1 Introduction

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Introduction

Europe is going renewable – radically expanding its renewable electricity production. Public policies are at the heart of this major societal change so crucial for combatting climate change. Domestic support schemes for renewables have developed and changed over more than four decades now, with the European Union (EU) playing an increasingly important role. In 2014 the European Commission (the Commission) stepped up its steering of domestic support practices and required changes in many national support schemes. That development caused uproar in some EU member states, Germany among them, but was hardly registered on the political agenda elsewhere, for instance in Sweden.

Speeches held at a major renewable energy conference in Berlin, 27 March 2015, illustrate the differences between German and Swedish renewable electricity politics and policies. On that Friday morning, the German Minister for the Environment, Barbara Hendricks, stood on the podium at the Berlin Energy Transition Dialogue, addressing prominent figures in the booming renewable energy industry: corporate leaders, ministers and researchers.¹ She said she was proud of how Germany's extensive support of renewables had contributed to radical cost reduction and added: 'We want to encourage other countries to follow our example'. Further, she explained to the audience that the German energy transition, the *Energiewende*, had not been easy: 'We have learned some lessons' (Clean Energy Wire 2015).

For years, German renewables support, a key element in the *Energiewende*, had been subject to fierce political struggles and many heated debates – with massive protests from the major electricity utilities, which claimed that Germany's renewables support policy was a key reason why they were now on the brink of bankruptcy. There had also been tough bargaining with the Commission, in addition to legal disputes in the Court of Justice (CJEU). However, speaking in Berlin on that day in 2015, Hendricks did not dwell on all the impediments and hardships; she was proud of what Germany had achieved and pleased that representatives from many industries and countries had come to Berlin to learn.

However, even as Hendricks was speaking to delegates at the Berlin Energy Transition Dialogue, the long-established German practice of guaranteeing

different renewables technologies varying fixed prices for their electricity was about to change. Under this feed-in scheme, producers of expensive renewable energy technologies, such as solar, received higher support than did producers of less costly technologies, such as onshore windpower. In the future, large producers of renewable energy would have to compete for support in auctions. Only small projects would continue to receive traditional feed-in support: large producers would no longer receive a fixed electricity price, but rather an add-on on top of fluctuating market prices for electricity.

The next speaker was Nils Vikmång, State Secretary to the Swedish Minister for Energy and the Environment. In 2003 Sweden had adopted an electricity certificate scheme, which had remained largely unchanged since then. The scheme provided the same level of support to all types of renewables, differentiated between technologies, as in Germany. In addition, all Swedish renewables producers were exposed to fluctuating electricity prices, and the support level was itself determined by the supply and demand of electricity certificates. Like Hendricks, Vikmång represented a social democratic party, and they both came from countries that had radically increased their domestic renewables production. But Germany and Sweden had opted for very different approaches to renewables support. Unlike Hendricks, Vikmång and his colleagues had not experienced domestic support practices for renewables becoming entangled in complex juridical conflicts with the CJEU and the Commission. In Sweden, renewables policy discussions at the EU level were deemed largely irrelevant to domestic political deliberations on renewables policy.

However, the big utilities had started to criticize the Swedish scheme, which, they claimed, had led to overproduction of renewable electricity, ruining the profitability of existing large hydro and nuclear plants. As many renewables technologies had become far less costly, they argued that extra support was no longer needed. But Vikmång and his allies in the Swedish Parliament did not agree. They vigorously defended the traditional approach – and one year after the Berlin conference, the Swedish Parliament agreed to prolong the national electricity certificate scheme for another 15 years. That made Sweden the only EU country with electricity certificates as its main support scheme for renewables.

Germany and Sweden represent two contrasting approaches to renewables support in Europe: the technology-specific and the technology-neutral. Technology-specific mixes for renewables support create a broad range of differing support levels: costlier renewables technologies receive more support; and decentralized, small-scale projects often receive more support than centralized, large projects. The technology-specific approach also allows support to vary across geographical areas, fostering a wide range of renewables technologies and helping to underpin new industry developments and local energy security. By contrast, the technology-neutral approach is more aligned to the business models of big electricity producers operating in liberalized electricity markets. This approach favours large-scale investments in the most profitable technologies, with limited support for small-scale renewables sources.

The sheer number of actors involved in shaping policy and enabling these two countries, Germany and Sweden, to embark on different renewables policy paths is daunting. Even more confusingly, similar actors took strikingly different positions in the two countries. For instance, the Social Democratic Party in Germany promoted a highly technology-specific support scheme, whereas the Swedish Social Democrats promoted technology-neutrality. In order to understand how the two countries ended up with differing support-scheme mixes, we need to grasp how a broad range of factors and actors have interacted over time. Neither country developed its domestic policies in isolation from developments within other European countries or EU steering, but the roles played by what we refer to as the larger ‘European environment’ have differed greatly.

