens at the same time. In Latour's (1987) words:

> Translating interests means at once offering new interpretations of these interests and channelling people in different directions. 'Take your revenge' is made to mean 'write a letter'; 'build a new car' is made to really mean 'study one pore of an electrode'. The results of such renderings are a slow movement from one place to another. The main advantage of such a slow mobilisation is that particular issues […] are now solidly tied to much larger ones (ibid., p. 117).

Expanding on the topic, Latour describes the mediators of the process. Mediators, he asserts, are the active participants in a translation process that make other parties do things (Latour, 2005, p. 106). They are not mere intermediaries, as would be the case of a boundary organisation, 'transporting' knowledge that remains the same throughout to its receiver; instead, they make others do things: 'Mediators transform, translate, distort, and modify the meaning or the elements they are supposed to carry' (ibid., p. 39).

Callon (1986) elaborates on the concept, claiming that there are four moments of translation, through which the identity, interests, possible interactions and the movements of the involved parties are continuously negotiated. These are 1) problematisation 2) interessement (interposition) 3) enrolment and 4) mobilisation of allies.

The first of Callon's four moments, 'problematisation', is the part of a process where researchers that have made findings describe their discoveries and formulate questions and research requirements. Necessary elements of all kinds are identified, and it is made clear why these parties have obvious reasons to join the project. Through making these descriptions, the

researchers establish what Callon calls an 'obligatory passage point' for all parties concerned; that is, making themselves indispensable for the network of actors they are building.

The second moment of the translation process, 'interessement', is, according to Callon, a compound of actions by which one actor tries to assess and stabilise the identity of the other actors defined through problematisation. While problematisation has a somewhat hypothetical character to it, interessement is the stage in the translation process where the firmness of the different relationships, alliances and ties in the web of actors are tested. Each actor defined through the problematisation process can choose to become part of the plan or not – to define their own goals to coincide with the programme for resolving the issue in question, or to leave the alliance. Cutting or weakening links to other entities – thereby 'locking allies in' – becomes vital.

The next step of the process is 'enrolment'. This means to define and coordinate the roles of the actors involved. This is necessary as the interessement process does not always lead to the alliances intended and needed in order for the project to succeed. The means here is 'to transform a question into a series of statements which are more certain' (ibid., p. 205). Enrolment does not presuppose, but neither does it rule out any already established roles that actors in the implementation process might hold. In the final step, Callon denotes the process of 'mobilisation of allies'. Now, the decision is made whether the spokespersons enrolled are representatives of the actors they speak for or not, as this is mandatory for the project to succeed.

I will return to the concept of translation in the cross-cutting analysis of the thesis. There I shall use it as a tool to investigate the whole knowledge transfer process from ENGOs to policymakers. Can it shed light on how environmental knowledge transfer is the result of a complex transformation process happening through rhizomic learning, use of diverse spaces for

environmental communication and policy learning in different epistemic cultures?

Reflexive governance

To policymakers, the process of appropriating steadily new, up-to-date knowledge on issues they work with is cardinally important. Only through staying well informed are they able to make decisions and steer policy development on a sound basis. However, what a ‘sound basis’ is can always be disputed. When Voß and Kemp (2006) discuss the challenge of shaping future society, they are preoccupied with how the physical and cognitive approaches to the objects of steering also affect those who steer, and their ability to do so. This they term ‘reflexive governance’. Elaborating on the concept, they uphold that such reflexiveness in fact implies a questioning of the ideas, manners and institutions that society is governed by. With reference to Beck’s (1994) notion of reflexive modernisation, there is a certain probability that the kind of governance might eventually undermine itself by effecting changes that influence their own functioning.

Reflexive governance entails a first- and a second-order reflexivity. While the first relates to the practical handling of issues, the second describes the cognitive parallel to such cycles. The first denotation pertains to how society invents and reinvents its own problems and solutions in cycles, and hence points to the ‘self- confrontation’ that constitutes the basis of reflexive governance. The second concerns how problems relating to, for instance, knowledge production or legitimacy issues within democracy are produced and reproduced in the effort to solve issues with instrumental rationality. It calls for more creative ways of problem solving and an alternative, transdisciplinary, research approach allowing different perspectives to interact. Through this, the automatism of the first-order reflexivity is broken.

According to Voß and Kemp, only problems that are unambiguous and clearly confined can be solved using mere cognition. Consequently, a different

approach is needed in second-order reflexivity, one that involves establishing links between distributed governing activities and organising problem-oriented communication and interaction with lasting learning as an important aspect. Scientific knowledge produced in institutions is only one kind of knowledge needed in problem solving and policy development. Tacit knowledge of societal actors and knowledge acquired through practical experience are essential supplemental sources.

Arguably, reflexive governance feeds on policy learning to the extent that policy learning enhances the reflexivity of policymakers. If ENGOs have a role in this, it depends on the ENGOs supplying more than environmental facts. They should provide factishes that make policymakers ask new questions about environmental policy and explore new ways of framing environmental policy issues. Did the ENGOs succeed in this?

ENGOs communicating environmental concerns and trying to influence policymakers

The three papers (Chapters two till four) that constitute the core of the thesis each pursue a distinct set of research questions. Paper one, 'Rhizomic learning: How environmental non- governmental organisations (ENGOs) appropriate knowledge', analyses how ENGOs obtain knowledge about environmental issues. Paper two is a study of the spaces used by the ENGOs to communicate environmental knowledge and interests (or, rather, 'factishes') to policymakers. Paper three, 'The epistemic cultures of environmental policymakers appropriating and evaluating the expertise of ENGOs' explores how policymakers consider the role of ENGOs and how they may learn from them. By juxtaposing the three papers and using some of the theories discussed previously as analytical tools, I now proceed to go deeper into the issue of how and why environmental organisations are able to position themselves in the process of communicating environmental knowledge or factishes to policymakers and what they achieve.

A recurring topic throughout the chapters of the thesis is the high level of proficiency and expertise that both policymakers and ENGO actors said that the organisations display. This related to facing politicians, public bodies and the political system as well as other societal actors, such as industry and, to a lesser degree, academia. A central task when juxtaposing the three papers is thus to clarify the kind(s) of expertise that ENGO actors enact and the resulting achievements. Undoubtedly, ENGOs' expertise partly relates to the organisations' ability to translate interests and knowledge. While this topic is touched upon in all the three papers, the complexity of the process will become clearer through a cross-cutting analysis. By studying the whole 'knowledge journey' from the appropriation work of the ENGOs via the communication spaces to the appropriation by policy actors, the proficiency of the ENGOs at being 'at the right place at the right time' will also become better understood.

The first part of the ‘knowledge journey’ is described in paper one as ‘rhizomic learning’. The initial assumption was that ENGOs appropriate knowledge to be used in their involvement with environmental issues and policy development primarily from scientific sources. However, this turned out not to be the case. The paper shows that the situation was much more complex and unpredictable and that the ENGOs’ sources of information and knowledge were diverse and of varying degrees of scientific competence. The conduct of the ‘knowledge dialogues’ was not straightforward and involved a whole community of actors. It is on this basis that we characterise the learning of ENGO actors as ‘rhizomic’. The situation raises several questions. Does it mean that ENGO actors are uncritical towards their sources of knowledge? Is the knowledge gathered by chance? Is science therefore losing ground as a basis for policymaking? What does it say about the proficiency of ENGO actors as knowledge vendors?

In the second paper, the process of ENGO actors communicating factishes to policymakers is discussed, looking at how they transferred knowledge and values to policymakers. The analysis in the paper focuses on the spatial aspect of the process, identifying five main spaces of communication. The paper discloses how the ENGO actors told that they utilised every chance they got to talk to policy actors, all the while adjusting the way they configured the communication according to the setting. Both Members of Parliament (MPs) and civil servants appeared to be surprisingly willing to accept the organisations’ invitations to talk, either in meeting rooms, at on-site inspections, over a beer or in some Parliament corridor. The ENGO actors seemed to be able to gain access to the policymakers in most arenas with seemingly little effort. Why is this? Did they hold particular skills that make them more attractive as dialogue partners?

The third paper analyses policy learning, with a focus on two main communities of policymaker: MPs and civil servants, all working with climate, energy and environmental issues. The main question is how and to what

extent does policy learning happen through the interaction with ENGO actors. The analysis shows that this interaction was different with MPs compared to civil servants. Whereas MPs reported to be open, accommodating and appreciating towards the ENGOs, civil servants appeared equally curious but also constrained and cautious. How does this pertain to the role of the ENGOs with respect to policy learning?

Juxtaposing the three papers, in particular three issues protrude: ENGO actors seem to possess proficiencies that earn them advantageous positions among policymakers. The ENGOs appear to translate knowledge and interests to policymakers and policymakers seem to learn from ENGO actors in the policymaking process. To explore each of these three issues, I make use of the concepts of ‘expertise’, ‘translation’ and ‘reflexive governance’.

Are the ENGO actors experts, then what kind of expertise do they hold?

