Renewable Energy: The Roles of States, Social Movements, and Policy in California and Germany

Robert White

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Master of Arts
In
Political Science

Andrew J. Scerri, Chair
Timothy W. Luke
Cara Daggett

May 2nd, 2018
Blacksburg, Virginia

Keywords: Renewable energy policy; Environmental Movements; California; Germany; democratic theory, John Dryzek.

Renewable Energy: The Roles of States, Social Movements, and Policy in California and Germany

Robert White

ABSTRACT

This project examines the development of renewable policy in California and Germany through the theoretical lens provided by John Dryzek's democratic theory of social movement engagement with the liberal democratic nation-state. Specifically, this thesis considers the impact of social movements on what the theory identifies as five core imperatives of state. The argument uses a qualitative, comparative, process tracing methodology, supported by critical discourse analysis, to analyze environmental social movement engagements with the state in relation to the development of renewable energy policymaking in the state of California and in the Federal Republic of Germany between 2000 and 2017. Whereas Dryzek and colleagues argue that environmental movement activism may have prompted a new, sixth, environmental conservation imperative of state, this thesis differs. Rather, the analysis finds that if indeed such a sixth imperative is emergent, it might better be defined as a resource conservation imperative. That is, in California and in Germany, it is not so much the environment but rather access to abundant and economically sustainable natural resources that states aim to conserve.

Renewable Energy: The Roles of States, Social Movements, and Policy in California and Germany

Robert White

GENERAL AUDIENCE ABSTRACT

This thesis explores the influence of the relationship between social movements and policymakers on renewable energy policy in California and Germany. Social movements are, for the most part, groups who wish to change government policy without necessarily winning elections or otherwise entering into public office. As such, this research examines how social movements, particularly environmental social movements, interact with government policymakers to affect renewable energy policy. This project's analysis is based on evidence collected from newspapers and online news sources from California and Germany through 2000 to 2017. The findings suggest that environmental movements, as well as policymakers, use the language of what are called state imperatives in order to justify changes to renewable policy. These state imperatives are basically the main duties or goals that governments need to satisfy or accomplish. The findings also suggest that if a new duty or goal of the state is arising, it has to do with saving or conserving resources. This research is important as environmental issues such as global climate change continues to increasingly become a threat to society, and it also helps to further understand how renewable energy policy is developed.

Dedication

I dedicate this thesis to Katie, my parents, my family, and friends who have been there for me along the way.

Table of Contents

Chapter 1: Introduction

Among the environmental issues facing the world in the 21st century, global climate change arguably looms over society as one of our most pressing, threatening, and, indeed, challenging issues. It is threating, of course, because of the litany of environmental damages that might be the result of unmitigated change. Furthermore, it is challenging due to the *global* nature of climate change: it is an issue that transcends national borders, and arguably warrants a coordinated effort by states to solve. At the heart of climate change lies the issue of energy: since the Industrial Revolution, industrial societies have empowered themselves largely through the exploitation of fossil fuels – the combustion of which, as we understand now, releases Greenhouse Gases (GHGs) into the atmosphere. Consequently, the sustained and widespread utilization of fossil fuels has been attributed to rising global temperatures over the past decades.

Policies for mitigating climate change, therefore, become increasingly important as we attempt to halt or resolve the deleterious impacts that unhindered use of fossil fuels have wreaked on the global environment. Studying these policies – understanding how they are formed and implemented, whether they are effective, and so on – is an important facet of political research; after all, in order to facilitate progress on climate change, it is necessary to determine what kind of approaches work, and how these approaches become instituted in political systems. This is especially true for a problem that is as complicated as climate change – considering that many of its roots, causes, and solutions are bound-up in social, political, economic, and even cultural institutions/realms.

This paper aims at researching why and how renewable energy policy is enacted by different states. Specifically, this thesis is concerned with renewable policy developed in California and Germany. As will be further explained, California is like a "leader among

laggards" in renewable policy – due to the fact that the U.S. Federal Government has not been very successful in developing a proper renewable energy policy. Germany, too, has set itself apart as a pioneer by making strides in renewable energy in the past two decades. The proceeding analysis explores how renewable policy developed throughout 2000-2016 in these two places, and how environmental movements have interacted with the state to affect policy.

1.1 Research Questions

This thesis engages Dryzek et al.'s theory of the relationship between state imperatives and social movements. A major contention made by these authors is that social movements are more likely to cause social change when they are able to link their movement to a core state imperative. Environmental movements, therefore, would be most likely to affect energy policy if they are able to connect to one of these imperatives; however, it is necessary to emphasize that sometimes movements inspire new imperatives when they are absorbed into the state's core (this is considered in more detail in the literature review). Nevertheless, the important takeaway is that environmental movements would be most likely to succeed – according to Dryzek et al. – in producing meaningful change in energy policy by appealing to state imperatives. That is, rather than making radical "off the wall" demands. The working research questions for this thesis is bound-up in Dryzek et al.'s examinations of these state imperatives: how – if at all – have environmental movements called for changes in renewable policy through evocations of state imperatives? Have these calls shaped a new emergent imperative similar to the "environmental protection" imperative suggested by Dryzek, Downes, Hunold, Scholsberg, and Hernes in *Green States and Social Movements* (2003)? If so, is it truly a state imperative for environmental protection in-and-of-itself? Or, is it rather a melding of other imperatives that might resemble each one individually, but is distinguishable holistically?

There is however a lingering contestation as to what defines an "environmental movement" – or what constitutes as a social movement generally. The constellation of meanings results in problematic implications for this research question; in order to gauge the influence of environmental movements on policy-makers, the project requires a more explicit definition of environmental movements. Environmental movements, in this study, will be groups that are trying to affect renewable policy in both *positive* and *negative* terms; for instance, fossil-fuel interests may not be normatively defined as an environmental group, but here, they are an interest that is seeking to influence renewable policy in a negative way. This is covered later in the data collection section, but it is an important contextual issue to address early in the thesis.

1.2 Comparative Environmental Politics

As explained in the introduction, this project is not simply taking on one country, nor is it only interested in one region/state of a single country. Instead, the project's interest lies in both the U.S. state of California and Germany; furthermore, this interest does not end with plain, singular analysis of each political unit: instead, this project warrants a systematic comparison between the two – asking why have renewable policies been implemented so successfully in California and Germany? Are there distinct features and characteristics of their political systems that have allowed such policy to pass? What are the similarities and differences between the two's environmental movements?

Such questions warrant something more than just two bifurcated case studies; indeed, this study requires more comparative methods. Accordingly, this project is also utilizing a comparative environmental politics (CEP) methodology as a supplement to the process tracing and discourse analysis methods. CEP, according to Steinberg and VanDeveer (2012), is defined as, "the systematic study and comparison of environmental politics in different countries around

the globe" (Steinberg and VanDeever 2012, 2). To engage in CEP is to grapple with the complexity of environmental politics around the globe; indeed, a plethora of different actors and institutions that deal with environmental politics exists in one country alone – meaning that a wide array of actors and institutions are responding in different ways to environmental issues all over the world. With the help of theoretical tools – such as Dryzek et al.'s insights – researchers can attempt to make these complexities sensible.

CEP has what Steinberg and VanDeveer call the "comparative advantage." For starters, they write, comparative methods amplify political imagination: "if politics is the art of the possible, then comparative inquiry brings into view a wide array of political experiences, raising new possibilities that have not been considered" (ibid, 8). This project's questions essentially ask how a country can develop and expand its renewable energy sources, and why have some seen more success in what is often considered a very difficult task? Of course, concerns around renewable energy do not exist in a vacuum: renewable energy is a solution to a host of political issues – namely, but not limited to, global climate change. Therefore, deploying CEP in this study is an attempt to examine the actors, institutions, political context, and "wide array of political experiences" that might affect the development of renewable energy.

As a final remark here, it is important to emphasize that CEP involves two major tasks: the analysis of complex, empirical cases from around the world, and the connecting of these "real world" examples through political theory. To invoke Steinberg and VanDeveer again, CEP, "is not the 'practice of comparison' in any general sense." Rather, it is the coupling of empirical analysis and theory that gives CEP its "comparative advantage." As such, this project hopes to achieve such a balance: the major aim is to examine the cases of environmental movements affecting renewable policies in California and Germany, and attempt to make sense of it

primarily through the theoretical insights of Dryzek et al. Utilizing CEP should make these distinct tasks compatible.

1.3 Overview

Chapter 2 examines selections from three bodies of literature: 1) theoretical, 2) empirical, historical research; and 3) methodological. Section 2.1 is devoted to the major theoretical works that motivate this thesis. This primarily includes the work by Dryzek and colleagues, but will also be supplemented by other writers working in the Habermasian, critical-theory tradition. Section 2.2 summarizes the histories of environmentalism in the United States and Germany. Finally, Section 2.3 covers the methodologies utilized in this project's actual research. This section will explain how process tracing and discourse analysis support the research. Chapter 3 includes the analysis and discussion of both California and Germany, in Sections 3.1 and 3.2 respectively. Finally, Chapter 4 serves as a conclusion that restates the analysis' major findings, and handles claims, contributions, discusses the project's limitations, and suggests avenues for further research.

Chapter 2: Literature Review

2.1 Theoretical Groundings: the State, Movements, and Imperatives

This section covers the major theoretical groundings that serve as the foundation of this project. Not only do these works encourage readers to develop their own questions regarding the material they cover, but their insights also guide research and helps make sense of empirical findings. In other words, the ideas and concepts espoused in theoretical works such as these can provide deeper meaning behind the numbers and data of empirical work. The fundamental work engaged here is Dryzek et al.'s (2003) *Green States and Social Movements: Environmentalism in the United States, United Kingdom, Germany and Norway*. This book, obviously, is related to this project on the surface level: it deals with environmentalism, social movements, and political change. However, the book also works in the tradition of Habermasian Critical Theory that comports well with the empirical and methodological literature.

2.1.2 Green States, Social Movements, and State Imperatives

Dryzek et al.'s (2003) work *Green States and Social Movements* is indispensable to this thesis. First and foremost, their conceptualization of state imperatives drives the primary research questions of the project; the idea that social movements are most influential on policy-making when they are able to link their goals with state imperatives gives this research a specific analytical perspective. However, their work also touches on broader themes like environmental history – particularly mid- to late-twentieth century history in the United States, Germany, the United Kingdom, and Norway. It is also helpful in providing frameworks for determining how open and active states are when allowing and encouraging social movements to impact policy-making processes. Since this project aims toward understanding what impact environmental movements made on renewable policy, Dryzek et al.'s contributions are paramount.

As explained, the idea of state imperatives is one of the most important of these contributions to understand. Dryzek et al. outlines three early core tasks of the state, and two that emerged during the developments of capitalism and the working class: 1) domestic order, 2) survival, 3) revenue, 4) economic growth (or, they write, what Marxists dub accumulation), and 5) legitimation. Several of these imperatives – particularly the first three – are mostly self-explanatory. Certainly, the modern state was concerned with maintaining order within its own boundaries while protecting itself from external threats from the start; revenue – most commonly secured through taxation – is necessary to fund the first two imperatives.

The fourth imperative was born from the development of capitalism: the emergence of the bourgeoisie into the state required it to concern itself with securing further economic growth. With accumulation being the defining interest of the bourgeoisie, this imperative allowed the bourgeoisie "entry" to the state. The accumulation imperative is very important to analyses of environmental politics insofar as the state must promote economic growth in order to keep the taxation burden levied on "productive" members of the polity (those holding wealth and gaining income) minimal over time. In short, those holding power within the state must promote economic growth, which is a major contributor to the production and uneven distribution of environmental harms.

Of course, the imperative for accumulation required a steady base of labor – thereby producing a working class. The fifth imperative developed out of the need to "cushion the working class against the dislocations and fluctuations" of capitalism (Dryzek et al. 2003, LOC 100). This is called the legitimation imperative; as before, this embodied the defining interest of the working class, which allowed for its assimilation into the state. This fifth imperative, to Dryzek et al., is the latest development to the state hitherto.

As such, Dryzek et al. maintain that these five imperatives have historically been the primary concerns of the modern state. However, while the state is the focal point and the site at which these imperatives manifest into policy, social movements accompanied the additions in the imperatives themselves. Likewise, these social movements conflicted against the status quo: "the social movement of the emergent bourgeoisie against monarchy, theocracy, and aristocracy, the social movement of the working class against the capitalist state" (ibid, LOC 103). The key here is that these burgeoning social movements were able to link its defining interest with the changing imperatives of the state. These social movements are therefore responsible (partially at least) for political change: "In the history of modern Western states, significant political innovation generally begins with social movements" (ibid, LOC 105).[1]

All of this gets to one of the key contentions to understand for this thesis: "It matters a great deal to a social movement whether or not it can make a connection to a core state imperative" (ibid, LOC 107). If a movement is able to do so, then it will likely be able to "penetrate to the state's core" and gain entry into the state. If not, the movement will be systematically limited in what it can and cannot accomplish when it engages with the state. This provides theoretical underpinnings that make this research more understandable: if social movements are *most* effective when they are able to connect to a state imperative, then environmental movements that seek to influence renewable energy policy will be most effective when they can connect themselves to one of these imperatives.

Before moving on, it is vital to discuss a major suggestion of Dryzek et al.'s work. After their analyses of environmentalism in their four studied countries, they offer two observations regarding the state imperatives: 1) ecological modernization – a discourse that sees economic

[1] They hedge this statement by excluding economic or international crisis. In other words, political innovation begins with social movements *other than* when it is brought on by economic or international crisis.

benefits in ecological practices – makes it possible for environmentalism to be linked to the accumulation imperative through the greening of economic growth or disconnection of the production of environmental harms from the production of economic growth; 2) risk society opens a path for environmentalism to be linked to the legitimation imperative. In either scenario, environmentalism would be connected to a core state imperative – conceivably resulting in state policy that is more environmentally protective.

In its most positive light, ecological modernization can be described as reconciling environmentalism and capitalism – refusing to accept the logic that ecology and growth are locked into a zero-sum game; in many ways, it is diametrically positioned to the "Limits of Growth" discourses of the 70s (Van Der Heijden 1999). Critically, ecological modernization is interpreted as a strategy for taking the environment into economic account without making changes to existing political economies (Schlosberg and Dryzek 2002). Indeed, the "greening of growth" or "green growth capitalism" is embodied in the discourses of ecological modernization and, closely related, sustainable development – which was popularized after the Brundtland Report of 1987; once again, these "environmental" strategies are critically reduced to mere attempts of maintaining capitalistic hegemony, and is seen as accompanying the ascendance of neoliberalism in the late twentieth century (Næss and Høyer 2009; Wanner 2015).

Dryzek et al. suggest that ecological modernization and the risk society thesis could culminate in something more nuanced than simple policy changes: instead of relying on the preexisting state imperatives to accomplish its goal, environmental movement activism could lead to the inception of a new, *sixth* state imperative. This, of course, would be the imperative of environmental conservation. Environmental movements, like the bourgeoisie and working class movements before them, would foster the creation of a state imperative based on conservation

and understanding of natural processes. Since the bourgeoisie movement created the liberal state, and since the working class movement created the welfare state, Dryzek et al. argue that an environmental movement that is successfully organized into the state's core would create the *green state*. While this project is *primarily* going to be looking at data for examples of movements trying to connect themselves to other state imperatives, it is a good idea to keep this possible sixth imperative in mind.

Another set of concepts that is important in Dryzek et al.'s work has to do with how states vary in the way they treat social movements and political actors in general; that is, does the state offer representation to a wide or thin range of political actors? Is the state active in encouraging these actors to participate? They suggest that there are two categories that differentiates states in these regards: exclusive/inclusive and passive/active. An exclusive state "restricts effective representation to a small number of political actors, and denies access to others" (Dryzek et al. 2003, LOC 170). Conversely, an inclusive state would be more open to a wider range of political interests. Being inclusive does *not* mean that a state is open to *all* different kinds of interests; in fact, Dryzek et al. explain that systematic inequalities can still exist in the degree to which different interests access and influence policy.

The second dimension, as mentioned, is passive/active. This refers to how a state concerns itself with the "character and range of interests" of the political actors that seek to access and influence the state. As the terms suggest, a passive state does not really concern itself with which groups have access and influence. An active state, on the other hand, actually "concerns itself with the character and range of interests that exist in civil society" (ibid, 2003) – which Dryzek et al. say matters politically. Therefore, states can be categorized depending on

these criteria; accordingly, there are four different categories: passively inclusive, passively exclusive, actively inclusive, and actively exclusive.

Since this project is dealing with the United States and Germany, it is worth explaining to which categories these two states belong – at least, according to Dryzek et al. While they concede that many researchers would disagree, they put the United States into the passively inclusive category. This means that the U.S. state does not necessarily intervene in the patterns of political interests, but it does allow a wide range of actors, groups, and interests to seek access and influence on state policy. Germany is categorized as a passively exclusive state; this means that the state does not intervene in which interests seek access and influence, but it does not allow many different interests to access or influence policy.

Dryzek himself further tackles many of these issues in two works on deliberative democracy: the first being *Deliberative Democracy and Beyond: Liberals, Critics, Contestations* (2002) and the second being *Deliberative Global Politics: Discourse and Democracy in a Divided World* (2006). While both are concerned with similar issues (of course, deliberative politics being one, but environmentalism is a recurring theme for Dryzek as well), the first book offers continued thoughts on state imperatives; additionally, Dryzek repeats the claim that environmentalism has the best chances of being assimilated into the core of the state — allowing for the emergence of an environmental conservation imperative.

It would be helpful at this point to establish what a social movement actually *is*. Dryzek et al. define a social movement as "an association or set of associations organized around a common interest that seeks to influence collective outcomes without obtaining authoritative offices of government" (Dryzek et al. 2003, LOC 114) (this definition is however problematic when talking about Green parties that *might* have risen out of environmental movements). As

they point out, this is indeed a broad definition. Nevertheless, the concept of a "social movement" is complicated to say the least; not only have social movements varied historically, but the concept itself is contested. Indeed, the social movements of the bourgeoisie and the working class differed themselves, and the "new social movements" of the twentieth century – which often centered on identity issues – have their own unique factors that make them different.[2] Despite any outstanding historical differences or lingering contestations, it is likely safe to say that social movements essentially have one primary directive: to influence political outcomes in ways that mirror their particular goals without actually ascending to government office.