Challenging the many technology-focused accounts of the development of renewables support, this book takes a deep-dive into the political and social dynamics, developing a new analysis of this policy area as well as a new approach to policy studies in general. In addition to examining the cases of Germany and Sweden, we scrutinize and systematically compare the development of renewable electricity mixes in four other EU/European Economic Area (EEA) countries: France, Norway, Poland and the UK. Our overarching research question is: *What explains the differences and similarities in renewables support-scheme mixes across countries and over time?*

Germany, the UK, Poland and France all have technology-specific renewables support mixes; Norway and Sweden have technology-neutral support mixes. Some of these countries have had rather stable renewables support mixes; others have shifted over time. The UK and Poland switched from technology-neutrality to technology-specificity after 2010. Around that time, Germany and France started to expose new renewables projects more to market prices and competition than before, but without dropping technology-specificity. Countries in both groups have adopted a mix of support schemes, but whereas Germany, the UK, Poland and France offer technology-specific support to both small- and large-scale renewables projects, Sweden and Norway have adopted more technology-neutral schemes for both categories.

Renewable electricity production is central to climate-change mitigation. Globally, as well as in the EU, the combustion of coal, natural gas and oil for electricity and heat is the largest single source of greenhouse gas (GHG) emissions (EPA 2019). In 2017, the energy-producing industries, primarily producing electricity, were responsible for 28% of total GHG emissions in the EU (Eurostat 2019). Renewables support schemes play an important role in strategies for climate mitigation, although other measures, such as carbon pricing, energy-efficiency standards and improved public transport, also contribute. By clarifying the factors and actors that shape the development of renewables support, this book furthers a better understanding of the political dynamics of climate-change mitigation in general.

Like many other climate-policy issues, renewables support mixes are shaped by complex interrelationships involving several parallel and partly intertwined

societal processes. Economic liberalization, Europeanization, climate mitigation and technological change have underpinned the emergence, change and staying power of domestic renewables policies across Europe. Various strands within the political science literature – including EU implementation research, policy diffusion studies, policy process frameworks and historical institutionalism – may help us to assess and understand parts of the policy process, but none of these alone can adequately capture the dynamic interrelationships between the many decision-making bodies and actor-groups involved. Combining these political science literatures in new ways, and adding elements from sociological institutionalism and economic sociology, in this book we develop a *dynamic multi-field approach*.²

The multi-field framework

Whereas usual practice has involved analysing a few actor groups in isolation, exploring their positions and actions within limited time-periods, the multi-field framework can help us to identify the *links* between differing groups of actors and how political dynamics develop and unfold – features too often overlooked in studies of public policy, comparative politics, Europeanization and energy transition. The multi-field framework facilitates comprehensive analysis of organizational and political factors and how they interact and change over time.

Social scientists from a range of disciplines emphasize the role of *fields*, but the concept goes under various names, such as ‘segments’, ‘policy systems’ or ‘policy monopolies’ (Baumgartner and Jones [1993] 2009; Bourdieu 2005; Fligstein and McAdam 2012; Kluttz and Fligstein 2016). Fields distribute power among actors and shape values, identities and interests. ‘Social fields’ are circumscribed spheres of political and social life with particular constellations of actors (Boasson 2015: 1). Each field has an identifiable social architecture: a distinct distribution of resources and particular cultural-institutional beliefs and logics. Fields are issue- or industry-specific configurations of governmental and private organizations, and their importance for policy development results partly from the structural interrelationships and cultural-institutional unity between these organizations (Fligstein and McAdam 2012). Fields are not actors with defined objectives and strategies: they should be seen as socially distinct constellations of actors, with varying degrees of internal coherence and unity, more or less impenetrable boundaries and varying autonomy.

Modern societies can be seen as consisting of multiple fields. All fields are embedded in complex, multi-dimensional webs of dependence with other fields (Fligstein and McAdam 2012; Kluttz and Fligstein 2016: 192). As Scott (2017: 862) notes, most organizations ‘simultaneously operate in multiple fields and hence host multiple logics as well as alternative relational systems’. Examination of how multiple fields interact and change over time can help to explain changes and stability in public policy and facilitate more interdisciplinary dialogue – in relation to climate- and energy-policy developments, but also in other policy areas.

Renewables support mixes change as a result of multiple fields interacting and responding to each other. In this book, we pay special attention to how domestic organizational fields of electricity production, domestic political fields and the European environment (described in the following list) interact over time, jointly influencing the development of national renewables support schemes. Some actors may be affiliated with several fields, but the main participants in the three fields are as follows (see also Boasson 2015: 38–46):

- *Domestic organizational fields*: commercial organizations, public regulators and administrative bodies, business associations and sometimes also other non-governmental organizations, such as environmental organizations.
- *Domestic political fields*: the whole range of political actors – political party organizations, legislative assemblies and parliamentary committees, governmental executives and the political leaders of governmental ministries.
- *The European environment*: consists of a range of domestic political and organizational fields (in EU and EEA member states) but also includes EU-level fields and the social processes that unfold at the EU level. With renewable electricity support, processes relating to the development of EU governance of renewables, as well as EU competition policy and state-aid control processes, are of relevance.