A key distinction that Collins and Evans (2015) make in their work on scientific expertise is that between ‘interactional expertise’ and ‘contributory expertise’. This distinction defines an expert’s potential ability to contribute to a particular area of expertise. How may we consider ENGO actors in light of this distinction?

The process of influencing environmental policymaking is, in this thesis, studied in three steps: the ENGOs’ knowledge appropriation (handled in paper one); the translation of both interests and knowledge to policymakers, as facilitated by ENGOs (handled in paper two); and the policy learning of policymakers (handled in paper three). Starting from the latter paper, focusing on policy learning, we observe that the interviewed policymakers attributed interactional expertise to ENGO actors. Among both MPs and civil servants, there was a general agreement that the ENGO actors were very proficient in navigating both the political and administrative system and the political

landscape. For example, the ENGO actors allegedly knew every detail about what was referred to as ‘the yearly wheel of the fiscal budget’.

In general, they were described as actors that knew when to act and how to act, and whom to talk to and in what ways. Several policymakers expressed that the ENGO actors knew at what time in a political process it was possible to (try to) make a difference, and when it was not. Furthermore, what was said to be vital for the policymakers was that the organisations knew the routines for regular official case proceedings, and, consequently, that they delivered their input ‘on time’. This was allegedly a point where the ENGOs were highly skilled and clearly surpassed other advocacy groups. Because of this, interviewees said, they were met with approval and gained leeway and influence in policy.

As the ENGO actors were so adept at getting themselves in position to speak to policymakers, they also got the chance to come up with suggestions and proposals for policy initiatives and measures. The concreteness of these suggestions was, according to both ENGO actors and policymakers, what made them so attractive for the policymakers to use. Through showing this convincing ability to ‘interact interestingly’ with the policymakers with whom they were in touch, the ENGO actors exhibited solid interactional expertise with respect to policymaking, which the interviewees agreed constituted an area of expertise.

Did they also hold contributory expertise in Collins and Evans’ sense, concretely adding something to policymaking? As already indicated, paper three shows that when the cooperation between ENGO actors and policymakers was at its very closest, such contributions from ENGOs did indeed occur. However, it did not happen often.

In chapter three, we saw how the ENGOs attempted to translate the input derived from the ‘primary knowledge sources’ to a format fit for use by policymakers. This involved the making of factishes but also the use of

rhetoric, which, with Latour (1987, p. 108 et seq.), may be described as persuading the policymakers to want what the ENGOs want. During this process of translation, which, in Latour's sense, entails channelling others to think differently about issues than they did before encountering the actor(s) staging the process, the actors make use of somewhat different kinds of expertise than those we identified from Collins and Evans. This expertise may be described as the skill of offering new interpretations of reality that the involved actors, such as policymakers, are willing to accept and being adept at communicating these interpretations. The ENGOs use this skill to their advantage as it positions them in the role of conductors of the process of translating environmental interests and knowledge. Arguably, there is also here a need for interactional expertise – for some understanding of how policymakers think. However, expertise in translation seems above all to require a proficiency in being at the right place at the right time and talking to the right people. These are skills in understanding the system within which policymakers operate as well as identifying emerging agendas related to environmental issues.

Paper one also raises expertise issues. Presumably, the appropriation of environmental knowledge done by the ENGO actors involved interactional and, perhaps to some extent, contributory expertise. To do this work, the interviewees clearly needed competence in environmental studies and relevant technological fields. Paper one shows that, to a certain extent, the ENGO actors held such expertise due to their level of education. This could be regarded as a transdisciplinary interactional expertise since the ENGO employees needed to cover a fairly broad range of environmental knowledge. What was involved in this is best described by reference to the conceptual framework for appropriating knowledge developed in the paper, namely the model of 'rhizomic learning'.

This model includes five properties that all were central components of the ENGOs' learning activities:

1) A diversity of actors and institutions were used as sources when ENGO actors appropriated environmental knowledge.
2) The ENGOs had an unsystematic and infrequent relationship with scientific institutions and scientists and a pragmatic approach to gathering knowledge.
3) The knowledge appropriation processes of the ENGOs appeared opaque. When employees were asked about their knowledge sources and strategies for acquiring knowledge, the interviewees found it difficult to provide concrete answers.
4) There was a community among ENGO actors and other people in the environmental sector that exchanged knowledge, providing multiple ways of appropriating the same insights and validations of knowledge claims. For ENGOs, this community was more important for building trust in and assessing the validity of knowledge than scientific peer review.
5) A process of mediation where knowledge that was considered relevant was translated or adapted to the problem context and sources were combined, involving interpretation and synthesis.

The use of the rhizome as a metaphor is inspired by anthropologist Emily Martin in her 1998 work and is used to 'picture the discontinuous ways science both permeates and is permeated by cultural life' (Martin, 1998, p. 24 – see also Deleuze and Guattari (1987), which is the original source of the metaphor). She argues that the rhizome is an appropriate metaphor to use to capture the fractured, intermittent relationships between science and the rest of the culture (ibid., p. 31). The ENGO actors seemed highly skilled at performing rhizomic learning. Whereas a couple of the characterising properties of such learning placed no demands on the learners, that is, they kept the process opaque and relate to knowledge in an unsystematic way, the others did. It takes skills to acquire knowledge distributed across a multitude of actors and institutions of different character. If there is no system or standard for communicating with knowledge providers, and if knowledge is

gathered from sources selected on the basis of accessibility, relevance, timeliness and trust, then relations either need to be built and rebuilt repeatedly, or an admirable effort must be invested by the ENGO actors to maintain strong relations despite weak attachments. Either way, great expertise in communication was needed from the ENGO actors.

Being experts at communicating was just one of the things that made ENGOs great at appropriating environmental knowledge. That knowledge gathering was problem-based and needs-driven also underpinned the need to know when to be where, what kind of input to look for, who might hold the relevant information, and not the least whom to trust as knowledge vendors. The task demanded a good overview of the landscape of possible knowledge providers. What was most conspicuous, studying the ENGOs in this process, was their skills at configuring and orchestrating various knowledge and value elements. They appeared to be experts at synthesising the values they wished to communicate with the knowledge that they needed in order to create convincing arguments. Furthermore, their proficiency implied interconnecting, intermingling, harmonising and coordinating elements through the whole 'ecology' of knowledge relocation and policy learning.

Using the notion of interactional expertise when analysing the ENGOs' participation in the process of influencing environmental policymaking clearly makes sense. The concept of contributory expertise can also be used to describe special cases in policymaking. Nevertheless, employing Collins and Evans' two notions of expertise *alone* when studying the ENGOs' in the process of influencing policymakers with knowledge is not sufficient. The organisations' compound, complex ways of handling the different processes they participated in imply that something more was needed. This included navigation, investigation, communication, synthetisation and mediation: I denote this set of expertises as 'multi-actional'.

Do ENGOs translate factishes?

As an element of actor–network theory (ANT), the 'translation' concept is explained to be both a theory and a model. When used as a model, translation theory demands for some actor(s) to mediate the process. According to Latour this can be any kind of active participant in the process, entities that have 'relations with one another, relations of such a sort that they make others do unexpected things' (Latour, 2005, p. 106). Considering the ENGOs' proficiency at interactional expertise towards policymakers, it should be interesting to investigate the activities of these organisations in a translation-theory perspective.

As we have seen, the environmental organisations seemed to function as experts in divergent ways in different settings. We have also seen that when performing rhizomic learning, they, in part, took on roles as mediators. Studying the ENGOs as leading translation processes, however, demands some deeper explorations into their negotiation skills. As Ryghaug and Sørensen (2008) suggest, when ENGOs engage in knowledge transfer processes, it is likely that they do it by presenting the knowledge on environmental issues that they consider to be the most relevant and that concurs with their values. Therefore, I expected them to deal with knowledge hybrids.

Bruno Latour has worked with hybridisation of knowledge, creating several theoretical frameworks. With his idea of the 'factish', as noted earlier, he combines the concepts 'fetish' and 'fact' to describe entities that are formed from the amalgamation of their 'factual' nature as well as their cultural context – of facts and values – and he makes a related point in his distinction between matters of facts and matters of concern (Latour, 2003).

When studying ENGOs' work with environmental communication through the perspective of Callon's translation theory, the different translation 'movements' can be recognised both in knowledge acquisition, knowledge

communication and policy learning. The phases appeared in diverse ways though, with various strength. Starting with the *problematisation* phase, this was very important in the efforts of the ENGOs as they worked to acquire the knowledge they needed. This knowledge acquisition activity, which I in chapter two (paper one) proposed to call 'rhizomic learning', was steered by the tasks the ENGOs faced. Hence, where the organisations went to find knowledge resources depended on what they thought they needed to deal with the problem at hand. Thus, it was vital to the ENGOs to be skilled at seeking and finding the relevant knowledge sources and identifying the right contacts. During problematisation the ENGOs defined what they saw as an 'environmental policy-issue of urgency'. They formulated what knowledge they needed to be able to engage with the challenge(s) at hand and to describe further resources that were needed. They also defined which 'knowledge vendors' or other parties were relevant to include in the process and made clear why it was of interest for these actors to join the project and provide their resources and competencies.

