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Discourse Networks and Justifications of Climate Change Policy

News Media Debates in Canada, the United States,
Finland, France, Brazil and India

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ACADEMIC DISSERTATION

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ABSTRACT

This dissertation examines the role of discourse networks—defined as networks of policy actors who are related through shared political discourse—in climate change policy in Canada, the US, Finland, France, Brazil and India. The research material consists of statements from policy actors in over 2700 articles from 14 newspapers.

My approach is guided by recent developments in the study of public policy and climate change policy. First, public policy studies have increasingly stressed the role of political discourse in the policy process. These approaches emphasize how political problems such as climate change are socially constructed in a specific context, and how policy actors compete over the framing of policy problems in political arenas such as the media. Second, the importance of comparative approaches that increase understanding of how different contextual factors affect climate policymaking in different countries is emphasized in the study of climate change policy. This study examines the role of discourse networks, their variation and reasons for the variation in six countries: two high-income countries where greenhouse gas (GHG) emissions per capita are high, two European Union (EU) countries where GHG emissions per capita range from high to low, and two middle-income countries where GHG emissions per capita are low.

The dissertation contributes to the study of climate change policy by using the methodology of discourse network analysis and three culturally oriented theoretical approaches to policymaking. The methodology is useful, as it allows the examination of political discourse as a network. This enables analysis of the relational dimension of the policy debate which, in this case, includes competing coalitions, and central policy actors and discourses. The culturally oriented approaches are the Advocacy Coalition Framework (ACF), the world society theory and the justification theory. The ACF examines how policy actors divide into competing advocacy coalitions based on shared beliefs in limited policy subsystems. World society theory investigates how international organizations (IOs) and global norms influence national policymaking. Justification theory examines how policy actors use different moral justifications to justify their arguments in a specific political context.

Together these three theoretical approaches enable the analysis of discourse networks in ways that increase comparative knowledge on climate change policy. In Article I, we show how general beliefs concerning value priorities, the role of government and validity of climate science divide policy actors into three competing coalitions—the economy, environment and science

coalition—in the US climate policy debate. Specific beliefs concerning policy instruments such as cap and trade do not divide policy actors into coalitions.

Article II demonstrates how the role of IOs varies between high-income and middle-income countries. IOs have a stronger role in the policy debates in middle-income countries (Brazil and India) where GHG emissions per capita are low. In the high-income countries (Canada and the US) where GHG emissions per capita are high, IOs have a weaker role and the global norms face opposition from coalitions of national policy actors.

Article III examines the Arctic climate change policy debate in Finland and Canada which represent different institutional and political-economic contexts. In both countries, market and ecological justifications are common and often in conflict. In corporatist Finland, where the fossil fuel industry is not as influential, policy actors use ecological justifications and civic justifications that value international cooperation more. In pluralist Canada, where the fossil fuel industry is influential, policy actors use civic justifications that underline national sovereignty and industrial justifications that emphasize climate science more.

Article IV shows how the use of justifications varies across two different political cultures. Market justifications, that emphasize monetary value, are more common in the US climate change policy debate. Civic justifications, that underline the importance of state regulation and justice, are more prevalent in the French debate.

As a whole, this dissertation argues that discourse networks play an important role in national climate change policy. Future studies should further analyze what types of climate policy instruments can find support among competing coalitions in different national contexts. This would generate valuable theoretical and practical knowledge on climate change policy in 21st century capitalist societies.

TIIVISTELMÄ

Tämä väitöskirja tarkastelee diskurssiverkostojen roolia—määriteltynä poliittisten toimijoiden verkostoina, joissa poliittiset toimijat ovat yhteydessä jaettujen poliittisten diskurssien kautta—Kanadan, Yhdysvaltojen, Suomen, Ranskan, Brasilian ja Intian ilmastopolitiikassa. Tutkimusaineisto koostuu poliittisten toimijoiden lausunnoista yli 2700 artikkelista 14 sanomalehdessä.

Näkökulmaani ohjaavat viimeaikaiset kehityskulut politiikan ja ilmastopolitiikan tutkimuksessa. Ensiksi, politiikan tutkimuksessa on alettu lisääntyvästi korostaa poliittisen diskurssin roolia poliittisessä prosessissa. Nämä näkökulmat korostavat, että poliittiset ongelmat kuten ilmastonmuutos ovat sosiaalisesti rakentuneita tietyssä kontekstissa, ja miten poliittiset toimijat kilpailevat poliittisten ongelmien kehystämisestä poliittisilla areenoilla kuten mediassa. Toiseksi, ilmastopolitiikan tutkimuksessa on alettu korostaa vertailevia lähestymistapoja, jotka parantavat ymmärrystä eri kontekstuaalisten tekijöiden vaikutuksesta ilmastopolitiikkaan eri maissa. Tämä tutkimus tarkastelee diskurssiverkostojen roolia, niiden vaihtelua ja syitä vaihtelulle kuudessa maassa: kahdessa korkean tulotason maassa, joissa kasvihuonekaasupäästöt asukasta kohden ovat korkeat (Kanada ja Yhdysvallat); kahdessa Euroopan Unionin (EU) maassa, joissa kasvihuonekaasupäästöt asukasta kohden vaihtelevat korkeasta matalaan (Suomi ja Ranska); ja kahdessa keskitulotason maassa, joissa kasvihuonekaasupäästöt asukasta kohden ovat matalat (Brasilia ja Intia).

Tämä väitöskirja edistää ilmastopolitiikan tutkimusta käyttämällä diskurssiverkostoanalyysin menetelmää ja kolmea kulttuurisesti suuntautunutta teoreettista lähestymistapaa politiikantekoon. Menetelmä on hyödyllinen, koska sen avulla voi tarkastella poliittista diskurssia verkostona. Tämä mahdollistaa poliittisen keskustelun relationaalisen ulottuvuuden analyysin, joka, tässä tapauksessa, sisältää kilpailevat koalitiot, ja keskeiset poliittiset toimijat ja diskurssit. Kulttuurisesti suuntautuneet näkökulmat ovat the Advocacy Coalition Framework (ACF), maailmanyhteiskunnan teoria ja oikeuttamisteoria. ACF tutkii sitä, miten poliittiset toimijat jakaantuvat kilpaileviin koalitioihin yhteisten uskomusten perusteella rajatuissa politiikan alajärjestelmissä. Maailmanyhteiskunnan teoria tarkastelee sitä, miten kansainväliset organisaatiot ja globaalit normit vaikuttavat kansalliseen politiikkaan. Oikeuttamisteoria tutkii sitä, miten poliittiset toimijat käyttävät erilaisia moraalisia oikeuksia perustellessaan argumenttejaan tietyssä poliittisessä kontekstissa.

Yhdessä nämä kolme teoreettista lähestymistapaa mahdollistavat diskurssiverkostojen analyysin tavoilla, jotka lisäävät vertailevaa tietoa ilmastopolitiikasta. Artikkelissa I näytämme, miten yleiset uskomukset arvoprioriteeteista, valtion roolista ja ilmastotieteen oikeellisuudesta jakavat poliittiset toimijat kolmeen kilpailevaan koalitioon—talous-, ympäristö-, ja tiedekoalitioon—Yhdysvaltojen ilmastopoliittisessa keskustelussa. Spesifit uskomukset politiikan välineistä kuten päästökaupasta eivät jaa poliittisia toimijoita koalitiioihin.

Artikkeli II osoittaa, miten kansainvälisten organisaatioiden rooli vaihtelee korkean tulotason ja keskitulotason maissa. Keskitulotason maissa, joissa kasvihuonekaasupäästöt asukasta kohden ovat alhaiset, kansainvälisillä organisaatioilla on vahvempi rooli. Korkean tulotason maissa, joissa kasvihuonekaasupäästöt asukasta kohden ovat korkeat, kansainvälisillä organisaatioilla on heikompi rooli ja globaalit normit kohtaavat vastustusta kansallisista toimijoista koostuvista koalitioista.

Artikkeli III tarkastelee Arktista ilmastopolitiikkaa koskevaa keskustelua Suomessa ja Kanadassa, jotka edustavat eri institutionaalisia ja poliittis-taloudellisia konteksteja. Molemmissa maissa markkinaoikeutukset ja ekologiset oikeutukset ovat yleisiä ja usein ristiriidassa. Korporatistisessa Suomessa, jossa fossiiliteollisuus ei ole yhtä vaikutusvaltainen, poliittiset toimijat käyttävät ekologisia oikeutuksia ja kansainvälistä yhteistyötä arvostavia kansalaisuuden maailman oikeutuksia enemmän. Pluralistisessa Kanadassa, jossa fossiiliteollisuus on vaikutusvaltainen, poliittiset toimijat käyttävät kansallista suvereniteettia arvostavia kansalaisuuden maailman oikeutuksia ja ilmastotiedettä arvostavia teollisuuden maailman oikeutuksia enemmän.

Artikkeli IV näyttää, miten oikeutusten käyttö vaihtelee kahden eri poliittisen kulttuurin välillä. Markkinaoikeutukset, jotka korostavat rahallista arvoa, ovat yleisempiä Yhdysvaltojen ilmastopoliittisessa keskustelussa. Kansalaisuuden maailmaan pohjautuvat oikeutukset, jotka alleviivaavat valtion sääntelyn ja oikeudenmukaisuuden tärkeyttä, ovat vallitsevia Ranskan keskustelussa.

Kokonaisuudessaan tämä väitöskirja esittää, että diskurssiverkostoilla on tärkeä rooli kansallisessa ilmastopolitiikassa. Jatkotutkimuksissa tulisi analysoida sitä, millaiset ilmastopolitiikan välineet voivat saada kannatusta kilpailevien koalitioiden välillä eri kansallisissa konteksteissa. Tämä synnyttäisi arvokasta teoreettista ja käytännöllistä tietoa ilmastopolitiikasta 2000-luvun kapitalistisissa yhteiskunnissa.

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In Hermanni, Helsinki
November 2018

Anna Kukkonen

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LIST OF ORIGINAL PUBLICATIONS

This dissertation is based on the following publications:

- I Kukkonen, Anna., Ylä-Anttila, Tuomas, & Broadbent, Jeffrey (2017) Advocacy Coalitions, Beliefs and Climate Change Policy in the United States. *Public Administration* 95(3), 713–729.
- II Kukkonen Anna., Ylä-Anttila, Tuomas., Swarnakar, Pradip., Broadbent, Jeffrey., Lahsen, Myanna, & Stoddart, Mark C.J. (2018) International Organizations, Advocacy Coalitions, and Domestication of Global Norms: Debates on Climate Change in Canada, the US, Brazil and India. *Environmental Science and Policy* 81, 54–62.
- III Kukkonen, Anna., Stoddart, Mark C.J., & Ylä-Anttila, Tuomas (2018) The Power of Justifications: Actors and Orders of Worth in Media Debates on Arctic Climate Change in Finland and Canada. Unpublished manuscript, under Review in *Acta Sociologica*.
- IV Ylä-Anttila, Tuomas & Kukkonen, Anna (2014) How Arguments are Justified in the Media Debate on Climate Change in the USA and France. *International Journal of Innovation and Sustainable Development* 8(4), 394–408.

The publications are referred to in the text by their Roman numerals.

1 Introduction

While finalizing my doctoral dissertation, I was a visiting Fulbright scholar at the University of Colorado Boulder, Center for Science and Technology Policy Research. I participated in various talks and courses on US climate policymaking and discussed the topic with my American colleagues. These wide-ranging discussions demonstrated that the obstacles facing US climate policy making are deeply complex and structural. One particular factor that always came up during these interactions lead to the most ardent debates: the polarization of beliefs and values along liberal and conservative lines. The most crucial question seemed to be: how is political deliberation even possible when individuals have such fundamentally different values and when the best argument or scientific data do not suffice to convince other individuals to change their beliefs? Some of my US colleagues told me that they often resort to self-censorship, avoiding the term “climate change” outside of academia because it is a term that so strongly refers to liberal (leftist) ideology among Americans.

In the US, there is a highly organized and well-funded climate change countermovement consisting of conservative groups and fossil fuel industries that has contributed to this polarization. For many decades, this movement has argued in political arenas such as the news media that climate change policies will destroy the US economy and harm fundamental values such as the freedom of the individual and small government, and even that climate policies are based on politically motivated, false climate science (McCright & Dunlap 2000, 2003; Oreskes & Conway 2010; Pooley 2010; Farrell 2015, 2016). The US has not been able to implement federal climate policies and is currently probably more ideologically polarized than ever because of the climate change counter-movement, and also because of newly emerged conservative movements such as the Tea Party movement (Pooley 2010; Dunlap & McCright 2015; Mayer 2016; Skocpol & Hertel-Fernandez 2016).

This dissertation aims to advance comparative knowledge on climate change policy by examining the role of discourse networks —defined as networks of policy actors who are related through shared political discourse—in climate change policymaking in six countries: Canada, the US, Finland, France, Brazil and India. Among these countries, the US is undoubtedly an extreme example of polarization in the debate concerning climate change, but climate policies have faced different degrees of opposition in the other countries as well. The US and Canada represent high-income countries with high greenhouse gas (GHG) emissions per capita, where national climate policies

have faced fierce resistance especially from their extensive fossil fuel industries (MacDonald 2008; Oreskes & Conway 2010; Murphy & Murphy 2012). Finland and France represent high-income European Union (EU) - countries with high (Finland) and low (France) GHG emissions per capita. In Finland, heavy industry, such as the pulp and steel industries, has opposed ambitious GHG emission reduction targets (Teräväinen 2010). Brazil and India are middle-income countries that have low GHG emissions per capita. Since the 2000s, these countries have been willing to implement their own national climate policies (Aamodt & Stensdal 2017) but have also insisted on the Common but Differentiated Responsibilities (CBDR) principle. CBDR is the main moral principle inscribed in the Kyoto Protocol, and it states that countries share a common responsibility to mitigate GHG emissions, but high-income countries (Annex 1) carry the major burden of emission reductions (Honkonen 2009).

By highlighting the role of discourse networks, I argue that political discourse plays an important role in understanding national differences in climate policymaking. The obstacles facing climate policies cannot be reduced to macro-level factors such as political economy (Ylä-Anttila et al. 2018b), or to specific industry sectors defending their interests (Brown 2014). Climate change policies are not determined by these factors, but policies are tied to different beliefs and cultural values that different policy actors debate on in the public sphere (Hulme 2011; Crow & Boykoff 2014; Hoffman 2015; Layzer 2016). Policy actors at the local, national and international levels negotiate in political arenas such as the news media about normative questions such as what is more important, economic growth or environmental sustainability? What should be the role of government in relation to the market in climate policy? What are the best policy instruments to reduce GHG emissions? And is climate science valid?