2.2 The Histories of Environmentalism in the United States and Germany

As it happens to be, the United States and Germany have rich – and very interesting – histories with environmentalism. Even though considering nature's relationship with culture has roots in European thought stretching back hundreds of years (Radkau 2014), prominent thinkers in the United States began planting the seeds for *environmentalism* as we know it in the nineteenth century; Germany, too, has a history with conservation that began around the same time as the American experience (albeit a little earlier, possibly). Furthermore, both of these countries experienced booms in environmentalism that inspired a flood of new environmental policy in the mid- to late-twentieth century; and, of course, Germany and some U.S. states – like California – have made strides in renewable policy at the turn of the new millennium. Therefore, these two countries have more in common than a similar modern environmental experience: they also share a long history of environmentalism – making a comparative analysis of the two that much more interesting.

[2] This is not even taking into consideration the new movements that have come into prominence over the course of the past five or so years – such as BLM – that rely heavily on the use of social media.

Considering that these environmental histories are central to understanding how environmentalism has developed over time, it is necessary to make them more explicit. The sections in this chapter accomplish two tasks: 1) telling the story of environmentalism in the United States, and 2) telling the story of environmentalism in Germany. There is a specific focus on environmentalism from the late 1960s to the 1970s onward; this is because *environmentalism* – the strain of thought as we know it – develops in this epoch; however, there will be less comprehensive overviews of these histories prior to the 1960s – just to offer a rough idea of how environmentalism became what it is today.

To do so, the sections rely on a few different books to portray how these histories unfolded. Two of these seminal works include Robert J. Brulle's (2000) *Agency, Democracy, and Nature: the U.S. Environmental Movement from a Critical Theory Perspective* and Joachim Radkau's (2014) *The Age of Ecology*. Brulle provides a rich and detailed history of environmentalism in the U.S. in particular – although he does go over environmentalism in Europe as a backdrop to developments in the U.S. Radkau's work – which is much more comprehensive – also elucidates American environmentalism very well, but simultaneously covers the German experience[3], as well as environmental histories elsewhere in Europe, and, indeed, the world generally. There will also be splices of illustrative passages from Dryzek et al.'s work, which – in addition to providing valuable theoretical insights – also catalogues succinct and supplementary political observations for both histories.

The narrative that emerges can be summarized in four key themes: 1) both the United States and Germany – as well as Europe in general – have histories of environmentalism stretching back into the eighteenth and nineteenth centuries; 2) the United States emerged as a

[3] Radkau's *Nature and Power* (2008) focuses in detail on the German experience.

leader in environmental policy in the 1970s, owing a great amount of this success to the American environmental movement; 3) while European countries, like Germany, experienced similar booms in movements and policy in this period, their more notable successes began as the United States turned into an environmental policy laggard in the 1980s; and 4) in the 1990s, resurgent popularity of the environmental movement in the United States and elsewhere was powered by concerns regarding Climate Change and Ozone depletion. In general, there are converging and, yet, diverging paths between the two countries' environmental movements and policy histories.

2.2.1 Environmentalism in the United States

> The development of the environmental movement began before the American Civil War, when a number of concerns over the destruction of the natural environment were voiced. These concerns were later manifested in movements for the protection of game, the conservation of forests, and the preservation of wilderness. By 1900, all three of these areas had been institutionalized into distinct movement organizations, government bodies, various protected areas, and a body of laws and regulations (Brulle 2000, 133).

Brulle's detailed account of American environmentalism rightly points out that reconsidering humanity's relationship with nature is not something that emerged nebulously in the 1970s. On the contrary, the U.S. environmental movement has beginnings in its protests against the discourse of Manifest Destiny – which Brulle describes as a discourse that sets-up nature as an entity with no inherent value, or something that only exists as a pool of resources and a space for cultural development (ibid: 115). The early forms of the environmental movement, according to Brulle, arose out of conflicts with the principles of Manifest Destiny; furthermore, many of these movements took form in around the nineteenth century, or perhaps earlier in the late eighteenth century. Early issues that defined the movement included Wildlife Management – which,

interestingly and perhaps not as ironic as first glance would suggest, arose out of the issue of hunting – Conservation, and Preservation.

The first of these, of course, was primarily concerned with issues like game management, while the latter two were more concerned with the environment in its totality. However, while Conservation and Preservation might be assumed to be exchangeable terms for similar concepts, vital ideological differences set them apart. Conservation, above all, is primarily concerned with the technical and utility values of nature; the environment is still an entity that human beings can develop and harvest, yet it is something that humans can intelligently maintain through their capacity to reason. Preservation is deeper than this: it suggests that nature has intrinsic value and is not simply a stock of resources and space. Like the environmentalism of the late-twentieth century, these movements were interested in influencing government policy; for instance, the American Forestry Association – established in 1875 – was essentially concerned with the conservation of forests and other natural resources, and helped to design legislation that aimed at establishing forest preserves (ibid, 150). The Sierra Club – a well-known environmental group, described by Brulle as being part of the preservation movement – was founded in 1892, and was actively involved in the legislation that established National Parks in the early 1900s (ibid, 166-168).

These three predominant discourses – as well as reactions to issues that characterized the industrialization and urbanization of the late nineteenth century and early twentieth century (like sewage, clean air and clean water) – set the stage for what Brulle dubs "Reform Environmentalism" (ibid, 173). This is, according to Brulle, the dominant contemporary environmental discourse. Based on ideas such as nature being the basis of existence, the dependence of humanity on the natural world, and properly using science to strike harmony

between humanity and the environment, this is the brand of environmentalism that emerges in the late 1960s. In fact, early reform policy was guided by the Sierra Club with the passage of the Wilderness Act in 1964; other important policies enacted a few years later included the Water Quality Act in 1965, the Clean Air Act in 1967, and the Wild and Scenic Rivers Act of 1968. Brulle writes, "Out of these events the reform environmentalism of the late 1960s and the early 1970s was born. It was part of a broad-based social movement that sought to develop a cultural alternative to the modern social order" (ibid, 184).

As unlikely as it may seem in hindsight (to those unware) a very substantial amount of federal environmental policy was enacted in the early 1970s; arguably, it is the most – if not one of the most – significant eras for environmental policy in American history. This might seem unlikely, of course, because it occurred under the Nixon administration – headed by a president who was infamously not sympathetic to radical agendas. Both Dryzek et al. and Radkau comment on this anomaly – with the former writing: "Surprisingly, this heyday of environmental legislation in the United States was fostered by a conservative President beholden to industrial interests" (Dryzek et al. 2003, LOC 555). On the creation of the Environmental Protection Agency (EPA), Radkau opines that "by himself Nixon would never have come up with such an idea, nor was he exactly proud of this achievement of his administration; he sometimes spoke of it with downright cynicism" (Radkau 2014, 98). However, scholars like Dryzek et al. and Radkau hold that this was a political concession on Nixon's part; remember the historical context of the late 60s/early 70s: this is an epoch wildly characterized by radical movements and ideas – from the Civil Rights movement, the anti-war movement, and the counter-culture in general. Conceding to environmentalists by passing certain pieces of legislation, then, was easier than dealing with other controversial issues at the time.

Despite being ushered in under an unlikely administration, fundamental pieces of environmental legislation were passed in quick succession following the first Earth Day in 1970; Dryzek et al., in fact, attributes Nixon's appropriation of environmental issues as a direct consequence of polling after the first Earth Day: Americans consistently ranked the environment as one of the top ten problems facing the nation in every year of the Nixon administration (Dryzek et al., LOC 554). Indeed, the swelling concern for the environment led to an influx of legislation: the National Environmental Policy Act (NEPA), which actually created the EPA; the Clean Air Act of 1970; the Water Quality Improvement Act, also passed in 1970; the Federal Water Pollution Control Act of 1972; the Federal Environmental Pesticides Control Act, likewise in 1972; the Coastal Zone Management Act, in 1972; the Marine Protection, Research, and Sanctuaries Act, 1972; the Endangered Species Act of 1973; and the Safe Drinking Water Act of 1974 (ibid, LOC 554). While Congress and the Nixon administration were quick to act on these issues, it is hard to imagine lawmakers passing such flurry of policy without the incipient environmental movement, and the escalation of public concern for the environment: indeed, Nixon signed NEPA due to polling that illustrated "strong public support for federal protection of environmental health" (ibid, LOC 554); even other key lawmakers were persuaded by the support, considering that Congress passed NEPA "without lengthy debate or lobbying" (Radkau 2014, 99).

Unfortunately, the United States' leadership in environmental policy began to wither after the passage of the Comprehensive Environmental Response, Compensation, and Liability Act – or, the Superfund. This moment is what Dryzek et al. refer to as "the last gasp" of American environmental policy leadership: the Reagan administration, adopting a hostile stance against the environmental movement, reduced the ability of the state to regulate environmental affairs –

which is ideologically in tune with the administration's overarching commitment to deregulating the economy and unloading the burdens on businesses. A few years prior, Jimmy Carter, who kicked off his presidency with a series of environmental initiatives (including renewable energy, in fact), quickly found his initiatives crushed by intense lobbying from industry groups; Dryzek et al. lament, "the US has been an environmental policy laggard ever since" (Dryzek et al. 2003, LOC 2017). This is especially true when understood comparatively, "a fundamental division between the USA and the EU has begun to taken shape only in the last few decades; the environmental movement originally presented itself as an American achievement, but this has been increasingly forgotten since the Regan era" (Radkau 2014, 130).

The Reagan era was also conducive to what Turner describes as one of the first "anti-environmental" movement: the sagebrush rebellion. Despite finding its roots in the 70s, the sagebrush rebellion was a populist movement defined by concerns surrounding states' rights and anti-federalism – with the controversy mostly mounting around federal policy on public lands, natural resource industries, and the federal government's relationship with local and state governments. Members of the rebellion found allies in the Reagan administration, whose interests in deregulation coincided nicely with the rebellion's emphasis on states' rights (Turner 2009).

This trend continued into the George H.W. Bush and Clinton administrations – both of which Dryzek et al. accuse of exploiting environmental rhetoric to secure electoral advantages; Bush Senior, in fact, pushed for a revised Clean Air Act in 1990, but vehemently opposed international environmental agreements like those discussed at the 1992 UN Conference of Environment and Development – signaling that he would take advantage of politically opportune issues, like clean air, while opposing stricter regulations such as CO_2 cuts. Even the ascendance

of Al Gore (well known for his climate advocacy) into a major political office did not ultimately bode well for the American movement:

> The mainstream environmental movement celebrated these appointments as recognition that environmentalism was officially part of, and would have influence throughout, the new administration. But . . . these great hopes ended in much frustration, as the first two years of the Clinton administration turned out to be some of the least environmentally productive in decades (Dryzek et al. 2003, LOC 570).

This, in some capacity, suggests a coopting of the environmental movement in the late 80s and early 90s – particularly throughout the Clinton administration. In other words, it can be argued that environmentalism was embraced only at the surface level in order to bolster political appeal; this embracement, in turn, faltered when the time came to make actual changes to environmental policy. While environmental policy in the United States was consistently lackluster in these decades, the environmental movement did make significant advances internally in the 1990s. In fact, Radkau dubs this the "Historic Turn of 1990" (Radkau 2014, 339). Among what makes this era significant in environmental history was the nascent stirrings in concern regarding Climate Change – obviously, still one of the world's most pressing environmental maladies – and Ozone depletion.

Ecological modernization – as discussed earlier – is emblematic of the Clinton administration's environmental strategy. Indeed, to Clinton, the relationship between economy and environment is far from parasitic – rather, it is symbiotic. Environmental policy that protected nature would spur economic growth by creating new jobs and opportunities for high-skill and high-jobs. Clinton's position stands in deep starkness to the Reagan rhetoric of economically-burdening regulations – which, in his contentions, would decimate the economy by straining employers, hemorrhaging jobs, and inflating the prices of goods and services. Nie (1997), writing in the midst of the Clinton years, opines: "Although no president has ever

addressed the environment by declaring its primacy over economic growth and development, no president has gone to such great lengths to show how they can and have to be simultaneously addressed."

What ends up being the legacy of twentieth century American environmentalism is twofold. First, the United States is and was considered to be a pioneer and a leader in the ecological revolution of the late 60s/early 70s. Not only was there an uprising in the American public that fostered a vibrant and powerful environmental movement, but the movement itself was able to express its influence at the highest political levels in the country. An influx of environmental policy in the 70s made the U.S. an early environmental policy leader. However, as Dryzek et al. and Radkau extensively note, the hegemony of free-market, individualistic, deregulatory ideology in the 80s made for an extremely hostile environment for such regulatory policies. Environmentalism as a movement and an ideology in the U.S. has not faltered *as much* as policy has – considering the ecological turn of the 90s and the overwhelming concern for global environmental issues.

As such, it is important to identify possible influences upon the faltering of policy in the U.S. As the world's second largest energy consumer and GHG emitter per capita (behind China, in both cases), the United States' energy sector is of vital interest when examining renewable energy sources and policies designed to reduce GHG emissions (Aslani and Wong 2014; U.S. EPA 2017). Apart from policies like the Federal Tax Credit however, the U.S. has not implemented a major renewable policy at the federal level. This has left responsibility to individual states – a number of which have been experimenting with different policy tools since the 1990s (Delmas and Sancho 2011). Indeed, an array of policies have been deployed at the state level, including Renewable Portfolio Standards (RPSs), Net Metering, Mandatory Green

Power Options, and some states (although limited, small in size and GHG emissions) have adopted FIT policies inspired by the German model.

While a selection of state policies has been implemented in recent years, one of the more popular policies is arguably the RPS. Indeed, as of 2015, 29 states and the District of Columbia have implemented some type of an RPS that mandates increases in renewable generation (Barbose et al. 2015). However, even more states have some kind of net metering program; in fact, over 40 states have adopted a net metering program as of 2016. These policies simply let retail energy consumers sell any renewable energy they generate back to the utility in exchange for energy credits that lessen the consumer's bill (Rossi 2016).

When put next to Germany in a blunt state-to-state comparison, the U.S. (in its entirety) is rather far behind Germany in terms of renewable energy production and consumption. As of 2016, approximately 10% of *total* U.S. energy consumption came from renewables, and around 15% of total electricity was generated by renewables (U.S. EIA 2017). However, if we adjust our level of focus to the state, some parts of the U.S. are actually making progress that is comparable to Germany. California is a good example for this: according to the California Energy Commission, the state provided an estimated 29% of its electricity sales in 2016 through renewables. Indeed, should California meet the RPS targets, it will reach 33% by 2020 and 50% by 2030 (this is, of course, the mandated target delineated by the state's RPS) (California Energy Commission 2017).

This is an interesting observation when juxtaposed against Germany's progress; as mentioned, Germany's share of renewables in its electricity mix hit 33% in 2015. While behind by a number of percentage points, California is nevertheless closer to Germany's progress than the United States as a whole. Among other factors, this makes California an interesting case in

comparison: while it is behind Germany in terms of percentage points, it resembles Germany more so than other states in the U.S.; furthermore, California is one of the handful of U.S. states that have implemented a FIT policy like Germany. In sum, there are similarities and differences between California and Germany that make them apt for comparison. This is important for this analysis as the intended audience is in the U.S.

The fact that some U.S. states perform better than others in renewables is indeed intriguing, and has been an important question in recent research. Indeed, researchers offer a variety of explanations – for example, differences in ideology, political parties and state energy economies. For instance, Hess, Mai, and Brown (2016) find that ideology was a predictor in state renewable policies; across the U.S., policies associated with more liberal ideological preferences – such as government mandates and market regulations – tended to have lower levels of support in state legislatures than more market-friendly policies. Vasseur (2014) finds that from 1998 to 2011, environmental movement density, Democratic Party controlled political institutions, and state affluence tended to increase the odds that a state would enact an RPS. Matisoff and Edwards (2014) similarly contend that political culture in general has been influential in the adoption of energy policies.

As mentioned, California is notable for its strides in renewable energy. Hess et al. (2015) specifically study the energy bills passed by the California legislature during the 2011-2012 legislative session. They singled-out California for four reasons: 1) it is the most population dense state in the country (the authors point out that if California was a country in its own right, its economy would rank as the eighth largest in the world); 2) California's legislation on environmental and renewable issues is "often a trendsetter for the rest of the country"; 3) the state has a history of concerning itself with air-quality; and finally, 4) the left-neoliberal

Democratic Party controlled the legislature, meaning that a plethora of environmentally-concerned energy bills could be expected as that party has historically been supportive of 'green-growth' or 'eco-modernization' type policy in general. Perhaps unsurprisingly, their research finds that Democrats were much more likely to support renewable energy policy – and energy policy reform in general – than Republicans. They suggest that their results are rather consistent with environmental politics in the U.S. broadly: "the finding is consistent with the tendency for environmental politics in the United States to be configured via market-friendly, neoliberal policy instruments" (Hess et al 2015).

2.2.2 Environmentalism in Germany

Like the United States, Germany experienced nascent stirrings of environmentalism long before the radical changes occurring in the 1970s. Indeed, humanity's relationship with nature is very long – leading Radkau to question, "the roots of modern environmentalism stretch far back in history, but is there a point at which everything began?" (Radkau 2014, 11). Throughout *The Age of Ecology*, Radkau considers this question in different ways, but in the case of Europe – and Germany specifically – the answer is much like what happened in the United States:

> Cultural historians prefer to begin the prehistory of environmentalism in the late eighteenth-century age of gushing enthusiasm for nature, the age of Rousseau, *Sturm und Drang* and early Romanticism. At Whitsun 1793, the Berlin students Ludwig Tieck and Wilhelm Henrich Wackenroder went on a hiking trip in Franconian Switzerland; it counts as the historical moment when German Romanticism was first invented (ibid, 11).

Never before this era, Radkau explains, did anyone discuss nature in such a way as some started to after the inception of Romanticism. In this way, European environmentalism can be traced back to Romantic type thinkers and writers.