In chapter three (paper two), I studied an activity fundamental to the ENGOs' process of trying to influence environmental policy, namely the organisations' communication with policymakers in various spaces. The need to formulate the questions or challenges to be discussed here at first sight could appear redundant since the matter up for the discussion was already defined when they entered a communication space. However, for a communication process to function well, it is crucial not just to have clearly defined the topic up for discussion, but also the framework for how to manage the discussion. Consequently, formulating questions as well as seeking out requirements for a well-functioning communication process was part of the problematisation also here. Further, as with the knowledge acquisition process, it was vital to know whom to talk to. However, here the task of overviewing the landscape of actors was different. This is because, typically, it was obvious what actors should, or could, be involved. It was given by the topic of the discussion and the stage in the process of the case. Nevertheless, there was some leeway

for the organisations to define what problems to put on the agenda and consequently, this also became a part of the problematisation. It was important to locate the 'right' partners to include in the discussion and to make clear why just these policymakers should engage in dialogue with the ENGOs.

In the fourth chapter (paper three), I explored the receiving end of the environmental communication process of the ENGOs and how MPs and civil servants reacted to the knowledge that they were offered. Here, the questions to be discussed, the problems to be dealt with, and the parties to be invited to join the discussion were identified. However, the challenge still was to clarify how communication processes should be conducted and to explain why the relevant policymakers should join the policy learning process. Policymakers are of course aware of the need to update themselves on the latest information and to keep learning and gaining knowledge. Hence, instead of having to convince the policymakers about this, the ENGO actors needed to be seen as trustworthy and suitable knowledge vendors, making the policymakers accept their propositions.

As the ENGOs worked their way through the problematisation stage of the translation process, the framework would be set for what they wanted to achieve. This applies to the knowledge acquisition process as well as to the environmental communication and policy learning processes. Nevertheless, having made clear who the relevant participants were and why they should join in the efforts, the participants might of course not accept the proposals of the ENGOs. They still needed to be enrolled into the translation process. They still need to be tempted into buying the arguments of the ENGOs.

To stabilise the alliances with their contacts, it was necessary for the ENGOs to build strong ties to these parties. In the knowledge acquisition process of the ENGOs, this 'tie-building process' – or what Callon defines as the *interessement* of translation – has a very prominent role. In the chapter on rhizomic learning (paper one) I showed how knowledge acquisition was

strictly context dependent to the ENGOs and how it involved a continuous search for new knowledge providers that could supply them with knowledge. Consequently, in the knowledge acquisition process, the ENGOs needed to assess the identity of their potential partners, but also continuously build and rebuild new bonds to various knowledge vendors. The identities of possible participants of an issue alliance as well as the character of the attachments to them were constantly shaped, modified and (re)defined in diverse ways. By handling this activity carefully, the ENGOs could keep the knowledge vendors in the translation process willing to share their knowledge and information. The ENGOs needed skills to manage the process; apparently, however, they usually knew quite well what measures to take for the translation process to succeed.

In the third chapter (paper two), I identified and analysed spatial aspects of environmental communication from ENGOs to policymakers. The spaces identified in the second paper were demonstrations, meetings, texts, media, and workshops and conferences. Interessement, in that context, entailed that the ENGOs continuously assessed the benefits of using the different 'communication spaces' and which policymakers to involve. Finally, they must address the potentially relevant policymakers to make them join the issue alliance. In other words, the ENGO actors tried to convince policymakers to join them in meetings, at conferences, for hikes or elsewhere, and to accept these places as spaces for communication and negotiation. Through efforts of configuring the spaces for their purposes, the ENGOs could use all these spaces for translation actions.

In the next step of Callon's translation model, *enrolment*, the parties who have decided to join an actor-network need to have their roles defined and accepted. As with problematisation and interessement, also the enrolment phase of translation can be recognised in the ENGOs' knowledge acquisition. As knowledge acquisition can involve very different processes, however, also the actors who join these processes might vary considerably. It might be

academics who supply theoretical ‘facts’, or it might be industrialists who disclose their inventions. Defining the roles of the various knowledge suppliers seemed to be relatively straightforward. However, when the ENGOs needed more complex knowledge, it could become necessary to make investigations or even have other parties carry out research. In such rare cases, the ENGOs needed to coordinate their partners, possibly developing alliances between them, to make them able to produce the knowledge needed.

In the case of environmental communication, the way it was discussed in chapter three (paper two), the enrolment process had a contrasting character. The complexity of the challenge here did not emerge from a need to make a variety of different actors cooperate but from persuading relevant policymakers to enter a particular communication space at a suitable point in time. Persuading policymakers to participate in a given communication space meant preparing a convenient situation for factish translation. Succeeding in this might in turn result in beneficial environmental communication and possibly some policy influence.

The first communication space defined in the paper was ‘direct action’. Conveying arguments and attempting to enrol the policymakers into taking on the ENGOs’ standpoints within this space primarily happened by activists being physically present at actions of various kinds. Demonstrations often occurred at a point where environmentalists no longer saw any ‘well-mannered’ way of conveying their message. By using demonstrations, there was no subtlety to enrolment anymore. Also, the ENGO actors demonstrated that they had reached the limit of their interactional expertise with respect to policymakers.

A quite different kind of communication space is that of ‘meetings’. Both ENGO actors and policymakers reported that the vast majority of meetings were initiated by the ENGOs. Clearly, timely enrolment of policymakers into the factish translation process was one of the expertise areas of the ENGOs.

There was, however, also a certain amount of lawfully prescribed formal meetings connected to public procedures. When staying within the confines of these, civil servants, in particular, seemed to be less reserved to communicate with the ENGOs. A consequence of the settled conditions between the parties was that many ENGO actors over time ‘befriended’ the policymakers whom they met repeatedly, in turn making it easier to communicate factishes to the policymakers. Some policymakers also met ENGO actors ‘out in the open’, for instance at conferences, at breakfast meetings, or even at cafés. Face-to-face meetings seemed to be the encounters between ENGOs and policymakers that most directly enabled the ENGO actors to use their expertise at communicating to enrol policymakers into an issue alliance.

The third observed communication space was that of 'texts'. Many policymakers, mainly MPs, expressed great satisfaction with the text material provided by the ENGOs, for its conciseness, concreteness, timing and consequently usefulness. On the one hand, the ENGOs produced two-page overview material providing easily understood outlines of a case. On the other, they provided detailed reports of a quality level that made it possible to ‘cut and paste’ it into government documents. For this, the ENGO actors were praised by policymakers of all kinds, and seemingly it made the policymakers trust the ENGOs to the extent that some of them did not have second thoughts about turning to their texts for material to use in their own policy documents.

The communication space of ‘media’ invited diverse activities, not the least because of the growing split that has created two somewhat detached media worlds: social media and traditional media. The ENGOs frequently used social media. Some of them posted messages in many channels up to several times a week. It was also described by ENGO actors as a space for carrying out actions, if necessary. ‘Bombarding’ Facebook pages with negative feedback regarding particular topics might allegedly make policymakers turn.

Traditional media provided less and irregular access and coverage. To some extent, the ENGOs tried to get coverage through 'pushing' readymade, popularised material onto journalists; however, according to the interviewees, succeeding with this was more conditioned by the general news situation than by the importance of the topic. Allegedly, whenever the ENGOs *did* get coverage, at least in national media, it was, however, a very powerful channel of communication, hence, also to translate interests and knowledge to policymakers. If being 'forced' to enter a dialogue with ENGOs in the media, the policymakers were unable to hide from the discussion and, as an interviewee from an ENGO explained, it might push the policymakers into disclosing their opinions on a matter. The media space of communication was, therefore, capricious, and might fail or support the ENGOs in their translation of interests.

The final communication space identified was that of 'workshops and conferences', here defined as those events and activities *that the ENGOs arrange themselves*. A distinctive feature of space was also that it was principally disengaged from policy processes of any kind. An example of an ENGO conference is the 'Zerokonferansen', where politicians are enticed to join for free, whereas anybody else must pay € 1,200 for participation. Such space is custom-made to facilitate the organisations' communication with policymakers, allowing imperceptible persuasion in a readily festive manner to translate the interests they want to convey.

Also, when considering how diverging policymakers accept knowledge or factishes received from ENGOs, as discussed in chapter four (paper three), it is interesting to have a look at the enrolment phase of the translation process. Also, here, enrolment might involve creating alliances and coordinating roles of actors, but as the process takes place within the policymaking sphere, the scope becomes more limited. Both MPs and civil servants must approve that parties from outside the system join the policymaking process, i.e. participate

at meetings, join committees, or speak at hearings. For the ENGOs the task becomes to negotiate with distinct groups of policymakers.

In the final step of Callon's translation model, *mobilisation of allies*, it is decided whether the spokespersons enrolled are right representatives to fulfil the tasks they are given. In the case of the ENGOs' knowledge acquisition processes, the question became if the knowledge vendors of the ENGOs could provide relevant, correct and enough information. Can their input consequently result in legitimate answers to the questions of the ENGOs and solid knowledge for the ENGOs to use in their communication with policymakers? In the process of environmental communication happening in diverse communication spaces, the ENGOs, in each case, needed to figure out if the policymakers they had enrolled actually could influence the topical case and if they could be swayed. This was also important in the context of the policy learning that happened within diverging epistemic cultures.