Political discourse is a decisive factor in policymaking because it is situated between structures and agency (Schmidt & Radaelli 2004). Political discourses partly reflect existing social structures, and the content of political discourse limits the range of policymaking (Leifeld & Haunss 2012; Feindt & Oels 2005). However, discourses also enable policy actors to challenge existing structures through persuasion and critique (e.g., Boltanski & Thévenot 1999, 2006; Hajer & Versteeg 2005; Schmidt 2008).

The dissertation consists of four research articles, taking four different perspectives to the overall research problem: The role of discourse networks in climate change policy, the variation in this role between national contexts and the reasons for this variation. This problem is approached through three more specific research questions:

- **RQ1:** What kinds of coalitions do policy actors form in different countries to advocate their policy positions on climate change and what types of policy beliefs explain the coalition structures (Articles I and II)?
- **RQ2:** How are international organizations involved in the formation of advocacy coalitions, and why does their role vary between countries (Article II)?
- **RQ3:** What kinds of justifications do policy actors use to justify their arguments, and how does this vary between countries and why (Articles III and IV)?

To operationalize the discourse network approach, I use three culturally oriented theoretical approaches to policy-making: the Advocacy Coalition Framework (ACF) (Sabatier 1988, 1998; Sabatier & Jenkins-Smith 1999), world society theory (Meyer et al. 1997; Schofer & Hironaka 2005) and justification theory (Boltanski & Thévenot 1999, 2006). Together, the three theoretical approaches enable to analysis of discourse networks in ways that increase comparative knowledge on climate change policy. The ACF examines how national policy actors divide into competing coalitions based on different types of policy beliefs (articles I and II). World society theory analyzes the role of international organizations (IOs) and global norms in national policymaking (article II), and justification theory investigates the use of moral justifications across national contexts (articles III and IV).

The next section situates this study in the larger context of research in public policy and climate change policy. Section 3 presents the three theoretical approaches used in this study: the ACF, world society theory, and justification theory. I will demonstrate the similarities and differences between them, address some of the criticisms related to the ACF, and discuss how the two sociological theories may help in addressing these criticisms. My main theoretical contribution is therefore to begin solving some of the shortcomings related to the ACF by building a combined theoretical framework for the study of climate change policy. Section 4 describes the research design of this study, including the data and methodology. Section 5 summarizes the main findings of each article included in this study. Finally, section 6 discusses the main theoretical contribution in more depth and the limitations of this work in the study of climate change policy.

2 Discourse networks of climate change

This section first discusses the relevance of the discursive approach in public policy studies. It then elaborates the benefits of examining political discourse as a network. I will also discuss the relevance of analyzing media debates instead of other research materials such as interviews and surveys, which are more commonly used in the study of public policy. I will then end the section with a discussion on the importance of comparative work in the policy sciences.

2.1 Role of political discourse in climate change policymaking

The American political scientist Roger Jr. Pielke has argued that to fix climate change, it is not sufficient to provide more scientific knowledge to the public and decision makers, or to debate the science of climate change (Pielke 2010, 197–98). This is because climate science tends to become a target of discursive battles in the public sphere. Policy actors use scientific knowledge selectively, motivated by prior beliefs and values that they consider are threatened (Sabatier 1988; Pielke 2010; Kahan et al. 2011; Hoffman 2015). In order to be successful, many scholars have argued that climate policies will need to better address differing ideas and values between policy actors (Sarewitz & Pielke 2000; Hulme 2009; Pielke 2010; Layzer 2010).

In recent decades, scholars in environmental policy have started to emphasize the role of discourse and ideas in environmental policy processes (e.g., Hajer 1993, 1995; Hulme 2009; Layzer 2016). According to Hajer and Versteeg (2005, 175), discourse is defined as “an ensemble of ideas, concepts, and categories through which meaning is given to phenomena” For example, climate change is a natural phenomenon in the material world, but humans have made sense of climate science in various, often conflicting ways. People do not agree on the ultimate causes or seriousness of climate change, on who is responsible, and on what is the best solution to tackle the issue. Through the process of meaning making, natural phenomena become political problems (Hajer 2002). Consequently, scholars have started to more critically assess the role of scientific knowledge in environmental policy-making, noting that environmental policies do not develop directly out of science and empirical facts (Pielke 2010).

The ACF originally started out in the 1980s to assess the role of scientific knowledge in the policy process. The ACF posits that policy actors do utilize

scientific knowledge in policymaking, but mostly in ways that confirm their existing beliefs: policy actors tend to resist scientific information that contradicts their belief systems (Sabatier 1988). From this perspective, belief systems form a cognitive bias in assessing the risks of policy issues and the types of policy preferences policy actors support or reject (Sabatier 1998).

These developments in environmental policy studies are connected to larger paradigm shifts in policy sciences that had already started to take shape in the late 1970s. The new paradigm emphasized the role of values and meaning in policymaking, challenging the previous technocratic approaches to public policy (Fischer & Forester 1993). Fischer stated that the previous approaches used a narrow conception of public policy and applied positivist methods that neglected the complexity of social action (Fischer 2003). In the technocratic approaches, policymaking was conceptualized as a linear and rational process between a few key actors, such as government agencies, interest groups, and politicians, whose goal was to find the most cost-effective solution to a policy problem. Scholars applied quantitative methods in which facts and values were separated, and have aimed at establishing generalizable findings at the cost of neglecting the social context (Fischer 2003).

In the 1990s, these paradigm shifts culminated in a so-called discursive or argumentative turn. Discursive approaches underlined that policies are a target of discursive battles between a variety of policy actors and are socially constructed in a specific context of power relations and social practices (Fischer 2003). Discursive approaches therefore challenged the previous technocratic approaches, which conceptualized policymaking as a rational and linear process, and instead argued that power and values intervene in the process. From an epistemological viewpoint, the discursive approaches stressed the interpretative and contextual character of policy problems (Fischer 2003).

Discourse network analysis (Leifeld 2010; 2017) is theoretically based on a discursive understanding of public policy. It takes discourse as a network relation that impacts policy processes and policy change (Leifeld & Haunss 2012). The main purpose of discourse network analysis is to analyze the structure of political discourse. It is therefore well suited for the discursive approach that traces “a particular linguistic regularity that can be found in discussions or debates” (Hajer & Versteeg 2005, 175). As such, the contents of political discourse constrains policymaking in important ways, such as what are considered policy priorities and what policy instruments are preferred (Hajer 1993; Feindt & Oels 2005; Leifeld & Haunss 2012; Takahashi & Meisner 2012).

It is important to note that even though political discourses are constructed in specific contexts of power relations, therefore they often reflect social structures, discourses also enable policy actors to challenge the status quo through persuasion and critique (e.g. Boltanski & Thévenot 1999; Schmidt 2008). In justification theory, this is referred to as the critical capacity of individuals. Individuals are constrained by a limited repertoire of justifying (Lamont & Thévenot [eds.] 2000; Boltanski & Thévenot 2006), but individuals also have agency to challenge the prevalent ways of justifying. This happens through tests in which individuals resort to the shared justifications in order to question the veracity of other actors' justifications (Boltanski & Thévenot 2006).

Maarten Hajer's (1993; 1995) discourse coalition theory is probably one of the most noted approaches in discursive policy analysis. According to this theory, political actors assemble into discourse coalitions in the public sphere based on a shared interpretation or storyline of a political issue (Hajer 1993). Inspired by Hajer's theory, many studies have argued that discourse coalitions in the public sphere have a crucial impact on policy processes (e.g., Bulkeley 2000; Leifeld & Haunss 2012; Rennkamp et al. 2017). Hajer's notion of "discourse coalition" is to some extent compatible with ACF's concept of advocacy coalition. Both perspectives stress the importance of common ideas in the grouping of policy actors into coalitions and the impact of these coalitions on policymaking. However, as Leifeld puts it (2017), the theory of discourse coalitions focuses on more simplified, narrative storylines in uniting coalition members in specific political disputes, while the ACF assumes that coalition members share a wider predetermined belief system and collaborate based on them in the long term. Because of this focus on individual belief systems, ACF has been criticized for methodological individualism (e.g., Fischer 2003; Hajer 1995). I address this criticism more thoroughly in Section 3.1.

Despite these developments in the field of public policy studies and political science (see Schmidt 2008), it is often argued that the explanatory power of discourse is still downplayed in explanations of policy process and policy change (Schmidt & Radaelli 2004; Leifeld & Haunss 2012). This dissertation aims to contribute to this line of research by examining the role of discourse networks in climate change policy in different national contexts.

In this dissertation, discourse is operationalized as *beliefs* (following the ACF, Articles I and II) and *justifications* (following justification theory, Articles III and IV). In the articles, I use insights from world society theory and justification theory which can help address some of the criticism the ACF has encountered in regard to methodological individualism.

2.2 Discourse as a network

What is the added value of analyzing political discourse and policy debates as networks? Leifeld (2017) has argued that most studies that analyze political discourse fail to acknowledge that political debates are relational in nature. Policy actors do not form their policy beliefs and preferences independently in a social vacuum. Instead, they are affected by the political statements that other policy actors make, and they have the ability to influence other policy actors' policy preferences. Accordingly, political statements that policy actors present in public arenas such as the news media are dependent on each other in myriad ways.

Political discourse should, therefore, be conceptualized as a network phenomenon (Leifeld 2017). In the discourse network approach, the researcher identifies political statements that policy actors make in text sources and then creates different types of networks based on these statements. Policy actors are therefore linked via shared political discourse. The ultimate goal of discourse network analysis is “to describe the structures of political discourses and infer their generative processes using techniques from the toolbox of network analysis” (Leifeld 2017, 2). The discourse network data can disclose key properties of a given policy process, such as the existence of competing discourse coalitions, polarization and consensus formation, and central policy actors (Leifeld 2017). Thus, in the case of the ACF, discourse network data may be taken as an indication of the existence of competing advocacy coalitions in a policy subsystem, and can be used to trace the “the ideational structure of policy domains” (Leifeld & Haunss 2012, 402).

In this dissertation, I use discourse network analysis to investigate the existence of competing advocacy coalitions and the centrality of different policy actors and justifications in news media debates on climate change policy. The existence of coalitions is analyzed using social network methods such as community detection methods—the Louvain modularity in this case (Blondel et al. 2008)—which measure the clustering of a network. Centrality is a network property that goes beyond simply counting the frequencies of individual actors and discourses. It takes into account the relations between the nodes in the network, counting “the neighbors” that the node has in the network (Hanneman & Riddle 2011). In this case, the higher the centrality, the more support a policy actor or justification receives from other nodes in the network.

For example, if an actor such as the Intergovernmental Panel on Climate Change (IPCC) is highly central in the discourse network, it means that the majority of other actors in the network agree with the IPCC's beliefs on climate change policy. Therefore, the IPCC probably belongs to an important advocacy

coalition and is influential in the climate policy process. If a justification, such as an ecological one, is central in the discourse network, it means that the majority of policy actors in the network use this particular justification to defend their position in the debate. Therefore, ecological justifications are probably widely recognized among policy actors who use ecological worth as a common criterion in evaluating policy proposals.

2.3 Role of the media in policymaking

Discourse network analysis can be applied to any type of textual data that includes statements from policy actors, such as parliamentary debates, public policy documents or newspaper articles. Why is it relevant to apply the discourse network approach to news media debates?

Many scholars have argued that the ways policies are made has significantly changed since the late 20th century. This transformation is linked to at least two interrelated empirical developments. First, there has been a proliferation of non-state actors participating in policymaking through informal networks. The main focus is no longer on official policymaking venues and a few key actors, but on the relationships between various actors from different sectors of society that aim to directly or indirectly influence policy processes in various arenas (Sabatier & Jenkins-Smith 1999; Jenkins-Smith et al. 2018; Weible & Ingold 2018). Second, the role of mass media outlets has become more important in policymaking and in environmental policymaking in particular (Hansen 2010; Lester 2010; Castells 2009; Crow & Boykoff 2014). Media representations of climate change shape public opinion (Brulle et al. 2012), and different policy actors, such as scientists, environmental non-governmental organizations (ENGOS), and business actors utilize the media to promote their political agendas and values. Media has become one of the most pivotal arenas where discursive battles on climate change take place, forming a space for the cultural politics of climate change (Boykoff 2011).

Manuel Castells' (2009) theory of communication power is one of the most influential theories on political power, and emphasizes the role of the mass media in policymaking. Castells claims that in the current global network society, "politics is primarily media politics" (Castells 2009, 194). Therefore, those policy actors that are most visible in advancing their values and interests in mass media communication networks have the most political power (Castells 2009). In this view, media communication networks and political networks are strongly symmetrical.

Despite the current emphasis on the media's role in policymaking, most studies on the media coverage of climate change have not attempted to link

the media sphere very closely to the political sphere. Instead, studies on media and climate change have mostly treated the media sphere as a separate field of inquiry without connecting it to the political sphere (Stoddart et al. 2017a). There is a vast literature on the media coverage of climate change (see e.g., Schäfer & Schlichting 2014; Olausson & Berglez 2014), which has mainly focused on media representations and logic, such as on changes in the amount of coverage devoted to climate change; the content of this coverage, including how climate change is typically framed by journalists; and how much space is devoted to different political actors in the articles. Media logic certainly plays a role in how climate change is debated in the news media. For instance, the media exerts gatekeeping power as journalists decide how to frame articles and which sources to use (Alasuutari et al., 2013). However, the media is also embedded in the larger institutional and political-economic context, so it is not an independent sphere from the rest of society (see Article III in this dissertation).

ACF scholars have only recently started to take advantage of media material in analyzing coalition politics, as opposed to using more established data sources such as interviews and surveys (e.g. Weible & Sabatier 2005; Ingold 2011; Elgin & Weible 2013; Gronow & Ylä-Anttila 2016) and public policy documents (e.g., Heikkilä et al. 2014). During recent years, the use of media material has increased among ACF scholars, who have analyzed coalitions and their beliefs using only media material (Leifeld 2013; Lodge & Matus 2014; Tosun & Lang 2016; Heikkilä et al. 2018; Articles I and II in this dissertation). The use of media material among ACF scholars has been prompted by growing evidence that supports the belief homophily hypothesis: that shared beliefs are a reliable indicator of collaboration between advocacy coalitions (e.g., Weible & Sabatier 2005; Matti & Sandström 2011, 2013; Ingold & Fischer 2014). Media material allows an examination of shared beliefs but not of collaboration, which has been regarded as its biggest weakness. In addition, media material allows an examination of coalition politics retrospectively and over a long time span which are important criteria in comparative studies such as this.