Nevertheless, what sets apart Germany from the rest of Europe was how Germans responded to what Radkau calls "the great fear of wood shortage" (ibid, 13). This is what Radkau

describes as “Europe-wide alarms” over the impending destruction of forests; concern regarding this, according to Radkau, can be found in a wide selection of different texts and the official documents of many different countries and cities in Europe. He rightly points out that there is an outstanding analogy between the fear of deforestation of the 1790s and the Club of Rome’s famous *Limits to Growth* study published nearly two centuries later. Conserving the forests, and hence nature, therefore became a primary concern among those alarmed over the “appalling wood shortage” in Europe. Germany made important contributions to conservation in this era; indeed, Brulle states that “the discipline of forest was most developed in Germany, where it had taken the form of a science of natural resource management” (Brulle 2000, 147).

Like in the previous section, this “prehistory” of environmentalism comes to fruition in Germany around the late 1960s/early 1970s, Radkau’s first great eco-boom. And as mentioned in the American section, the United States is considered to be one of the pioneering countries of environmentalism due to the impact of the movement in the 1970s, and the influx of federal environmental policy. In fact, the United States is considered to be such a pioneer in this period also because of how they inspired other countries to follow suit. While European countries – and Germany is no exception – were inspired by the American example, the influence was reciprocal: Radkau explains that American environmentalists (who were decried as crypto-communists as a result) called for more government intervention, citing “evidence from across the Atlantic that welfare provision was a good old Western tradition” (Radkau 2014, 91). Such linkages establish a special relationship between American and German environmentalism due to 1) their leadership qualities and 2) their influences on one another; as Radkau writes, “Within Europe, as we have seen, a leading role soon fell to the Federal Republic of Germany, where environmental activism took on an American tempo” (ibid, 91). The fact that both the US and the

FRG were, in some era, considered to be environmental leaders makes the case studies of this project all the more interesting.

This "American tempo" is largely characterized by the strength of the environmental movement and civil society – rather than by federal politics at large (indeed, remember Nixon's reluctant appropriation of environmental goals). The German example is actually quite contrary: Radkau explains that while the movement was at the center of American environmentalism, "politics was the priority in the Federal Republic" (Radkau 2014, 94). Willy Brandt – the German Chancellor at the time and member of the Social Democratic Party – was more preoccupied with modernity rather than nature; Radkau explains that Brandt intended to construct a number of nuclear power plants – towards which German environmentalists have historically expressed pungent skepticism. In a snapshot, Brandt is a politician who was not hostile or dismissive of the environmental movement like his American counterpart, but his obsession with progress likely made him invulnerable to the environmental movement. So, as Radkau writes, politics was at the forefront at this time. What allowed German environmentalism to survive, according to Radkau, was the movement lurking in the background: "Without the movement in civil society, environmental politics would have been no more than a passing fashion and gone by the board of Brandt's successor, Helmut Schmidt" (ibid, 95-96).

Indeed, the environmental movement that had grown out of the student movement of the late 60s began to swell along with opposition to nuclear power – on which the FRG had become increasingly dependent. Blocked by state – possibly another way of explaining Radkau's observation of "politics at the forefront" – the environmental movement began staging incrementally larger protests against nuclear power throughout the 1970s; Dryzek et al. write: "Large protest marches at sites for proposed or existing nuclear power plants around the country

testified to the anti-nuclear movement's growing organizing abilities . . . The anti-nuclear movement successfully mobilized large demonstrations which on some occasions exceeded 100,000 people" (Dryzek et al. 2003, LOC 601). Because lobbying channels did little for environmental movements (a feature of Germany's exclusionary state), the movement was able to grow as strong grassroots, citizen-based organizations that ended up forming the Federal Association of Citizen's Initiatives for the Protection of the Environment between 1973 and 1976 (ibid, LOC 601). Radkau notes that nowhere in the world, to this day, has another country seen a single demonstration larger than those of the early German environmental movement; he cites an approximation of 120,000 participants in a single protest (Radkau 2014, 150).

What made the anti-nuclear strand of the environmental movement so vital to German, apart from its ability to pull in sheer numbers, was the success it contributed to the German Green Party: "This is evidently connected to another German lead – to the unique successes of the Greens, whose main origin lay in the anti-nuclear movement" (ibid, 150). The German Green Party – otherwise known as Die Grünen – formed in 1980, signifying a transformation from grassroots politics to a more formal, systematic approach. Entry into parliament – the Bundestag – was attractive to some members of the grassroots groups, considering the possibility of directly affecting state policy. And, as Radkau's previous quotation points out, Die Grünen did achieve a degree of success: in 1983, the German Greens won twenty-seven seats in the Bundestag (Dryzek et al. 2003, LOC 607). While Dryzek et al. rightly distinguish between the ability of the Bundestag to affect policy compared to the American Congress (the latter being much stronger), Germany seemed to take the opposite path in the 1980s and 90s compared to the U.S.: while Reagan and, to a lesser extent, subsequent administrations undermined the influence of the environmental movement, Die Grünen was able to encourage or push other parties to participate

in environmental issues; as will be discussed more later, Die Grünen was actually able to form a coalition with the Social Democratic Party in 1998 – significantly improving their position in national politics (ibid, LOC 624).

As shown, the German environmental movement is deeply motivated by stringent anti-nuclear sentiments – a legacy that continues to this day (see later discussion on the Fukushima disaster's impact on the German *Energiewende*). The Chernobyl Disaster in 1986 highlights this feature of German environmentalism perspicuously. Radkau gives a detailed account of how Chernobyl affected environmentalism not only in Germany, but in the world at large. He explains that the so-called "Chernobyl effect" bolstered anti-nuclear protests as far as Eastern Asia, and also strengthened movements for democracy – with the latter effect likely having something to do with the fact that the disaster occurred within the USSR. Nevertheless, the disaster had a special impact on Germany: "In the view of German anti-nuclear critics, what Chernobyl highlighted was not so much particular defects of Soviet reactors and crisis management . . . as the extreme hazardousness of nuclear technology in general" (Radkau 2014, 357).[4] This suggests that nuclear critics in Germany did not view Chernobyl as simply a matter of nuclear technology managed improperly: instead, Chernobyl highlighted how precarious nuclear energy is, and how vulnerable life is to one power plant's malfunctioning or mishandling.

In the 1990s, Germany famously underwent its unification period – brought on by the decline of the USSR. Radkau profusely documents the importance that the unification period had to the German environmental movement. Following unification, conservation and wilderness

[4] As an interesting note, Radkau comments that Angela Merkel – employed in the GDR as a physicist during Chernobyl – made the statement that, "For me, Chernobyl was mainly one more proof of the sloppiness with which I was familiar from trips to Russia" (ibid, 357). So to some in Germany, like Merkel, the issue was not *exactly* nuclear power as a concept, but the Soviet system itself.

romanticism blossomed in the newly reunited Germany: “Nowhere else in 1990 was a common German spirit as demonstrable as in the field of conservation” (ibid, 371). Anti-nuclear activists, once again establishing themselves as a dominant theme in German environmental history, succeeded when the existing nuclear plants in the former GDR were decommissioned, and plans for new plants were scrapped. Radkau does note that the German energy industry – whose production overcapacity meant that they could easily supply East Germany with energy – was the key player in this; nevertheless, it does continue the leitmotif of anti-nuclear activism in Germany – which continues to be a key theme in renewable energy.

As mentioned in the preceding section, the 1990s brought global environmental issues to the forefront of environmental politics: while concerns regarding ozone depletion and climate change were on the minds of some beforehand, the global environment as a whole came into focus in a more powerful way in the 90s. Of course, David Brower from Friends of Earth first made the maxim “think globally, act locally” decades prior – yet in many ways, environmentalists did not popularly embrace this sentiment until the 90s (ibid, 403-404). In a statement that captures the development of environmentalism not just in Germany, but in the world, Radkau summarizes:

> If we look back at the first two decades of the eco-age, the years from Stockholm to Rio, from ‘limits to growth’ to ‘sustainable development”, and if we then consider the still nameless recent period, we certainly find a number of recurrent leitmotifs and scandals, but the main impression is one of novelty. Previously, environmentalism had very different priorities both between and within individual countries; the ‘networked thinking’ required by ecologism made their definition especially difficult, and this showed time and time again. In the last two decades, however, one priority has imposed itself with extraordinary persistence worldwide: the climate danger resulting from the greenhouse effect. Indeed, ‘the climate’ has increasingly taken place of ‘the environment’, precisely for politicians and advisers who have wanted to take purposive action on a grand scale (ibid, 401).

Indeed, the dangers of Climate Change have dominated environmental discourse in recent years, almost dwarfing – of course, not entirely – concerns regarding wilderness, natural habitats, resource depletion, pollution, nuclear power, and so on and so forth. Certainly, these issues are still relevant, ongoing, and perhaps as concerning as ever; however, one of the things that makes climate change unique is how it is almost necessarily connected to other environmental issues. This bloom in concern for climate change, as such, leads to the renewed interests in renewable energy in Germany.

A good place to begin exploring renewable energy policy generally is the German *Energiewende*. This is because the notion of the *Energiewende* itself is a fairly novel concept; while researchers sometimes differ on how the phrase translates – "turn", "turnaround", "U-turn", *et cetera* – it essentially means one thing: a gradual overhaul of the German energy system that aspires to replace inimical and exhaustible fossil fuel sources with clean, renewable energy sources – while simultaneously phasing-out dangerous nuclear power sources. Cutting primary energy use (through improved energy efficiency) and reducing GHG emissions are two of the main objectives of "the turnaround." Recent German energy policy, notably the Renewable Energy Act (REA) and the Federal Energy Concept, have established energy milestones for the country to reach by certain years. In general, the primary goals are to reduce primary energy use 50% by 2050, and cutting GHG emissions 80% by 2050 (the former goal is based on 2008 levels, while the latter is based on 1990 levels). To do so, the government aims at increasing renewable capacity in final energy consumption to 60% by 2050; in addition, the plan is to also increase the share of renewably generated electricity to 80% by the same year. Finally, as already mentioned, the government aims at phasing-out nuclear energy by the year 2022 – making the

complete reduction of nuclear power a cornerstone of the German energy project (Quitzow et al. 2016).

Generally speaking, the *Energiewende* has a decades-long history in Germany that is inextricably bound up in longstanding resistance to nuclear energy, as well as concerns for energy security and climate change; in fact, the word "*Energiewende*" itself has floated around German energy discourse since the 1980s. However, it is likely safe to say that the *Energiewende* began earnestly in the early 2000s – following the adoption of the Renewable Energy Act. This policy set-up the framework for Germany's Feed-In-Tariff (FIT) policy, which has been instrumental in efforts to increase the country's renewable capacity. It is important to note that this was not the *first* FIT implemented in Germany; in fact, the country had experimented with such a policy in the 1990s. However, the 2000 REA bolstered these relatively weak policies – engendering more success in renewable development. The *Energiewende* took final form in 2010-2011, when the government passed the Federal Energy Concept that established the important benchmarks mentioned previously. 2011 also marks the year when the Merkel administration committed to phasing-out nuclear energy following the disaster at Fukushima (ibid).

2.2.3 Differences in Renewable Policies

The terms "Renewable Portfolio Standards" and "Feed-In Tariffs" have been used quite a bit hitherto; as such, brief definitions of the two should help elucidate their differences. As previously explained, FIT policies are generally more popular outside of the United States – particularly in European countries like Germany. Inside of the United States, RPSs are quite popular, although they often coexist with other renewable policies at the state level. In essence,

these policies are easily distinguishable. Examples from Germany and the U.S. are additionally helpful in understanding the differences between the two.

To begin, FITs may be best understood as a policy that incentivizes renewable power generation by offering payments for the amount of energy a producer generates. In typical cases, contracts between producers and utilities are set-up that establish a fixed price for renewably generated energy. These contracts tend to be long-term, and sometimes encompass over a decade. In FITs that are similar to the German model, utilities/grid operators are mandated by law to purchase renewable energy from producers. As such, the intentions of such policies aim at encouraging investments in renewable energy sources – thus spurring their development, and improving the share of energy produced by renewables (Holzer 2005).

The RPS differs from FITs in many ways, but there is one major difference. This fundamental difference is that while the FIT is based on the idea of incentivizing investments, the RPS is based on mandates for renewable energy. Essentially, an RPS mandates that a determined percentage of energy production is to be provided by renewables by a set date. For example, California's RPS – passed in 2002 – required that 20% of the state's electricity was to be generated by renewables by 2010 (Yin and Powers 2009). So in short, an RPS is more of a strict mandate than an FIT – which is designed to encourage investments in renewable sources rather than mandating anyone to do so.

2.3 Methodology

The following sections explain the methodological groundings of this thesis. Along with the theoretical basis provided by Dryzek et al. – and the wider field of comparative environmental politics – this analysis takes advantage of a dual-deployment of Process Tracing and Critical Discourse Analysis. Both methodologies are well-suited for qualitative analysis, with process

tracing acting as a means of historical analysis ("tracing" the causal mechanisms behind change-over-time) and CDA serving as a qualitative tool that also comports nicely with the Habermasian critical theory embodied by the theoretical literature.

2.3.1 Process Tracing

Since this research involves historical analysis – how environmental movements have influenced renewable policy through a specific period in time – a method of historical explanation is required. Process tracing, according to many authors and researchers, offers advantageous edges to projects that merit historical studies. Indeed, David Collier calls it a "fundamental tool of qualitative analysis." However, he explains, it is a methodology that is frequently used but seldom described or explicitly understood. Considering this, outlining the key features of process tracing will make it easier to comprehend how it is utilized in this research. In Collier's definition, he writes that causal inferences are drawn from "diagnostic evidence" in process tracing. Essentially, this is the evidence that the researcher uses to "diagnose" what causal mechanisms were at play in a given case. What counts as diagnostic evidence, he writes, all depends on prior knowledge. Whether this is based on conceptual frameworks, empirical patterns, or theory-based prior knowledge, this is how a researcher distinguishes what is or is not diagnostic evidence. Because process tracing relies on prior knowledge, researchers must be perspicuous about the theoretical or empirical knowledge with which they are engaging. The clearer the researcher explains their prior knowledge, the easier it will be to understand why they are basing their claims in the diagnostic evidence they are using. Collier, along with Mahoney (2015), suggest that in case studies of political, historical, or social phenomena and events, such

decisive pieces of evidence are rare to say the least; however, that is not to say that it is impossible.[5]

Nevertheless, these process tracing tests are important for evaluating causal inference. Considering all of this, it makes sense to use process tracing in a project that seeks to test Dryzek et al.'s concept of social movements interacting with the state through the five state imperatives. In fact, George and Bennett (2005) explain that process tracing is apt for testing previously established theories, developing them, or perhaps giving rise to new ones: "Process tracing is an indispensable tool for theory testing and theory development not only because it generates numerous observations within a case, but because these observations must be linked in particular ways to constitute an explanation of the case" (George and Bennet 2005, 207).

2.3.2 Critical Discourse Analysis

Wodak and Meyer (2016) describe Critical Discourse Analysis (CDA) as a multidisciplinary and multi-methodological approach. For them, while CDA studies often focus on similar basic units of analysis – language and texts – and frequently invoke the same concepts – ideology, power, intertextuality, and so on – they remain methodologically diverse. As such, Wodak and Meyer contend that it is imperative for researchers to specifically declare how they intend on utilizing CDA. This way, it is easier to understand what tradition under which the researcher is working, and it is easier to understand the logic behind their particular methodologies.

[5] Collier describes four tests used in process tracing to evaluate causal inference: 1) Straw-in- the-Wind; 2) Hoop; 3) Smoking-Gun; and 4) Doubly Decisive. These tests analyze evidence in order to confirm or reject causality. Passing each of these test becomes more important for a hypothesis. For instance, passing a straw-in- the-wind test merely confirms the relevance of a hypothesis, while failing the test weakens it. However, passing a hoop test is necessary for a hypothesis: if a hypothesis cannot pass a hoop test then it is eliminated – yet passing one does not entirely confirm the causality posed by the hypothesis. Likewise, the other two tests hold important consequences for hypotheses: a smoking-gun test confirms a hypothesis upon passing, but does not eliminate the hypothesis if failed – while passing a doubly decisive test confirms the hypothesis upon passing and eliminates the hypothesis upon failing. In short, a fundamental task in process tracing is running diagnostic evidence through these sorts of tests – which should aid in determining the strength of a hypothesis.

While methodological diversity is stressed here, there is common ground that is important to understand. Namely, for this project, the "critical" nature of CDA. This is because the theoretical groundings here are influenced by the critical theorists from the so-called *Frankfurt School*, and by Jürgen Habermas more specifically – whose arguments concerning the imporatnce to democratic government of deliberative "communicative" rationality is also important to the contributions of Dryzek (1995). Wodak and Meyer provide two core concepts of critical theory: "(1) Critical Theory should be directed at the totality of society in its historical specificity, and (2) Critical Theory should improve the understanding of society by integrating all the major social sciences, including economics, sociology, history, political science, anthropology and psychology." The critical aspect is therefore what separates CDA from DA in general, and it also serves as part of the common ground linking varying approaches to CDA.

Out of all the approaches discussed by Wodak and Meyer, the one that seems most appropriate for this thesis is the Discourse-Historical Approach (DHA). Like other approaches, many concepts like critique, ideology, and power are vital to DHA – but they have their own nuanced definitions in this approach. Critique, in DHA, is the normative examination, assessment, and evaluation of actors, institutions, and so on; similarly, ideology is considered as a perspective in DHA, while power is "an asymmetric relationship among social actors who have different social positions or who belong to different social groups" (Wodak and Meyer 2016). However, DHA's emphasis of historical context is what makes it worthy of consideration in this project. Indeed, this project sets a specific time frame (2000-2016) with historical contexts that are important to keep in mind; for example, Germany's increased efforts to push renewable development and abandon nuclear energy is generally seen as a response to the Fukushima

disaster. As such, DHA's focus on historical context – which certainly includes important historical events – makes it compatible with this project.

2.4 Data Analysis

In this project, the data will mostly be news articles and other internet sources that pertain to environmental movements and renewable policy. Considering that the hypothesis is built around the idea of state imperatives, the analysis is particularly focused on examples of environmental movements attempting to connect to these imperatives. Databases and search engines such as Access World News is used to gather the bulk of the articles and other data. Through the compiling and analysis of this data, a timeline of events and instances will form that allows for the testing of the primary hypothesis. As far as analysis goes, this project will make use of qualitative software that makes analysis more compact, organized, and ultimately more efficient. This project makes use of the Atlas.Ti qualitative analysis software. Essentially, this application permits the user to compile a data set – small or large – into one project, and allows the user to create what are called "coding frames" to organize the data.