Timing was also vital to succeed with translating factishes and enrolling the policymakers in the attempt to influence them. Mastering 'perfect timing' was one of the features of 'multi-actional' expertise – an expertise the ENGOs seem to possess. They seemed to know exactly when to capture the attention of the policymakers to make them listen and learn. When relevant cases were at the stage in which decisions could be affected, the ENGO actors either went to meetings or, if necessary, set them up themselves. In due time, they sent different kinds of texts to the 'right people' while, in Callon's words, 'mobilising allies' and, with some effort, they succeeded in making policymakers fight their case.

Summing up, the concept of translation provides a good understanding of how the ENGOs tried to influence policymakers by engaging in environmental communication. We have seen how the organisations tried to make policymakers concerned ('problematisation'), inclined to act ('interessement'), finding ways to act ('enrolment') and deciding to act ('mobilisation'). They employed a variety of communication strategies and spaces. To some extent,

the ENGOs had a topical division of labour in the sense that they did not pursue the same issues. However, their translation strategies were fairly similar.

Did the ENGOs succeed with their translation strategies? Were they able to influence policy learning in the environmental area and thus impact reflexive governance? According to the findings of the three papers, the organisations in many cases seemed to be able to achieve problematisation, interessement and enrolment. Mobilisation, which is most important, is as previously noted more difficult to assess. The main difficulty is the lack of access to the final deliberations of policymakers, and we have to assume that the outcomes are the product of many actors and inputs. However, the interviewed politicians thought that the inputs from the ENGOs were important as part of what I consider as reflexive environmental governance.

What are ENGOs to reflexive governance?

Voß and Kemp (2006) emphasise that learning is an important feature of reflexive governance. This relationship between policy learning and reflexive governance, where policy learning is subordinate to the latter, masks a different relationship, in which policy learning makes reflexive governance possible. Understanding policy learning as 'reflexive learning' consequently involves seeing diverse actors as interlinked, communicating and interacting within a variety of governing activities — including translation efforts and the making of factishes.

While 'reflexive governance' was developed as a concept to describe the learning of governing institutions, I see it as fruitful to apply the perspective also to the learning processes of related actors and organisations, in my case ENGOs. This is because I assume that there are loops of reflexive learning between ENGOs and policymakers. If ENGOs learn reflexively, that strengthens the reflexivity of policy learning and facilitates reflexive governance.

In chapter two of the thesis, I discussed how ENGOs learn to be able to influence policymakers. I showed how one aspect of this was that the ENGOs gather information and knowledge from a wide variety of sources, actors and institutions. As the ENGO actors appeared quite apt at enrolling partners, acquiring relevant knowledge merely seemed to be a question of assembling the right knowledge sources. I also showed how the knowledge sources of the organisations were connected in an intertwined network of actors that offered multiple ways of appropriating insights. The learning activities of the ENGOs consequently seem to fit well with the concept of reflexive learning, where multiple actors participate in influencing a governing process.

The ENGOs moved within a community of knowledge-providing actors where the organisations listened to various partners, engaged in co-operations and reflected on their own and others' experiences. While the learning of the ENGOs consequently could be described as reflexive, it had a different character than that of policymakers. While the organisations did exist in a web of knowledge providers, when it came to the question of accepting and applying knowledge from others, they basically did not have to relate to other actors unless they wanted to. The ENGOs consequently 'learned reflexively' at their own choice.

Although the ENGOs every now and then experienced having people or companies approaching them, trying to make the organisations work with appointed cases, this was something they experienced to a much lesser degree than the policymakers did. There was, thus, a much lesser 'knowledge push' coming from outside the organisations aiming to make the ENGOs act in certain ways. The reflexive learning of the ENGOs, consequently was defined by the knowledge demands of the ENGOs, and by whom they approached when assembling knowledge. This was different for the policymakers, who to some extent had a responsibility to meet with a variety of lobbyists and needed to relate to the material they receive as part of formal case procedures.

Nevertheless, as much as the ENGOs have interests and values and define priorities as they engage with their various knowledge providers, the knowledge base they end up with through their rhizomic learning had a comprehensive foundation. The tasks they faced could be quite complex. Consequently, to be able to manage the challenges, the knowledge of many actors had to be channelled through the organisations. Reflexive governance, as influenced by ENGOs, in practice consequently means 'as influenced by a whole lot of diverse kinds of actors'. Drawing on the environmental knowledge assemblage that the ENGOs developed, combined with their value-based environmentalism, the organisations produce factishes that they offer to policymakers.

In chapter three, I discussed how the ENGOs employed their skills at utilising multiple communication spaces when communicating with policymakers. Among others, I showed that for instance a mountain hike could function just as well as framework for mediating factishes as a formal meeting. The various spaces were configured in separate ways and together with the ENGO actors and policymakers, other actors populated the different spaces, giving each space its own character. Such additional characters, for instance, could be municipality employees but also news reporters. The diverse actors present in these various spaces were joined together while they communicated, interacted and carried out governing activities. In this sense, they substantiated reflexive learning.

The communication spaces described in chapter three could be regarded as arenas where the policymakers experienced reflexive policy learning. It could be regarded as the ‘agora’ of reflexive learning, where factishes were communicated, reassembled and transferred in ‘real life’. It was where policymakers met with ENGOs, industry, tourism and nature and interacted reflexively in physical surroundings in such a way that it affected and influenced their opinions and decisions. To some extent, at least, they appropriated the factishes of the ENGOs. Do such observations make it

reasonable to assume that the organisations were important parts of the machinery of reflexive governance dealing with environmental policy?

In the fourth chapter, the main topic is how different epistemic cultures among policymakers influence the policymakers' learning from ENGOs. Here, we saw that ENGO actors in general received a lot of goodwill and leeway from most of the policymakers, especially the MPs. Almost without exception, both MPs and civil servants expressed a positive attitude towards the ENGOs and their employees. The main difference was the extent to which they acknowledged that they were influenced by the ENGOs, and what shape this influence might take. As the paper shows, there was a clear difference between MPs and civil servants regarding their expressed openness towards the ENGOs. Among the MPs, there were no representatives who reported negative relations with ENGO actors. On the contrary, most of them found it important and desirable to maintain a good relationship with these organisations and were quite outspoken about their close relationships with ENGO actors. This was apparently positive in every sense.

The unanimity was not as evident when it came to what, in fact, came out of this positive relationship; to many policymakers it was easier to be explicit about what the ENGOs did not bring in than it was to explain in what ways the organisations in fact did have an influence. As an example, MPs in position and MPs from larger parties generally expressed that the influence from the ENGOs did not relate to concrete 'facts' or knowledge.

When inquiring further about how input from ENGOs might be of use, the representatives from larger parties suggested that the ENGO actors were good at calling attention to important issues, and that they functioned well as sparring partners on environmental topics. The MPs from smaller parties were unanimous and quite outspoken that the ENGOs were vital, both as knowledge providers and as partners in developing strategies for environmental policymaking. Sometimes, this resulted in texts written by ENGO actors being 'cut and pasted' into government documents and ending

up in white papers. Seemingly, thus, to the MPs, the ENGO actors were among those that could provide them with input in a process of reflexive governance, particularly because they provided environmentalist perspectives that to some extent also were supported by the public. As the discussion of the ENGOs' translation activities showed, the ENGOs enjoyed the confidence of the policymakers, especially MPs, who apparently were unafraid of turning to the ENGOs for knowledge, or, rather, for factishes.

Almost without exception, the civil servants stressed that they never breached their occupational duty to treat all kinds of advocacy groups in an equal manner and that they always adhered to the rules of public proceedings protocols. This seemed to be more important to convey than it was to communicate the character of their relationship with the ENGOs. Still, while there was agreement within the group regarding their initially expressed hesitancy towards being in touch with ENGO actors – especially being influenced by them – there were nuances to the picture. There was a relatively clear divide between those civil servants working at a higher and at a lower administrative level. Employees of subordinate agencies admitted to adding 'scientific' material from the organisations quite directly into reports. Within ministries, however, certain interviewees described talking to ENGO actors 'every now and then over a coffee' but added that it was 'not really gladly'.

Some of the civil servants expressed that the ENGOs, by having great human resources and being free to choose what to work with and when to do so, had, in general, much better and more detailed knowledge than the government administration itself. Others argued that the organisations' solid resources made it possible for them to stay ahead of things and maintain the overall bigger-picture perspective on environmental knowledge. Nevertheless, most civil servants, at least initially, described that they preferred to avoid having contact with the ENGO actors beyond the necessary statutory requirements

when handling public proceedings and, on the whole, they expressed that they were hardly influenced by them at all.