The growing literature on policy networks (see Broadbent 2016; Ylä-Anttila et al. 2018b) offers a useful way to examine the relationship between discourse networks in the media and political networks. The policy network approach stresses the role of meso-level policy networks in understanding the variation in climate change policies between countries (Ylä-Anttila et al. 2018b). It attempts to go beyond macro-level explanations, such as fossil fuel dependency or institutions, into “the mechanisms through which the economic weight of the fossil fuel industries result in weak policy outcomes” (Ylä-

Anttila et al. 2018b). The meso-level approach avoids deterministic explanations and aims to reveal possibilities for change. In the policy network approach, the structural properties of a specific policy network are analyzed using interviews and surveys from policy actors. These properties include collaboration between actors, information exchange between actors, which actors are considered influential, and the policy actors' most important policy beliefs. Research designs that compare discourse networks with policy networks would therefore provide important additional insights into how media discourse networks reflect the political sphere in terms of beliefs, competing coalitions, and influential actors.

2.4 Importance of comparative work in the study of climate change policy

A great deal of research on climate change policy has focused on analyzing the international dimensions of climate change policy. This research has examined the power and positions of different nation states in the global climate regime (e.g., Roberts 2011; Vihma 2011), how different conceptions of burden-sharing divide Annex 1 and Non-Annex 1 countries in international negotiations (e.g., Roberts & Parks 2007; Soltau 2009), and the history and development of the global climate regime (Meyer et al. 1997; Gupta 2010). The growing role of non-state actors, such as ENGOs, municipalities, and states, is also well documented in studies of climate change policy (e.g., Newell 2006; Bulkeley & Betsill 2010; Ylä-Anttila & Swarnakar 2017).

It is no wonder that the international dimension of climate change policy has received so much academic attention. Since the 1970s, international organizations and global political events have been the main driving forces in establishing climate change in national political agendas (Meyer et al. 1997; Gupta 2010). These include the First World Climate Conference in 1979; the Toronto Climate Conference in 1988, where the IPCC was established; and the establishment of the international United Nations Framework Convention on Climate Change (UNFCCC) treaty at the Rio de Janeiro Earth Summit in 1992. The most notable achievement of the UNFCCC was the Kyoto Protocol that was signed in 1997 at the Conference of the Parties (COP) meeting in Kyoto. The Kyoto Protocol divided countries into developed (Annex I countries) and developing countries (Non-Annex I countries), and assigned them different, legally binding commitments according to the CBDR (Gupta 2010). The Kyoto Protocol introduced a variety of market mechanisms for developed countries to help them reduce their GHG emissions, such as cap and trade.

Purdon (2015) has recently argued that the emphasis on the international level of climate change policy has led scholars to overlook the domestic level. The domestic level is crucial, as it sets specific constraints on international negotiations and the implementation of global policies and norms. Indeed, countries differ markedly in how they have implemented national climate change policies. Among the Annex 1 countries, Canada and the US have not been able to establish federal climate change policies, while Finland and especially France have performed better in climate policy. Among the Non-Annex 1 countries, Brazil and India have performed relatively well in developing national climate policies since the 2000s, expressing domestic willingness to reduce their GHG emissions.

Purdon (2015) has therefore called for more comparative approaches in the field of climate change politics to better understand the myriad obstacles to international climate change policy. He suggests that policy studies should be better integrated with the theories and methods of comparative politics. He has underlined three explanatory categories at the domestic level, commonly used in comparative politics, which would improve understanding of climate change policy across different national contexts: interests, institutions, and ideas. Using the ACF, world society theory, and justification theory, this study mainly advances knowledge on the third factor, ideas, although there are relationships and interactions among these factors.

In the field of public policy studies, many scholars have also recently stressed the importance of comparative approaches (e.g., Henry et al. 2014; Aamodt & Stensdal 2017; Tosun & Workman 2018). Here, I refer to country comparisons, though the comparative approach can certainly also be used to compare contexts such as policy subsystems in a single country. One of the leading ACF scholars, Weible (2018), has stated that public policy scholars such as ACF scholars should take contextual factors better into account in explanations of the policy process. These include variables such as culture, institutions, and socioeconomic conditions.

Comparative research helps build more robust theory and generalizable knowledge across institutional and political contexts (Tosun & Workman 2018). Tosun and Workman (2018, 335) have stated that because the ACF specializes in actor characteristics and coalition dynamics that influence a specific policy process, its conceptualization “complicates the adoption of a comparative approach to the study of the policy process. It also makes understanding institutions and governing systems problematic”. While the ACF does acknowledge stable, external subsystem parameters that constrain advocacy coalitions (see Jenkins-Smith et al. 2018, 143), these parameters are currently under-examined in empirical research (Gupta 2014).

Advocacy Coalition Framework scholars have only recently started to engage in comparative work across different countries (e.g., Weible et al. [eds] 2016; Aamodt & Stensdal 2017; Heikkila et al. 2018; Article II in this dissertation). These include a comparative study on hydraulic fracturing policy debates in six countries from North America and Europe in which the authors analyzed the formation of advocacy coalitions between federal and unitary political systems (Weible et al. [eds] 2016). The study found two competing advocacy coalitions in each of these countries: one opposing hydraulic fracturing because of environmental issues and one supporting it for economic reasons. However, many external parameters, such as the basic constitutional structure of the political system (federal or unitary), institutional rules (such as allocation of mineral rights), and biophysical characteristics (such as quantity of shale gas) affected the formation and attributes of the advocacy coalitions in decisive ways. For example, the study found variations regarding which actors were included in the advocacy coalitions (national-level officials played a minor role in federal systems), what their resources were, and what types of venues they tended to use between the federal and unitary systems. Aamodt and Stensdal (2017) in turn compared how external parameters such as political economy and institutional structures affect the ways competing advocacy coalitions could influence policymaking in Brazil, China, and India. The conclusion was that these factors play a decisive role in the types of strategies advocacy coalitions use in different the countries.

This dissertation contributes to the emerging comparative literature in the field of climate change policy and the ACF. Article II examines the role of IOs and global policy norms in the formation of advocacy coalitions at the national level in high-income countries that have high GHG emissions per capita (Canada and the US) and in middle-income countries that have low GHG emissions per capita (Brazil and India). We used theoretical insights from the world society theory literature, which has argued that international organizations and global policy norms tend to have a stronger foothold in the lower-income countries than in the high-income countries (Frank et al. 2007; Longhofer & Schofer 2010). Articles III and IV examine the use of different moral justifications in climate policy debates across political contexts. We used insights from justification theory literature, which argues that the ways individuals justify their arguments according to different orders of worth vary across national contexts (e.g., Lamont & Thévenot [eds.] 2000; Luhtakallio 2012).

Dunlap and Brulle (2015) have called for more sociological approaches to climate change that would “critically address the value systems, power relationships, and institutional processes that have resulted in climate change.” They have claimed that social scientific perspectives on climate change have,

up until now, focused mainly on individual-level phenomena, leaning mainly on economics and psychology. Economics has treated the individual in a cultural vacuum, as a rational actor engaged with cost-benefit analyses. Dunlap and Brulle (2015) state that psychology has been more realistic in using the model of the boundedly rational individual. The ACF also follows this model, originally developed by Simon (1985), according to which individuals are not fully rational but are constrained by cognitive bias and limitations. Dunlap and Brulle (2015) argue that approaches based on economics and psychology have neglected the institutional and cultural environment that shapes individual action. The two theories presented here, world society theory and justification theory, can complement the ACF by showing how the formation of advocacy coalitions is shaped by the wider institutional and cultural context.

3 Advocacy coalitions, international organizations, and justifications

This section presents the three theoretical approaches that are used in this study. The theories can be depicted as culturally oriented approaches to policymaking. The ACF argues that the policy process is influenced by differences in beliefs and ideological view points between individuals who cluster into competing advocacy coalition to turn their beliefs into policies. World society theory posits that nation states and individuals are shaped by a global culture through which policy norms and models diffuse across national contexts. Justification theory argues that individuals resort to shared, moral justifications in justifying their arguments in specific situations and political contexts.

In the following section, I address some of the critiques the ACF has faced (see also Jenkins-Smith et al. 2018, 154–159). I do this because the two other theories used in this dissertation are able to address some of the theoretical shortcomings of the ACF. This type of interdisciplinary work has great potential to develop policy sciences further in terms of their comparative reach.

3.1 ACF: Basic assumptions, theoretical focus, and criticisms

The ACF (Sabatier 1988; Sabatier & Jenkins-Smith 1999) is grounded in political science and psychology and is one of the most prominent frameworks for examining the policy process and policy change in the policy sciences. The ACF started out in the 1980s as an approach that criticized the mainstream theories of public policy, suggesting that the previous approaches used an overly narrow conception of politics and the actors that are involved in policymaking. The previous approaches focused mainly on a few key actors, including interest groups, parliamentary committees, and government agencies. The ACF suggested that many different kinds of policy actors at different levels of society participate directly and indirectly in the policy process. More importantly, the ACF aimed at emphasizing that policy processes are not determined by rational cost-benefit analyses but are affected by value struggles between competing advocacy coalitions who aim to turn their normative beliefs into policies.

The ACF is very broad in its assumptions and theoretical emphases. The founders of the ACF state that it is a guiding framework, best understood as “a framework supporting multiple, overlapping theoretical foci” (Jenkins-Smith

et al. 2018, 138). Therefore, it is not possible here to go through all of the components of the framework. Instead, I will only go through those components that are relevant in terms of this study.

Basic assumptions

Two basic assumptions of the ACF are most relevant for this study. The first one concerns the model of the individual in the framework. The ACF states that individuals are guided by their belief systems and are boundedly rational, that is, cognitively limited in processing information (Jenkins-Smith et al. 2018). Individuals are therefore more likely to support policy definitions and solutions that support their existing belief systems.

Belief systems contain three levels, which are hierarchical. The hierarchy of beliefs implies that they are built on one another and that some beliefs are more resistant to change than others. Deep core beliefs are “fundamental normative values and ontological axioms” and are most resistant to change (Jenkins-Smith et al. 2018, 140). They concern beliefs such as the conception of human nature (e.g., selfish or collaborative), how the society should be organized (e.g., egalitarian or hierarchical), and the relationship between the human and natural world. Policy core beliefs, the middle level, are more specific to the policy issue at hand, and they are the primary theoretical factor that holds an advocacy coalition together (Sabatier 1998; Sabatier & Jenkins-Smith 1999). The definition of policy core beliefs is wide, ranging from whose welfare counts the most to value priorities, and to beliefs concerning the causes and seriousness of a policy problem to preferred solutions (Jenkins-Smith et al. 2018). These solutions concern specific policy instruments, and are also called policy core policy preferences. Secondary beliefs deal with narrower issues such as budgets, described as “the specific instrumental means for achieving the desired outcomes outlined in the policy core beliefs” (Jenkins-Smith et al. 2018, 141).

According to the founders of the ACF, the framework adheres to “a modified version of methodological individualism” and expects that individual behavior is shaped by contextual factors such as institutions and degree of conflict (Jenkins-Smith et al. 2018, 140). The ACF acknowledges a group of general, contextual categories that are expected to influence the policy process at hand (see Jenkins-Smith et al. 2018, 143–144). These include relatively stable external parameters, external subsystem events, long-term coalition opportunity structures, and short-term constraints and resources of subsystem actors. The relatively stable external parameters are most relevant for this study, as they refer to the basic social, cultural, economic, physical, and institutional

structures of a policy subsystem (Jenkins-Smith et al. 2018), including variables such as socio-cultural values and social structures (see Jenkins-Smith et al. 2018, 143).

Even though individuals are the main actors in the ACF in an ontological sense, the ACF empirically examines organizations and coalitions of organizations. Coalition is a metaphor and ultimately refers to the individuals that form the coalition (Jenkins-Smith et al 2018, 140).

The second important assumption concerns the unit of analysis. The ACF states that the policy subsystem is the main unit of analysis for understanding the policy process. Policy subsystem is defined by “a policy topic, territorial scope and the actors directly or indirectly influencing policy subsystem affairs” (Jenkins-Smith et al. 2018, 139). Each policy subsystem, such as the energy policy subsystem, climate policy subsystem, and foreign policy subsystem, has its own defining properties that influence the policy process in that particular policy subsystem. These include a whole variety of attributes such as physical attributes, actor attributes, institutional rules, and the maturity of the policy subsystem (Jenkins-Smith et al. 2018). The main purpose of the ACF is to identify the most important properties of a policy subsystem.

Theoretical focus

The theoretical emphasis of the ACF is on three main components: advocacy coalitions, policy learning, and policy change. Advocacy Coalition Framework scholars are encouraged to use a long time-span of about 10 years to analyze these components. In this dissertation, I have mainly focused on the first component, advocacy coalitions, and have used a cross-sectional approach because the data set is not properly suited to temporal analysis or analyzing the other components.

The ACF argues that policy subsystems consist of two or more competing advocacy coalitions. Advocacy coalitions are defined by actors “who share policy core beliefs and who coordinate their actions in a nontrivial manner to influence a policy subsystem” (Jenkins-Smith et al. 2018, 148). Following this definition, there are therefore two defining characteristics of an advocacy coalition: shared policy core beliefs and coordination (Henry 2011). Ideally, ACF scholars should therefore examine both of these components. A considerable number of empirical studies support the finding that shared policy core beliefs are a reliable indicator of collaboration between policy actors who group into advocacy coalitions (Weible & Sabatier 2005; Leifeld 2013; Ingold & Fischer 2014; Matti & Sandström 2013). In the ACF literature, this is called the belief homophily hypothesis (Jenkins-Smith et al. 2018). This dissertation, due to its

research design, does not include data on coordination but relies on the belief homophily hypothesis: it is assumed that shared beliefs predict coordination between policy actors.