The organizational, political and European fields are interrelated in many ways, and these relationships may change over time. For instance, whereas the big electricity utilities used to be embedded within domestic organizational fields consisting of other electricity utilities, grid operators and domestic public agencies that regulate energy and electricity, today they can also be seen as part of the larger European field of electricity production, together with other major utilities and various EU organizations focused on energy regulation. Moreover, domestic political parties used to relate solely to other domestic political parties, but they may also participate in larger European political fields with party groups directly represented in the European Parliament. Further, there is a direct relationship between domestic political and organizational fields, not least because the political executives (the ministers) have their key rooting in the political field, whereas the civil servants in the ministries belong to the organizational field.

Research questions and research design

It is not easy to see which factors can best *explain differences and similarities in renewables support schemes mixes across countries and over time*. The history of the development of renewables policy in Germany, the UK, Poland, France, Sweden and Norway is complex and full of idiosyncratic events, making it hard to pinpoint the similarities and differences on policy outcomes across countries.

Historically, the UK, Germany, France and Poland have rarely opted for similar industrial policies and economic development models (Dobbin 1994; Hall 2014; Nölke and Vliegenhart 2009), yet they developed roughly similar renewables

support mixes. While it is less surprising that Norway and Sweden should have similar approaches, it is intriguing that they opted for an electricity certificate scheme quite similar to the renewables portfolio standards dominant in the world's prime liberal market country, the USA (Rabe 2007). After all, the Scandinavian countries are known for their very different approaches to industry policies and economic development approaches from those of the USA.

In order to detect causal regularities across countries and over time, we operate with six case studies of renewables policy development all guided by the same questions, namely, *how is the development of renewables support mixes affected by:*

- *the European environment?*
- *domestic organizational fields?*
- *domestic political fields?*

And further: *do developments in one field influence developments in others?*

Main findings

Through systematic comparative assessments, we obtain new insights into the drivers of renewables policy developments in the EU and EEA countries, and we also understand and capture the policy-shaping dynamics often overlooked by other explanatory approaches to domestic policy developments. What, then, do we find?

Europeanization spurs differentiation

The European environment approach facilitates coherent and nuanced examination of how Europeanization affects domestic policy developments. In line with recent developments in EU policy implementation research, we take into account that EU influence may lead to both coherence and diversity among the policy approaches of the EU and EEA countries (Thomann 2015, 2019: 9). EU implementation studies tend to focus on vertical Europeanization, understood as top-down EU steering resulting from the EU having gained formal authority within an issue-area (Bulmer and Radaelli 2004: 5). But we also explore the importance of horizontal Europeanization, understood as the diffusion of policy ideas across countries and fields within the European environment (Boasson 2015; Börzel and Risse 2012; Cowles and Risse 2001: 219; Jörgens and Solorio 2017: 12–13). Some scholars hold that, in order to qualify as 'Europeanization', policy transfer must emerge through EU policy or European integration processes (e.g. Radaelli 2003); however, we operate with a broader conceptualization, where Europeanization includes also voluntary transfers across member states, transfers that may not have passed through EU institutions first.

Admittedly, we are not the first to examine vertical and horizontal Europeanization in conjunction (Jörgens and Solorio 2017). However, we contribute

something new by examining the implementation of two interrelated strands of EU policy development in conjunction – EU renewables policy proper, and state-aid policies – and by conducting a longitudinal study that covers more than four decades of Europeanization.

The European environment approach enables us to uncover several new dynamics in Europeanization. We find that the European environment tends to shape domestic policy developments more in periods when strong vertical Europeanization is combined with coherent horizontal Europeanization – implying that one specific support-scheme mix gains superiority in the European environment. But this is not the only situation in which the European environment is important. Impulses for change in the European environment are generally more important for domestic policy developments than we expected, also in situations where the EU lacks formal authority and no particular policy recipe dominates the European environment. The European environment has influenced developments in renewables support in all our case-study countries, albeit at varying times and in differing ways.

European policy impulses with respect to renewables support have changed significantly over the years. Variance in the EU steering impulses and shifting trends in the design of European renewables support has contributed to differentiation in domestic policies. More specifically, the Europeanization of renewables support has amplified differences in renewables support mixes across the two groups of countries examined here, while also spurring convergence within the two groups.

While it has played an important role in many of the technology-specific countries (with the exception of the UK), the European environment had the greatest influence in the technology-neutral countries in the late 1990s and early 2000s. Our longitudinal research design makes possible a far more nuanced understanding of the diversifying power of EU steering than studies that examine implementation of EU policies over a more limited time-span.