To the extent that the civil servants expressed receiving ‘factual’ input from the environmental organisations, they alleged that the information provided was not new to them. Moreover, the ENGOs’ input was described to be of a value-laden kind, chiefly representing the ‘opinion of the silent citizen’. For several civil servants, the ENGOs’ participation in policymaking was described as merely ‘creating balance in the discussion’ of the topic concerned. Often, those who described the ENGOs’ input mainly to be about values and opinions concurrently expressed that the ENGOs’ messages did not really change from one case to the other – most of the time their input and ideas were ‘same old same old’.

As much as the civil servants were reluctant to admit that they were actually influenced by the ENGOs, they did, as said, praise their skills, and although they principally expressed preferring to keep a certain distance from the ENGO actors, they did also express that they valued their input. This set of information, when combined, creates a somewhat intricate description of the situation, without clarifying to any great extent what the civil servants actually got out of their relations with the ENGO actors. Even ‘pushing’ the interviewees somewhat, the majority were unable to concretise what the ENGOs meant to them. Those who did, expressed that it was all about creating some sort of ‘backdrop’ against which they made their decisions.

Nevertheless, considering what was expressed about the compliance the policymakers exhibited in their willingness to meet with organisational actors, it seems reasonable to suggest that some kind of influence from the ENGOs also affected civil servants. All the policymakers admitted meeting with ENGO actors at times. Although they were not, in retrospect, able to pinpoint where influence concretely happened, it seems reasonable to assume that the ENGOs by communicating environmental factishes were important to the conduct of reflexive governance in the environmental area.

Juxtaposing the three papers when discussing reflexive governance gives a more complete overview of what kind of input the policymakers in fact receive from the ENGOs – what contributions the organisations represent. Through the thesis we have seen that the influential work the organisations carry out can be analysed as consisting of three interlinked processes, each of which entails its own complex structure:

- Rhizomic learning;
- 'Factish translation' within multiple communication spaces;
- Employing interactional expertise within the political system.

The last element of the ENGOs' work to influence policymakers that is addressed in this thesis is their use of interactional expertise within the political system to always be attuned to the policymakers' possible requests for input and to always be present when the system and its policymakers allow for their influence. The careful timing of the ENGOs in this connection likely increased the organisations' chances of influencing and enhancing the reflexivity of the policy learning of the policymakers. This is in accordance with the views expressed by the interviewees from all groups

Conclusion: ENGOs and environmental policy learning

The ambition of this study was to get a better understanding of how ENGOs work to influence environmental policymaking by presenting knowledge to policymakers. I have investigated the issue from the perspectives of both policymakers and ENGO actors. Central questions have been which type and form of knowledge moves between the involved actors, in which spaces the knowledge mediation takes place and how the policymakers meet the ENGO actors. I have examined how the ENGOs work when they translate interests and knowledge to policymakers and what gives the ENGOs the position they hold among policymakers.

As Yearley (2018) claims, ENGOs – more than other actors – depend on their claims to be scientifically founded, as the purpose of their existence is to resolve crises described by scientists. Consequently, they need to be continuously updated on what 'state-of-the-art knowledge' on environmental issues is, not to lose their base of existence. According to Yearley, a consequence of this situation is that the ENGOs become important knowledge vendors on environmental science. The findings of this study have strengthened this claim.

The study has shown that the ENGOs seem to hold skills that place them in an advantageous position to provide input to environmental policy learning among policymakers. This is due to their proficiencies with respect to three areas of expertise relating to knowledge acquisition, precise relevance of actions and trust building. Through intertwining skills within these fields, the ENGOs seemed to be able to make themselves visible, interesting and useful to the policymakers they try to influence.

Firstly, the ENGO actors have considerable skills with respect to acquiring the appropriate kind of knowledge from a wide set of sources. Most of the ENGO employees hold MSc or PhD degrees themselves, and within each organisation fundamental knowledge on a wide spectre of disciplines

generally is covered. Nevertheless, they depend on continuously updating this base of knowledge as policy issues grow increasingly complex. Accordingly, even more important than background education becomes the ability of the organisations to acquire new and updated knowledge.

The expertise of the ENGOs at finding the right places, sources, people and methods for obtaining the relevant knowledge was important. When seeking knowledge, the ENGO actors did not just use any topical book, article or paper, aiming to update themselves. Topics of special personal or organisational interest might to a limited extent allow for such knowledge acquisition, but usually the deciding factor was the environmental policy issues that played a dominant role at that moment.

By always keeping themselves informed on which environmental issues and cases the government focused, the ENGOs were able to seek out spaces that might allow for external influence on the policymaking process. A crucial element in the work of the ENGOs at this point was that they were able to develop knowledge and factishes that fitted into the policymakers' demands and needs for input. This was where the ENGO actors needed to utilise their skills at seeking out reliable sources of relevant information, When seeking knowledge, the ENGOs did not stick to regular knowledge vendors; rather, they moved around between a multitude of actors that held various kinds of knowledge. Here, they acquired the pieces of information and knowledge that they needed to be able to mould factishes to pass on to the policymakers.

The knowledge suppliers of the ENGOs might be industry, academia or subordinate government agencies. The close connections to the latter, also alongside ministries or central politicians, were an essential element in the ENGOs' knowledge acquisition process that seemed to set them apart from other advocacy organisations and place them in a favourable position for influencing policy. Their access to and use of information and knowledge also from within the policy system itself provided them with expertise about what

was going on in the political landscape. Even more importantly, this provided them with thorough insights on how the policy system works, down to details.

What makes the ENGO actors able to identify or certify what is valid information and what is not might rest in their background education, in sustained experience or maybe a combination of the two. This was difficult to assess. However, when they acquired the knowledge they needed in their work, regardless from what source, they seemed to do so in a convincing and professional way. When they issued statements or wrote reports, policymakers acknowledged that this was done on the basis of professional knowledge.

The second area of expertise that sets the ENGOs apart from other advocacy organisations concerns the precise relevance of their actions. This was often mentioned by many in the policy system. Both MPs and civil servants repeatedly stressed that the ENGO actors to a remarkable extent knew exactly when to come with the information or the factishes that the policymakers might need. They knew the various deadlines inside the system; hence they were not only able to deliver suitable factishes, but they were also able to find the right people to talk to and deliver the input at the right time.

Obviously, it is essential neither to be too early nor too late when aiming to gain influence. Hence, the timeliness of the ENGOs' activities was clearly a proficiency that positioned them well. It gave them opportunities to deliver their input, suggestions and propositions at points in time when it might make a difference. It also gave them positive attention and underlined their professionality. Both are elements that helped making them heard.

The timeliness of the ENGOs' communication with policymakers relates closely to their skills at choosing communication spaces. Taking a group of party members on a mountain hike a couple of months before their party programme is to be set may be more efficient that sending an email with information at the same time. Talking to an irresolute politician over coffee the

day before she has to make up her mind might influence her conclusion. On the other hand, meeting with a civil servant the day before an official report is going to be presented is unlikely to influence the reports' content. Clearly, always knowing when ‘a couple of weeks before a party programme is to be decided’ or when the politicians make up their minds is not straightforward. Adding the need to know where to be, whom to talk to and in what way at these specific points in time, makes the task quite complex. This is important to the ENGOs’ ability to engage effectively with policymakers.

Thirdly, the competencies of the ENGOs at acquiring knowledge and acting with precision in the policy landscape result in – but partly also result from – strong trust relations with the policymakers. The interviewees from the ENGOs told that they built such trust relations through communicating with policymakers through many different communication spaces. ENGO actors go to places where the policymakers go, they join the same conferences and workshops and they invite the policymakers to such events themselves. In that way they get the possibility to do small talk with policymakers during coffee breaks, they get the chance to mediate factishes, and they get the opportunity to present themselves as professional actors worthwhile listening to.

An element in the trust building process between the ENGOs and the policymakers is the two-sidedness of the knowledge stream between them. The precision of the ENGOs as knowledge vendors would not be possible without a certain amount of knowledge also moving from the policymakers to the ENGOs. Getting to know when a party group is going to decide for something is not necessarily official information, but by knowing people from inside the policy system who trust them, the ENGO actors were able to obtain the information they needed. Such information allowed them in the next instance to act with precision when presenting relevant environmental factishes.

ENGO actors generally expressed that they were met with trust when approaching policymakers. Conversely, both politicians and civil servants expressed that they generally trusted the ENGOs both for their knowledgeability and their timeliness, but also because they appreciated their decent behaviour. Without validation or verification, it might seem like blind trust from the policymakers, but although rarely mentioned, time and experience undoubtedly are important. Having shown to act professionally makes organisations trustable.

The ENGO actors observed that trust relations made it possible for them to get close to the policymakers, to be able to meet with them or even go for a coffee. When politicians and civil servants are invited to a workshop on a ship, this does not only create an opportunity for observing windmills and discussing policy issues. It creates an intimate framework, inviting to build close relations based on common experiences. The setting might also result in a certain interdependency between the policymakers and the ENGO actors. While the ENGOs utilise the situation to present factishes in scenic surroundings that might make memorable impressions, the politicians might exploit the circumstances to get their faces in the newspapers as somebody who cares about the environment.