Article I in this dissertation also touches on the component of policy change. The ACF identifies four pathways to policy change in policy subsystems: external shocks, internal events, policy learning, and negotiated agreement among previously warring coalitions (Jenkins-Smith et al. 2018). Article I briefly discuss negotiated agreement as a path to policy change by arguing that in situations of policy gridlock between warring coalitions, coalitions may build a compromise based on specific policy instruments that are congruent with the policy core beliefs of each coalition. Previous ACF research has shown, however, that this is rarely the case: according to these studies, the majority of major policy takes place through policy learning and external events (Pierce et al. 2017). Indeed, even though consensus was emerging in the US climate change policy subsystem during 2007–2008, cap and trade was not able to pass the Senate. This is in line with ACF literature that states that policy change often requires some combination of these pathways to occur (Jenkins-Smith et al. 2018).

Criticisms

Three particular points of criticism are relevant for this study. First, the ACF has been criticized for not paying sufficient attention to contextual factors in the formation of advocacy coalitions and policy change. This critique has been addressed by public policy scholars who follow a more interpretive understanding of the policy process, but also by ACF scholars themselves, who have applied the ACF in comparative research.

Drawing on Hajer's critique (1995b) of the ACF, Fischer (2003) compared the approach of discourse coalitions to the ACF. Fischer states that most studies using the ACF tend to neglect the social and historical context where the policy process takes place. For example, many ACF studies make causal claims based on a few factors such as collaboration or shared policy core beliefs. Hajer (1995a) also argued that instead of fixed belief systems, organizations form strategic alliances based on shared narratives or storylines of a political issue. These storylines are discursive constructs that emerge from existing social practices. Individual belief systems might thus reflect these discursive alliances, but they are not the primary variable that structures advocacy coalitions or explains policy change (Fischer 2003, 102). In other words, it is analytically thin to measure shared belief systems and assume that they are

the basis of coalition formation (Fischer 2003). Fischer suggests that coalitions should be examined using a more interpretative approach (Fischer 2003).

The neglect of context in many ACF studies partly originates from the conception of the belief system that is based on methodological individualism. Individuals are perceived as having “their own clearly defined value preferences that are stable over time” (Fischer 2003, 107). However, individuals express different types of beliefs and values, often contradictory ones, depending on the situation and political context at hand (Hajer 1995a). Furthermore, policy problems are constantly negotiated and renegotiated in interactions between policy actors in political debates (Fischer 2003). In the conclusion, I will point out how these shortcomings may be addressed using justification theory.

The ACF does acknowledge contextual factors that influence coalition formation, such as the relatively stable external parameters (see Jenkins-Smith et al. 2018, 143-144), and claims to follow a modified version of methodological individualism (see basic assumptions in section 3.1.) However, the relatively stable parameters are still mostly at a descriptive level and require more theorizing. Other ACF scholars (e.g., Gupta 2014; Henry et al. 2014) have also pointed out that while the ACF does acknowledge a group of contextual factors that are expected to shape individual behavior, comparative research that would examine these factors is still scarce. Enhancing the comparative reach of the ACF is therefore one of the most important tasks in order to develop the ACF further (Jenkins-Smith et al. 2018, 156). In this conclusion, I suggest that insights from world society theory and justification theory can help improve the understanding of external parameters in the ACF.

Second, many ACF scholars have questioned the current model of the belief system in the ACF (Jenkins-Smith et al. 2018, 154). This criticism is not related to methodological individualism per se but to the structure of the belief system as consisting of three layers, and to the role of each layer.

On the one hand, the ACF lacks a value-oriented theory to describe deep core beliefs. Recently, Sotirov and Winkel (2016) and Jenkins-Smith et al. (2018) have suggested that Cultural Theory (CT) (Douglas 1966; Douglas and Wildavsky 1982) could complement the ACF in this respect. Conceptualizing deep core belief in terms of cultural theory relates deep core beliefs to four different types of world views: hierarchism, individualism, egalitarianism, and fatalism (see Jenkins-Smith et al. 2014).

On the other, and this is more relevant to this study, the measurement and conceptualization of policy core beliefs have remained inconsistent in empirical research (Jenkins-Smith et al. 2018). This is mainly because the definition of policy core beliefs is wide, ranging from different types of normative, general beliefs to more specific ones. Consequently, scholars have measured

advocacy coalitions using different types of beliefs. Weible and Sabatier (2005) measured coalitions using four policy core beliefs, ranging from the problem definition to specific policy instruments. Some studies have measured coalitions only based on specific policy instruments (e.g., Leifeld 2013). Others have aimed to find out which types of beliefs are crucial in coalition formation, and have found that both the general and the specific beliefs concerning policy instruments matter (Ingold 2011). To further complicate the matter, Ingold used the term “secondary beliefs” when referring to policy instruments in her study on Swiss climate policy.

In terms of the third layer of the belief systems, it is not clear what secondary beliefs are and how they matter in policymaking. Overall, the creators of the ACF have called for clarifications concerning the measurement of belief systems, and the theoretical distinction between policy core and secondary beliefs. They themselves have suggested that these two could be combined into one single category (Jenkins-Smith et al. 2018, p. 154).

In this dissertation, Article I aims to clarify the relationship between policy core and secondary beliefs by examining what types of policy core beliefs divide policy actors into coalitions in the US climate change policy debate during 2007-2008. We decided to separately test the role of different types of beliefs – we did not automatically assume that policy instruments are policy core beliefs that divide actors into coalitions. We found that general beliefs concerning value priorities and the role of government strongly divided actors into coalitions during this period while the specific beliefs concerning policy instruments did not. We therefore classified policy instruments as secondary beliefs, that is, as not contributing to coalition formation. We suggested that the role of policy instruments might be less divisive in regulative, highly conflictual policy subsystems, such as environmental ones. Based on the findings of the article, we suggested that beliefs concerning the desirability of specific policy instruments should not be a priori classified as policy core beliefs. Instead, the role of beliefs concerning policy instruments in coalition formation varies between policy domains and periods of time. Future studies should therefore aim at specifying the conditions under which beliefs concerning policy instruments are divisive, and the conditions under which they find support across coalition lines.

Leifeld (2013) has suggested that there could be a difference in the role of policy instruments in regulative (such as climate policy) and redistributive (such as pension policy) policy subsystems. In redistributive policy domains, the normal state of policymaking is often the dominance of one hegemonic coalition, and the role of policy instruments tends to be highly divisive. In regulative ones, the normal state tends to be two to three competing coalitions. In

order to achieve policy change, coalitions have to make compromises in terms of their policy beliefs. In these cases, policy instruments could act as consensus-building devices between competing coalitions. In sum, the ACF needs more research on the role of different types of policy beliefs in coalition formation across policy subsystems, periods of time, and cultural contexts.

Third, the ACF's focus on national policy subsystems has been criticized (Litfin 2000; Sewell 2005; Jones & Jenkins-Smith 2009; Aamodt & Stensdal 2017). The ACF states policy subsystems have a territorial scope (Jenkins-Smith et al. 2018, 139), and most ACF studies have focused on analyzing national or subnational policy subsystems. However, in the case of climate change policy subsystems, the international institutional environment has influenced and still influences national climate policymaking in myriad ways. National climate policies have been strongly driven by international institutions since the 1970s (Gupta 2010). National governments have had to implement environmental legislation and set up environmental ministries at least partly because of the global pressure to do so (Hironaka & Schofer 2005). For instance, in the US, the global norm CBDR principal included in the Kyoto Protocol was an important factor in mobilizing national opposition towards climate change legislation (McCright & Dunlap 2003).

ACF scholars have argued that the international policy level should be better integrated into the national level analysis (e.g., Litfin 2000; Sewell 2005; Aamodt & Stensdal 2017). Litfin (2000) has argued that national policy actors increasingly have a "globalized self-understanding," and that foreign actors increasingly participate in advocacy coalitions. Sewell (2005) has looked at the overlapping of national and international policy subsystems by examining how the implementation of international treaties at the national level is being influenced by competing advocacy coalitions. Jones & Jenkins-Smith (2009) have also argued that the focus on limited subsystems misses out on the macro-level factors that influence advocacy coalitions. Article II supports this critique by examining the role of international organizations and global norms in the Canadian, US, Brazilian, and Indian climate policy debates.

3.2 World society theory: International organizations and global norms

World society theory (also called world polity theory) is based on sociological institutionalism, and it stresses the importance of global institutions and global norms in shaping nation states, organizations, and individuals (Meyer et al. 1997). National policy actors are not perceived as bounded entities but as

embedded in the global context of interactions and policy norms, called the world society (Meyer et al. 1997). World society theory argues that nation states are shaped by a global culture as global policy models and norms tend to diffuse around the world. These global norms, also called “cultural scripts,” includes norms such as environmentalism, education, science, equality, and socio-economic development (Meyer et al. 1997). While the ACF can be classified as an actor-centric theory and perceives individuals and organizations as driven by personal belief systems, world society theory perceives individuals in a more collectivist sense, as shaped by the global culture. Furthermore, while the ACF views policy subsystems as essentially limited by territory, world society theory follows the notion of a stateless world polity.

The diffusion of global models can be empirically observed by mapping similar policy reforms and institutional arrangements between countries. Instead of policy outcomes per se, world society theory scholars focus on observing the institutional mechanisms that are likely to produce policy change in national contexts. These include mechanisms such as increased activity of ENGOs and IOs (examined in Article II), and signing of international treaties (Hironaka & Schofer 2005).

According to world society theory, national environmental policies such as climate policies have been driven by the global environmental regime that emerged after the 1950s. Influenced by this regime, nation states have enacted environmental policies and regulations to protect the environment (Meyer et al. 1997). The environmental regime includes intergovernmental institutions such as the IPCC; social movement organizations, such as transnational environmental organizations like Greenpeace; epistemic communities, such as scientists and environmental professionals; and international treaties, such as the UNFCCC (Meyer et al. 1997; Schofer & Hironaka 2005; Hironaka 2014). The regime also includes global norms, such as the scientific consensus on anthropogenic climate change and the need to define GHG emission reduction targets for the UN, and moral principles, such as the CBDR.

However, even though all nation states are embedded in the world society, world society theory scholars have found differences in how deeply different countries have been integrated into it. This literature has found differences in how low-income and high-income countries are integrated in the world society. International organizations and global norms tend to have a stronger presence and effect in low-income countries than in high-income countries (Frank et al. 2007; Longhofer & Schofer 2010). The strong role of IOs in the low-income countries is rooted in the history of developing countries that were targets of development aid in the past, and in when development workers from

the Global North taught specific development norms to countries in the Global South (Finnemore 1993; Finnemore & Sikkink 1998).

World society theory traces the diffusion of global norms from a top-down perspective, and the domestication framework (Alasuutari & Qadir 2014) is a subfield of world society theory that analyzes how global policies are domesticated at the national level. We use this particular approach in the world society literature in Article II. According to the domestication framework, global policy models do not automatically diffuse across countries. National political actors intervene in the process, making global ideas part of national political discourse and practices (Alasuutari 2016). The intervention happens through discursive processes as domestic organizations start to compete over the framing of a global idea or policy model in public debates in news media, for example (Alasuutari 2016). The process in which the global norms and models are domesticated into the national context consists of three important elements: cross-national comparisons, domestic field battles, and naturalization by nationalization (Alasuutari & Qadir 2014). In Article II, we focus on domestic field battles, where “different actors defend their positions by joining in the discussion about how the new idea or catchphrase should be turned into modified domestic practices” (Alasuutari & Qadir 2014, 11–12).

Article II builds a synthesis between domestication theory, based on world society theory, and the ACF. This combination allows an examination of the role of IOs and global norms in the formation of advocacy coalitions at the national level, and of whether these processes differ between high-income and lower-income countries. World society theory complements the ACF by specifying how the international level of policymaking influences the formation of advocacy coalitions at the national level in national policy subsystems such as the climate change policy subsystem.

3.3 Justification theory: Moral justifications

Justification theory (Boltanski & Thévenot 1991; 2006) is based on political sociology. It argues that individuals are forced to justify their arguments based on different moral justifications that in modern democracies, serve as basic principles for social coordination. These justifications refer to competing conceptions of the common good, and there is a limited repertoire of justifications that individuals may resort to in specific political communities in building agreement and critiquing each other. By justifying arguments based on shared moral principles, the individual transcends her own particularities and raises

the level of generality in the debate by resorting to shared justifications (Boltanski & Thévenot 2006)

Justification theory claims to avoid cultural determinism by arguing that there are collective determinations (such as social groups and collective structures) that make specific ways of justifying more prevalent in some situations than others, but that the collective determinations do not exclude individual action: individuals have agency to challenge existing notions of the common good by questioning which notion applies to the situation at hand (Boltanski & Thévenot 2006, 25). In doing so, justification theory aims to combine the so-called collective and individual approaches that divide social sciences and individual disciplines (Boltanski & Thévenot 2006, 25-27). Here, individual refers to perceiving individuals as rational agents so that social action is ultimately a result of individuals driven by personal interest or individual attributes. Collective (or holism) refers to perceiving individuals as representatives of groups, and that individual action results from social structures. As examples of these two distinct traditions in the social sciences, Boltanski & Thévenot noted the rational choice model from economics (individual) and classical sociological approaches such as Durkheim's or Bourdieu's sociology (collective).

Justification theory aims to build a bridge between the collective and individual approaches by acknowledging that both individual choice and collective determinations can exist simultaneously in analyses of social action. In order to build this bridge, social scientists should empirically examine situations where individuals enter into political disputes and are forced to use moral justifications. In its normal course, social action is coordinated by shared principles and values that actors do not challenge. These are called natural situations (Boltanski & Thévenot 2006). But, in moments of crisis, individuals question the previous principles upon which agreement was originally built. They have the critical capacity to challenge the existing social practices and to demand that other actors justify the legitimacy of their actions based on the shared principles (Boltanski & Thévenot 2006).

Moody and Thévenot (2000, 274) have criticized the common notion of the strategic political actor who is driven by "a pre-existing, particularistic interest" and have urged social scientists to take culture more seriously in analyses of social action. In the individual approaches, for instance, it is often argued that it is not empirically possible to reduce individual action to collective explanations and that social scientists should only study interests of individuals (Boltanski & Thévenot 2006). However, Boltanski and Thévenot argued that even many of the assumptions of individual approaches, such as the model of the interested individual, are based on shared moral principles. The

meaning of interest is therefore not objective but is socially constructed in a specific political community. Currently, in many modern democracies, interest is most often understood in terms of the market order of worth: individuals are driven by self-interest in the marketplace of economic goods. Individuals are thus “as metaphysical as the collective beings in sociology, and just as collective in their own way, since they constitute part of the definition of the common good” (Boltanski & Thévenot 2006, 44).