Organizational fields are crucial but can be over-ruled

Although electricity production in most countries is dominated by powerful actors with limited initial interest in renewables (domestic regulators and a few large nuclear or fossil-fuel utilities), forceful renewables support schemes have emerged. Often, the regulators and incumbents have been unable to prevent renewables industry actors and environmental organizations from having their way – which surely indicates that all those political science theories that bluntly assume that big corporate actors will have privileged positions in policy development need to be re-assessed and refined (Carpenter and Moss 2014; Lindblom 1977). Using the concept of organizational fields, we can explore why the roles and powers of such actors vary across countries and over time.

Moreover, the many policy frameworks aimed at facilitating assessment of how civil servants, big corporations, idealistic organizations and other non-governmental organizations shape policy development – such as multiple streams (Herweg et al. 2018; Kingdon [1984] 2011), advocacy coalitions (Jenkins-Smith

et al. 2018; Sabatier and Jenkins-Smith 1993) and punctuated equilibrium (Baumgartner and Jones [1993] 2009; Baumgartner et al. 2018) – have failed to produce robust findings on the conditions under which actors other than big business tend to be most influential.

Cumulative research on the relative importance of varying actor groups under differing conditions has been undermined by seemingly endless rivalry between differing policy process frameworks. The seminal *Theories of the Policy Process*, edited by Christopher M. Weible and Paul A. Sabatier [2007] 2018) epitomizes this. This volume gives thorough and insightful presentations of the major policy process frameworks – a great leap forward for policy studies. But since the contributors present each framework as unique, rather than identifying commonalities across them, this spurs competition, rather than creating common research frontiers and cumulative research traditions. Instead of becoming embroiled in the competition among established policy frameworks, we have chosen to draw on insights from many of them in developing our organizational field approach.

We define an organizational field as segmented when most formal authority and information are concentrated within a few large corporations and the governmental regulators and these actors approach and understand renewable electricity promotion in a similar way, i.e. they are embedded in a similar institutional logic. We find that shifts in institutional logics relating to renewables support in domestic organizational fields underpin changes in renewables support mixes, in both segmented and less segmented fields. Some actors understand the promotion of renewables as mainly relating to a technology development logic, and they prefer governmental measures that provide investors with good, stable conditions for developing a broad range of technologies. Others follow a market-logic and rely primarily on technology-neutral measures: they prefer governmental measures that minimize the societal costs of renewables investment and favour the least costly technologies. Some fields are dominated by one of these views, but there can also be a high level of conflict between them, as it was in Germany for a long time. After 2010, the two contrasting approaches came to blend in the UK and France, but also to some extent in Germany, towards more technology-specificity in the UK, and in the other direction in France and Germany. The Norwegian and Swedish support schemes are dominated by technology-neutrality, and this can be partly explained by the dominance of market-thinking in their domestic organizational fields.

Although many segmented fields play an important role in ensuring both stability and change, they rarely control policy development. Nowhere have powerful organizational field actors been in full control over the development of support schemes. Large electricity utilities tend to be more influential when the organizational fields are segmented, but segmentation may also empower public administrative organizations, as in the UK as well as in Sweden in the late 1990s. In several cases, renewables support schemes changed in ways that ran counter to the positions of electricity utilities with dominant positions in segmented fields – in Poland, France and Sweden. The German case shows that when the organizational

field is not segmented, there tends to be more room for influence from the domestic political field and the EU.

The organizational field approach enables us to capture nuances in the role of corporate and public administrative actors. It will be exciting to see how the causal arguments presented in this book will fare when tested out on other countries and other issue-areas.

Political fields tend to drive policy developments when resources are distributed

The multi-field framework develops a new analytical take on the role and importance of politicians for policy development. In media discourse as well as academic debate over climate policy and politics, ‘political will’ is considered crucial to mitigation of climate change. For decades, climate activists, environmental groups, researchers, green industry groups and others have called for politicians to adopt ambitious climate policies, but we still lack adequate systematic knowledge of how and to what extent political dynamics shape policy development. One reason is that political scientists and policy scholars seldom focus explicitly on the role of politicians and political fields in policy development processes.

We find that domestic political actors and political dynamics can influence domestic policy developments rather independently of what goes on in adjacent fields. Political fields tend to be more important when a political issue is salient and thus subject to political competition. But such fields often play an even more important role when structural resources are distributed among many political actors rather than only a few. This means that it is more likely that the political field drives policy development when responsibility for renewables is shared among several ministries, when the Parliament has a strong position and/or when the government is made up of several parties. We find that, under such conditions, the political field has played a far more important role in Germany and Sweden than in the other case-study countries. In both Germany and Sweden, the political salience of renewables support schemes, the distribution of structural resources among several parties within the government and the existence of strong parliaments contributed to enhance the importance of the political field.