To summarise, the ENGOs' expertise with respect to the fields of knowledge acquisition, at being precise in the timing and the relevance of their actions and at building trust were important for their ability to engage with environmental policy learning. Of course, these forms of expertise are interdependent. Ultimately, they seemed to create a knowledge loop that put the ENGOs in an advantageous position for influencing policymaking, even if the actual effects often were difficult to establish. Evidently, environmental policy is decided from many sources and inputs.

Observing how the 'factish transport' is a looping process that moves through society makes it interesting to return to Jomisko and his version of the bicameral model. Originally, Latour's bicameral model was introduced to

describe how science can be democratised by ‘moving through society’. In other words, it is a model where researchers are the driving actors: they ask the questions and they consult the relevant public entities. In Jomisko’s model the roles have shifted; here, the policymakers are the driving actors that do the pondering and ask the questions – the consulting is directed towards science. With his version of the model, Jomisko developed a description for analysing how science-based knowledge is used in policy learning and, as with Latour’s science-developing process, the policy learning process evolves as it moves through society.

While Jomisko describes policy learning as a result of policymakers having ‘consulted science’ – a natural choice when aiming for policy learning – this study has shown that while the policymakers consult science to find answers to their ‘science-related’ questions, the process is strongly influenced by an ‘outsider’ of science – the ENGOs. The organisations do not represent science, as such, but mediate their ‘own kind of knowledge’ as they stay in close dialogue with the policymakers, providing them with information. They are also consulted as relevant knowledge providers. The ENGOs cannot replace science in Jomisko’s model; the information they mediate is not primarily science based. However, they do take on roles as driving actors for the knowledge transfer through society. For this reason, it becomes interesting to place them somewhere in Jomisko’s model.

Jomisko’s model covers the entire process from when a policy-question is asked until a potential solution is implemented or possibly dismissed. In Jomisko’s view, a policy learning process starts with pondering from the politicians’ side, involving their questioning of how political problems can be solved. It then evolves in a stepwise progression, moving through four ‘chambers’ within society, from policy/society to science and back again, thereby resulting in the policymakers either accepting or rejecting the options deriving from the scientific investigations.

In this study, we have seen that the ENGOs are present in the complete 'ecology' of factish translation through society. Consequently, thinking along the lines of Jomisko's model when studying the organisations – seeing policy learning as happening in a process that is moving through society – clearly can be fruitful. Applying such a perspective, the ENGOs carry out translation activities in all four chambers, both within the realm of society/policy and in science. While the extent of their input does vary, they do clearly provide input to the policy learning process at every stage. While the organisations are partly invited into the chambers by the policymakers, they sometimes also more or less force themselves in; this might vary from chamber to chamber and also from case to case. Nevertheless, as this study has shown, there is little doubt that the ENGOs wish to take part, nor that they are, in fact, actors with influence on policy learning on environmental issues. Using Jomisko's bicameral model as a framework, I will sum up this thesis by discussing how the ENGOs participate in the policy learning process on all levels, thereby becoming important actors, affecting reflexive governance on environmental policy issues. Whereas Jomisko's model is developed to describe the policy learning process from the side of the learning actors – the policymakers—here, it is used as a framework for describing the process from the side of the ENGOs. It is, so to speak, the 'outsider perspective', or the perspective of the 'educators' of the policymakers – those trying to influence them.

The first chamber of *perplexity* is, according to Jomisko, ruled by the questions, ponderings, considerations and 'taking into account' of the government administration, politicians and civil servants that initiate the policy learning process. The policymakers do not, however, act within a vacuum; there will always be actors trying to influence the policymakers, and hence the ponderings will always be founded on a kind of reflexive governance. As this study has shown, the ENGOs, at this point of the policy learning process, seem to readily interfere on their own initiative by, for example, arranging meetings with ministries, cooperating with MPs developing interpellations to the parliament, and developing reports that they present to policymakers

(possibly via media). They get involved in a proactive process of translating interests in order to have the politicians 'realise' what the important questions are. The organisations show great skills at entering actively into translation processes whenever the timing is right for an issue or problem to be raised, and consequently the questions and quandaries of the ENGOs are regularly put on the agenda.

In the second house of policy learning, *consultation*, the ENGOs intervene quite actively in the learning process of the policymakers. Following Jomisko's model, this is a stage in which the policymakers consult science. Whereas the environmental organisations do not traditionally represent such actors, they do clearly take on roles at least as knowledge providers towards the policymakers. They can – and do – provide the policymakers with knowledge acquired through rhizomic learning. On the whole, the policymakers seem to regard the ENGO actors as highly proficient knowledge vendors on environmental topics, and although they rarely approach them directly with inquiries for information when not decreed by law in connection with some public procedure, they do maintain close relationships with the ENGO representatives and do, typically, accept the ENGOs' requests for meetings. The result is that the meetings between the ENGOs and the policymakers take place frequently and, due to the expertise of the ENGOs, successful translation work happens. They make the policymakers trust in their 'facts' or, rather, 'factishes'.

The basis of the ENGOs' convincing functioning towards policymakers is partly down to the education level of their actors/employees, holding degrees equivalent to master's or PhDs within, for example, social science, economics, political science or natural science. Furthermore, the organisational actors keep steadily developing new expertise on environmental issues through rhizomic learning – appropriating a compound set of knowledge through communicating with a variety of actors from different backgrounds. By relating to this complex community of actors, each

providing various types of information, the ENGOs develop a comprehensive portfolio of insights. Originally consisting of anything from simple, 'disconnected facts' to complex scientific reports, the organisational actors process the material they appropriate and intersperse it with their own values and interests, thereby producing amalgams of facts and values, i.e. factishes, that can be used as a foundation for policymaking. The task of making knowledge interesting to policymakers in this way is a challenge that demands skills in seeking out the right kind of information and at making it appear relevant and enticing to the policymakers. Nevertheless, this is one of the expert proficiencies that the ENGOs hold. Moreover, since they also mediate the factishes at the right time, adapted to the problem context, they succeed in enrolling the policymakers to accept their input in the second chamber of 'science consultation'.

The third house in Jomisko's model, *hierarchy*, is where the alternative solutions presented in house two should be ordered into a prioritised list of which solutions to pursue. When studying ENGOs as they try to influence policymakers, it is, however, not easy to separate the second and third house; to see where the one ends and the other begins. The ENGOs carry out translation work in the second house by trying to convince, persuade and tempt the policymakers to believe in their 'knowledge packages' – their factishes – and, depending on how they perform this work, they often also disclose what issues should be prioritised and what the ranking of priorities should look like in the third house.

In the *institution* house, the fourth house of the bicameral model, policy decisions are made (or not), and even here, the ENGOs carry out translation work and sometimes get what they want. Through applying a combination of multi-actional and interactional expertise – that is, by knowing exactly whom to talk to (send their texts to), about what, and at what moment – the organisations sometimes succeed in enrolling the policymakers here, too. By employing their factishes and their cleverness at persuading and inducing, the

ENGO actors might, in some instances, succeed in convincing the policymakers to take on their interests and make use of their propositions. Consequently, decisions might be made, or actions carried out, following the programs of the ENGOs.

According to Jomisko, a policy learning process is triggered by questions and ponderings of government employees and politicians. As this occurs, a sequence of processes follows: first a ‘consultancy of science’; then a ‘hierarchisation’ of the outcome from the science consultancy; and finally, possibly, an ‘implementation’ of some policy. There is clearly a linearity to the model. This way of analysing the policy learning process, however, is not compatible with the behaviour of ENGO actors as influencers, since they do not appear to follow a single line of action but rather seem to move in any convenient direction, appearing more or less ‘all over’, performing translation work in every part of the policy learning process. They are eager to set the political agenda and they want to oversee the process of prioritising policy measures and means; they are keen to provide scientific knowledge and expert advice and they seek to decide which policy instruments should eventually be implemented. The ENGOs clearly know how to successfully handle translation in all of Jomisko’s policy learning chambers. They often even operate in several of them simultaneously.

The ENGO actors’ skills at processing the information and knowledge they appropriated through rhizomic learning and combining them with their own values and interests, hence creating factishes, was clearly something the policymakers appreciated. The factishes served the ENGOs well, as the organisations attempt to enrol the policymakers to take on their interests and values. While a few of the policymakers expressed dissatisfaction with the ENGOs’ medley of ‘facts’ and emotions, the majority seemed unconcerned or even pleased that the input of the ENGOs had a certain ‘direction’ and commitment to it. Seemingly, ‘matters of concern’ were more important than ‘matters of fact’

In general, the ENGOs had limited resources. However, this did not appear to confine their radius of action or their ability to operate in many places simultaneously; their capacity to enrol the policymakers anywhere in the policy learning process was clearly present at any time. A pivotal reason for this can be found in the multi-actional expertise the ENGO actors appeared to hold. They behaved strategically, apparently always knowing where, when, what and how they should manoeuvre – in Jomisko's bicameral model, the policymaking landscape – to have things their way.