These coding frames gives the user the ability to link passages, quotations, or any highlighted phrase in a piece of data to a code predefined by the user. Since this project is dealing with environmental movements, core state imperatives, and change over time, it is reasonable to utilize coding frames based on these two factors. For instance, the first set of coding frames includes the five state imperatives: 1) order, 2) survival, 3) revenue, 4) accumulation, and 5) legitimation.

The second set of frames, related to different types of environmental movements, would include: 1) environmentalists (groups who are generally concerned with environmental protection, conservation, and who are wary of the inimical effects of human activity on the

environment), 2) fossil-fuel interests (these would be business interests who are interested in affecting renewable policy inversely), 3) green technology interests (basically the opposite of fossil-fuel interests; they would be interested in positively influencing renewable policy, but not necessarily for the same reasons as environmentalists), and 4) politicians.

2.4.1 Coding Frames: Imperatives and Movements[6]

To begin, the first coding frame in the imperatives set is the first of these imperatives: domestic order. If a passage in the data is linked to the domestic order code, it indicates an observation of a movement basing its renewable goals in some kind of an appeal to internal order. Such a claim would essentially be formed around the contention that one of the primary goals of the state is to keep order within its own borders. This suggests that an observation of a movement or politician invoking the "order" imperative represents one instance of a political actor claiming that policy designed to increase renewable energy generation will increase the capacity of the state of California or nation of Germany to maintain civil peace.

The second coding frame in the imperatives set is survival – or, as it is sometimes referred to, the international competitiveness and security imperative. This code indicates that I am looking for a movement that is making a claim that renewable energy is vital for the country's survival; this could possibly be implied literally, or in terms of international competitiveness as already mentioned. Movements invoking this imperative might assert that the state has a duty to mitigate and reverse the inimical and dangerous effects of Global Climate Change because of threats to national security. For example, they might make the argument that renewable policy is a gateway to energy independence, which would drastically increase a

[6] Two additional sets of coding frames are used within the project to distinguish the year from which the data was published, and whether the data is referring to Germany or California. It is mainly an organizational tool intended to make analysis as efficient as possible; as such, a thorough description of these codes are likely unnecessary.

country's international competitiveness, and would be a positive influence on national security (due to the fact that they would have to rely less on energy imports, and hence, are unaffected by the whims of hegemonic energy exporters).

The third coding frame in this set is revenue. A state's revenue imperative, in essence, is a consequence of the first two imperatives: for a state to maintain internal order and national security, it must raise the resources necessary to fund the plethora of institutions that fulfill the first two imperatives – like the military, for instance. Revenue, historically, is mostly derived through taxation. For a movement to link to this imperative, it would have to be observed claiming that renewable energy policy could somehow be connected to revenue; of course, this would have to be differentiated from pure economic growth, which is the realm of the next imperative.

As foreshadowed, the fourth coding frame here is the economic growth, or accumulation imperative (it is occasionally simply called the economic imperative, but it always implies growth). If a passage is linked to this coding frame, it suggests that a movement has based its renewable arguments in the vein of economic growth. Certainly, this is something to be expected – considering that prominent discourses like Ecological Modernization has sought to refute the zero-sum relationship between environmental conservation and accumulation. Such contentions would be that developing renewable energy is compatible, or possibly conducive to further growth; that is, that renewable energy would not result in loss of growth, but that it might actually result in increased growth.

Finally, the fifth frame in this set is the legitimation imperative. This imperative would be invoked if a movement claimed that the state needs to implement effective renewable policy because it has the duty to ensure the welfare of its citizens – which would arguably be at risk due

to the environmental hazards of unmitigated climate change. As discussed in the literature review, this type of argument is seen in theories like the Risk Society; to recall, the Risk Society thesis argues that the state is the producer of risks that are difficult for it to defend its population against. Such an argument might be based in the idea that the state has a responsibility to minimize the risks of climate change – such as more frequent and more intense natural disasters, raising coastal lines, impacts on agriculture, and health hazards of increasing temperatures.

Moving on to the second set of coding frames, recall that these frames are based on the different types of environmental movements that are attempting to influence renewable policy. There are three different groups considered in this project – each are a little nuanced in their definitions, and hence, vary in their motivations and intentions. It is worth stressing that these groups do *not* have to be concerned with environmental conservation in-and-of-itself; rather, they might have ulterior motives that coincide with renewable policy, or they might actually oppose it. What matters is that they are attempting to penetrate the core of the state, and influence renewable policy by linking to one of the state imperatives.

With that said, the first of these coding frames would be based on what in commonsense terms can be labelled environmentalists. Any passage linked to this frame indicates that the movement attempting to interact with the state is what would be conventionally dubbed an environmentalist group. Organizations and groups that are first-and-foremost concerned with environmental conservation, preservation, and so on are included in this group. Such groups might stress environmental stewardship, sustainability, or other ecological principles. It would be reasonable, most likely, to predict that groups with environmentalist orientations would likely seek to influence renewable policy in *positive* terms; meaning, that environmentalist groups would position their goals towards persuading policy-makers to enact renewable legislation

(however, as a precautionary note, some individuals or groups inside environmentalist organizations and networks might be *opposed* to systematic renewable energy due to some of the inimical effects that wind-farms – for instance – have on wildlife populations, or because of the high resource costs of building such renewable infrastructures). Whatever the case, it would be likely that such groups would advance renewable goals over economic or business priorities. In a nutshell, these are the groups that are popularly thought of as representing the environmental movement.

The second coding frame in this set is based on fossil-fuel interests. Such a link would suggest that the group involved is some kind of interest – likely business-oriented – that is mostly concerned with the continued harvesting and utilization of fossil fuels. These are interests that benefit from the current state of energy systems in the industrialized world; indeed, so much – if not the entirety – of industrial economies is predicated on the availability and access to massive quantities of energy that fossil fuels have provided for over a century. And while many skeptics have claimed that peak oil is not only inevitable but quickly approaching over the past decades, the fossil fuel industry has continued to uncover and reach previously inaccessible wells of fossil fuels through exploration and technological innovation – such as through techniques like mountain-top removal and hydraulic fracking. Of course, it would likely be expected that such interests would seek to influence renewable policy in *negative* terms; that is, it is in the interests of such groups to convince policy-makers *not* to enact renewable policy legislation. These groups clearly have their own vested interests but are also likely to couch their arguments in economic or business terms.

The third coding frame in this set is *almost* like a mixture of the two preceding movements: this frame is based on green-technology – or green-business – interests. These kinds

of movements might be seen as a mix of the previous two movements for a number of reasons: first of all, they are ultimately business-interests; above everything else, these groups are likely concerned with economic growth, developing new technologies, and, consequentially, developing new economic and business sectors. Their interest in green-technology – like renewable energy – might be a singularity: they might see green-tech as the way of the future and see lucrative business opportunities in investing in such technology. Nevertheless, it is *not* unlikely that individuals or groups in such movements might have environmentalist principles. That is, while they are interested in developing green-tech for business or economic reasons, they might also believe what they are doing is environmentally valuable – that engaging in green-business is not only profitable, but it is also a panacea to ecological ills like pollution and climate change. In any case, it is not unreasonable to predict that such groups would seek to influence policy-makers in *positive* terms when it comes to renewable policy; after all, renewable policy that would stoke the development of green-tech would be beneficial to those invested in such areas.

One final coding frame that is exceedingly important in this analysis is labeled "politician." Surely, one of the guiding focuses of this project is that environmental movements influence renewable policy by appealing to policymakers through the state imperatives. However, it may turn out that certain politicians are acting on renewable policy *without* perspicuous influence from environmental groups. This might suggest that key principles of environmentalism have indeed penetrated the core of the state – therefore making environmental protection part of the state imperatives as Dryzek et al. suggest. That is, politicians may act autonomously and appeal to both voters and potential allies in politics, the business lobby and amongst green movements on 'environmental' grounds.

These coding frames serve more than organizational purposes – although they do assist the task of working through packs of data. Ultimately, these coding frames help shape and explain the narrative of renewable policy development over the past 17 years. By establishing coding frames that refer to different environmental movements and state imperatives, this thesis will link different moments in time – represented by the data – to a corresponding group and state imperative in order to develop two narratives of change over time. Therefore, taking the data and analyzing it for linkages to movements and imperatives transforms the data into evidence that can be used to identify the process by which renewable policy has developed in California and Germany. This, of course, heavily compliments the methodology of process tracing – which supplies the logical background of the analysis.

Recall that process tracing is essentially an analytical backdrop for drawing out causal inferences from pieces of data and evidence. Causality, in this case, is the impact of environmental movements' on renewable policy *through* state imperatives – which allow the movements to penetrate into the core of the state; in other words, the environmental movement *caused* change in renewable policy by framing their arguments for policy change in different imperative terms. As made clear by literature, the various state imperatives have waxed and waned in relevance to politicians in different countries as time progressed (albeit it is arguable that the accumulation imperative has reigned strong throughout the decades). So the "process" being traced here is how environmental movements have appealed – or failed to appeal – to the permuting imperative preferences of politicians in California and Germany.

Chapter 3: Analysis and Discussion[7]

3.1 California

Excluding California's first RPS, these policies were passed under the Governorship of two different politicians: Governor Arnold Schwarzenegger (R) and Governor Jerry Brown (D). Despite the fact that the former belonged to the Republican party – not traditionally associated with strong commitments to environmental regulations (of course, notwithstanding notable exceptions) – Schwarzenegger championed many environmental policies during his tenure as Governor; indeed, many of the "green" developments analyzed in the proceeding sections occurred under Schwarzenegger's leadership. Governor Brown, too, has spent a significant portion of his Governorship advocating for environmental policies; however, his reputation as a progressive leader precedes him in ways that make his case different from Schwarzenegger. In many instances, the following analysis focuses closely on some of the policies put into action, as well as how these two Governors engaged with environmental groups. The analysis here makes the case that a constellation of actors and events were conducive to the development of renewable energy and environmental policy in California through 2000 to 2016; in many cases, different groups and even politicians respond to specific events – be they the advancement of a particular bill or policy, or in some cases an environmental disaster – with observed appeals to state imperatives. As examples, the actors within the data make many statements that may be interpreted as calls to the economic growth imperative (often framed in terms of "green growth," "green jobs," or "green industries"), and the security imperative (mostly connected to the idea of

[7] Throughout the following sections, the analysis uses footnotes to denote which piece of data is the source of an observation. Appendix A to this paper catalogues each piece of data that the research cites – containing both the full citation and a hyperlink that leads straight to any given piece of data.

"energy independence," or establishing an energy mix that frees the state from reliance on imported energy sources).

3.1.1 Historical Developments in California: Policies, Movements, and Politicians

Ironically enough, the first article retrieved in the data set opens-up a rhetorical question in its headline, "Is the Golden state green?" and answers with, "Not really, experts say."[8] Appearing in the North County Times in February 2001, the article portrays a dichotomous state of Californian environmentalism: on the one hand, California had a vibrant green movement, a notable degree of technological innovation, and had more renewable energy policies and other green initiatives on the books than other states (according to the article, of course); nevertheless, at the time, California was marked by urban sprawl, growth, and highly consumptive lifestyles (several times, interviewees note how frequently they observe SUVs on the roads in California).[9]

Indeed, in the same month, the San Francisco Chronicle ran an article that bemoaned the lack of development of renewable energy sources in recent years. According to this piece, Californian utilities had been discouraging the development of renewables throughout the 1990s up until the turn of the century; some utility companies were involved in outright blocking contracts that would have permitted for the substantial investments in renewable sources. In 1995, Southern California Edison and San Diego Gas & Electric sought a decision in the Federal Energy Regulatory Commission that resulted in the cancellation of renewable contracts – apparently worth millions of dollars – that were nearly in effect. In combination with no support from state or federal officials – the latter of which are accused of cancelling state contracts for

[8] Michelle Locke. "Is the Golden state green? Not really, experts say." *North County Times – Associated Press*, 4 February, 2001.
[9] ibid.

renewables in the article – Californian utilities, at this time in history, were not seemingly interested in committing to renewable development.[10]

This is where we begin to see some pushback from environmentalists and government officials in the data; here, we can observe these actors making appeals to state imperatives. For instance, then renewables program manager at the California Energy Commission Marwan Masri made the statement that, "If we had invested in the past in more independent power – especially the renewables – we would have much more energy today and would be better situated to meet California's current energy challenge . . . More renewables would have been very helpful because they offer environmental and price stability benefits."[11] The article also quotes a Sacramento lobbyist for the Sierra Club – famous preservationists – named John White as saying, "Renewables represent a way California could have reduced our dependence on natural gas, but the utilities missed the opportunity and chose instead to fight the renewable industry."[12] Underneath this conflict, stoked by utilities, White was interpretively appealing to what Dryzek et al. call the survival – or, international competitiveness – imperative. This is a phenomenon that is observed frequently throughout the data. The concern regarding "dependency" or "energy crisis" is often met with appeals to "energy diversity" – meaning that if a state's energy mix did not lean so heavily on one source of power, then it will avoid the turbulence of unstable economic times. Indeed, this is the first article in which we read about Jerry Brown – who was the Major of Oakland at the time – who made comments about establishing a more sustainable

[10] Susan Sward. "A Lost Opportunity That Worsened Crisis – Utilities and federal regulatros shut the door on renewable power in California." *San Francisco Chronicle*, 12 February, 2001.
[11] ibid.
[12] ibid.

energy system that was more climate-friendly (perhaps an appeal to the "sixth" environmental imperative) and more suitable for dealing with "this immediate energy crisis."[13]

In just the following September (2001), the first RPS bill discussed in the data set was under debate in the State Legislature. The bill that went through the legislature would have required every provider in the state to reach 20% renewable generation by 2010 – which would have approximately doubled the size of the supply at the time. Once again, we see a reference to the "energy crisis," this time from Senator Bryon Sher (D) – who was the author of the bill. The article says (albeit with no direct attribution) that environmentalists had welcomed the policy on the grounds that it would be better for air quality, *and* that the "state would be a little less vulnerable the next time prices sail through the stratosphere for natural gas."[14] This is where a contrasting argument comes into play: free-market advocates (the article dubs them) and utilities pushed the concern that the RPS would increase prices, reward inefficiencies, and neglect the consumption of cheaper energy sources like coal, hydroelectricity, and nuclear power. Companies like Sempra Energy and utilities like San Diego Gas & Electric Company are cited in the article as actors who warned that such a policy would increase electricity costs. Nevertheless, the bill received support from a consumer group called the Utility Reform Network – which the author identified as being "one of the biggest" lobbyists for an RPS; Matt Freedman, speaking on behalf of the consumer group, argued that it would save consumers money over the long run, and likened the RPS to an insurance policy (perhaps an example of the legitimation imperative at play).

The following year, 2002, California actually succeeded in passing its first RPS in a milestone achievement that mandated utilities to provide 20% of their electricity from

[13] ibid.
[14] Carrie Peyton, "Green energy sources seen as ripe for growth." *The Sacramento Bee*, 10 September, 2001.

renewables by the year 2017 – which, the article details, was the most stringent goal in the country. Signed by Governor Gray Davis, the law was touted as "good for the environment" by Senator Sher (who also appeared above), but added that the law would diversify the energy mix so that "we don't have all our eggs in one basket with fossil fuels."[15] Environmentalists, too, make an appearance here; then executive director for the California League of Conservation Voters – Jon Rainwater – stakes a claim that sets-apart California from the rest of the United States: he boasted that the policy established California as a leader in energy policy and the fight against global warming, and further jabbed the Bush administration for not embarking on a similar path at the federal level. This is another leitmotif that crops up throughout the Bush years: that California is, in a sense, acting as the "true" leader in climate policy, while the actual American President remained laggard in climate action.

Strangely enough, the bill was endorsed by the state's three biggest utility companies: Pacific Gas & Electric, Southern California Edison, and Sempra of San Diego. This is interesting considering that the early data pins much of the blame for California's slow pace of renewable development on the utility companies themselves; in fact, Southern California Edison was cited above as being associated with the cancellation of renewable contracts in 1995. Despite this, seven years later, utility companies were on board with California's RPS policies. Of course, detractors remained outspoken against the bill – much in the same vein as the previous data. Republican assemblyman Bill Leonard argued that the bill would cost much more than other sources like natural gas, and would ultimately hurt consumers because the renewables would end-up funded through consumer subsidies.[16]

---

[15] Paul Rodgers, "PLAN WILL BOOST RENEWABLE USES OF ELECTRICITY – UTILITIES FACE NEW REQUIREMENTS." *The Mercury News*, 1 September, 2002.
[16] ibid.

Following this critical moment in renewable policy development is another crucial event. This event not only affected not only California's environmental policy history, but in the state's history in general: in 2003, California elected ex-movie star Arnold Schwarzenegger as the state's Governor. As mentioned in the preceding section, Schwarzenegger proved to diverge from the Republican Party on environmental issues, with a headline from October 10, 2003 proclaiming: "Gov.-elect liberal with environment."[17] The article says that Schwarzenegger's bold environmental platform – including the promotion of solar power – puts his leadership at odds with (once again) the Bush administration and the Republic Party at large. Here, we see optimism from environmentalists: Sierra Club spokesperson Eric Antebi made the statement that, "the governor will inevitably be under pressure from other Republicans and by the president . . . But if he shows leadership and does the right thing, we will be there for him."[18] In this early stage of his leadership, Schwarzenegger had already made bolstering the state's RPS policy as part of his platform; the article shows that Schwarzenegger's plan was to hasten the 20% by 2017 goal to 20% by *2010*. While this piece of data does not necessarily reveal any interactions through the state imperatives, it does show that in 2003, Schwarzenegger enjoyed the support of environmentalists – represented by support from groups like the Sierra Club and the Environment Now Foundation (based in Santa Monica).