This finding shows that political actors are more important than dominant policy process frameworks (such as multiple streams, advocacy coalitions or punctuated equilibrium) and historical institutionalism lead us to believe. These tend to assume that politicians are important only at rare and brief points (‘punctuated equilibria’, ‘windows of opportunity’ or ‘critical junctures’). Further, historical institutionalists are deeply interested in the role of the state, but not in the role of politicians in particular. B. Guy Peters et al. (2005: 1283) highlight that historical institutional studies often ‘overemphasize the importance of civil servants and bureaucrats in policymaking processes, belittling excessively the continuing (and on occasions elemental) significance of politicians as creative actors’. Our findings strengthen their argument.

Spotlight on politics and culture as policy drivers

In this book, we show that political and cultural-institutional features are crucial drivers of changes and stabilities in renewables support mixes. Renewable electricity technology has made impressive quantum leaps during the period covered here, with particularly radical reductions in costs after 2008 (IRENA 2013, 2019). While this has enabled greater deployment of renewable energy, renewables have been constrained by entrenched fossil-fuel and nuclear energy infrastructures (Geels 2014; Lockwood et al. 2017; Meadowcroft 2011). These technological-economic features have played into shifts in renewables support mixes in all the six countries examined here, but we show that we need to take politics and culture into account in order to understand differences and similarities in support mixes across countries.

We are not alone in recognizing that energy and climate transitions entail complex social shifts, and that technological and economic factors are not the only enablers and constraints. In this book we offer one suggestion as to how political and cultural aspects may be examined. We show that differing cultural aspects, such as institutional logics and political cognitive scripts, can help to explain the behaviour of different types of actors. We also shed light on why political dynamics are more important at some stages of policy development than at others.

Method: case selection, process tracing and systematic comparison

All contributors to this book have carefully mapped the nature of the fields in question empirically. We have aimed to be as transparent as possible regarding the analytical criteria employed in identifying the various fields and their interrelationships, and to build our assessments on detailed and rich empirical material. Further, we have taken care not to attribute agency to the fields, recognizing that this is an analytical construct that encompasses a broad range of actors.

Case selection and process tracing

Our case selection is based on the features of interest as regards theory. In selecting cases, we sought to identify cases where it was either highly likely or highly unlikely that the European environment, the organizational field or the political field had played important roles for the development of support mixes (George and Bennett 2005: 121). Causal relationships can be detected only after significant empirical investigation, not *a priori* – indeed, it later became evident that some cases had different qualities than initially expected.

Older comparative methodology approaches emphasize selecting cases that allow for control over ‘independent variables’. Such procedures are based on a deterministic view on causation, while our case comparisons are based on probabilistic, not deterministic, understandings of causality. Rather than searching for features that are necessary and/or sufficient for a certain outcome, we remained

open to the possibility of equifinality – that there might be multiple causal paths to the same outcome (Mahoney and Goertz 2006: 11). One feature may enhance the probability that a certain outcome will occur, but it will very rarely be necessary; and an increase in the value of a factor may cause different outcomes in different cases (Hall 2003: 315). Since all efforts to control cases through case selection implicitly assume that any causal relationships are of a necessary or sufficient nature, these procedures have been largely discredited (see Box-Steffensmeier et al. 2008: 24; also discussion in Mahoney 2003).

We aimed to select countries where the European environment had played differing roles. Research available to us at the time (2015) showed that German actors had repeatedly challenged EU steering, but they also indicated that there had been fewer conflicts in relation to implementation in France, Norway, Poland, Sweden and the UK (see e.g. Boasson and Wettestad 2013; Wurzel and Connelly 2011). Further, the literature indicated that Germany had influenced many other countries as regards copying its renewables support scheme, whereas Norway and Sweden had less success in this respect.

Additionally, we aimed for variation in the impacts of the organizational field. This proved challenging, as the organizational field of electricity production tends to be rather segmented in all European countries. However, research indicated higher degrees of segmentation in Poland, France and Norway than elsewhere (Boasson 2015; Boasson and Wettestad 2013). Lastly, we aimed for variation in the importance of the political field. Previous research has indicated that the political field has played more prominent roles in Germany and Sweden than elsewhere (Boasson and Wettestad 2013; Åstrand 2005).

This book combines comparative qualitative case-study method with process tracing. The case-study approach entails detailed examination of historical episodes in order to develop explanations that may be generalizable to other events (George and Bennett 2005: 5). We conduct within-case assessments and systematic comparative assessments, and we assess interrelationships between cases. In each case study we pose the same set of general questions and relate to similar expectations, thereby ensuring standardized data collection and enabling systematic comparison (Collier 1993: 105; George and Bennett 2005: 67).

In all case studies, we follow the policy developments from inception until 2016, scrutinizing developments in line with widely accepted criteria for process tracing. We understand process tracing as ‘the analysis of evidence on processes, sequences, and conjunctures of events within a case for the purpose of either developing or testing hypotheses about causal mechanisms that might causally explain the case’ (Bennett and Checkel 2015: 7). We have paid attention to ensuring coherence in method and theory across the cases from all contributing authors; the three co-editors have been involved in writing all but one of the chapters.