To analyze the moral justifications that individuals give to their arguments, Boltanski and Thévenot (1991; 2006) developed a grammar for the different modes of justification in modern democracies. They derive from classical texts in political philosophy that have each dealt with a similar question relating to *the common good* and principles of agreement: how do individuals enter into social relations and how do they build agreement in order to build a peaceful society (Boltanski & Thévenot 2006)? These “orders of worth” or “polities” have been called inspired (Augustine), fame (Hobbes), domestic (Bossuet), civic (Rousseau), industrial (Saint-Simon), and market (Smith) orders of worth (Boltanski and Thévenot 1991). The scheme was later complemented by Lafaye and Thévenot (1993), who introduced the ecological order of worth.

Each of these orders of worth involves a different conception of how the common good is best achieved. Material objects and persons are valued and qualified according to different criteria in the different orders of worth (Boltanski & Thévenot 2006). Accordingly, political disputes originate from the tensions between and within these different orders of worth as they are applied to particular situations. Justification theory describes three types of common disputes: 1) disputes that take place inside one order of worth, where actors agree on the justification at hand but disagree on whether its criteria are met in the current situation, 2) disputes where one order of worth is criticized/denounced from the viewpoint and criteria of another order of worth, and 3) compromise, where two different orders of worth are combined so the criteria of both worlds are realized. In Articles III and IV, four of these orders of worth proved to be the main ones upon which negotiation is based: civic, industrial, market, and ecological. I will therefore only describe these four orders here.

In the civic order of worth, collective interest, legal rules and solidarity are considered the most important moral principles. Policies are evaluated on the basis of whether they meet these criteria. In Article III, policy actors used civic justifications to argue that collective rules and legal agreements should apply in the governance of Arctic climate change. Actors made references to collective actors such as nation states and the Arctic Council to argue that these

actors are the legitimate collective entities to decide on Arctic climate policy. However, the criteria of civic justifications varied between Finland and Canada: in Canada, nation states were perceived to have national sovereignty and were thus the most relevant actors, while in Finland, international cooperation was prioritized as a principle over nation states.

In the industrial order of worth, efficiency, predictability, and expertise are considered the most important principles, and policies are evaluated on the basis of these criteria. In Article III, industrial justifications were used to argue that expert knowledge and empirical facts should guide Arctic policymaking. These justifications were often combined with ecological ones to argue that the climate system has unpredictable, multiplying effects in the long term, which could lead to severe environmental impacts in the Arctic. However, industrial justifications also formed a common ground, as almost all the policy actors agreed on the scientific knowledge that the Arctic is melting due to climate change, but they disagreed on which of the other ordering principles should apply to the situation, that is, whether ecological or market values should guide Arctic policymaking.

In the market order of worth, competition, salable goods, and wealth are the most important principles that guide policymaking. In Article III, policy actors argued that the melting Arctic represents new economic possibilities that should be quickly taken advantage of and that there should be competition with others to get ahead and succeed. The Arctic was therefore primarily seen as a source of economic growth and competition between nation states and businesses. Market justifications were most often criticized from the viewpoint of the industrial and ecological order of worth.

In the ecological order of worth, environmental sustainability, harmonious relations between the human and natural worlds, and the protection of nature are the most important principles in policymaking. In Article III, policy actors argued that the Arctic region is too fragile for resource extraction and trade, and that the Arctic ecosystem should therefore be protected and prioritized over economic considerations.

Research within justification theory has shown that the use of justifications that refer to the common good varies across national contexts (e.g., Thévenot et al. 2000; Lehtonen & Liukko 2010; Luhtakallio 2012; Gladarev & Lonkila 2013; Eranti 2016; Frederiksen 2018; Ylä-Anttila et al. 2018; Articles III and IV in this dissertation). Lamont & Thévenot (2000) call these different usages cultural repertoires of evaluation. There is evidence that notions of worth and value vary between social groups and nations, based on their previous economic, social and political developments (Lamont & Thévenot [eds.] 2000; Lamont 2012). The different worlds of justification provide a so-called

cultural toolkit for moral argumentation that policy actors may resort to in policy debates in different political communities (Lamont & Thévenot 2000). The differences in the use of justifications, and the ways in which they are combined, reflect differences in political culture (Lamont & Thévenot, 2000; Luhtakallio 2012; Eranti 2016). Justification theory has also been developed by Thévenot in a more comparative direction by acknowledging that other types of grammars, not based on the common good, also exist in different political cultures. Thévenot has introduced three different grammars of commonality (see Thévenot 2014) in addition to the republican grammar of the orders of worth (Boltanski & Thévenot 1999; 2006): a grammar of liberal individuals, and a grammar of close affinities.

In sum, justification theory can complement the ACF in specifying the role of different sociocultural values as an external parameter that constrain and enable advocacy coalitions in different national contexts.

4 Research design

This section presents the data, case selection, and methodology that were used in this study. My research is part of the international research project Comparing Climate Change Policy Networks (COMPON). Most of the data collection and coding protocol (Articles I–III) of this study therefore follows the common research protocol of the project. The project includes over 20 countries, including the US, Canada, Finland, Brazil, and India. The purpose of COMPON is to analyze cross-national differences in climate policies. The overarching research question of the project is: Why do national climate change policies vary in the context of established climate science and international institutions to tackle the issue?

The COMPON project addresses this question using two types of research material: policy network data based on surveys and interviews, and discourse network data using media coverage of climate change. In the first case, explanations are developed based on network data that measures collaboration, information exchange, and perceived influence between the relevant policy actors in national policy subsystems. In the second case, media data is collected from the years 2007–2008 and is used to analyze shared discourses between policy actors using frame analysis and discourse network analysis. These years were selected because media coverage of climate change was at its highest globally during those years, peaking during the COP15 in Copenhagen in 2009 (Schmidt et al. 2013; Broadbent et al. 2016). The increase in media coverage was spurred by international events such as the publication of the IPCC fourth assessment report (2007) and the Stern Review on the Economics of Climate Change (2006).

This dissertation uses discourse network analysis to analyze the media data that has been collected in the project from the years 2007–2008 (Articles I and II) and media data collected from the years 2011–2015 (Article III). Articles I–III in this study were written in collaboration with members from each country team in the COMPON project: Jeffrey Broadbent from the US, Mark CJ Stoddart from Canada, Tuomas Ylä-Anttila from Finland, Myanna Lahsen from Brazil, and Pradip Swarnakar from India. Article IV followed a different data collection and coding protocol (see sections 4.1 and 4.3).

4.1 Data: Newspaper coverage of climate change

In each country, two or three newspapers were selected based on their prominence (high circulation) and political diversity, representing different ends of

the political spectrum. These newspapers can therefore be expected to represent the overall climate policy debate in each country without being politically skewed towards a specific political orientation. Table 1 lists the newspapers that were used in Articles I–III, and their political orientation. In some countries (Canada and Brazil), it was not possible to find a nationwide left-leaning newspaper. Article IV compared media debates in only one newspaper from each country: The New York Times from the US and Le Monde from France. These newspapers are comparable, as they are both prominent left-leaning newspapers in their own country contexts.

Table 1. Newspapers used in each country.

	Right-leaning	Centrist	Left-leaning
Canada	National Post	The Globe and Mail	x
The US	The Wall Street Journal	USA Today	The New York Times
Finland	x	Aamulehti	Helsingin Sanomat
France	x	x	Le Monde
Brazil	Valor Econômico, O Estado de São Paulo	Folha de São Paulo	x
India	The Times of India	The Indian Express	The Hindu

In Articles I and II, the Factiva database was used to retrieve the newspaper articles in each country during 2007–2008, using the search words “global warming” or “climate change.” Those articles that did not deal primarily with anthropogenic climate change or climate policy were manually erased from the data set. From this final data set, a random sample was used in each country. As the COMPON coding protocol allowed variation in the size of the sample, each team used a slightly different sample size depending on the available resources of the team. The total number of articles coded was 435 out of 2263 in Brazil, 603 out of 3015 in Canada, 283 out of 1206 in India, and 648 out of 1221 in the US.

In Article III, we used the Factiva database to retrieve the articles in the Canadian case and the newspapers' own archives in the Finnish case during 2011–2015. The search terms were *ilmasto** AND *arkti** in the Finnish case, and *climate change* AND *Arctic* in the Canadian case. Again, we manually selected only those articles that dealt mainly with Arctic climate change. The final data set consists of 185 articles in the Finnish case and 292 articles in the Canadian case. In Article IV, the research material consists of the reporting of United Nations (UN) climate COPs, including coverage from four-week periods around the Copenhagen (2009), Durban (2011), and Kyoto (1997) meetings in *The New York Times* and *Le Monde*. The search terms were *climate change/changement climatique* OR *global warming/rechauffement climatique* OR *greenhouse effect/effet de serre* OR the city where the COP was organized, for example, *Copenhagen/Copenhague*. This resulted in 115 articles for *The New York Times* and 474 articles for *Le Monde*. As the number of articles in *Le Monde* was so much higher, we coded every second article in that newspaper. The final sample was thus 237 articles from *Le Monde* and 115 articles from *The New York Times*.

4.2 Case selection

This section sheds light on climate policymaking in the six countries included in the study, focusing on the criteria of case selection. Article I analyzes the US which is one of the biggest GHG emitters in the world, and where the debate on climate change has become exceptionally polarized; Article II compares high-income (Canada and the US) and middle-income (Brazil and India) countries; Article III compares two Arctic countries (Finland and Canada) which represent different political economic and institutional contexts; and Article IV compares the US and France which have taken diverging positions in national and international climate policy, and represent different types of political cultures according to previous literature within justification theory. I discuss the case selection one article at a time because each article uses a different set of research questions.

Article I. Climate change policy in the US

In this article, we aimed at testing which types of policy beliefs divide organizations into competing advocacy coalitions. We examined the US climate change policy debate during 2007–2008 because there was unprecedented progress in the US climate change policy domain at federal and state levels from 2007–2009. In the US Congress, the debate on climate change became

more consensual across Democrat and Republican lines (Fisher et al. 2013). Policy change was exceptionally close, as the American Clean Air and Security Act, aimed at establishing a federal cap and trade policy in the US, went through the House of Representatives. This exceptional period therefore allowed us to investigate what kinds of beliefs divide organizations into opposing coalitions and what kinds of beliefs find support across coalition lines.

Before these years, the US had not been close to implementing federal climate policies. At the state level, however, individual states such as California and New York, as well as actors from civil society, such as ENGOs, had taken their own initiative to reduce GHG emissions (Rabe 2004; Selin & VanDeveer 2007). At the federal level, climate change policies faced fierce resistance. A crucial factor hindering development in the climate policy domain has been the role of the climate change countermovement in the political economy of the US: a coalition consisting of conservative politicians, fossil fuel companies, trade associations, right-wing think tanks, and religious organizations. This movement has opposed climate change legislation by invoking economic arguments such as climate change will destroy the American economy and hurt fundamental values such as freedom of the individual, and arguing that climate science is politically motivated (e.g., McCright & Dunlap 2000, 2003; Oreskes & Conway 2010; Pooley 2010; Farrell 2015, 2016). The countermovement traces back to the 1970s, when right-wing think tanks such as the Cato Institute and the Heritage Foundation were formed to promote conservative values in the US. This movement has had a huge impact on US politics in general, not just on climate policy (Castells 2009).

The countermovement resorted to conservative values, which have a strong foothold in American political culture. These include values and beliefs such as a preference for small government, free market capitalism, and the freedom of individuals. Layzer (2016, 581) stated that “although individual behavior is clearly at the root of many of our environmental problems, political stories that cast ordinary citizens as the villains have fared poorly in the American political context.” Consequently, any policy instrument that would impose costs that are too heavy on individual citizens or businesses tend to be rejected in the US (Rabe 2009). The polarization of beliefs along liberal and conservative lines, therefore, does not only concern climate change. Many other issues, such as abortion and gun rights, have become targets of the so-called “culture wars” in the US (Hunter 1991).

In Article I, we found that cap and trade, alternative energy, and auto efficiency standards are policy instruments that competing coalitions could agree on in the context of the US political culture. US policy actors could not

agree on general beliefs concerning value priorities and the role of government. Even though climate change legislation was able to gather widespread support across partisan lines, in the end, the climate bill was not able to pass the Senate. Some studies have argued that this was due to external circumstances, such as the 2008 global financial crisis, and to old well-established coalitions representing business organizations (Rabe 2010; Knox-Hayes 2012).

Article II. Climate change policy in Canada, the US, Brazil and India

Previous literature states that national policies are strongly driven by international organizations, treaties, and global policy norms (Meyer et al. 1997; Schofer & Hironaka 2005; Hironaka 2014; Gupta 2014). Article II compares the role of IOs and global norms in national policy debates on climate change in two high-income countries that have high GHG emissions per capita (Canada and the US) and two middle-income countries (Brazil and India) that have low GHG emissions per capita. We selected these cases for two reasons: first, previous literature within the world society theory has found that IOs tend to have stronger roles in lower-income countries than in high-income countries (Frank et al. 2007; Longhofer & Schofer 2010). Second, high-income countries face stronger obligations to reduce GHG emissions under the global norm of the CBDR principle. Due to these variations, we expected to find differences in the role of IOs and global norms in the formation of advocacy coalitions between these countries.

Canada and the US represent the first group of countries. According to the latest World Bank (2014) data, the US and Canada are among the world's highest GHG emitters per capita: Canada is at 15.1 metric tons per capita and the US is at 16.5 metric tons per capita. These countries have influential fossil fuel industries and have performed very poorly at implementing federal climate policies (MacDonald 2008; Rabe 2010; Murphy & Murphy 2012). In both countries, organizations from the business and energy sectors as well as oil states in the US and oil provinces in Canada have opposed climate legislation using economic arguments. In the US, however, the opposition has been more ideologically charged and politically partisan (Fisher et al. 2013; Painter & Ashe 2012). Both of these countries belong to the Annex I countries in the Kyoto Protocol, which have been given global commitments to reduce emissions more steeply than the developing, Non-Annex I countries. At international negotiations, the governments of both countries have opposed the CBDR principle (Victor 2004; MacDonald 2008; Rabe 2010). Canada even

withdrew from the Kyoto Protocol in 2012, while the US has not yet ratified the protocol.