Having ENGOs at their service, MPs do not have to be experts. They merely need to hire their own experts on environmental issues. Being talented at persuading and inducing policymakers into buying their 'stories', the ENGO actors lend the policymakers their translation expertise, and they become important contributors to reflexive governance on environmental issues.

It is important to understand what positions and roles the ENGOs have, as they are actors with potentially significant clout and influential power. This is particularly important considering that one of the topics they inevitably have to relate to is climate issues – probably *the* most important policy topic of our times. As such, understanding the mechanisms of the interplay between ENGOs and policymakers becomes urgent.

However, ENGOs are not miracle workers. They put a lot of effort into influencing policymaking and other decision-making processes in society. They have learned 'the rules of the game' within the policymaking system, and they have learned to utilise every possible communication space to gain clout among the policymakers. Still, at the end of the day, what have they in fact achieved? Despite their comprehensive efforts, Norwegian greenhouse emissions are still high and are growing and climate change is still critical and exacerbating.

Another question is whether the organisations are still able to remain 'outsiders' of the system when they have learned to 'move within the system'

so smoothly. Is it possible for them to remain outsiders to the extent that being an ENGO remains distinct from being a subordinate government agency? Have the organisations become *too* integrated with the political system? Have they become co-opted – against their will or without being aware of it? Professionalism clearly has become a dominant feature of the way in which ENGOs work. Can it potentially be combined with activism – to take a critical approach while also working with the system? Are the organisations no longer public-rooted and have they forgotten their grassroots? Does it matter? It has not been my intention to evaluate all these questions here. However, any newspaper reader can see that there are conflicting opinions and interests as to what is – and should be – the way forward for these organisations. There are no easy answers, but my analysis in this thesis will hopefully contribute to reflecting on these questions.

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[12] The contents of the webpage with this URL-address has changed after it was first quoted.

Appendices

Appendix A

The eight organisations featured in the study

The Norwegian Tracking Association

In 2018, DNT celebrated its 150th anniversary and a year earlier their number of members passed 300,000. DNT is the oldest organisation in Norway concerned with environmental protection issues. While at the time of establishment its purpose was only to 'facilitate and help develop tourism in the country' (DNT, n.d., '150 År med turglede'), today the purpose is adjusted into also including the preservation of natural and cultural values (DNT, n.d., Om DNT). The association defines its social responsibility to include the prevention of wind power, hydropower and power line development (DNT, n.d., 'Naturforvaltning').

Although conservation has clearly become an important part of DNT's work, the flagship initiative is still to encourage outdoor activities and nature experiences. Nevertheless, the association has been responsible for demonstrations against nature interference of various kinds and participates in the community debate on nature conservation through media and appeals. Moreover, responding to hearings in various contexts has been part of their nature conservation work, and being a democratic, member-based organisation with over 300,000 members, one might think they should have some political clout. Former Secretary General Kristin Krohn Devold was, during her period (until 2014), quite confident when describing the abilities of the organisation: 'We know which wind power projects and small-scale projects cannot be defended because they destroy unique recreational and landscape values [...] we have the best knowledge about where to stop' (DNT, n.d., 'Venstres miljøpris til turistforeningen').

The Norwegian Society for the Conservation of Nature

Celebrating their 100th anniversary in 2014, The Norwegian Society for the Conservation of Nature (NNV), according to themselves, is the oldest environmental organisation in Norway (NNV, n.d., 'About Norges Naturvernforbund'). It is an understandable argument considering that they, unlike DNT, have never had any other agenda than environmental protection. The nature conservation association is member-based, and originally had as its goal to 'wake and maintain the sense and interest of our people in protecting the nature of the country' (NNV, n.d., 'Naturvernforbundets historie').

For quite some time NNV only worked with so-called 'classic nature conservation', that is, work primarily aimed at conservation and/or protection of areas and species. However, towards the 1960s and 1970s, their field of interest expanded and simultaneously, the organisation developed a more critical attitude towards the authorities' efforts for the environment. In 2018, their number of members passed 24,000, with more than 100 local groups which, according to the webpages, work on 'a wide range of environmental and environmental issues, but especially with the areas of conservation, climate, energy and transport' (NNV, n.d., 'Om Naturvernforbundet').

The authorities, locally as well as nationally, have become important dialogue partners for the association, and collaborating with authorities is now a central method for the association. If we are to believe their own words, they also succeed in their work, as they express that 'the organisation has helped fighting through many of the laws that today are essential for the protection of nature' (NNV, n.d., 'Naturvernforbundets historie'). Like DNT, NNV has a democratic structure.

The Environment Foundation Bellona

The third key player within the Norwegian environmental movement that was included in the study was Bellona. This organisation has been a central actor in Norwegian environmentalism throughout recent decades but, unlike NNV and DNT, Bellona is neither a member organisation nor is it democratic. Since its formation in 1986 and for a couple of decades the foundation more resembled an actionist group led by highly profiled Frederic Hauge, one of the founders of the organisation and leader of the organisation today.

While there used to be many volunteers involved in their activities, today their approximately 30 employees handle most of the work. One of the reasons that the foundation was originally formed was 'a need to be more flexible and effective than large parts of the established environmental movement' (Bellona, n.d., 'Bellonahistorien i korte trek'). Today, Bellona describes itself as 'an international environmental organisation based on science and technology' and, like NNV, Bellona's founder Frederic Hauge (Hauge, 2011) also expresses faith in Bellona's position and influence. According to him, the organisations 'most important weapon in today's environmental battle' is fact-based knowledge. He claims that the organisation controls vast amounts of expertise, and that it influences both political processes, trade and capital markets. Put in the words of Bellona:

> Our area of expertise is broad, and […] we have established a unique network both nationally and internationally. Our work has gained international attention within several disciplines, and Bellona`s advisers are frequently sources and experts on climate change issues both in national and international press (Bellona, n.d., 'About Bellona').

Zero Emission Resource Organisation

Interdisciplinary expertise and knowledge of technological solutions have also been basic elements for the Zero Emission Resource Organisation (ZERO). ZERO defines itself as an independent, ideal environmental foundation (ZERO, c2016, 'Om Zero'); it is small, national, non-member-based and non-democratic and, as the name suggests, it works to find emission-free solutions for energy use (ibid.). In 2013, as this project started, the purpose of the foundation, according to their webpages, was 'to limit the man-made climate changes and [...] to meet the world's growing energy demand without damaging the environment' (ZERO, 2013). At some point, however, the 'without damaging the environment' part disappeared, and the organisation started working 'uncompromisingly with realising good climate solutions' (ZERO, c2016, 'Om Zero'). Having existed for 17 years, the foundation is the youngest ENGO in Norway, still, they claim to hold solid competence and experience on climate issues, both in technological and political aspects. This they allegedly accomplish through their 30 employees with backgrounds from several disciplines, bringing together experience from business, politics and media (ZERO, c2016, 'Ansatte'). The organisation's approach to the climate issue is according to themselves 'knowledge-based and analytical' and the organisation understands 'how climate measures are interconnected and what it takes to create a zero-emission society' (ZERO, n.d., 'Om Zero').

On their just refurbished website, ZERO emphasises that the work the organisation does is based on cooperation within a network of actors. The solutions they develop are results from this cooperation, and they are both used as bases for political decisions and policy instruments and as bases for concrete investments in business (ZERO, n.d., 'Vår metode').

ZERO to a little extent describe whether they experience reaching through to the decisionmakers they try to influence with their ideas and propositions. Their experience of being involved was, in 2013 however, great.

> ZERO [...] is respected for our knowledge of technological opportunities and our ability and willingness to find constructive solutions. Therefore, we are a voice that is often advised when political decisions are taken' (ZERO, 2013).

Their belief in own abilities was also in 2016 considerable:

> We know policy better than business and trade, and we know technology and markets better than politicians and management. Our strength is insight into how climate measures are interrelated at a systems level, and into what is needed to create the zero-emission society. Through knowledge sharing and dialogue with different parties we increase the scope of action and gain thrust (ZERO, c2016, 'Om Zero').

Although they are neither explicit about whether they experience being respected nor what they accomplish, at their website today, ZERO describes their contact with the political system as close (ZERO, n.d., 'Vår metode').

World Wide Fund for Nature

The fifth organisation, and initially the last that was included in the study, is the international organisation World Wide Fund for Nature (WWF). The Norwegian branch of WWF was founded in 1970 and has, over the years, expanded in size as well as in focus. In Norway, the group is approaching 20,000 supporters and members (WWF, n.d., 'Om WWF'). It is, however, not a democratic organisation, but it has approximately 40 employees (WWF, n.d., 'Hvem er vi?'). The organisation describes itself as a 'knowledge-based nature and environmental protection organisation' whose goal is to create 'a future where people live in harmony with nature'.

To reach the goal, they work 'behind desks, in laboratories, in the corridors of power and at international negotiating tables' (WWF, n.d., 'Om WWF'). Cooperation with industry is also central to WWF, and in order to make companies more environmentally friendly, they claimed in 2013 to offer 'expertise in environmental protection, environmental challenges and environmental policy' (WWF, n.d., 'Samarbeidspartnere'). As a result, they believed themselves able to 'convey new knowledge, support innovation, and influence decision makers' (WWF, n.d., 'Bedriftssamarbeid'). Like the other environmental organisations, WWF was, according to their claims, also being listened to by decision makers. They described themselves as premier supplier to national environmental policy that can 'contribute inputs, knowledge, and suggestions for solutions' (WWF, n.d., 'Samarbeidspartnere').