Sources and data

We combine written and oral sources. The latter includes a unique assembly of 79 in-depth, qualitative interviews with prominent actors, among them former

government ministers, high-ranking civil servants in ministries and agencies, representatives of national and European industries, representatives of environmental groups and high-level Commission officials. We worked to ensure that the same categories were interviewed in all six case countries; but we encountered some challenges in Poland, where political conditions made it difficult to conduct interviews, so we opted to rely on transcripts from parliamentary debates. Since the author of the Norwegian case, Elin Lerum Boasson, had conducted dozens of interviews about renewable policy developments in Norway in prior work, we conducted fewer interviews in this case (see the lists of interviewees at the end of Chapters 4–10).

As to written sources, we have examined several hundred publicly available documents. These include (but are not limited to) consultation inputs, parliamentary reports, party programmes, government/coalition agreements, written correspondence between national authorities and the EU and news articles.

Moving back and forth between theory and cases has enabled us to formulate new concepts, discover novel explanations and refine pre-existing theoretical expectations in light of detailed case evidence (Mahoney and Rueschemeyer 2003: 13). Most importantly, we have focused on understanding each case individually, but we have also explored how they relate to each other. This research method is resource-demanding, but also rewarding.

Systematic comparisons

In Chapter 10, we perform detailed, systematic comparisons across cases as well as over time, aided by tables that illustrate similarities and differences. This comparative method has been possible because all contributing authors refer to the same time-periods in their chronological accounts. The method helps us to examine the roles played by the various fields across different time-periods: each of our six cases consists of four sub-cases, one for each time-period. Because relatively little of relevance happened before 1999, the first period covers two decades, from around 1970 to 1999, while the subsequent periods are five years each. The last period, post-2010, is slightly longer, as we conducted most of our empirical mapping in 2015 and 2016.

Rather than search for one precise, parsimonious explanation, we have been open to the possibility that different causal patterns may lead to similar outcomes and that complex interdependencies may be important (George and Bennett 2005: 161; Hall 2003: 383; Rueschemeyer 2003: 315). Our objective has been to render observed regularities intelligible by specifying in detail how they were brought about (Hedström 2008: 321).

Presentation of the chapters

This introduction has briefly presented the topic, research questions and main findings of this book. There are three additional chapters in Part I. Chapter 2, by

Elin Lerum Boasson and Merethe Dotterud Leiren, shows how this book builds on and adds to existing research on renewable energy policy and climate transitions. It specifies the analytical dimensions that determine the degree of technology-specificity and performs comparative assessments of the renewables support schemes of the six countries. Lastly, the authors show that research approaches that rely primarily on technological-economic features cannot fully explain cross-country similarities and differences in support-scheme mixes.

The multi-field approach is presented in Chapter 3, by Boasson. The chapter specifies the special character of the European environment, the domestic political field and the domestic organizational field, and presents our specific expectations as to when and how the three will influence policy developments. In addition, cross-field interrelationships and interdependencies are discussed. The expectations developed in this chapter are systematically assessed in the empirical chapters in Part II, and later the findings are compared in Chapter 11. Chapter 4 (authored by Boasson) is empirical in nature: it presents developments and changes in EU steering (vertical Europeanization), as well as broader European trends when it comes to renewables support schemes (horizontal Europeanization). This chapter represents an important background for understanding how and to what extent the European environment have affected the policy developments in the six case studies.

Part II presents our six country case studies. The countries with technology-specific support-scheme mixes are presented first, followed by the technology-neutral countries. Chapter 5 focuses on Germany (authors: Merethe Dotterud Leiren and Inken Reimer), Chapter 6 on the UK (authors: Tim Rayner, Merethe Dotterud Leiren and Tor Håkon Inderberg), Chapter 7 on Poland (author: Kacper Szulecki), Chapter 8 on France (authors: Elin Lerum Boasson, Catherine Banet and Jørgen Wettestad), Chapter 9 on Sweden (authors: Elin Lerum Boasson, Hugo Faber and Karin Bäckstrand) and Chapter 10 on Norway (author: Elin Lerum Boasson). In all these chapters, the authors first present the renewables support mix of the country at the end of 2016, then turn to a causal account of the evolution of the support scheme in each country over four periods: from the 1970s until 1999, from 2000 to 2004, from 2005 to 2009 and from 2010 until around 2016. All chapters examine the expectations put forward in Chapter 3.

Finally, Part III compares and concludes. Chapter 11 (authors: Boasson, Leiren and Wettestad) presents a detailed, systematic comparative assessment, with systematic comparisons of how and to what extent the European environment, domestic political fields and organizational fields have affected the six countries over the four time-periods. We also examine how the fields have interacted and influenced each other over time. The final chapter, Chapter 12 (author: Boasson), presents the central general conclusions to be drawn from the comparisons performed in Chapter 11, with a focus on the implications for research of public policy, climate and energy transitions and EU implementation and Europeanization research. This chapter concludes the book with a discussion of the limitations of the multi-field approach.