Starting in 2004, we start to see a trend in the data that is potentially important: individual cities and counties in California – along with the politicians, citizens, and groups within them – begin taking more localized action on climate policy. In many cases, Californian cities engage with other cities in the United States and across the globe to form city groups that form

[17] Douglas Fischer, "Gov.-elect liberal with environment – Much hinges on who Schwarzenegger appoints." *Tri-Valley Herald*, 10 October, 2003.
[18] ibid.

commitments to climate policies (we will see this referred to as the "green cities" movement later in the data). In September 2004, San Francisco set a climate plan that aimed to reduce the cities GHG emissions to 20% below 1990 levels by 2012; of course, the plan involved switching as much of the city's power to renewables as possible (including getting more hybrid vehicles on the road, which is mostly out-of-scope for this analysis), but it also called for more lifestyle-orientated changes – recycling, utilizing mass-transit, or walking/cycling instead of driving cars.

City officials sometimes appear to be important in these decisions and commitments – some even making statements that can be interpreted as evocations to state imperatives. For example, one passage from a San Francisco Chronicle piece sees a city official rebuking claims that climate policies are anathema to business and economic growth (an example of ecological modernization): "Mark Westlund, communications officer for the environment department, said San Francisco's business climate won't suffer in the name of easing carbon emissions. 'I don't see this as anti-business at all,' he said, adding that clean technologies 'could be a definite growth industry here.'"[19] This is, interpretively, a fairly direct evocation of the accumulation imperative being connected to environmental goals: regulatory constrictions on GHGs are not antithetical to economic growth; in fact, such policies open-up opportunities for new industries and areas of growth.

Indeed, the data shows many localized efforts to switch over to renewable energy sources; and in the early- to mid-2000s, it is often under the guise of reducing dependence on fossil fuels. One Santa Barbara nonprofit group, the Community Environmental Council, started a campaign aptly titled "Fossil Free by '33" that aimed at achieving "energy independence" in Ventura, Santa Barbara, and San Luis Obispo counties by 2033; Ventura Mayor Brian Brennan

[19] Carl T. Hall. "Global warming creeps up on S.F. – City has plan to cut greenhouse gases." *San Francisco Chronicle*, 27 September, 2004.

supported the campaign – citing "rising gas prices, unusual weather patterns, coastal erosion [and] urban sprawl [as] all rooted on a dependence on cheap fossil fuels."[20] This will come up again in more explicit terms (particularly in the German analysis when Russia shut-off gas to Ukraine), but much of the talk concerning "energy independence" or "fossil fuel dependence" is characterized by a desire to avoid importing substantial chunks of energy from other countries; this, in many ways, is embodied by the security imperative: securing one's own borders from external threats – even those that are more economic in nature rather than militarily.

One piece of data covers the city of San Jose and then Major Chuck Reed – who wanted his own urban center to join (or, as the data suggests, perhaps lead) the "green cities" movement. Situated in Silicon Valley, Reed's plans involved creating "clean-tech jobs," the development of "green buildings," and, of course, increasing the amount of energy the city consumed through renewables. More specifically, Reed proposed goals like creating 25,000 "clean-tech" jobs, reduce per capita energy by 50%, and achieving 100% renewable energy by 2022 – which would, according to Reed, be achieved mostly through the installation of solar roof-top panels.[21] This is more evidence of a policymaker talking about renewable policy in the sense that it would help the economy, rather than it being beneficial for the environment in-and-of-itself.

Early in 2006, Governor Schwarzenegger once again pushed bold initiatives to curb GHGs and combat global warming. The plan, interestingly, would require raising gas prices and force industries to report their GHG emissions; the funds raised from these prices would then fund research into "alternative energy."[22] An article from the *San Francisco Chronicle* notes that

---

[20] Kevin Clerici. "Group's goal is to be 'Fossil Free by '33'." *Ventura County Star*, 23 April, 2005.
[21] Mercury News Editorial. "GREEN GOAL IS GOOD FOR SAN HOSE – SILICONE VALLEY SHOULD BE LEADER AS NATION SEEKS BEST TECHNOLOGY FOR SUSTAINABLE ENVIRONMENT." *The Mercury News*, 7 October, 2007.
[22] Mark Martin. "Governor to push global warming fight – Bold policy gambits expected in bid to lower greenhouse gases." *San Francisco Chronicle*, 17 February, 2006.

the plan had positioned a conflict between "business groups" and "clean-air advocates" – or, interpretively, business interests and environmentalists. However, environmentalists had perceived Schwarzenegger's environmental plans as merely rhetoric, and that the Governor's "big-business allies" would oppose his incursions on fossil fuels. Nevertheless, in the same year, Schwarzenegger's own targets would reduce GHG emissions to 2000s levels by 2010, to 1990 levels by 2020, and to cut emissions down to 80% of 1990 levels by 2050. The plan to tax gasoline to fund "alternative energy" was lauded by environmentalists from the Sierra Club, and opposed by business groups and the California Chamber of Commerce – both of which stating that it would "hurt the economy."[23]

While environmentalists were suspicious of Schwarzenegger's actual intentions, he was guided by top advisers who called global warming, "a threat to the economy and the environment."[24] So here, we see a dual-deployment of the risks associated with global warming: it is not only harmful to the environment, but also the economy. Indeed, the Governor seemed to be persuaded by such claims, considering that he planned to utilize California's influence to push his climate agenda into other parts of the country; he was quoted as saying, "We know the science, we see the threat and the time for action is now . . . The federal government has so far fallen short with showing leadership when it comes to the environment . . . Hopefully, they'll follow and they're going to do that all over the country."[25] In the same piece, we see businesses concerned with the Governor's enthusiasm (a member of the Portland Cement Association opined, "It's goodbye concrete production.")[26] However, technology interests appeared to be optimistic regarding the Schwarzenegger's plans; Bob Epstein, founder of a technology coalition

[23] ibid.
[24] Michael Gardner. "Spreading the word on warming." *Daily Breeze,* 9 April, 2006.
[25] ibid.
[26] ibid.

called “Environmental Entrepreneurs”, contented that California’s bold policies would lead to investment and growth due to the emerging renewable and alternative energy industries in the state.

In fact, these “green energy firms” and technology interests do appear many times in the data. One article from 2007 – titled “ ‘Green’ energy firms get tips on how to help industry grow” – contended that while Sacramento was fertile ground for a burgeoning “green energy movement”, whether or not the region would succeed depended upon its ability to attract investments. One venture capital firm alone had funded three local companies in the Sacramento region to develop green technologies. However, this particular piece of evidence does not illustrate these technology interests as being outwardly conscious of environmental issues; rather, it is almost as if they saw opportunities for investment in the public’s increasing concern with global warming – with the author of the article claiming that people in the region were “ready to embrace and pay for solutions to environmental problems.”[27]

While there is some evidence that shows green-technology interests in the state, what frequently reappears in the data from the Schwarzenegger era is the idea of California as the “trendsetter,” and the notion of the state going against the grain set by the Bush administration.[28] After the passage of the Global Warming Solutions Act in 2006 (frequently referred to in the data as Assembly Bill 32 – which was the bill that committed the state to GHG reductions of 25% by 2020), the data contains many references to this conflict between Schwarzenegger and the Bush administration; furthermore, Schwarzenegger himself is observed boasting about California’s achievements, influence, and unique place in the world. He is quoted as saying,

[27] Clint Swett. “‘Green energy firms get tips on how to help industry grow.” *The Sacramento Bee*, 12 October, 2007.
[28] Mercury News Editorial. “CLIMATE CHANGE DEMANDS ACTION – U.S. SHOULD MOVE QUICKLY INTO LEADERSHIP ROLE.” *The Mercury News*, 11 November, 2007.

"What we do in California has unbelievable impact and it has consequences . . . When you look at the globe, California is a little spot, but the kind of power and influence we have on the rest of the world is an equivalent of a whole huge continent."[29] Schwarzenegger dubbed a "movement" of about fifteen other states pursuing their own climate strategies as "'hip' and 'sexy.'"[30] Even some environmentalists thought of California in a similar light; then executive director of the Sierra Club, Carl Pope, observed, "Other states are fumbling to catch up with us . . . and Washington is brain-dead on the issue."[31]

A very interesting event in this period involves controversy surrounding Proposition 7 from 2008. The Proposition would have mandated 20% of California's energy to come from "green sources" by 2010, 40% by 2020, and 50% by 2025; this stood in stark contrast to the goals at the time, which Governor Schwarzenegger had set as 33% by 2020. An article from *Sierra Madre Weekly* reported on ads funded by Pacific Gas & Electric and Southern California Edison that were urging voters to vote "no" on the proposition; apparently, the ads claimed that the proposition would, "take away green jobs, cost consumers billions of dollars, and ultimately bring harm to the environment."[32] Even environmental organizations – like the Natural Resource Defense Council and the Center for Efficiency and Renewable Technology (two groups cited by the article) – were not advocating on behalf of the proposition. While the data is not perspicuous as to why environmental groups were not in favor of the proposition, it shows that other opponents of the Proposition were generally concerned about its economic effect – particularly considering the Proposition's ambitious and dramatic goal increases.

---

[29] Samantha Young. "California sets climate change agenda for nation." *Tri-Valley Herald*, 22 June, 2007.
[30] ibid.
[31] ibid.
[32] Nina Kathryn Hauptman. "Prop 7: Conservation and Controversy – Making sense of the energy debate and California's latest legislative attempt to lead the way." *Sierra Madre Weekely*, 9 October, 2008.

Indeed, the data contains other instances of environmental groups behaving in ways that *might* appear to be surprising – such as the preceding example of groups not advocating for stronger commitments to renewables. Renewable energy, as a concept, is something that seems to complicate the motivations, principles, and intentions of environmental movements. For example, the Sierra Club made news in 2008 for advocating plans for developing renewable projects in the Mojave Desert. As already noted, the Sierra Club's traditionally preservationist ideals contradict the notion of cultivating natural preserves for human purposes. Then regional staff director of the club, Carl Zichella, tried to persuade other environmental groups that working with utilities and government agencies to construct such renewable sites would be vital in the task of reducing fossil fuel usage – and consequently, necessary in the struggle to mitigate global warming. The Natural Resources Defense Council worked along with the Sierra Club and utility groups like the California Public Utilities Commission on the project; however, some environmental groups – like the Alliance for Responsible Energy Policy – contended that such facilities would "wreak havoc on the Mohave Desert."[33]

According to a report in the *East Bay Express* published in May 2008, the "alternative energy industry" had "exploded" in recent years thanks to the help of private investment and government policies (from both the state and local levels); this was particularly true for the solar industry. The report cites a study from a research firm called Clean Edge that claimed that, in a sagging "traditional economy", there was a 40% increase in revenue for renewables like solar and wind. However, individuals seeking employment in these industries – or, seeking entrance into the "green jobs" market that has come up in the data – had been experiencing difficulty finding employment; this is an interesting moment where some local nonprofit groups come into

[33] Lauren McSherry. "Energy plans raise concerns Sierra Club seeks help from environmentalists." *The Sun*, 29 February, 2008.

play: nonprofit "vocational training" programs like Solar Richmond, Berkeley's Rising Sun Energy Center, and Oakland's Ella Baker Center were operating around the country to include lower-class individuals into the green-tech industry. Indeed, a representative of the Ella Baker Center stated their intentions was to provide "green pathways out of poverty."[34]

There are other interesting examples of local initiatives and movement activity in 2008. There was, for example, the Green Valley Initiative in San Bernardino and Riverside counties – which are described as a "regional economic development plan" focused on proliferating the green technology economy.[35] There is also mention of the Oakland Green Business Council and the Green Jobs Corps, which worked together to train "at-risk youth," those "stuck in low-end jobs," and the unemployed to work in the emerging green technology economy; this was an attempt to simultaneously help lower-class individuals and mitigate global warming.[36] 2008 was also an important year for state policy: California passed a "weak" FIT policy under Assembly Bill 1969.[37]

Interestingly, the plans for development proposed by utility companies sparked outcries from environmental groups at some points in the data. In 2009, two plans to create massive "mega-grids" were proposed by Californian utility giants: Green Path North and the Sunrise Powerlink. Utility companies like San Diego Gas & Electric claimed that they needed to construct these grids in order to meet the RPS goals established by Governor Schwarzenegger. However, the proposed routes for the grids would cross over "sensitive" territory in Coachella Valley and the Hi-Desert; the San Diego lines would run across another 150 miles of land.

---

[34] Matther Green. "Harnessing the Power of Green Jobs – Excitement is high for the concept, but is it potential or actual energy?" *East Bay Express*, 7 May, 2008.
[35] Kathie Portie. "Local agencies in no hurry to join initiative." *Big Bear Grizzly*, 22 October, 2008.
[36] Barbara Grady. "Oakland-based movement at forefront of green campaign." *Tri-Valley Herald*, 8 April, 2008.
[37] Tam Hunt. "Tam Hunt: The Local Feed-in Tariff Solution - Municipalities have the power to accelerate renewable energy transition in their communities." *Noozhawk*, 29 April, 2009.

Environmentalists in the region – such as the Alliance for Responsible Energy Policy (referenced in an earlier example – opposed the proposals because they would encroach on natural wilderness, and set a precedent that would favor large renewable projects over nature.[38]

In 2010, a report commissioned by the California Manufacturers and Technology Association argued that the green policies implemented in California (specifically AB32, which was not specifically an RPS) were overall damaging to the economy; the report even referred to California's climate legislation as "draconian." Nevertheless, Governor Schwarzenegger (along with other climate policy advocates) frequently cited a publication called the Next 10 report that contended green jobs – promoted by policy – were a major source of economic growth; it even reported that these green jobs grew by more than double the rate of other job types between 1995 and 2008.[39]

Terry O'Day, who was a Santa Monica City Council member at the time, published an article in the *Santa Monica Daily Press* that echoed these assertions made by Schwarzenegger that clean energy was conducive to a healthy state economy; indeed, his article referenced a quotation from Robert Kennedy Jr. that says, "good environmental policy is good economic policy 100% of the time."[40] He argued that clean energy policies were "recharging" the economy in California – also citing the statistic that green jobs were growing over double the pace of other jobs in the state. Additionally, he claimed that over six billion dollars in investment capital could be partially attributed to the passage of green policies. In response to opponents of these policies, O'Day claimed that a recent poll had shown that "70 percent of California voters recognize[d]

[38] Jackie Devereaux. "No Worries for Mega Grid Opponents?" *Desert Star Weekly*, 6 April, 2009.
[39] Timm Herdt. "CLU Report says green law may hurt economy." *Ventura County Star*, 16 June, 2010.
[40] Terry O'Day. "Going green saves green." *Santa Monica Daily Press*, 22 April, 2010.

that a clean environment and a strong economy go hand in hand" – calling opponents of this statement "out-of-state" detractors.[41]

Democrat Jerry Brown returned to the Governor's office in 2011, and quickly worked to pass an update to the state's RPS: that March, the legislature sent Senate Bill X 1-2 to Governor Brown that bolstered California's commitment to renewables to 33% by 2020; this was an ambitious goal, as this statistic was at about 20% in 2011. Joe Simitian, the Democratic senator who proposed the bill, promoted it by saying it established California's leadership in renewable energy, and that it would simultaneously improve environmental and economic conditions while shielding consumers from exceedingly high costs of electricity. Other supporters echoed these sentiments, adding that it would reduce California's dependence on imported fossil fuels, encourage investment into the green economy, improve air quality, and reduce GHG emissions. Conversely, Republican legislators argued that it would hurt the economy and the "well-being of California."[42][43] In April, Brown dedicated a new solar plant and made comments harkening back to the idea of reducing California's dependence on imports, "Instead of taking oil from thousands of miles away we're taking the sun and converting it to electricity."[44] He also revisited the idea of California leading the country in renewables, and that California was stimulating the economy, creating jobs, securing energy independence, improving air quality, and quelling GHGs.[45]

In 2015, Californian policymakers once again ramped up the state's RPS policy. This time, the state mandated that 50% of electricity would be generated through renewables by the

[41] Ibid.
[42] Jim Sanders. "Legislature sends renewable bill to Jerry Brown." *The Sacramento Bee*, 29 March, 2011.
[43] Union-Tribune Editorial Board. "Energy mandates ignore real world." *San Diego Union-Tribune,* 3 April, 2011.
[44] Ian Bauer. "Governor dedicates solar plant." *Milpitas Post,* 13 April, 2011.
[45] Ibid.

year 2030. President Pro Tem Kevin De León continued the trend of Democratic politicians in the state touting their climate policies as enablers of economic growth; he claimed that the bill protected the "health of our communities and the integrity of our environment" while simultaneously spurring innovation and investment in the energy industry. Republican legislator Jeff Stone called the policy, "coastal elitism at the worst" – arguing that the policy was going to hurt the economy of the Central Valley and benefit wealthier urban areas.[46]

California policymakers' – particularly Jerry Brown's – reactions to the results of the 2016 Presidential election were inundated with concerns regarding the environment and climate policy. Indeed, Governor Brown was quoted as saying, "We will protect the precious rights of our people and continue to confront the existential threat of our time, devastating climate change."[47]

3.1.2 Nuclear Energy in California

Nuclear energy is a subject that comes up as a very divisive issue several times in the data. With California's reputation as a hub for environmentalism and progressive politics, nuclear power had been controversial in the state for years. However, with the state's increasing commitments to reducing GHGs and mitigating global warming, nuclear energy became something that had to be considered along with renewable energy. Whether or not to continue the operation of remaining nuclear plants in California was debated between politicians, energy-industry leaders, and environmentalists – the latter of which being split into competing camps; up until this point, California had been operating on a (then) 31-year moratorium on the development of new

[46] Alexei Koseff and Jeremy B. White. "'Green' energy goals widen - Key measure requires half of electricity from renewable sources by 2030 - Republicans call climate goals 'coastal elitism at the worst'." *The Sacramento Bee*, 4 June, 2015.
[47] Paul Rodgers. "Environment - Are state climate rules threatened by Donald Trump? - Incoming president has a different view of climate change." *The Daily Democrat*, 15 November, 2016.

nuclear plants. Growing concerns regarding the climate and GHGs, however, caused some environmentalists to reexamine this position. Then director of the California climate initiative Environmental Defense, Karen Douglas, said of nuclear energy, "We think global warming is such a tremendous planetary problem that we're not going to refuse to look at it."[48] Others, such as an official from the Natural Resource Defense Council, cited the risks of waste disposal, nuclear proliferation, and the expensive nature of nuclear power as reasons to defend California's nuclear moratorium.