Brazil and India represent the second group of countries. Brazil's GHG emissions are 2.6 metric tons per capita and India's are 1.7 metric tons per capita (World Bank 2014). Until the late 1990s, both countries were unwilling to reduce their emissions, insisting on the CBDR principle at international negotiations (Lahsen 2004; Dubash 2009; Vihma 2011). Since the 2000s, however, both countries have, to some extent, changed their point of view and started to develop and implement national climate policies (Thaker & Leiserowitz 2014; Dayrell & Urry 2015; Aamodt & Stensdal 2017). Studies have shown that in both countries, civil society organizations, including actors such as national and international ENGOs, scientists, business organizations, and politicians, have been able to mobilize and form coalitions in order to demand more ambitious commitments (Hochstetler & Viola 2012; Viola 2013; Aamodt & Stensdal 2017; Ylä-Anttila & Swarnakar 2017). For instance, Brazil introduced its voluntary climate plan in 2008 (Viola 2013) and has also had a national plan to decrease deforestation in the Amazon since 2004. India launched the National Action Plan on Climate Change (NAPCC) in 2008, which provides guidelines for various sectors on how to reduce carbon emissions (Aamodt & Stensdal 2017). In other words, while both countries have and still insist on the CBDR principle at international negotiations, they have also been willing to reduce emissions nationally. For the UNFCCC 2015 in Paris, Brazil and India submitted relatively ambitious mitigation targets to reduce emissions by 2025. There has also been little opposition to climate science in Brazil and India (Painter & Ashe 2012).

Despite these positive developments at the national and international levels, studies have also shown that climate policymaking faces many obstacles in both countries. Brazil faces problems because of opposition from its agricultural and cattle industries, which are the biggest sources of GHG emissions in Brazil due to methane emissions and land use (Bustamante et al. 2012; Aamodt 2015). Research has also shown that Brazil's deforestation policies have become increasingly controversial during recent years, and they have not been implemented properly (Gebara et al. 2017). In India, the policies outlined in national strategies such as the NAPCC have not yet been realized as effectively as planned (Pahuja et al. 2014).

Article III. Climate change policy in Finland and Canada

Recent empirical studies have found evidence that in many countries, influential actors such as business actors are relatively invisible compared to other

policy actors, such as ENGOs, in environmental policy debates in the media (Lester & Hutchins 2012; Stoddart et al. 2017b; Lahsen 2017). We aimed at contributing to these studies by examining which policy actors and moral justifications are most central in the media debate on Arctic climate change in Finland and Canada, and by comparing these results to previous literature on Finnish and Canadian climate policymaking.

We selected Finland and Canada because they represent different types of cases among the circumpolar countries in terms of political economy and polity types. We could therefore expect to find differences in the centrality of specific policy actors such as business actors, and in the moral justifications that policy actors use. In terms of political economy, studies have found that fossil fuel corporations have a strong position in the political economy of Canada, exerting much influence on national climate policy making (Murphy & Murphy 2012; MacNeil 2014; Adkin & Stares 2016). Canada has direct access to the Arctic Ocean so fossil fuel industries have particularly strong economic interests in Canada. Finland does not have an influential fossil fuel industry, but studies have shown that the industry sector, such as the steel and pulp industries, exerts the most political power in Finnish climate policy making (Teräväinen 2010; Gronow & Ylä-Anttila 2016).

In terms of polity models, the two countries represent corporatist (Finland) and pluralist (Canada) systems (Lijphart 2012). Like other Nordic countries, Finland is a consensus democracy based on corporatism. In corporatism, different organized interests with specialized purposes aim at negotiating via the state on policy issues to reach a general consensus (Lijphart 2012). There is thus cooperation between different organized interest groups, and policy outcomes tend to reflect this setting (Lijphart 2012). As the relations between the state and different groups such as civil society organizations are close in corporatist systems, ENGOs often have better positions in the policy process in corporatist systems than in pluralist ones. Canada represents a majoritarian democracy based on liberal pluralism. In a pluralist system, interest groups form more freely without state intervention. They advance their particular interest without intermediary institutions so there tends to be more rivalry between interest groups. This is reflected in policy making as policies tend to favor specific interest groups that were able to dominate in the policy process (Jepperson 2002).

The differences between the polity models and role of fossil fuel industries are relevant because we expect to find business actors in more central positions in Canada, and the justifications that policy actors use reflecting their influential position. In Finland, we expect to find business actors in less

central positions, ENGOs in more central ones, and the justifications reflecting this setting.

In climate policy, Finland has performed better than Canada, which is one of the biggest GHG emitters per capita in the world. Still, Finland has relatively high GHG emissions, about 8.7 metric tons per capita (World Bank 2014). Finland has implemented some national climate policies as part of EU climate policy but has also opposed ambitious emission reduction targets in the EU negotiations (Teräväinen 2010).

Article IV. Climate change policy in the US and France

Previous literature on global climate change policy has analyzed the differing ideas of justice between the Annex 1 countries and Non Annex 1 countries (e.g. Parks & Roberts 2010; Soltau 2009). For instance, one of the most central, but also most dividing, principles in international negotiations has been the CBDR principle which is based on historical emissions and current capabilities. In this paper, we propose a wider definition of moral argumentation using justification theory (Boltanski & Thévenot 2006) to argue that disagreements in climate policy also emerge from different cultural conceptions of worth.

We analyze the US and French climate policy debates using the methodological approach of justifications analysis (Ylä-Anttila & Luhtakallio 2016), operationalized from justification theory. We identify political statements that policy actors make on climate change policy, and justification that policy actors use to support their arguments. We selected these cases because of two reasons. First, these countries have taken very different positions in global and national climate change policy. The US has opposed ambitious GHG reduction targets and global norms such as the CBDR principle at the international level, and hasn't implemented national climate policies (see above). France has taken a leading role in EU climate policy, and has signed most international agreements on climate change policy. At the national level, France has implemented national climate plans and climate laws to reduce GHG emissions in different sectors. The French climate laws are called Grenelle I (2009) and Grenelle II (2010), and were launched by Nicolas Sarkozy in 2007 in collaboration with a variety of stakeholders from academia, civil society and politics. Compared to other high-income countries, France has relatively low GHG emissions per capita, about 4.6. metric tons per capita (World Bank 2014). The lower per capita emissions have been made possible by radical investment in nuclear energy (Giddens 2011).

Second, previous literature within justification theory has found differences in the characteristics of political culture between the two countries (e.g.,

Lamont & Thévenot [eds.] 2000; Moody & Thévenot 2000). According to these studies, French political culture is characterized by the use of civic justifications that underline the importance of solidarity, democracy and legality as moral principles (Luhtakallio 2012; Article IV in this dissertation; Lamont & Thévenot 2000) while in the US, market performance is the most important principle in the evaluation of policies (Lamont & Thévenot 2000; Article IV in this dissertation).

4.3 Methodology

This section describes the methods that were used in this dissertation. The main emphasis is on discourse network analysis (Leifeld 2010; 2017), as it was used in most articles (I–III). Article IV used a method called justifications analysis, which is only briefly described here at the end of the section (for a more detailed description of justification analysis as a method, see Ylä-Anttila & Luhtakallio 2016).

Discourse network analysis

Discourse network analysis is a methodology that is used to examine the structure of political discourse in policy debates using textual data (Leifeld 2017). The methodology underlines the role of political discourse as an explanatory factor in the policy process and in policy change (Leifeld & Haunss 2012). A growing number of studies have used discourse network analysis to analyze policy debates (Leifeld 2013; Leifeld & Haunss 2012; Fisher et al. 2012, 2013; Stoddart & Tindall 2015). It is an innovative methodology as it combines discourse analysis and network analysis, allowing an examination of the relations between policy actors based on shared political discourse. This would not be possible using more conventional, qualitative analysis techniques (Leifeld & Haunss 2012; Leifeld 2017).

In this study, I use discourse network analysis to identify competing belief-based advocacy coalitions and the centrality of different types of policy actors and justifications in the policy debate. I use Discourse Network Analyzer (DNA) software, developed by Philip Leifeld (2010). In DNA, the main unit of analysis is a written statement that a policy actor makes on a political issue. With the resulting network data, DNA can be used with different types of theories, usually with theories that stress the role of discourse and coalitions in policymaking. In the case of the ACF, it allows us to examine competing advocacy coalitions and “the ideational structure of policy domains” (Leifeld & Haunss 2012, 402)

The types of analysis that can be performed using DNA can be either descriptive or inferential. Inferential analysis is a more dynamic, complex type of analysis, where a longitudinal approach is used to analyze the development of discourse networks over time (Leifeld 2017). The approach used in this study is a more descriptive one due to the two-year (Articles I and II) and four-year (Article III) data sets that do not allow proper analysis of temporality and causal inference. This study therefore provides a picture of the properties of the discourse networks at a specific point in time.

Coding scheme in DNA

The newspaper articles were first imported into the DNA software. Each country's data set had a separate DNA file. A statement was coded in a newspaper article whenever an organization made a claim—either a direct quote or a paraphrase—about climate change. The claim needed to be a normative claim about climate change policy; that is, it had to take a normative position in the debate. Factual statements where no clear position was taken by the organization were therefore not coded. We also excluded statements made by journalists. In Articles I and II, a claim represented a policy core belief, following the definition in the ACF. In Articles III and IV, a claim represented a moral justification following the definition in justification theory.

Below are the four attributes that were attached to individual statements:

1. *The person* making the statement was coded.
2. *The organization* making the statement was coded.
3. *Concept* was assigned to the statement. The concepts were developed inductively in an iterative process (representing a policy core belief in Articles I and II, or representing a moral justification in Article III).
4. *Agreement* or *disagreement* with the concept was coded.

In order to capture the uniqueness of each country's media debates, the COMPON coding protocol allowed country teams to inductively identify the concepts that appeared in the media debates. Thus, some country teams coded a more detailed list of concepts, while others coded more general concepts. As a result, the total number of concepts varied markedly between the countries. For instance, in the beginning of the analysis stage of Article II, the number of concepts (called "belief categories" in the article) was 28 in the US, 269 in Canada, 69 in Brazil, and 83 in Brazil. To ensure the comparability of the data sets between countries, I ended up combining a great number of concepts. This decreased the number of concepts in each country, except for the US, where there was already a good number. For example, in Canada, I combined the six

concepts “climate science is settled,” “climate change (CC) is caused by humans,” “claims concerning CC are not exaggerated,” “CC is real,” “greenhouse gases cause global warming,” and “IPCC predictions are overly conservative” into one single concept “scientific claims that greenhouse gases contribute to CC are valid.”

The table below shows the dataset that was used in Articles I and II.

Table 2. Number of articles, statements, organizations, and belief categories in each country.

	Articles	Statements	Organizations	Belief categories	Reduced belief categories
USA	648	1410	333	28	28
CAN	603	1202	278	269	49
BRA	435	639	192	69	50
IND	283	472	167	83	43

In Articles I and II, we selected the three most debated contentious beliefs and the three most debated consensual beliefs (Table 3 below) from the final list of concepts. In each country, these six belief categories included approximately 60 percent of all the statements, so they encompass the media debate adequately in each country. The contentious beliefs were used to identify competing advocacy coalitions and all six policy beliefs to examine the role of IOs in the policy debates.

Table 3. Most contentious and most consensual beliefs in the US, Canadian, Brazilian and Indian media debates on climate policy during 2007–08, agree/disagree (%).

Contention		Consensus
Canada	Scientific claims that GHG contribute to climate change are valid, 48/52, N=83	Global warming causes negative environmental impacts, 91/9, N=117
	Addressing climate change is harmful for the economy, 46/54, N=100	Carbon tax is an appropriate way for Canada to reduce emissions, 82/18, N=65
	Canada should start reducing emissions regardless of what developing countries do, 40/60, N=57	Federal government is taking meaningful action on climate change, 24/76, N=159
US	Scientific claims that GHG contribute to climate change are valid, 58/42, N=106	Cap and trade is the legislative approach the US should take in addressing climate change, 80/20, N=315
	Regulating emissions to protect the environment is more important than protecting the economy, 37/63, N=97	Increasing alternative energy is the approach the US should take in addressing climate change, 89/11, N=71
	Industry should be regulated in the US to decrease GHG emissions that contribute to climate change, 37/63, N=67	Higher auto efficiency standards are necessary in the US to reduce GHG emissions that cause climate change, 73/27, N=111

Brazil	Biofuels are an appropriate way to mitigate global warming, 57/43, N=134	Brazil should reduce its deforestation to achieve emission reductions, 93/7, N=30
	Current Brazilian actions to reduce climate change are strong and sufficient, 35/65, N=79	Avoided deforestation should be achieved through a financial compensation mechanism, 85/15, N=54
	Nuclear energy is a viable and desirable alternative to fossil fuels, 46/54, N=37	Developed and developing countries should have different responsibilities in the climate regime, 70/30, N=64
India	Responsibility for climate change is common but differentiated, 68/32, N=69	Alternative energy is a solution to climate change, 100/0, N=33
		Environmental change is evidence for climate change, 96/4, N=137
		Climate change is real and caused anthropogenically, 95/5, N=41

The coding for Article III was performed in closer collaboration with the Canadian team. This allowed for controlling the number of concepts from the beginning and throughout all the stages of the coding to ensure the comparability of the data set. Below is a table that describes the data set.

Table 4. Number of articles, statements, organizations and statement categories in the Canadian and Finnish mass media debates on Arctic climate change policy during 2011-2015.

	Articles	Statements	Organizations	Statement categories
Canada	292	428	216	32
Finland	185	317	115	29

Network analysis

The DNA software is equipped with several network export functions that allow exporting the DNA data set to social network analysis software to visualize and analyze the policy debate. In articles I-III, I used one-mode co-occurrence networks (also called one-mode congruence networks) in order to analyze the existence of competing coalitions in the debate, and the centrality of different policy actors and discourses. In a one-mode co-occurrence network of actors, actors represent the nodes in the network, and the edges between them represent shared concepts. A link between two actors is established if they both either agree or both disagree with a concept or several concepts. In a one-mode co-occurrence network of concepts, concepts represent the nodes and the edges between them represent shared actors. A link between two concepts is established if the same actor or several actors use these two concepts in the debate.

A co-occurrence network is an undirected, weighted network, the edges of which reflect the strength of discursive association (Leifeld and Haunss 2012). In other words, the more concepts two actors share, or the more two concepts are used by the same actors, the higher the edge weight will be. For example, a link between two actors such as the IPCC and the Democratic Party is established if they both state that, for instance, that climate science is valid, or if they both state that cap and trade is a good policy instrument. A link between two concepts such as “Ice sheets are melting due to climate change” and “the Arctic should be protected from oil exploration and extraction” is established if, for instance, Greenpeace Finland or any other policy actor uses these concepts in the debate.