Notes

- 1 The Berlin Energy Transition Dialogue was initiated by the German government, with the aim of spurring international interest in the German renewable energy transition: the *Energiewende*.
- 2 This approach, first developed by Elin Lerum Boasson (2015), has undergone significant revision and improvement for the purposes of this volume.

References

- Åstrand, K. (2005) 'Examining influences of EU policy on instrument choice: The selection of a Green Certificate trading scheme in Sweden', *Policy and Society* 24(2): 100–128.
- Baumgartner, F.R. & B.D. Jones ([1993] 2009) *Agendas and Instability in American Politics*, 2nd ed. Chicago, IL: University of Chicago Press.
- Baumgartner, F.B, B.D. Jones & P.B. Mortensen (2018) 'Punctuated equilibrium theory: Explaining stability and change in public policymaking', in C.M. Weible & P.A. Sabatier (eds), *Theories of the Policy Process*. London: Westview/Taylor & Francis.
- Bennett, A. & J.T. Checkel (eds) (2015) *Process Tracing: From Metaphor to Analytical Tool*. Cambridge: Cambridge University Press.
- Boasson, E.L. (2015) *National Climate Policy: A Multi-field Approach*. New York: Routledge.
- Boasson, E.L. & J. Wettestad (2013) *EU Climate Policy: Industry, Policy Interaction and External Environment*. Farnham: Ashgate.
- Börzel, T.A. & T. Risse (2012) 'From Europeanisation to diffusion: Introduction', *West European Politics* 35(1): 1–19.
- Bourdieu, P. (2005) 'Principles of an economic sociology', in N.J. Smelser & R. Swberg (eds), *Handbook of Economic Sociology*. Princeton, NJ: Princeton University Press.
- Box-Steffensmeier, J.M, H.E. Brady & D. Collier (2008) 'Political science methodology', pp. 3–31 in J.M. Box-Steffensmeier, H.E. Brady & D. Collier (eds), *The Oxford Handbook of Political Methodology*. Oxford: Oxford University Press.
- Bulmer, S.J. & C.M. Radaelli (2004) *The Europeanisation of National Policy?* Queen's Papers on Europeanisation p0042. Belfast: Queens University Belfast.
- Carpenter, D. & D.A. Moss (2014) *Preventing Regulatory Capture*. Cambridge: Cambridge University Press.
- Clean Energy Wire (2015) 'Germany's 'Man-to-the-Moon' project: Quotes from Energiewende conference', Published 27 March 2015. Retrieved from www.cleanenergywire.org/news/germanys-man-moon-project-quotes-energiewende-conference, 3 November 2017.
- Collier, D. (1993) 'The comparative method', in A.W. Finifter (ed), *Political Science: The State of the Discipline II*. Washington, DC: American Political Science Association.
- Cowles, M.G. & T. Risse (2001) 'Transforming Europe', in M.G. Cowles, J. Caporaso & T. Risse (eds), *Transforming Europe: Europeanization and Domestic Change*. Ithaca, NY: Cornell University Press.
- Dobbin, F. (1994) *Forging Industrial Policy: The United States, Britain, and France in the Railway Age*. Cambridge: Cambridge University Press.
- EPA (2019) 'Global greenhouse gas emissions data. United States environmental protection agency', Retrieved from www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, 20 November 2019.