At this point, two nuclear plants – PG&E's Diablo Canyon and Southern California's Edison's San Onofre plant – were the only two operational nuclear facilities in the state. Evidently, concerns regarding climate change and the development of clean energy invited pushes from different groups to build additional plants. Then president of the Fresno Nuclear Energy Group made the statement that, "If your goals are going to be cheap energy to keep the economy rolling and to stop global warming and provide clean energy, the available options at this point in time are every few."[49] Patrick Moore, the founder of Greenpeace, seemed quite supportive of the nuclear strategy, "If it isn't done, California will never meet its CO2 goals in a millions years."[50] Even politicians such as Assemblyman Chuck DeVore (R) supported the idea; DeVore even submitted a bill that would end the moratorium on nuclear development, which did not get close to passing.

The nuclear issue crops up in the data again in 2011 on the heels of the Fukushima disaster in Japan; this is interesting due to the fact that the Fukushima disaster played such a revitalizing role in Germany's energy policy realm. PG&E applied for an extension of the

[48] Sarah Jane Tribble. "A dark horse for alternative energy." *San Mateo County Times*, 18 June, 2007.
[49] ibid.
[50] ibid.

controversial Diablo Canyon plant in 2009, but the disaster in Japan generating opposition from environmentalists, citizens, and even some state officials. Environmentalists in the Sierra Club cited the Fukushima disaster as highlighting why renewable energy was the only safe and sane type of power.[51] In 2016, it was confirmed that the plant would shut down by 2025.[52]

3.2 Germany

There are several themes that characterize the history of Germany's developing renewable policies. Much of them, like California, are bound up in energy matters that often correlate to concerns with one or more of the state imperatives. For instance, energy security – or independence – is observed frequently in these articles; as the data shows, much of concern is generated through Europe's dependence on imported energy from Russia. Nuclear energy, too, plays a huge role in the debates and developments of German renewable and environmental policy. Angela Merkel – whose status as German Chancellor spans the period covered by this research – often refers to nuclear energy as a "bridge" between fossil fuels and renewables; that nuclear would give Germany the time to transition to a cleaner and more secure source of energy – plus, it is more climate friendly than fossil fuels. This would draw the ire of environmentalists and politicians in opposition parties – like the German Greens – who opposed nuclear energy (recall from the literature that Germany has a long history of anti-nuclear sentiment). Merkel's stance, of course, changes after the Fukushima Disaster in 2011.

3.2.1 Historical Developments in Germany: Politicians and Energy

One element in the German case that immediately sets it apart from California is the presence of a Green party in the legislature. Indeed, one of the earlier instances in the data highlights the

[51] Darwin BondGraham. "California's Nuclear Future Is in Doubt - Once the epicenter of America's debate over nuclear energy, California again stands at a crossroads." *East Bay Express*, 27 April, 2011.
[52] Ellen Knickmeyer. "Last California plant to close as nuclear power struggles." *Associated Press State Wire: California*, 21 June, 2016.

Green party's platform for an upcoming 2002 Bundestag election. According to the data, the Greens "want to vigorously improve the protection of the environment and climate," while also bolstering the agriculture and energy sectors. Their platform included a reduction of GHGs by 33% by 2010, and, of course, a doubling of the renewable share by 2006.[53] Later in September 2002, Green party member Juergen Trittin – who was the German Environment Minister at the time – lauded the decision made at the World Summit on Sustainable Development in Johannesburg to increase renewable use in electricity production, and emphasized Germany's role in the negotiations (specifically, the German delegation and the EU).[54] In 2003, the Greens demanded a national referendum on the EU constitution; among other things, the Greens argued for more renewable energy subsidies across Europe as a whole.[55]

Up until the election in 2005, the Green party had been operating in a joint coalition with the Social Democrats Party (SPD), led by advocate of the global "Third Way," Chancellor Gerhard Schroeder. One key achievement of the SPD-Green government was the decision to phase-out nuclear power by 2022, which would be accompanied by a drive to develop and promote renewable energy (from September 2005, nuclear energy accounted for approximately 30% of Germany's power).[56] In September 22, 2005, this phase-out was heralded as the "Green's proudest achievement."[57] The nuclear phase-out is particularly important for this project's purposes, due to the fact that it reappears as an issue many times throughout the data.

---

[53] "German Greens adopt platform for Bundestag Elections." *DPP News Agency*, 4 May, 2002.
[54] "German minister says Johannesburg summit results 'satisfactory'." *DPP News Agency*, 3 September, 2002.
[55] "German Greens demand national referendum on EU constitution." *DPP News Agency*, 29 November, 2003.
[56] Andrew McCathie. "ANALYSIS Schroeder stands on his record of economic reform." *Deutsche Press-Agentur*, 6 September, 2005.
[57] Rohan Minogue. "NEWS FEATURE: Strange bedfellows: Merkel makes pass at Greens." *Deutsche Press-Angentur*, 20 September, 2005.

Indeed, the nuclear phase-out was a contentious issue in the 2005 election year. The Christian Democratic Union (CDU) disagreed with the SPD over the decision to stop using nuclear energy. Then Chairman of the SPD – Franz Muentefering – accused Angela Merkel and the CDU of "not tak[ing] renewable energies seriously," and that they were pro-nuclear energy.[58] In October 2005, then president of the Federal Environmental Agency (UBA), Andreas Troge, argued that "the people's mood is not pro-nuclear energy," and that radioactive waste – and what to do with it – was still a problem that had not been solved. He contended that instead of focusing on nuclear energy, Germany should devote its attention to renewable energy and cutting energy consumption in order to reduce GHG emissions and mitigate climate change.[59] Meanwhile, Edmund Stoiber – Bavaria Economics Minister-designate (CSU) – had demonstrated that "economics and ecology can become allies."[60] (Another example of ecological modernization rhetoric at play).

By 2006, Angela Merkel had assumed Chancellorship in Germany. Merkel's election as well as events like Russia's gas cut-off to the Ukraine serve as critical moments in the data. In December 2005 and January 2006, Russia's cut-off caused a ripple effect across Europe that "triggered alarm in Germany sparking a major new debate about energy security."[61] At the time, Germany received two-thirds of its energy from imports – with much of them coming from Russia. As such, nuclear energy reentered the political arena as a way to address concerns with energy security as well as climate change.[62] Energy security became a crucial issue in 2006, with

---

[58] "Germany: SPD Chairman Muentefering attacks Merkel's policies." *DPP News Agency*, 7 September, 2005.
[59] Claudia Ehrenstein. "German Environment Agency head predicts no extension of nuclear power phaseout." *BBC Selected Newspaper Articles: Germany*, 24 March, 2005.
[60] ibid.
[61] Leon Mangasarian and Andrew McCathie. "ANALYSIS: Energy fears in Germany after Russian gas shut-off." *Deutsche Press-Agentur*, 4 January 2006.
[62] ibid.

one headline announcing that energy security was "moving to the centre stage" of foreign policy in Germany[63]; the Foreign Ministry suggested that nuclear energy would merely be a temporary solution to energy security until the "transition has been made toward renewable energies."[64] This kind of reaction from policymakers seems to be evidence of the security imperative coming into play in energy debates.

In light of the "gas crisis,"[65] the nuclear phase-out provided fertile ground for disagreement between the CSU/CDU and the SPD. Then Economics Minister Michael Glos (CSU) argued that the gas crisis warranted a reconsideration of the phase-out. SPD General Secretary, Hubertus Heil, disagreed with Glos – arguing that the future "does not lie in nuclear energy," and that energy policy must be focused on improving energy efficiency and developing renewable energy. Environmental organizations, like Greenpeace, echoed the sentiment that nuclear energy belonged in the past. The Federal Association of German Industry, on the other hand, agreed with Glos that nuclear energy should retain a role in Germany's energy mix – contending that "a balanced energy mix is part of a reliable energy supply."[66]

In March 2006, Federal Environment Minister Sigmar Gabriel (SPD) made the statement that he did not want to choose between "risking people's lives through either CO2 or radioactivity."[67] This statement was made in anticipation of an energy summit with Chancellor Merkel. He argued that the "idea of technological progress" was the way to deal with climate change and energy security; in his draft 2006 budget for the environment ministry, he pushed for a two-fold increase of funds for the research and development of renewable technologies. Later

---

[63] Ralf Beste. "Energy security seen moving to centre stage of German foreign policy." *BBC Selected Newspaper Articles*, 28 February, 2006.
[64] ibid.
[65] Nikolaus Sedelmeier. "Gas crisis fuels nuclear energy debate in German coalition." *DPP News Agency*, 3 January, 2006.
[66] ibid.
[67] "German environment minister confirms nuclear phase-out policy." *DDP News Agency*, 28 March, 2006.

on in 2006, Gabriel reiterated these sentiments – saying that "nuclear power has virtually no effect on climate policy," and that he wanted bring Germany's GHG emissions down 21% by 2012, 40% by 2020, and 60-80% by 2050; these reductions, he contended, could "only be achieved through new technologies and greater energy efficiency."[68] Gabriel is quoted as saying, "Environment policies can give momentum for innovation, investments, growth and employment . . . We expect up to 300,000 people working in this sector by 2020." This was following a report that he released that showed a potential doubling of jobs in the renewable sector by 2020.[69] Green deputy chairman Trittin argued for a "common energy policy" in the EU. He argued that it would be "impossible to achieve the goal of growth and employment" without such a policy, and that "the supreme goal must be to reduce our dependence on oil. For this we need increased energy savings and energy efficiency"; and, of course, he contended that renewable energy was vital as well.[70] Chancellor Merkel also supported a "European energy concept" that would promote energy efficiency and renewable energy as a solution to Europe's dependence on fossil fuels.[71]

After an energy summit held in Berlin between German business leaders and ministers, Merkel announced that the government would be investing 2 billion euros into solar, wind, and other renewable technologies until 2009; business groups, she said, were "likely to invest 33 to 40 billion euros in such technologies." Merkel added that Germany was doing so in order to alleviate dependence on imports and prevent energy prices for rising.[72] Once again, the security imperative comes up again through the concerns surrounding fossil fuel dependence, and the

---

[68] "German environment minister rejects call for more nuclear plants." *DDP News Agency*, 5 November, 2006.
[69] Andrew McCathie. "Political tensions mount ahead of Merkel's energy summit." *Deutsche Press-Agentur*, 30 March, 2006.
[70] "German Green official urges common EU energy policy." *DDP News Agency*, 23 March, 2006.
[71] "Germany's Merkel wants to promote 'European energy concept' at EU summit." *DDP News Agency*, 22 March, 2006.
[72] "More investment offered in German electricity network." *Deutsche Press-Agentur*, 3 April, 2006.

latter concern with energy prices may be interpreted as a response to the legitimation imperative (shielding consumers from volatile and constantly changing market dynamics).

Later in July 2006, the Greens also displayed opposition to incumbent US President George W. Bush's calls for worldwide expansion of nuclear energy – with Green party politician Hans-Josef Fel calling this idea a "horror vision" and "completely unrealistic." These ideas, Fel argued, hindered the development of true solutions to energy issues – which he said would be "full investment in every field of renewable energies." Fel also argued that Bush's ideas would aggravate the energy supply crisis, cause environmental degradation, and would increase the risks of nuclear proliferation.[73] In April 2006, SPD politicians chiming in on energy policy – with SPD member Heiko Mass calling for Germany to move away from oil and nuclear energy; Mass stated that anyone who wanted to abandon the nuclear phase-out was "risking the health of the populace."[74]

Chancellor Merkel actually advocated for renewable policy at the EU level in March 2007. Germany submitted a declaration to the EU that would commit the Union to reduce GHGs to 20% of 1990 levels by 2020, and would require a 20% increase in renewable shares by 2020. Merkel stated that if the declaration was accepted, then it would be "breakthrough in EU climate and energy policy"; the Chancellor also added that she would "do everything for the text to be accepted."[75] Merkel seemed adamant on making the EU a leader in environmental policy, making the statement that, after the debates on GHG reductions and renewable development, "we will be able to show that Europe is in the vanguard on climate change."[76] Moments in the

[73] "German Greens say US President call for more nuclear power 'horror vision.'" *DDP News Agency*, 12 July, 2006.
[74] "German Social Democrats demand less reliance on fossil, nuclear energy." *DDP News Agency*, 1 April, 2006.
[75] "EU okays climate goals, feuds on national targets." *Deutsche Press-Agentur*, 9 March, 2007.
[76] "EU summit set for tough work on climate change: Merkel." *Deutsche Press-Agentur*, 8 March, 2007.

data like this are interesting, considering how we see a policymaker calling for renewable policy changes based solely on an environmental issue; of course, Merkel made calls to energy independence at other points in the data, but here, her statements are really rooted in climate protection first-and-foremost.

In June 2007, environment ministers from across the EU met in Germany to discuss how "new technology can help slow global warming, and create jobs amid growing world debate on climate change."[77] Germany's environment minister Sigmar Gabriel hosted the meeting – hoping that the EU would become the most efficient energy user in the world thanks to developments in technologies like renewable energy; in fact, Gabriel put an economic stressor on green technology – stating that green tech sales worldwide equaled one trillion euros annually, and would double by 2020.[78] Indeed, a working paper for the meeting stated, "Eco-innovation will become a key driver of growth, competitiveness and employment."[79] In fact, Gabriel and other German politicians make other appeals to the accumulation imperative – like the ones above – in other instances. For example, Labour Minister Franz Muentefering stated that responsible policy on climate and the environment would create jobs.[80] Again, renewable policy is presented here as a win-win: it is good for the environment, yes, but it is also conducive to a healthy economy.

In August 2007, we see an intersection in the data between California and Germany: Foreign Minister Frank-Walter Steinmeier met with Governor Schwarzenegger to discuss a "partnership in the fight against global warming."[81] Schwarzenegger expressed interest in working with Germany because of the "gigantic goals" Germany had set for itself in developing

[77] "EU ministers discuss 'eco-industrial policy.'" *Deutsche Press-Agentur*, 1 June, 2007.
[78] Ibid.
[79] Ibid.
[80] "German government outlines plans to prolong upswing." *Deutsche Press-Agentur*, 24 August, 2007.
[81] "Germany and California pursue climate change partnership." *Deutsche Press-Agentur*, 30 August, 2007.

renewable energies. In 2008, Merkel opposed policies that would bring down oil prices. She argued that the problem could not be solved through policies that would simply lower high costs for energy; conversely, rising oil prices called for more developments in renewable sources and energy efficiency. She argued, "It is only possible to fight a shortage of resources by trying to reduce the use of such resources."[82]

The nuclear issue reappears in January 2009, when Greenpeace demanded that Germany hasten the nuclear phase-out. Then Greenpeace Managing Director, Brigitte Behrens, cautioned that nuclear power was, "the most dangerous and most irresponsible method to generate electricity," and should be abandoned more quickly than the German government had previously agreed. The CDU/CSU had previously proposed an extension on Germany's nuclear plants that were still operating – sparking criticism from environmental groups and organizations like the Nature and Biodiversity Conservation Union of Germany (NABU). The Greenpeace director maintained that Germany should phase-out nuclear as soon as 2015 in order to avoid a disaster like Chernobyl; she also argued that nuclear power's hazardous, radioactive waste was too difficult to safely store (she also made the argument that nuclear power plants were highly susceptible to terrorist attacks). Behrens consequently dismissed the notion that nuclear power was necessary to combat climate change. Elmar Grusse-Ruse, a NABU energy expert, argued that nuclear power would fail to mitigate climate change because it could divert investments from renewable energy.[83]

Later in December 2009, the German government was working on a law that would extend the life of the 17 remaining nuclear plants in the country – inciting opposition from the

[82] "German chancellor against using financial policies to fight high oil prices." *DDP News Agency*, 19 June, 2008.
[83] Joerg Sauerberlich. "German environmental groups step up pressure to abandon nuclear power." *DDP News Agency*, 4 January, 2009.

German anti-nuclear movement. The reversal of the phase-out was due to a rebranding of nuclear power as a climate-friendly technology. The World Nuclear Association – a lobby group – argued that in order to mitigate climate change and slash GHGs, nuclear energy would have to be increased many times over contemporary levels. Anti-nuclear activists in Germany rejected this idea, with one activist saying that "there is no nuclear power plant worldwide that is 100 percent secure."[84] Parliamentary leader of Merkel's CDU Volter Krauder dubbed nuclear energy a "bridge technology" that would be utilized until Germany could reliably function on renewables. Manfred Fischedick, a German climate scientist, rejected this notion on the grounds that nuclear power manifests the "danger that important changes in the direction of renewable energy – such as decentralized power infrastructure and higher energy efficiency – are prevented or at least slowed down."[85] Merkel continues to use this bridge rhetoric throughout the data, and it is an interesting series of observations: she, along with other policymakers, refer to nuclear energy as a "bridge" *to* renewable energy – meaning that the endgame of German energy policy remains to be defined by renewables.