I also used two-mode affiliation networks during the analysis phase to help interpret the one-mode co-occurrence networks. Two-mode affiliation networks directly show the types of concepts through which the actors are linked, and the types of actors through which the concepts are linked. In article III, affiliation networks are also used in the actual paper as part of the presentation of the results.

The congruence networks were exported to Gephi (Article I) and Visone (Articles II and III) software for social network analysis to visualize and analyze the DNA data. While exporting the DNA data, I included both disagreement and agreement into the networks. I also checked for the *remove duplicate statements* function, which removes duplicate statements from an article. This function is important, as it is not possible to know how many times an actor referred to a concept or whether the journalist decided to cite an actor multiple times in one article.

The Gephi and Visone softwares allow the actual network analysis of DNA data. I used the Louvain modularity algorithm (Blondel et al. 2008) to analyze competing coalitions based on shared policy beliefs. Modularity is an index that assesses the clustering of a network, measuring the density of links within communities compared to links between communities. The algorithm gives a modularity score between -1 and 1 . The higher the modularity value, the more clustered the network is. The Gephi software notes that if the value is above 0.4 , it is interpreted to mean that meaningful subgroups exist in a network. This definition was used in Article II to identify the existence of coalitions.

As a centrality measure, I used degree centrality to analyze the centrality of policy actors and justifications. Degree centrality is suitable for the analysis of undirected networks. The degree centrality score of a node tells how many “neighbors” the node has, that is, the number of ties it has to other nodes in the network (Hanneman & Riddle 2011). Using degree centrality, we are not only interested in the general visibility of an actor in the debate, which could be analyzed by merely counting the frequency of actors’ statements in the media debate. Instead, we are interested in assessing the actor’s role in the debate in a relational way. The centrality of an actor in a discourse network tells how much support the actor gets from others. The actor not only makes many statements but also presents statements that attract agreement from other actors. If an actor is not central in a discourse network, the actor makes statements that other actors do not agree on. A low centrality score can therefore be interpreted to mean that the actor does not belong to important advocacy coalitions and doesn't exert much influence in climate policymaking. In a similar vein, the centrality of a concept tells how consensual the concept is among the actors

in the policy debate. If a concept such as carbon tax is not central in the network, it is thus unlikely to be considered a legitimate one in climate policy-making.

Justifications analysis

Justifications analysis (Luhtakallio & Ylä-Anttila 2011; Luhtakallio 2012; Gladarev & Lonkila 2013; Ylä-Anttila & Luhtakallio 2016) is a method that operationalizes justification theory for the purposes of media content analysis. The method is inspired by political claims analysis, developed by Koopmans and Statham (1999). The unit of analysis is a claim, defined broadly as a unit of action in the public sphere. Thus, a claim may be a comment in an interview, an editorial, a public speech, or a demonstration that the actor has organized. A claim is coded whenever it includes a moral justification, following the seven orders of worth proposed by Boltanski and Thévenot (2006), to support the political claim. The actor making the claim is also coded. In Article IV, we also coded whether the actor was of domestic or international origin to compare the use of justifications between national and international actors.

In qualitative terms, justification analysis is similar to discourse network analysis, as it connects discourses to actors. However, the newspaper material is coded using qualitative content analysis software (QCA), not network analysis software. From QCA, the data is transformed into a data matrix, which is quantitatively analyzed using statistical methods.

5 Summary of Original Publications

This dissertation consists of four research articles. The articles take different perspectives to the overarching research problem of this dissertation: What is the role of discourse networks in climate policy making, and how does this role vary between national contexts and why?

5.1 Article I: Coalitions and beliefs in the US

Article I was coauthored with Jeffrey Broadbent and Tuomas Ylä-Anttila. The aim of the article is to contribute to the ACF literature on the role of different types of beliefs in coalition formation.

The ACF postulates that policy actors have a three-tiered belief system. Policy core beliefs, situated at the middle level of the belief system, are the most important beliefs that hold advocacy coalitions together (Sabatier 1998; Sabatier & Jenkins-Smith 1999). Policy core beliefs are tied to a specific policy issue, and they reflect “basic orientation and value priorities for the policy systems”, as well as “overall assessments of the seriousness of the problem, basic causes of the problem, and preferred solutions [policy instruments] for addressing the problem” (Jenkins-Smith et al. 2018, 140–141). Deep core beliefs are fundamental ontological beliefs, such as those regarding human nature and the principles of social coordination, which may span across policy issues. Secondary beliefs are the most changeable and rarely contribute to coalition, described as “specific instrumental means for achieving the desired outcomes outlined in the policy core beliefs” (Jenkins-Smith et al. 2018, 141).

As the definition of policy core beliefs is broad, ACF scholars have measured coalitions with different types of beliefs (e.g. Weible & Sabatier 2005; Ingold 2011; Leifeld 2013). This inconsistency has been unfortunate for the ACF in terms of accumulating theoretical knowledge on the role of different types of beliefs in the policy process. The distinction between policy core and secondary beliefs is also not clear: Ingold (2011) classified policy instruments as secondary beliefs in her study of Swiss climate policy, and Leifeld (2013) has stated that policy instruments might play a less decisive role in regulative policy subsystems where the normal state of policymaking is two to three competing advocacy coalitions.

In the article, we separately test the influence of different types of beliefs on coalition formation using discourse network analysis (Leifeld 2010; 2017). We examined an exceptional time period (2007–2008) in the history of US climate change policymaking, when unprecedented consensus was forming in

US climate policy (Fisher et al. 2013; Knox-Hayes 2012). The research material consists of media coverage of the US climate policy debate from the three biggest newspapers in the US: The New York Times, The Wall Street Journal and USA Today. These newspapers were selected because they represent different political orientations.

Our results show that the general beliefs, such as those concerning the validity of climate science, importance of ecological over economic values, and the role of government regulation in climate policy, contribute to coalition formation. We identified three competing coalitions in the discourse network based on the general beliefs: the economy, the environment and the science coalition. The economy coalition prioritized market values over environmental ones and rejected government regulation as a tool in climate policy. The economy coalition also questioned the legitimacy of climate science, which they believed was ideologically motivated. This coalition consisted of actors such as the Republican Party, the Bush administration, fossil fuel companies, groups from the conservative movement and business lobby groups. The environment coalition highlighted environmental values, supported government regulation, and believed in the validity of climate science. This coalition included actors such as the Democratic Party, US states such as California, ENGOs, international actors such as the EU and IPCC, and individual corporations. The science coalition was separate from the environment coalition, not due to conflicting beliefs but because the science coalition only expressed beliefs on the validity of climate science, arguing that human action is the source of the current warming of the climate. This coalition consisted mainly of national and international research organizations, such as universities.

This result deviates from previous literature on US environmental policymaking, where these two coalitions formed a unified coalition (e.g., Weible 2005; Heikkila et al. 2014). The different result is probably due to the nature of media material: scientific organizations might be keener to speak about science in the media, while leaving concrete policy proposals to other actors, or journalists only use research organizations as sources to speak about science.

While general beliefs were a source of conflict between warring coalitions, specific policy instruments including cap and trade, alternative energy, and higher auto efficiency standards, did not contribute to coalition formation. Our results from the media reflect previous studies that have analyzed the same period in US climate policymaking using other type of research material. Fisher et al. (2013, 2012) analyzed congressional debates during the same period, and showed how consensus was forming in the Congress particularly around a cap and trade system. These results support previous studies on US

political culture: policy instruments that require extensive government regulation, therefore threatening the freedom of the markets and the individual, tend to be unsuccessful in the US context (Rabe 2009, 2004; Layzer 2016).

We therefore suggest that policy instruments should not be a priori classified as policy core beliefs (divisive) in the ACF. In some policy subsystems such as regulative ones, and moments in time, policy instruments are where opposing coalitions can find agreement. This is because policy instruments, such as cap and trade and alternative energy, can accommodate different values. A functioning cap and trade system would reduce GHG emissions and, simultaneously, would not require much governmental regulation or hurt economic growth. Alternative energies that would be moderately priced would not hurt consumers and businesses economically and would be environmentally sustainable. In conclusion, we suggest that ACF theory could be refined to better account for the role of policy instruments in coalition formation across policy subsystems and national contexts.

5.2 Article II: International organizations and global norms in Canada, the US, Brazil and India

Article II was coauthored with COMPON research team members Tuomas Ylä-Anttila from Finland, Pradip Swarnakar from the India, Jeffrey Broadbent from the US, Myanna Lahsen from the Brazil and Mark Stoddart from Canada. In this paper, we examine the role of IOs and global policy norms in national policy debates on climate change. National policies are strongly driven by IOs such as ENGOs and intergovernmental organizations, international treaties such as the United Nations Framework Convention on Climate Change (UNFCCC), and global policy norms such as the principle of common but differentiated responsibilities (CBDR) and the need to define national GHG emission reduction targets. However, countries differ in how they have adopted the global norms.

This paper aims to understand differences in national climate policy making by focusing on the role of IOs and global norms in different countries. There is much research on the international dimension of climate change politics (e.g., Roberts & Parks 2007; Roberts 2011; Stoett 2012), but comparative work that analyzes the factors that contribute to national differences in climate policy making is still scarce (Purdon 2015). We suggest that these differences partly stem from the different roles that IOs and global norms play in high-income countries where GHG emissions per capita are high, and in lower-income countries where GHG emissions per capita are low. We focus on income

and emission levels for two reasons. First, existing research in the world society literature has shown that IOs tend to play stronger roles in policy processes in the lower-income countries than in the high-income countries (Frank et al., 2007; Longhofer & Schofer 2010). Second, the global norms concerning high- and lower-income countries are different: steeper GHG emission cuts are required from high-income countries (Annex I countries under the Kyoto Protocol) than from middle- and low-income ones (non Annex countries).

In our study, Canada and the US represent high-income countries where GHG emissions per capita are high. Brazil and India represent middle-income countries where GHG emissions per capita are low. We use discourse network (Leifeld 2010, 2017) analysis to analyze media coverage of climate change during 2007–2008 which was a period of high attention to climate change across the world due to key international and national events around climate policy (Schmidt et al., 2013; Broadbent & Sonnett 2016).

The article develops a framework synthesizing the ACF with the domestication theory (Alasuutari & Qadir 2014; Alasuutari 2016) developed in the world society literature. The combination of the two theoretical frameworks allows to analyze the two main research questions of the study: How central are IOs in mass-mediated national climate policy debates in different countries (RQ1), and what kinds of advocacy coalitions defend the global norms on climate change in the mass-mediated policy debates in different countries, and what kinds of coalitions oppose these norms (RQ2)?

Our results demonstrate that IOs are less central in the Canadian and US policy debates. In these countries, we found 3–5 competing advocacy coalitions. In both countries, we identified an economy coalition consisting of domestic organizations that oppose global norms such as the CBDR principle and the need to reduce emissions. The economy coalitions argued that climate policies would be harmful for the economy and that climate science is uncertain. In Brazil and India, IOs were more central and there was less domestic opposition to global norms. We did not find competing advocacy coalitions in these countries. In Brazil, there was some disagreement between organizations, but it mainly concerned which policy instruments are most desirable to reduce emissions, including debates on biofuels and nuclear power. In India, the only point of contention was the CBDR principle, which was mainly supported by domestic organizations and opposed by foreign governments. Despite these disagreements, the conflict was not strong enough for coalitions to emerge.

Our results support previous literature within the world society theory that has found that the world society, measured in terms of the presence of IOs and the role of global norms, tends to have stronger effects on policy processes in the low-income countries (Frank et al., 2007; Longhofer & Schofer 2010).

Due to historical developments such as received development aid, lower-income countries tend to be more integrated into the world society (Finnemore 1993; Finnemore & Sikkink 1998).

In conclusion, we claim that the differences in national climate policy making are partly due to the different roles that IOs and global norms play in the high income versus low income countries that are in different positions in the world society. Future studies should examine whether our results are generalizable to other high-income countries with high GHG emissions and lower-income countries with low GHG emissions. Studies using other type of research material than media material are also needed to support our claims on the role of IOs in climate policy making.

5.3 Article III: Policy actors and justifications in Finland and Canada

Article III was coauthored with Mark CJ Stoddart and Tuomas Ylä-Anttila. In the paper, we examine the centrality of different policy actors and justifications in the policy debate on Arctic climate change in Finland and Canada.

Our approach is guided by recent literature on the role of the media in environmental policy making. On the one hand, this literature has found that the media plays an increasingly important role in environmental policy making by shaping public opinion (Brulle et al. 2012) and serving as a political arena for policy actors to advance their policy preferences (e.g., Hansen 2010; Lester 2010; Boykoff 2011; Crow & Boykoff 2014). Manuel Castell's theory of communication power (2009) even claims political networks and media communication networks are increasingly symmetrical as political power manifests in the actors that are visible in the media communication networks. On the other, this literature has found that many influential policy actors, such as business actors, are not visible in the media debates on environmental policy in many countries (Lester & Hutchins 2012; Stoddart et al. 2017a; Lahsen 2017). These studies have therefore critically addressed the role of the media in policy making. Doesn't the theory of communication power apply in these cases, or could there be another mechanism at play?

In the paper, we combine Manuel Castell's theory of communication power (2009) to justification theory (Boltanski & Thévenot 1999; 2006). We argue that instead of examining which actors dominate in media communication networks, it is also important to examine how actors use different types of moral justifications in the media. This is because power is not only linked to the qualities of certain policy actors (Castells 2009) but also to competing

conceptions of the common good based on which actors justify their arguments in political debates (Boltanski & Thévenot 2006). Justification theory can therefore help understand political power in cases where political and media communication networks are not symmetrical in terms of the actors involved. By using a combined theoretical approach, we aim to advance theoretical knowledge on the relationship between political networks and media communication networks.