When describing business cooperation in 2018, the focus on knowledge delivery is toned down, while the focus on dialogue and saving the environment is ramped up. It is emphasised that 'business companies are often part of the problem'; however, 'they are also an important part of the solution'. Furthermore, 'open dialogue and constructive cooperation will provide opportunities for innovative and future-oriented solutions to several of today's major environmental and climate challenges' (WWF, n.d., 'Næringslivssamarbeid').

Future In Our Hands

Future In Our Hands (FIOH), like NNV, boasts of being 'Norway's largest' on their homepage (FIOH, n.d., 'Hvem vi er'). However, by presenting themselves not only as an environmental organisation, but also as a 'solidarity organisation', they avoid fighting NNV about who is the biggest in the country and they specify more closely their area of focus. An essential part of FIOH's profile is that they oppose the principles of traditional consumerist society and the destruction of nature caused by material overconsumption and squandering. In their own words, they fight for 'global justice, ecological balance and a solution to global poverty issues, making it possible for all people on earth to live a dignified life'.

On their homepage, they also present a list of success stories, exhibiting their achievements in names and numbers. The organisation was founded at a mass meeting with 3,000 attendees in 1974 and today it is a democratic organisation with more than 28,000 members nationally, 26 local groups around the country, and approximately 30 paid employees (ibid.). In addition, they have their own research institute.[13] Although the organisation is a freestanding legal entity in Norway, FIOH is part of several joint operations. This includes 'Future In Our Hands International Network', a network that consists of 'FIOH groups, non- government organisations, and individuals from around the world having a similar approach to development and world problems' (FIOH Int. network, c2018). The network is, however, loosely tied, and the common principles and aims[14] that the members follow are merely general. This leaves the network members free to work on what they choose to, following to their own priorities, having no duty to report to the network.

[13] Information obtained during interview with employee in FIOH.

[14] A page with 13 principles and aims can be downloaded from their homepage www.fiohnetwork.org (FIOH, c2018).

Greenpeace

The seventh organisation that was included in the study, Greenpeace, is generally considered to be inventor of and model for activist movements. In 1971, they were merely a small group of Canadian activists trying to stop an atomic bomb test on the Alaskan coast with one boat. Over time they have grown massively and, according to their website, today they have 2.8 million members and offices in 40 countries all over the world (Greenpeace Norway, c2010a). They are an independent organisation who emphasise that they use non-violent and creative confrontations as they work to reveal global environmental problems and try to force the necessary solutions for a 'green and peaceful future' (Greenpeace Norway, 2013).

In Norway, an office was founded in 1988 but it never gained a foothold and the Norwegian branch was merged with the rest of the Nordic branches 10–11 years later (Strømsnes et al., 2009). Nevertheless, although not being a freestanding legal entity, the group still has an office in Norway with 12 employees (Greenpeace Nordic, 2017). As for volunteers, there were, according to their 2017 annual report, 19 devoted, active volunteers in total across the Nordic countries (calculated in full time, full year employees). On their website, they describe that they work with 600 volunteers in 18 local groups across the Nordic region and, considering that a protest march or an internet campaign would not normally last very long or take much time to organise, to be able to add up to 19 full time, full year positions, many of the 600 must in fact put quite some effort into organisational work. The volunteers are allegedly also an essential part of giving Greenpeace Nordic visibility as an active organisation. They do this by participating in information dissemination on the streets, at festivals and by attending demonstrations and actions. They can also contribute through helping with coordination, and, allegedly, in research too (Greenpeace Norway, c2010b). Whereas it is not possible to become a member of Greenpeace, one can become a personal 'donor', and in 2017 there were 16,349 such donors in Norway (Greenpeace Nordic, 2017).

Nature and Youth

The final organisation that was added to the selection of ENGOs was Nature and Youth (NU). NU is a democratic, member-based youth organisation, that aims to work for 'a visionary administration of, protection of, and more even distribution of the world's resources, through opinion-forming and activating work among youth' (NU, n.d., 'Plattform og vedtekter'). Their focus areas are mining, climate, transportation, agriculture, nature, fishing, energy, farming, oil and collaboration with Russian environmental groups. The organisation was established in 1967 (NU, n.d., 'Historie') and a year later, they joined NNV as their youth organisation. At that point, the organisation counted 300 members spread over 12 local groups. Today, depending on where you check, the organisation has got 'almost 8,000 members spread over more than 70 local groups' (NU, n.d., 'Om oss'), or 7,600 members spread over 80 local groups. (NU, n.d., 'Nature and Youth…'). By this, they constitute the largest environmental organisation for youth under 25 years of age in Norway.

Internationally, NU is also Norway's member of Young Friends of the Earth, although their work is primarily carried out nationally. Historically, NU has used various methods in their work, and although their campaigns are mostly peaceful, like participating in formal case procedures or holding polite markings, the volunteers of the organisations have, since 1984, on an irregular basis, also carried out civil disobedience actions (NU, n.d., 'Historie').

Appendix B

NOUs that have addressed climate, energy and environment from 2002 to 2013

Elucidations that led to 'Reports to the Storting' (Meld. St.) or have been used as a basis document for 'Propositions to the Storting' (Prop. St.) are in bold.

2002: 7. Gas technology, environment and value creation (Gas Technology Committee).

Meld. St. no. 9 (2002–2003). About inland usage of natural gas etc.

2004: 11. Hydrogen as the future energy carrier (Hydrogen Committee).

2005: 4. The industry towards 2020 – Knowledge in focus (Industry Committee)

2005: 5. Simple Signals in a Complex World. Proposal for a National Indicator Set for Sustainable Development (Indicator Committee).

2006: 18. A climate-friendly Norway (Low-emission Committee).

Meld. St. no. 26 (2006–2007). Environmental policy and the state of the environment of the realm.

Meld. St. no. 34 (2006–2007). Norwegian climate policy.

2009: 16. Global environmental challenges – Norwegian politics. How sustainable development and climate can be better taken care of in public decision-making.

2010: 9. A Norway without pollutants. How can pollutants that pose a threat to health or the environment be stopped (Environmental Toxin Committee).

Prop. St. 1 (2013–2014). Fiscal budget 2013.

2010: 10. Adaptation to a climate in change. The vulnerability of society and the need for adaptation to consequences of climate change (Flæte selection).

Meld. St. 33 (2012–2013). Climate adaptation in Norway.

2012: 9. The Energy Elucidation – Value Creation, Reliability of Supply and Environment (Energy Committee).

Prop. St. 1 (2012–2013). Fiscal budget 2014.

Meld. St. 21 (2011–2012). Norwegian climate policy.

2013: 10. Nature's benefits – the value of ecosystem services (ecosystem selection).

Appendix C

Web interview guide

1. What is the organisational structure like?
2. How (if applicable, by whom) are its tasks distributed?
3. Are the individuals associated with the organisation primarily idealists/researchers/others?
4. How do you engage/recruit new members/employees?

About the role of the organisation

1. Does the organisation have an ideology? A main goal?
2. What kind of issues do you focus on?
3. Are you most concerned with nature or environment (climate)?
4. Is your main focus local, national or international?
5. Has the focus changed (since the turn of the millennium)?
6. What are the toughest challenges you are working on?
7. Where do you go to get information and knowledge?
8. Is the organisation governed by science? (More than before?)
9. What kind of background knowledge is most represented in the organisation?
10. Does this steer your choice of causes to work with?
11. What kind of knowledge are you the best at? (E.g. science/law/experience.)

Appendix D

Example of semi-structured interview guide

Introduction

1. Age?
2. Education/work experience?
3. In what context did you become (actively) involved with environmental protection?
4. What tasks do you have in your organisation?

Main part

See the following page.

Rounding off

Is there anything you would like to add?

Collaboration/delivery

- Where is the part of the environmental battle that you are engaged in being fought?
- What initiates the work with a new matter?
- How is the process/progress planned?
- What methods do you use to influence? (Consultation statements?)
- How (where/when) does communication/dialogue/interaction happen?
- What place/function do you have in political decision-making?
    - Are you used as experts?
    - Do you fight for/with/against decision-making bodies?
    - Political parties/politicians?

Case

- Tell me about a big case you have worked with lately**.**
    - Which impact channels did you use?
    - Did you cooperate/coordinate your activities with others?

Impact/result

- Where/how are climate and environmental issues resolved?
    - What is the place of the environmental organisations here?
- How would you characterise the influential power of the organisation upwards?
    - Do you experience getting through to decision-making bodies (politicians/bureaucracy) with knowledge?
    - Do you experience having impact/influence?
    - In what way/how do you see results?
    - In some cases more than others?
    - Do different methods/channels result in different kinds of influence?
- Why are you (possibly) heard?