Throughout 2010, the controversy over nuclear power continued to be a looming issue in German energy politics. In February 2010, then Environment Minister Norbert Roettgen announced that the coalition between the CDU and FDP (Free Democrats Party) would decide the fate of nuclear plant life spans that Fall; however, he himself rejected the idea of extending the life of nuclear power plants – reiterating the idea that nuclear energy is a "bridge" technology: "We have defined nuclear energy as a 'bridge technology.' The bridge ends when renewable energies can reliably replace nuclear energy . . . When we have a goal before our eyes

[84] Jeff Black. "'Climate friendly' nuclear power in controversial comeback." *Deutsche Press-Agentur*, 5 December, 2009.
[85] Ibid.

we can achieve it quickly."[86] That same February, the Green Party was garnering "more supporters than ever."[87] Among other things like increases to the minimum wage, the Greens argued for continuing the nuclear phase-out and the creation of "millions of new jobs by boosting renewable energy projects."[88]

That March (2010), the Environment Ministry decided that it would resume discussion on the Gorleben nuclear waste dump after a ten year moratorium. This drew sharp criticism from environmentalists and members of the Green party – with members of Greenpeace protesting the Ministry's decision at the site itself. Renate Kuenast, then leader of the Green party in the Bundestag, accused Minister Roettgen of putting the interests of the nuclear industry above the wellbeing and safety of German citizens.[89] In constrast to what Minister Roettgen had articulated previously, that same March he stated in an interview that the government would be considering an extension of the phase-out by up to 28 years; Chancellor's Merkel's cabinet had supported extended the phase-out for some time, but Roettgen said that no exact decision had been made yet. Nevertheless, opposition parties – including those who negotiated the phase-out in the first place – argued that extending the phase-out would be detrimental to the development of renewable energy. In fact, deputy-chair of the SDP, Ulrich Kelber, characterized the extension as the "death for renewable energy." He argued that abandoning the original phase-out would, "lead to more rising costs for consumers and taxpayers – for electricity and even more for the disposal of atomic waste."[90] In spite of this opposition, the government commissioned a study that August

[86] Nancy Isenson. "Environment minister stands firm on nuclear power plant closure." *Deutsche Welle*, 15 February, 2010.
[87] "Germany's Greens strike a chord with voters." *Deutsche Welle,* 19 February, 2010.
[88] ibid.
[89] Ben Knight. "Germanny's [sic] Greens protest re-opening of nuclear waste dump." *Deutsche Welle*, 14 March, 2010.
[90] Nancy Isenson. "Germany to consider extending nuclear phase-out by up to 28 years." *Deutsche Welle*, 26 March, 2010.

(2010) that suggested extending the operating nuclear plants lifespan by up to twenty years – surpassing the previous SPD/Green coalition law that opted for closure by 2022. Chancellor Merkel aimed at overhauling German energy policy that September – with government assessments contending that the nuclear extension would be good for energy security, carbon emissions, and electricity prices; experts believed the prolonging of the phase-out would permit "the best outcomes for climate protection and the economy."[91]

Indeed, Chancellor Merkel embarked on a tour of Germany's energy plants before the unveiling of a new "energy concept" in September; regarding nuclear energy, Merkel was expected to make a decision on the controversy surrounding the nuclear phase-out.[92] Around the same time, four German energy companies were threatening to shut down their facilities if the German government decided to tax nuclear fuel rods. They also argued that if the phase-out continued as planned, energy prices would rise and many jobs would be lost as a result; in response, Green Party members "accused the energy companies of acting like Germany was their fiefdom."[93] Early in September, Chairman of the SPD, Sigmar Gabriel, argued that Merkel's upcoming energy policy was heavily influenced by the major energy companies – stating that Merkel's government was "openly and boldly" courting the interests of a small constituency of the economy; nevertheless, Merkel insisted on the "bridge" rhetoric: "As a bridging technology, until we have really reached the age of renewable energy, nuclear energy is necessary and sensible."[94]

---

[91] Richard Connor. "Study recommends extending nuclear plant lifetimes." *Deutsche Welle*, 28 August, 2010.
[92] Matt Zuvela. "German Chancellor Merkel drives energy debate with national tour." *Deutsche Welle*, 18 August, 2010.
[93] Gregg Benzow. "German nuclear lobby threatens to close down power plants." *Deutsche Welle*, 17 August, 2010.
[94] Catherine Bolsover. "Berlin under pressure ahead of energy summit." *Deutsche Welle*, 4 September, 2010.

Throughout that September (2010), Merkel continued to make the case that the new energy policy – characterized by an extension of nuclear power and supposed investments into renewable energy – would in fact be the most environment-friendly policy in the world; she explained, "I think it's fair to say that our energy supply scheme will become the world's most efficient and environmentally friendly . . . The agreement will maintain affordable energy prices for both private consumers and business. Our aim is to promote renewables, and we see nuclear and coal-fired power plants as an indispensable bridge towards this goal."[95]

This decision was met with fierce opposition from environmentalists and anti-nuclear protestors over the following month. Approximately 100,000 people protested and at least 30,000 marched in Berlin to demonstrate their opposition to the government's decision to extend the lifespan of the country's power plants. Jergen Trittin, head of the Greens in parliament, protested as well – arguing that the decision was a "dirty deal" struck in the interest of Germany's big energy companies. In October (2010), another protest was held in Munich that gathered about 50,000 people (according to the organizers' estimates; police estimated 25,000) in protest against the Merkel government's energy policy. Sigmar Gabriel argued that the protest was "once again" an indication that the people did not "accept government's lobby group policy in favor of nuclear firms."[96] Still, Merkel insisted that the nuclear extension would provide the necessary funds to build up the country's renewable sources; she made the statement that, "The state will contribute. But the nuclear power station operators will contribute too by giving up part of their profits from the extension of nuclear running times."[97]

---

[95] Mark Hallam. "Merkel hails contentious new power policy as greenest in the world." *Deutsche Welle*, 6 September, 2010.
[96] Richard Connor. "Tens of thousands take part in Munich anti-nuclear protest." *Deutsche Welle*, 9 October, 2010.
[97] Jean-Baptiste Piggin. "Nuclear extension will help fund renewable energy, insists Merkel." *Deutsche Press-Agentur*, 23 October, 2010.

However, Merkel's decision to extend the life of nuclear power in Germany did not last very long. After the Fukushima disaster in March 2011, Merkel declared a three-month moratorium on the government's plan to extend the phase-out – which would be accompanied by a three-month long investigation of Germany's nuclear facilities, and would also require for some of the country's older nuclear stations to be shut down for the time being. Merkel explained that the disaster changed the situation in Germany, "The events in Japan have taught us something, which all scientific data suggested to be impossible, could become a reality after all . . . taught us that risks that were considered absolutely improvably still aren't impossible."[98] Throughout March, Merkel continued to give statements that suggested a stark change in energy policy – such as possibly phasing-out nuclear quicker than previously agreed and proposing a plan that would commit Germany to achieving 80% renewable capacity by 2050. Trittin argued that Germany needed to abandon nuclear power faster than anticipated – but that it would indeed cost more to do so.[99]

In May 2011, Merkel declared that Germany would be the world's first industrial country to transition to efficient, climate-safe energy. Her coalition government agreed to keep eight non-operating nuclear plants shut-down, close another six by 2021, and end operation for the last three the next year. The Chancellor added that it was vital for Germany to maintain "sufficient and affordable energy for consumers," to defend the environment, maintain industrial success, and achieve energy independence. Here, we observe Merkel framing her policy in security terms, economic terms, and, indeed, environmental protection terms. The Federation of German Industry (BDI) leader Hans-Peter Keitel called Merkel's decisions "clearly politically motivated

[98] Mark Hallam. "Merkel suspends nuclear extension over Japanese risks." *Deutsche Welle*, 14 March, 2011.
[99] Niels C Sorrells. "Energy debate renewed as Germans eye non-nuclear world." *Deutsche Press-Agentur*, 17 March, 2011.

intention" to end nuclear energy in Germany; nevertheless, the German Association of Renewable Energy (BEE) called it a "positive step."[100] In June 2011, the Bundestag voted to set closure dates for the country's power plants; by 2022, it was agreed that Germany would build renewable plants (as well as natural gas plants) to fill the gap left by the closing nuclear plants. While some German politicians lauded this decision – like Environment Minister Roettgen – members of the opposition parties voiced complaints. These mostly had to do with the fact that the SDP/Green government had agreed to shut-down the plants many years prior – with Sigmar Gabriel saying, "We've suffered 30 years of abuse, and now you agree with us"[101], and Juergen Tritten sarcastically adding, "Welcome, madam, to the 21st century."[102]

Throughout the rest of the data on Germany, there are a number of instances where concerns are raised regarding renewable energy. In April 2012, one piece of data documents a "series of setbacks" for Germany's solar power sector. While other renewables had been successful so far – like wind and geothermal – solar companies were not doing so well; one company even had to end operations in Germany.[103] Nevertheless, the Green Party's developed aspirations to form a coalition with the SPD to oust the Merkel government in the next election. Due to their stance on social and economic policy – as well as their platform for climate protection – their party chiefs believed they would be capable of defeating the Merkel coalition.[104] In December 2012, we see discussions on the prospective importance that the

[100] Georg Ismar, Henning Otte, Bernward Loheide, Helen Livingstone. "Merkel: Germany will lead way in renewable energy." *Deutsche Press-Agentur*, 30 May, 2011.
[101] Jean-Baptiste Piggin. "German parliament votes for closure of all nuclear plants." *Deutsche Press-Agentur*, 30 June, 2011.
[102] Martin Kuebler. "Merkel faces opposition eye-rolling amid plea for nuclear phaseout." *Deutsche Press-Agentur*, 9 June, 2011.
[103] Niels C Sorrells. "Germany's solar stutter returns focus to energy diversity." *Deutsche Press-Agentur*, 19 April, 2012.
[104] Basil Wegener and Georg Ismar. "German Greens start party congress, eye government comeback." *Deutsche Press-Agentur,* 16 November, 2012.

Energiewende – which is described as kicking-off after the decision to phase-out nuclear power – in the 2013 election. Simultaneously, the government proposed a 10 billion euro project that would install new power lines that would transmit wind energy across the country; then Environment Minister Peter Altmaier called the *Energiewende* Germany's greatest challenge since unification – adding that the transition to renewable would assist in establishing energy that was both affordable and long-term.[105]

In 2013, we see industrial groups – among others – voicing concerns related to the rising of energy prices. Merkel's ambitious *Energiewende* had drawn criticism from consumer and industry groups due to rising electricity costs – which they argued were a result of subsidies for renewables. That preceding January (2013), Environment Minister Altmaier announced that he was working on legislation that would cap renewable subsidies in order to control energy prices.[106] Merkel's SPD challenger in the upcoming election – Peer Steinbrueck – argued for a ceiling on power bills that would require energy companies to report base tariffs to the Federal Network Agency.[107]

One final interesting event occurred in May 2015 when Greenpeace held a Germany-wide protest against coal. Greenpeace held protests in about 60 German cities in order to hold Chancellor Merkel to her promises of cutting out fossil fuels. Specifically, the demonstrators wanted the Chancellor to announce an actual plan that would outline a decreased usage of coal; one Greenpeace member, Susanne Neubronner, said, "The chancellor finds great words on the international climate stage. When it comes to decisions in her own country, she looks on silently

[105] Andrew McCathie, Ulta Winkaus, and Georg Ismar. "Germany builds new power lines ahead of nuclear switch off." *Deutsche Press-Agentur*, 19 December, 2012.
[106] Andrew McCathie. "Merkel allays companies' concerns about energy price rise." *Deutsche Press-Agentur*, 8 March, 2013.
[107] Andrew McCathie. "German opposition wants cap on power bills if it wins election." *Deutsche Press-Agentur*, 15 August, 2013.

as the coal lobby sabotages actions to protect against climate change."[108] Meanwhile, "experts" stated that Germany would only be able to reach a 40% reduction in GHGs by 2020 if coal usage was significantly curtailed.

[108] "Greenpeace to hold German-wide anti-coal protests." *Deutsche Press-Agentur*, 30 May, 2015.

Chapter 4: Conclusion

This thesis has utilized Dryzek et al.'s theoretical lens as a means of analyzing renewable policy developments in California and Germany through 2000-2016. Indeed, the data gathered for this project contained a multitude of examples of *both* environmental movements – whether they be technology interests, industry groups, or more "traditional" environmentalists – and politicians arguing *for* and *against* renewable policy in what might be interpreted as appeals to one or more of the state imperatives. Whether this is through echoes of environmental modernization in the accumulation imperative – contentions that renewable policy would grow the economy through the creation of new industries, the proliferation of green technology, or the promises of green jobs – or the security-based argument that renewable energy is crucial for states to achieve energy independence (and consequently become less dependent on both energy imports and fossil-fuels in general), the state imperatives give movements and politicians a way to, perhaps, shape their renewable discourses in a way that makes policy seem more attractive.

Indeed, there are observations in the data that suggest that environmental movements did form their arguments for renewable policy around state imperatives – particularly in the case of California (in Germany's case, we see more involvement on behalf of politicians themselves, but this is likely due to the fact that the German Greens have more legislative power at their disposal). Not only do we see traditional groups like the Sierra Club involved in pushes for renewable energy, but we also see other "environmental" groups pushing *against* renewable policy under the guise that it would be hurtful to the economy, or that it would be difficult for consumers to pay rising electricity costs. This is, of course, referring to the idea established earlier in the paper that there are environmental movements that seek to negatively impact renewable policy, or other types of environmental legislation. It is also interesting to note that in

limited observations, "typical" environmentalists argued against some renewable policies/developments on the grounds that they encroached on nature itself – like the controversy regarding developments in the Mohave Desert.

At the same time however, we see a plethora of examples where politicians – both in California and Germany – use the language of state imperatives to argue for and against renewable policy. Interestingly, the security imperative – mostly imbricated in the concepts of energy security or energy independence – comes up often in both California and Germany. Accumulation is another imperative that is frequently observed – with politicians sometimes arguing that "green technology," "green jobs," or "green growth" in general are conducive to a healthy economy; conversely, some politicians argued that renewable policy would be detrimental to the economy.

However, these inferences are more difficult to make with the idea of an emergent "environmental protection" imperative. In many of the observations, we do see politicians push for renewable policy because it would be good for the environment in-and-of-itself; nevertheless, they often supplement this with appeals to economy, security, and other imperatives. This is especially true in California, where the discourse was largely built around transforming California's economy into a "green" one. Obviously, environmental protection is definitely considered, but it is also lumped in with the other proposed benefits of renewable policy. Now, contrast this with the German discourse of nuclear energy as a "bridge" technology: the end goal is renewable-based energy system; how quickly or committed the Merkel administration to finally phasing-out nuclear (without the influence of Fukushima) is unclear, but it is still suggested that nuclear would only serve as a "bridge" between fossil fuels and renewables.

In short, it is difficult to emphatically argue that a strict environmental protection imperative is emergent in the discourse on renewable policy in California and Germany. Surely, protecting the environment in-and-of-itself is important in many of the arguments, but at the same time, the discourse is bound-up in appeals to economic growth and energy security. So, in some ways, any "new" or "emergent" imperative resembles more of a "resource management" or "environmental management" imperative rather than one that is strictly protective. From the observations gathered here, the argument could be made that there is something more than just appeals to economy, legitimation, security, and so on: they are, in a way, melded together in such a fashion where environmental quality *is* a concern, yet it is still a pool of resources that needs to be properly managed – *using* nature as a source for energy, growth, and stability.

Of course, there are both limitations to this research as well as avenues for future investigation. For starters, this research is limited not only to the cases of California and Germany, but it is also limited by the scope established by the data collection; that is, the primary data is qualitative information pulled from newspaper articles. However, these limitations open-up possibilities for further research: examining other countries or U.S. states for interactions between environmental movements and the state through state imperatives, looking at different types of climate or renewable policies, or perhaps approaching renewable policy with another type of methodology. Further research would perhaps be valuable as global climate change – and how to mitigate it – becomes increasingly more important as the 21st century continues.

References

Aslani, Alireza, and Kau-Fui Wong. 2014. "Analysis of renewable energy development to power generation in the United States." *Renewable Energy* 63: 153–161.

Barbose, Galen et al. 2015. "Costs and benefits of renewables portfolio standards in the United States." *Renewable and Sustainable Energy Reviews* 52: 523–533.

Brulle, R.J. 2000. *Agency, Democracy and Nature: The U.S. Environment Movement from a Critical Theory Perspective*. Cambridge: MIT Press.

California Energy Commission. 2017. "Renewable Energy." http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf (Accessed 9/28/2017).

California Energy Commission. 2018. "California Renewable Energy Overview and Programs." http://www.energy.ca.gov/renewables/ (Accessed 3/11/18).

Collier, David. 2011. "Understanding Process Tracing." *The Teacher*: 823-830.

Delmas, Magali, and Maria Montes-Sancho. 2011. "U.S. state policies for renewable energy: Context and effectiveness." *Energy Policy* 39 (5): 2273–2288.

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

Dryzek, John S. 1995. "Political and Ecological Communication." *Environmental Politics* 4 (4): 13-30.

Dryzek, John S. 2006. *Deliberative Global Politics: Discourse and Democracy in a Divided World*. Cambridge: Polity.

Dryzek, John S. 2000. *Deliberative Democracy and Beyond: Liberals, Critics, Contestations*. Oxford University Press.

George, Alexander L. and Andrew Bennet. 2005. *Case Studies and Theory Development in the Social Sciences.* Cambridge: MIT Press.

Hess, David J., Jonathan S. Coley, Quan D. Mai, and Lucas R. Hilliard. 2015. "Party Differences and Energy Reform: Fiscal Conservatism in the California Legislature." *Environmental Politics* 24 (2): 228-248.

Hess, David J., Quan D. Mai, and Kate Pride Brown. 2016. "Red States, Green Laws: Ideology and Renewable Energy Legislation in the United States." *Energy Research & Social Science* 11: 19-28.

Holzer, Verena. 2005. "The Promotion of Renewable Energies and Sustainability."*Intereconomics* 40(1): 36–45

Mahoney, James. "Process Tracing and Historical Explanation." *Security Studies* 24: 200-218.

Matisoff, Daniel C., and Jason Edwards. 2014. "Kindred Spirits or Intergovernmental Competition? The Innovation and Diffusion of Energy Policies in the American States (1990-2008)." *Environmental Politics* 23 (5): 795-817.

Næss, Petter and Karl Georg Høyer. 2009. "The Emperor's Green Clothes: Growth, Decoupling, and Capitalism." *Capitalism, Nature, Socialism* 20 (3): 74-95.

Nie, Martin A. 1997. "'It's the Environment Stupid!' Clinton and the Environment." *Presidential Studies Quarterly* 27 (1): 39-51.

Quitzow, L.; Canzler, W.; Grundmann, P.; Leibenath, M.; Moss, T.; Rave, T. 2016. "The German Energiewende – What's Happening? Introducing the Special Issue." *Utility Policy* 41: 163–171.

Radkau, Joachim. 2008. *Nature and Power: A Global History of the Environment*. Cambridge University Press.

Radkau, Joachim. 2014. *The Age of Ecology*. Cambridge: Polity.

Rossi, Jim. 2016. "Federalism and the Net Metering Alternative." *The Electricity Journal* 29 (1): 13-18.