We use the methodology of discourse network analysis to compare the centrality of different policy actors and justifications in media debates on Arctic climate change in Finland and Canada during 2011–2015. We then compare these results to previous research on climate policy making in these countries. Finland and Canada represent different political-economic and institutional contexts among the circumpolar countries. First, the position of the fossil fuel industry is different in these countries: In Canada, fossil fuel industry exerts a lot of influence in climate policy making (e.g., Murphy and Murphy 2012; MacNeil 2014) while Finland does not have as influential fossil fuel industry. The warming Arctic offers new economic possibilities particularly for fossil fuel companies in Canada which has direct access to the Arctic Ocean. Second, their polity type is different, which tends to lead to different types of relations between the state and interest groups (Jepperson 2002; Lijphart 2012). Canada is a pluralist country where interest groups may freely organize and directly advance their particular interest. Finland is a corporatist country where the state negotiates with different organized interests in order to reach a general consensus. Because of these differences, we expect to find business actors in more central positions in Canada, and the justifications reflecting their influence. In Finland, we expect to find business actors in less central positions, ENGOs in more central ones, and the justifications reflecting this different setting.

The results show many similarities between the media debates in the two countries. First, universities and government actors are the most central actors, while business actors and indigenous groups are least central. The marginality of business actors such as the fossil fuel industry was not expected taken their overall influence in Canada. Second, in terms of justifications, eco-industrial justifications that highlight the negative environmental impacts of climate change in the Arctic region are the most central in both countries. Their centrality is probably due to Arctic climate policy being a relatively new policy domain where scientific information is emerging at a fast pace. Despite the absence of the business sector, market justifications that stress market worth are also central in both countries. Market justifications are sometimes

in conflict with ecological justifications, also central in both countries. Government and university actors stress the compatibility between market and ecological justifications while ENGOs use predominantly ecological justifications that assert the need to protect the fragile Arctic region. The centrality of market justifications in both countries reflect the influential role of heavy industries in Finland and fossil fuel industries in Canada (Murphy & Murphy 2012; Teräväinen 2010; Gronow & Ylä-Anttila 2016)

In terms of differences, ENGOs are central actors in Finland while in Canada, they are marginal actors. Ecological justifications are also more central in Finland. Additionally, civic worth is understood in different terms in Finland and Canada. Civic justifications that emphasize the importance of national sovereignty as a legal principle and nation-states as primary actors in the Arctic are central in Canada while civic justifications that value international cooperation as a legal principle and international actors as the most relevant actors in the Arctic region are common in Finland.

We argue that these differences at least partly stem from the different political-economic and institutional contexts. In corporatist Finland that does not have an influential fossil fuel industry, ENGOs have closer relationship to the government and better access to the media, which boosted the centrality of ecological justifications in the overall debate. In pluralist Canada, ENGOs were not able to attain as good positions as in Finland. Reflecting the role of the fossil fuel industry in the Canadian political economy, civic justifications that value national sovereignty instead of international cooperation were more prevalent.

The paper advances theoretical knowledge on the relationship between media communication networks and political networks by specifying two ways the justifications that policy actors use in media debates reflect power in political networks. First, the use of moral justifications such as market justifications may reflect the position of specific policy actors in the political network. Second, moral justifications may reinforce the positions of specific policy actors in the political network. For example, even though business actors were not themselves visible in the media debate, their political power is still being boosted by other policy actors who resort to market justifications in order to promote economic activities in the Arctic.

More empirical work is needed to affirm our theoretical claims. Future studies should more systematically compare data on political networks and media communication networks in order to assess the relative strength between media communication networks and political networks. Future studies could also examine why the role of business actors varies in the media debates across countries by analyzing national journalistic practices.

5.4 Article IV: Justifications in the US and France

Article IV was coauthored with Tuomas Ylä-Anttila. The idea of justice has received much attention in the literature on global climate politics (e.g. Parks & Roberts 2010; Soltau 2009). For instance, the CBDR principle mandates binding commitments to the industrialized countries who are historically responsible for most GHG emissions. However, a variety of policy actors besides states make normative claims in the public sphere about climate change policies that concern value priorities and preferred policy solutions, among other things. These claims also include ideas of what is considered just and desirable in climate policy.

In the paper, we use justification theory to examine how policy actors use different types of moral justifications to defend their arguments, following the seven orders of worth by Boltanski & Thévenot (2006) and Lafaye & Thévenot (1993). We use a newly developed method called justification analysis (Ylä-Anttila & Luhtakallio 2016) which operationalizes the seven orders of worth to examine public debates. Our approach offers a novel way to examine how policy positions are connected to the larger cultural context of evaluations (see Lamont & Thévenot [eds.] 2000). In doing so, we contribute to the study of climate policy by arguing that the disagreements in global climate policy are, at least partly, reflections of deep-seated cultural conceptions about what is worthy. The research material consists of newspaper coverage around three UN climate conferences (COPs): the Kyoto COP in 1997, the Copenhagen COP in 2009, and the Durban COP in 2011.

We selected the US and France because they represent opposite cases in national and international climate politics. While the US has one of the highest GHG emissions per capita, France has relatively low GHG emissions per capita, which is unusual for a high-income country. In France, the low emission levels have been made possible through the use of nuclear power. At international negotiations, the US has opposed ambitious GHG emission reduction targets and principles such as the CBDR, while France has supported them. In addition, previous literature within justification theory has compared political cultures of these two countries from the perspective of moral justifications, so we can use these studies to construct hypotheses. These studies have found that market justifications tend to be more prevalent in the US while civic justifications tend to prevail in France (Lamont & Thévenot [eds.] 2000; Thévenot et al. 2000; Luhtakallio 2012).

Our results show that climate change is more commonly discussed in terms of civic worth in France. In the case of the climate change debate, the civic justifications refer to climate justice between countries, the importance

of democracy instead of markets, and the importance of legal regulation in order to reduce GHG emissions. Civic justifications are also often combined with other types of justifications such as industrial ones that emphasize the importance of climate science. In the US, monetary value plays a much more important role as a moral justification: US policy actors argue that climate policies need to support economic growth and the freedom of markets. Market justifications were rare in the French debate. The differences we found align with the previous literature on political culture in these countries (Lamont & Thévenot [eds] 2000; Thévenot et al. 2000; Luhtakallio 2012).

Our paper contributes to the study of climate change policy by showing how the disagreements in the global politics of climate change are not only about different ideas of justice between the countries. In public debates at the national level, policy actors also disagree on what is worthy in climate change policy, such as what values are of utmost importance, and what policy instruments are suitable. For instance, our study showed that legal regulation was valued in France whereas market-based policies were preferred in the US climate change policy debate. Different cultural conceptions of worth therefore shape national policy debates and complicate the building of consensus at the international level. As our study only included Annex 1 countries, future studies should analyze the role of moral justifications in the Non Annex countries in comparative research designs.

6 Conclusions

In this dissertation, I have argued that discourse networks—networks of policy actors who are related through shared political discourse—play an important role in climate change policymaking in different national contexts. I will first discuss the theoretical contribution of this study and then reflect on the limitations as well as the needs for future research in the study of climate change policy.

As a theoretical contribution, I combined the ACF with the world society theory and the justification theory. Several scholars have argued (e.g., Henry et al. 2014; Gupta 2014; Jenkins-Smith et al. 2018; Tosun & Workman 2018) that ACF studies should take contextual factors better into account in the formation of advocacy coalitions. This would improve the use of the ACF in comparative research. The existence of external parameters is acknowledged in the formation of advocacy coalitions within the ACF (see Jenkins-Smith et al. 2018), but their conceptualization is partly underdeveloped and they have, to some extent, been neglected in empirical studies using the ACF. The external parameters refer to the basic social, cultural, economic, physical and institutional structures of a policy subsystem such as socio-cultural values and political economy factors. This study showed how the world society theory and justification theory can help to define some of the external parameters that are particularly important in climate change policy subsystems.

Following world society theory, IOs and global policy norms are involved in the formation of advocacy coalitions at the national level (Article II). IOs such as ENGOs and intergovernmental organizations such as the IPCC participate in national climate change policy debates. The global norms that they promote, such as the CBDR principle, trigger support or opposition from domestic policy actors, who form competing advocacy coalitions. Policy subsystems, the climate policy subsystem in particular, are not bounded entities but embedded in the global world society where global policies and norms diffuse between countries (Meyer et al. 1997). The ACF should therefore take the international policy level better into account as an external factor that affects advocacy coalitions at the national level (see also Litfin 2000; Sewell 2005; Aamodt & Stensdal 2017).

However, previous literature on world society theory has indicated (Frank et al., 2007; Longhofer & Schofer 2010) that IOs tend to have stronger roles in the lower-income countries than in the high-income countries. We also noted this in Article II: in Canada and the US which are high-income countries with high GHG emissions per capita, IOs were in marginal roles, and

national policy actors from government and industry sectors grouped together to oppose global norms by invoking beliefs about the uncertainty of climate science, how climate policies could harm economic growth, and the freedom of the markets. In Brazil and India which are middle-income countries with low GHG emissions per capita, IOs were in central roles and there was little opposition from national policy actors. Article II advances comparative knowledge on climate policymaking by showing how the role of IOs and global norms varies between countries with different income and emission levels.

Following justification theory, moral justifications that policy actors use to support their arguments vary across national contexts (Articles III and IV). In policy debates, policy actors need to justify their personal beliefs by appealing to shared moral justifications. Justifications are cultural repertoires that differ across situations and cultural contexts (see Lamont & Thévenot [eds] 2000; Luhtakallio 2012; Eranti 2016). However, policy actors also have critical capacity to challenge the prevalent ways of justifying and the existing structures (Boltanski & Thévenot 2006). The use of moral justifications therefore constrains – but also enables – advocacy coalitions in different national contexts. Justification theory helps to understand how fundamental sociocultural values, understood in terms of the different orders of worth (Boltanski & Thévenot 2006), influence advocacy coalitions in specific national contexts as an external parameter.

We demonstrated how in corporatist Finland where the fossil fuel industry is not as influential as in Canada, ecological justifications, invoked especially by ENGOs, and civic justifications that value international cooperation are central. In pluralist Canada where the fossil fuel industry is influential, civic justifications that value national sovereignty and industrial justifications that emphasize climate science are more central. We also showed how justifying based on market worth is more common in the US while justifying based on civic worth is more prevalent in France. Articles III and IV advance comparative knowledge on climate policymaking by showing how the role of different moral justifications varies across political-economic and institutional contexts.

World society theory and justification theory can also benefit from the ACF which has systematic tools to analyze the relations between policy actors at the subsystem level. Articles I and III demonstrated how policy actors divide into competing advocacy coalitions based on shared policy core beliefs in the US and Canadian policy debates while in Brazil and India, coalitions were less clear as there was less disagreement among policy actors concerning climate change. These differences reflect the difficulties that federal climate policies

have faced in the US and Canada while Brazil and India have implemented their own national climate policies since the 2000s.

In addition, the ACF focuses more closely on the attributes of policy actors such as organizational affiliation, and how this affiliation offers different types of resources and strategies to the individual to influence policymaking (Weible & Ingold 2018). Even though this study only focused on shared beliefs as a variable, the ACF can be used to examine other variables such as political and financial resources, perceived influence and coordination between policy actors (Jenkins-Smith et al. 2018). The ACF also has an active research community that produces new knowledge on the formation of advocacy coalitions, increasingly from a comparative perspective (e.g., Weible et al. 2016; Aamodt & Stensdal 2017; Ingold et al. 2017; Heikkila et al. 2018).

The theoretical work that I have started in this dissertation only scratches the surface: there is need for more interdisciplinary and comparative work on the policy process across countries and policy subsystems. However, some ontological and epistemological differences between the ACF and the sociological theories could complicate this work. For instance, the model of the individual is to some extent different in the ACF and the sociological approaches, the former leaning towards a psychological understanding of a boundedly rational individual and the latter towards a sociological understanding of an individual shaped by social structures and cultural habits. However, the individualist and collective approaches are reconcilable in the social sciences (see e.g., List & Spiekermann 2013). Justification theory also claims to avoid the ontological distinction by arguing that individual action and collective structures can exist simultaneously in the analysis (Boltanski & Thévenot 2006): individuals have critical capacity to challenge existing social structures by challenging the prevalent ways of justifying in situations. Epistemological differences between the disciplines could, in turn, hamper finding common ground in terms of methodological choices. These are issues that should be assessed by future studies.

In terms of research on climate policy, the most important limitations concern the research material and method. How well do the discourse networks in the media reflect climate policymaking in these countries? Media is a public sphere that exerts gate-keeping power (Alasuutari et al., 2013), and the role of the media also varies across countries (Boykoff & Yulsman 2013). Many actors use other political arenas and less public ways to influence policymaking, such as coordination, lobbying and funding specific politicians (see e.g., Lester & Hutchins 2012; Stoddart et al., 2017a). For instance, it would be wrong to simply infer from media material that there is little opposition to climate change policy in Brazil and India (see e.g. Lahsen 2017).

ACF scholars have also increasingly used media data to identify advocacy coalitions (e.g., Leifeld 2013; Lodge & Matus 2014; Tosun & Lang 2016; Heikkila et al. 2018; Articles I and II in this dissertation) but there remains issues to be considered. Media material does not include coordination which is an important variable in the ACF in addition to shared beliefs. The problem of “background noise” is relevant as there are many actors giving statements about climate change without necessarily belonging to any advocacy coalition. Demarcating all the relevant actors can be difficult as not all organizations appear in the media (Heikkila et al. 2018). Future studies should continue to assess the relationship between the media and political spheres.

In the 2015 Paris COP meeting, countries were able to build a global agreement to reduce GHG emissions. Brazil, India, and the EU even announced relatively ambitious GHG emission reduction targets. However, climate change will remain a particularly arduous policy problem for at least two reasons. First, as this study demonstrated, climate change policies are tied to fundamental differences in values and beliefs. The question is: How could climate policies better address different values and beliefs, and what kinds of policies are politically feasible in different national contexts?

Article I demonstrated that US policy actors were able to agree on a cap and trade system, but it turned out to be a temporary compromise. This shows how compromises between different orders of worth are inherently unstable (Boltanski & Thévenot 2006). However, cap and trade systems have been successfully implemented by US states and Canadian provinces, the EU and countries such as Australia, New Zealand and presently by China. If designed properly in terms of pricing, cap and trade but also cheap alternative energy and reasonably priced carbon tax could represent feasible solutions to climate change (Pielke 2010). Finally, climate change is connected to the economic system of capitalism and its practices (Urry 2011; Klein 2014). Political discourse is a factor that partly maintains the current system. This dissertation demonstrated how economic arguments have a strong role in many countries, in many situations clashing with arguments that emphasize environmental sustainability, legal regulation, and scientific values. These are important issues that future studies on climate change policy should investigate.

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