- Eurostat (2019) 'Share of electricity from renewable sources in gross electricity consumption, 2004–2017 (%)', Retrieved from [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Share_of_electricity_from_renewable_sources_in_gross_electricity_consumption,_2004-2017_\(%25\).png](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Share_of_electricity_from_renewable_sources_in_gross_electricity_consumption,_2004-2017_(%25).png), 16 June 2019.
- Fligstein, N. & D. McAdam (2012) *A Theory of Fields*. Oxford: Oxford University Press.
- Geels, F.W. (2014) 'Regime resistance against low-carbon transitions: Introducing politics and power into the multi-level perspective', *Theory, Culture & Society* 31(5): 21–40.
- George, A.L. & A. Bennett (2005) *Case Studies and Theory Development*. Cambridge, MA: MIT Press.
- Hall, P.A. (2003) 'Aligning ontology and methodology in comparative research', in J. Mahoney & D. Rueschemeyer (eds), *Comparative Historical Analysis in the Social Sciences*. Cambridge: Cambridge University Press.
- Hall, P.A. (2014) 'Varieties of capitalism and the euro crisis', *West European Politics* 37(6): 1223–1243.
- Hedström, P. (2008) 'Studying mechanisms to strengthen causal inferences in quantitative research', in J.M. Box-Steffensmeier, H.E. Brady & D. Collier (eds), *Oxford Handbook of Political Methodology*. Oxford: Oxford University Press.
- Heweg, N., N. Zahariadis & R. Zohlnhöfer (2018) 'The multiple streams framework: Foundation, refinements and empirical applications', pp. 17–53 in C.M. Weible & P.A. Sabatier (eds), *Theories of the Policy Process*. London: Westview/Taylor & Francis.
- IRENA (2013) *Renewable Power Generation Costs in 2012: An Overview*. Abu Dhabi: International Renewable Energy Agency.
- IRENA (2019) *Renewable Power Generation Costs in 2018*. Abu Dhabi: International Renewable Energy Agency.
- Jenkins-Smith, H.C., D. Nohrstedt, C.M. Weible & K. Ingold (2018) 'The advocacy coalition framework: An overview of the research program', pp. 135–171 in C.M. Weible & P.A. Sabatier (eds), *Theories of the Policy Process*. London: Westview/Taylor & Francis.
- Jörgens, H. & I. Solorio (2017) 'The EU and the promotion of renewable energy: An analytical framework', pp. 3–22 in I. Solorio & H. Jörgens (eds), *A Guide to EU Renewable Energy Policy: Comparing Europeanization and Domestic Policy Change in EU Member States*. Cheltenham: Edward Elgar.
- Kingdon, J.W. ([1984] 2011) *Agendas, Alternatives, and Public Policies*. Boston, MA: Little, Brown.
- Kluttz, D.N. & N. Fligstein (2016) 'Varieties of sociological field theory', pp. 185–204 in S. Abrutyn (ed), *Handbook of Contemporary Sociological Theory*. Cham, Switzerland: Springer.
- Lindblom, C. (1977) *Politics and Markets: The World's Political-Economic Systems*. New York: Basic Books.
- Lockwood, M., C. Kuzemko, C. Mitchell & R. Hoggett (2017) 'Historical institutionalism and the politics of sustainable energy transitions: A research agenda', *Environment and Planning C: Politics and Space* 35(2): 312–333.
- Mahoney, J. (2003) 'Strategies of causal assessment in comparative historical analysis', pp. 337–372 in J. Mahoney & D. Rueschemeyer (eds), *Comparative Historical Analysis in the Social Sciences*. Cambridge: Cambridge University Press.
- Mahoney, J. & G. Goertz (2006) 'A tale of cultures: Contrasting quantitative and qualitative research', *Political Analysis* 14: 227–249.
- Mahoney, J. & D. Rueschemeyer (2003) 'Comparative historical analysis: Achievements and agendas', pp. 3–38 in J. Mahoney & D. Rueschemeyer (eds), *Comparative Historical Analysis in the Social Sciences*. Cambridge: Cambridge University Press.

- Meadowcroft, J. (2011) 'Engaging with the politics of sustainability transitions', *Environmental Innovation and Societal Transitions* 1: 70–75.
- Nölke, A. & A. Vliegenhart (2009) 'Enlarging the varieties of capitalism: The emergence of dependent market economies in East Central Europe', *World Politics* 61(4): 670–702.
- Peters, B.G., J. Pierre & D.S. King (2005) 'The politics of path dependency: Political conflict in historical institutionalism', *The Journal of Politics* 67(4): 1275–1300.
- Rabe, B. (2007) 'Race to the top: The expanding role of U.S. State Renewable Portfolio standards', *Sustainable Development, Law & Policy* 10: 10–16.
- Radaelli, C. (2003) 'The Europeanization of public policy', pp. 27–56 in K. Featherstone & C. Radaelli (eds), *The Politics of Europeanization*. Oxford: Oxford University Press.
- Rueschemeyer, D. (2003) 'Can one or a few cases yield theoretical gains?' pp. 305–36 in J. Mahoney & D. Rueschemeyer (eds), *Comparative Historical Analysis in the Social Sciences*. Cambridge: Cambridge University Press.
- Sabatier, P. & H.C. Jenkins-Smith (eds) (1993) *Policy Change and Learning: An Advocacy Coalition Approach*. Boulder, CO: Westview Press.
- Scott, W.R. (2017) 'Institutional theory: Onward and upward', pp. 853–872 in C.O. Greenwood, T.B. Lawrence & R.E. Meyer (eds), *The Sage Handbook of Organizational Institutionalism*. Thousand Oaks, CA: Sage.
- Thomann, E. (2015) 'Customizing Europe: Transposition as bottom-up implementation', *Journal of European Public Policy* 22(10): 1368–1387.
- Thomann, E. (2019) *Customized Implementation of European Union Food Safety Policy: United in Diversity?* Cham, Switzerland: Palgrave Macmillan.
- Weible, C.M. & P.A. Sabatier (eds) (2018) *Theories of the Policy Process*. Boulder, CO: Westview Press.
- Wurzel, R. & J. Connelly (eds) (2011) *The European Union as a Leader in International Climate Change Politics*. London: Routledge.