Schlosberg, David and John S. Dryzek. 2002. "Political Strategies of American Environmentalism: Inclusion and Beyond." *Society and Natural Resources* 15: 787-804.

Steinberg, Paul F. and Stacy D. VanDeveer. 2012. *Comparative Environmental Politics: Theory Practice, and Prospects.* Cambridge: MIT Press.

Turner, James Morton. 2009. "The Specter of Environmentalism: Wilderness, Environmental Politics, and the Evolution of the New Right." *The Journal of American History* 96 (1): 123-148.

U.S. Energy Information Administration. 2017. "Renewable Energy Explained." https://www.eia.gov/energyexplained/index.cfm?page=renewable_home (Accessed 9/27/2017).

U.S. Environmental Protection Agency. 2017. "Global Greenhouse Gas Emissions Data." https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data (Accessed 9/27/2017).

Vasseur, Michael. 2014. "Convergence and Divergence in Renewable Energy Policy among US States from 1998 to 2011." *Social Forces* 92 (4).

Van Der Heijden, Hein-Anton. 1999. "Environmental Movements, Ecological Modernisation and Political Opportunity Structures." *Environmental Politics*: 8 (1): 199-221.

Wanner, Thomas. 2015. "The New 'Passive Revolution' of the Green Economy and Growth Discourse: Maintaining the 'Sustainable Development' of Neoliberal Capitalism." *New Political Economy* 20 (1): 21-41.

Wodak, Ruth and Michael Meyer. 2016. *Methods of Critical Discourse Studies*. London: Sage.

Yin, Haitao and Nicholas Powers. 2009. "Do State Renewable Portfolio Standards Promote In-State Renewable Generation?" *Energy Policy* 38: 1140-1149.

Appendix A: Data Cited

Alexei Koseff and Jeremy B. White. “'Green' energy goals widen - Key measure requires half of electricity from renewable sources by 2030 - Republicans call climate goals 'coastal elitism at the worst'.” The Sacramento Bee, 4 June, 2015. http://infoweb.newsbank.com/resources/doc/nb/news/155C972466A1F420?p=AWNB

Andrew McCathie, Ulta Winkaus, and Georg Ismar. “Germany builds new power lines ahead of nuclear switch off.” Deutsche Press-Agentur, 19 December, 2012. http://infoweb.newsbank.com/resources/doc/nb/news/1434BDB25EDFDEA0?p=AWNB

Andrew McCathie. “ANALYSIS Schroeder stands on his record of economic reform.” Deutsche Press-Agentur, 6 September, 2005. http://infoweb.newsbank.com/resources/doc/nb/news/10C7B04D364422B8?p=AWNB

Andrew McCathie. “German opposition wants cap on power bills if it wins election.” Deutsche Press-Agentur, 15 August, 2013. http://infoweb.newsbank.com/resources/doc/nb/news/14837FCF864F0938?p=AWNB

Andrew McCathie. “Merkel allays companies’ concerns about energy price rise.” Deutsche Press-Agentur, 8 March, 2013. http://infoweb.newsbank.com/resources/doc/nb/news/144EC7540E251418?p=AWNB

Andrew McCathie. “Political tensions mount ahead of Merkel’s energy summit.” Deutsche Press-Agentur, 30 March, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/110B44B518510190?p=AWNB

Barbara Grady. “Oakland-based movement at forefront of green campaign.” Tri-Valley Herald, 8 April, 2008. http://infoweb.newsbank.com/resources/doc/nb/news/1200207534137390?p=AWNB

Basil Wegener and Georg Ismar. “German Greens start party congress, eye government comeback.” Deutsche Press-Agentur, 16 November, 2012. http://infoweb.newsbank.com/resources/doc/nb/news/1429DD6240C5E428?p=AWNB

Ben Knight. “Germanny’s [sic] Greens protest re-opening of nuclear waste dump.” Deutsche Welle, 14 March, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/12E74CE0E3325488?p=AWNB

Carl T. Hall. “Global warming creeps up on S.F. – City has plan to cut greenhouse gases.” San Francisco Chronicle, 27 September, 2004. http://infoweb.newsbank.com/resources/doc/nb/news/1055FA60E269D17E?p=AWNB

Carrie Peyton, “Green energy sources seen as ripe for growth.” The Sacramento Bee, 10 September, 2001. http://infoweb.newsbank.com/resources/doc/nb/news/0EE78052E17F9626?p=AWNB

Catherine Bolsover. “Berlin under pressure ahead of energy summit.” Deutsche Welle, 4 September, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/1320A5EAD6745250?p=AWNB

Claudia Ehrenstein. “German Environment Agency head predicts no extension of nuclear power phaseout.” BBC Selected Newspaper Articles: Germany, 24 March, 2005. http://infoweb.newsbank.com/resources/doc/nb/news/10D78A39D0B36FB8?p=AWNB

Clint Swett. “‘Green energy firms get tips on how to help industry grow.” The Sacramento Bee, 12 October, 2007. http://infoweb.newsbank.com/resources/doc/nb/news/11C4114659D18328?p=AWNB

Darwin BondGraham. “California's Nuclear Future Is in Doubt - Once the epicenter of America's debate over nuclear energy, California again stands at a crossroads.” East Bay Express,

27 April, 2011.
http://infoweb.newsbank.com/resources/doc/nb/news/145FAFF700B27398?p=AWNB

Douglas Fischer, "Gov.-elect liberal with environment – Much hinges on who Schwarzenegger appoints." Tri-Valley Herald, 10 October, 2003.
http://infoweb.newsbank.com/resources/doc/nb/news/0FE6D0BD05E35F30?p=AWNB

"EU ministers discuss 'eco-industrial policy.'" Deutsche Press-Agentur, 1 June, 2007.
http://infoweb.newsbank.com/resources/doc/nb/news/119851B621FC8BD8?p=AWNB

"EU okays climate goals, feuds on national targets." Deutsche Press-Agentur, 9 March, 2007.
http://infoweb.newsbank.com/resources/doc/nb/news/117C515CDBEE8B10?p=AWNB

"EU summit set for tough work on climate change: Merkel." Deutsche Press-Agentur, 8 March, 2007.
http://infoweb.newsbank.com/resources/doc/nb/news/117C5154B33C2278?p=AWNB

Ellen Knickmeyer. "Last California plant to close as nuclear power struggles." Associated Press State Wire: California, 21 June, 2016.
http://infoweb.newsbank.com/resources/doc/nb/news/15DA7CCBB1534608?p=AWNB

"German chancellor against using financial policies to fight high oil prices." DDP News Agency, 19 June, 2008.
http://infoweb.newsbank.com/resources/doc/nb/news/1216953D48E95388?p=AWNB

"German environment minister confirms nuclear phase-out policy." DDP News Agency, 28 March, 2006.
http://infoweb.newsbank.com/resources/doc/nb/news/110AA417131D3428?p=AWNB

"German environment minister rejects call for more nuclear plants." DDP News Agency, 5 November, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/1153CF1CCFA157C0?p=AWNB

"German government outlines plans to prolong upswing." Deutsche Press-Agentur, 24 August, 2007. http://infoweb.newsbank.com/resources/doc/nb/news/11B4012F5DCABD50?p=AWNB

"German Green official urges common EU energy policy." DDP News Agency, 23 March, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/1108A9D265B01DF8?p=AWNB

"German Greens adopt platform for Bundestag Elections." DPP News Agency, 4 May, 2002. http://infoweb.newsbank.com/resources/doc/nb/news/102AE4950BF6ADFC?p=AWNB

"German Greens demand national referendum on EU constitution." DPP News Agency, 29 November, 2003. http://infoweb.newsbank.com/resources/doc/nb/news/102AE5F981D70157?p=AWNB

"German Greens say US President call for more nuclear power 'horror vision.'" DDP News Agency, 12 July, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/112DE47B24326738?p=AWNB

"German minister says Johannesburg summit results 'satisfactory'." DPP News Agency, 3 September, 2002. http://infoweb.newsbank.com/resources/doc/nb/news/102AE4EF2BEDE1D9?p=AWNB

"German Social Democrats demand less reliance on fossil, nuclear energy." DDP News Agency, 1 April, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/110C463A19E2A1F8?p=AWNB

"Germany and California pursue climate change partnership." Deutsche Press-Agentur, 30 August, 2007. http://infoweb.newsbank.com/resources/doc/nb/news/11B64FD4F20CA710?p=AWNB

"Germany: SPD Chairman Muentefering attacks Merkel's policies." DPP News Agency, 7 September, 2005. http://infoweb.newsbank.com/resources/doc/nb/news/10C7B83FDB669660?p=AWNB

"Germany's Greens strike a chord with voters." Deutsche Welle, 19 February, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/12E4424124401EF0?p=AWNB

"Germany's Merkel wants to promote 'European energy concept' at EU summit." DDP News Agency, 22 March, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/1108A9D1795F9388?p=AWNB

"Greenpeace to hold German-wide anti-coal protests." Deutsche Press-Agentur, 30 May, 2015. http://infoweb.newsbank.com/resources/doc/nb/news/155AA61393553BE8?p=AWNB

Georg Ismar, Henning Otte, Bernward Loheide, Helen Livingstone. "Merkel: Germany will lead way in renewable energy." Deutsche Press-Agentur, 30 May, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/137930CEDD8AF530?p=AWNB

"Greenpeace to hold German-wide anti-coal protests." Deutsche Press-Agentur, 30 May, 2015. http://infoweb.newsbank.com/resources/doc/nb/news/155AA61393553BE8?p=AWNB

Gregg Benzow. "German nuclear lobby threatens to close down power plants." Deutsche Welle, 17 August, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/131AB76795A90B40?p=AWNB

Ian Bauer. "Governor dedicates solar plant." Milpitas Post, 13 April, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/1369BF86046127A0?p=AWNB

Jackie Devereaux. “No Worries for Mega Grid Opponents?” Desert Star Weekly, 6 April, 2009. http://infoweb.newsbank.com/resources/doc/nb/news/12ACEAB3E317A868?p=AWNB

Jean-Baptiste Piggin. “German parliament votes for closure of all nuclear plants.” Deutsche Press-Agentur, 30 June, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/1383687B7805A8D8?p=AWNB

Jean-Baptiste Piggin. “Nuclear extension will help fund renewable energy, insists Merkel.” Deutsche Press-Agentur, 23 October, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/133102B0A1809D48?p=AWNB

Jeff Black. “’Climate friendly’ nuclear power in controversial comeback.” Deutsche Press-Agentur, 5 December, 2009. http://infoweb.newsbank.com/resources/doc/nb/news/12C69140D85942D8?p=AWNB

Jim Sanders. “Legislature sends renewable bill to Jerry Brown.” The Sacramento Bee, 29 March, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/1436C4F377BF9370?p=AWNB

Joerg Sauerberlich. “German environmental groups step up pressure to abandon nuclear power.” DDP News Agency, 4 January, 2009. http://infoweb.newsbank.com/resources/doc/nb/news/125883BD6250D9E0?p=AWNB

Kathie Portie. “Local agencies in no hurry to join initiative.” Big Bear Grizzly, 22 October, 2008. http://infoweb.newsbank.com/resources/doc/nb/news/12B37CC24C3C33C0?p=AWNB

Kevin Clerici. “Group’s goal is to be ‘Fossil Free by ‘33’.” Ventura County Star, 23 April, 2005. http://infoweb.newsbank.com/resources/doc/nb/news/109A97EBF9358FC6?p=AWNB

Lauren McSherry. “Energy plans raise concerns Sierra Club seeks help from environmentalists.” The Sun, 29 February, 2008. http://infoweb.newsbank.com/resources/doc/nb/news/11F2508103BB4AB0?p=AWNB

Leon Mangasarian and Andrew McCathie. “ANALYSIS: Energy fears in Germany after Russian gas shut-off.” Deutsche Press-Agentur, 4 January 2006. http://infoweb.newsbank.com/resources/doc/nb/news/10EF40D3DAB1F430?p=AWNB

Mark Hallam. “Merkel hails contentious new power policy as greenest in the world.” Deutsche Welle, 6 September, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/13214EBB25271FA8?p=AWNB

Mark Hallam. “Merkel suspends nuclear extension over Japanese risks.” Deutsche Welle, 14 March, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/135FC406691F9680?p=AWNB

Mark Martin. “Governor to push global warming fight – Bold policy gambits expected in bid to lower greenhouse gases.” San Francisco Chronicle, 17 February, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/10FD6A63EAA90540?p=AWNB

Martin Kuebler. “Merkel faces opposition eye-rolling amid plea for nuclear phaseout.” Deutsche Press-Agentur, 9 June, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/137C46C7B5B8DA78?p=AWNB

Matt Zuvela. “German Chancellor Merkel drives energy debate with national tour.” Deutsche Welle, 18 August, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/131B0BBE70AFF570?p=AWNB

Matther Green. “Harnessing the Power of Green Jobs – Excitement is high for the concept, but is it potential or actual energy?” East Bay Express, 7 May, 2008. http://infoweb.newsbank.com/resources/doc/nb/news/14D14F24E5773790?p=AWNB

Mercury News Editorial. “CLIMATE CHANGE DEMANDS ACTION – U.S. SHOULD MOVE QUICKLY INTO LEADERSHIP ROLE.” The Mercury News, 11 November, 2007.http://infoweb.newsbank.com/resources/doc/nb/news/11CE63AAFB6F0EB0?p=AWNB

Mercury News Editorial. “GREEN GOAL IS GOOD FOR SAN HOSE – SILICONE VALLEY SHOULD BE LEADER AS NATION SEEKS BEST TECHNOLOGY FOR SUSTAINABLE ENVIRONMENT.” The Mercury News, 7 October, 2007. http://infoweb.newsbank.com/resources/doc/nb/news/11C2D6C0B6CB7740?p=AWNB

Michael Gardner. “Spreading the word on warming.” Daily Breeze, 9 April, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/110EB5808F0083E0?p=AWNB

Michelle Locke. “Is the Golden state green? Not really, experts say.” North County Times – Associated Press, 4 February, 2001. http://infoweb.newsbank.com/resources/doc/nb/news/13D0EFF2B585B0D0?p=AWNB

Nancy Isenson. “Environment minister stands firm on nuclear power plant closure.” Deutsche Welle, 15 February, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/12E442413728AAA0?p=AWNB

Nancy Isenson. “Germany to consider extending nuclear phase-out by up to 28 years.” Deutsche Welle, 26 March, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/12EB4142799472B0?p=AWNB

Niels C Sorrells. “Energy debate renewed as Germans eye non-nuclear world.” Deutsche Press-Agentur, 17 March, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/1360CD12A0D5E628?p=AWNB

Niels C Sorrells. “Germany’s solar stutter returns focus to energy diversity.” Deutsche Press-Agentur, 19 April, 2012. http://infoweb.newsbank.com/resources/doc/nb/news/13E3FA536354C8D8?p=AWNB

Nikolaus Sedelmeier. “Gas crisis fuels nuclear energy debate in German coalition.” DPP News Agency, 3 January, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/10EEF45FCA19C8F0?p=AWNB

Nina Kathryn Hauptman. “Prop 7: Conservation and Controversy – Making sense of the energy debate and California’s latest legislative attempt to lead the way.” Sierra Madre Weekely, 9 October, 2008. http://infoweb.newsbank.com/resources/doc/nb/news/123E1D52E45DF3A8?p=AWNB

Paul Rodgers, “PLAN WILL BOOST RENEWABLE USES OF ELECTRICITY – UTILITIES FACE NEW REQUIREMENTS.” The Mercury News, 1 September, 2002. http://infoweb.newsbank.com/resources/doc/nb/news/0F5D1E1DCB1E0826?p=AWNB

Paul Rodgers. “Environment - Are state climate rules threatened by Donald Trump? - Incoming president has a different view of climate change.” The Daily Democrat, 15 November, 2016. http://infoweb.newsbank.com/resources/doc/nb/news/160ABCA3EE7C48A8?p=AWNB

Ralf Beste. “Energy security seen moving to centre stage of German foreign policy.” BBC Selected Newspaper Articles, 28 February, 2006. http://infoweb.newsbank.com/resources/doc/nb/news/1307DC795DABDEF8?p=AWNB

Richard Connor. “Study recommends extending nuclear plant lifetimes.” Deutsche Welle, 28 August, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/131E5755EC2DE020?p=AWNB

Richard Connor. “Tens of thousands take part in Munich anti-nuclear protest.” Deutsche Welle, 9 October, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/132C5928F4774E10?p=AWNB

Rohan Minogue. ”NEWS FEATURE: Strange bedfellows: Merkel makes pass at Greens.” Deutsche Press-Angentur, 20 September, 2005. http://infoweb.newsbank.com/resources/doc/nb/news/10CC4D8E0FECFB08?p=AWNB

Samantha Young. “California sets climate change agenda for nation.” Tri-Valley Herald, 22 June, 2007. http://infoweb.newsbank.com/resources/doc/nb/news/119F39AFCEA23740?p=AWNB

Sarah Jane Tribble. “A dark horse for alternative energy.” San Mateo County Times, 18 June, 2007. http://infoweb.newsbank.com/resources/doc/nb/news/119DE843DC00CED8?p=AWNB

Susan Sward, “A Lost Opportunity That Worsened Crisis – Utilities and federal regulators shut the door on renewable power in California.” San Francisco Chronicle, 12 February, 2001. http://infoweb.newsbank.com/resources/doc/nb/news/0EB4F990D8F1CB6C?p=AWNB

Tam Hunt. “Tam Hunt: The Local Feed-in Tariff Solution - Municipalities have the power to accelerate renewable energy transition in their communities.” Noozhawk, 29 April, 2009. http://infoweb.newsbank.com/resources/doc/nb/news/15422FF6F51971E0?p=AWNB

Terry O’Day. “Going green saves green.” Santa Monica Daily Press, 22 April, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/12F4AA4422AB03E8?p=AWNB

Timm Herdt. “CLU Report says green law may hurt economy.” Ventura County Star, 16 June, 2010. http://infoweb.newsbank.com/resources/doc/nb/news/13062AE89555C6D8?p=AWNB

Union-Tribune Editorial Board. “Energy mandates ignore real world.” San Diego Union-Tribune, 3 April, 2011. http://infoweb.newsbank.com/resources/doc/nb/news/136613C75E54A218?p=AWNB