

Multilevel Environmental Governance in the European Union and United States

Summary

Managing the risks of climate change partly involves setting and implementing regulatory standards that help to diminish the causes of climate change. This means setting regulatory standards that require businesses to emit fewer pollutants, most notably carbon dioxide. In large federalist systems like the United States and the European Union, this regulation is produced by a variety of institutional structures and policy instruments as well. In the United States, federal regulations often encompass stricter standards with less flexibility; these standards have direct impacts on the relevant regulated interests, but they also influence the content and structure of non-governmental regulations, such as those promulgated by NGOs or industry trade associations. This influential “shadow of hierarchy” can be witnessed in both the U.S. and E.U.

However, at a more local level, businesses and governments do not solely operate within the confines of strict, hierarchical regulation. Both sets of organizations join together horizontally to form compacts and regulatory networks that are often characterized more by guidance, soft law and collaborative efforts. While such institutions can be a welcome and effective complement to stricter, hierarchical regulation, such networks require high levels of trust and goal congruence to overcome the potential collective action problems that are inherently possible in such networks. Finally, the conditions under which networks and hierarchies both develop to construct environmental regulatory policies will depend on the dynamics of the policy process as well. Under ordinary circumstances, diverging preferences and collective action problems may create the foundation for more incremental and weaker regulatory standards, whereas an environmental disaster might create a groundswell of support for strict, judicially binding legislation. In this way, policy processes affect the

structure of hierarchies and networks and ultimately the shape of regulations designed to mitigate the effects of climate change.

Keywords

environmental policy, regulation, climate change, multilevel governance, European Union, United States, regulatory federalism, hierarchies, networks, policy process

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This article is a broad and comparative examination of how policymaking institutions in the United States and the European Union manage environment and climate policy. A wealth of research has demonstrated that climate change is caused by human activity to a significant degree and that there are a number of social, political, and economic consequences, many of which are already occurring. Droughts, flooding, strengthened hurricanes, and refugee crises that have occurred in the recent past and that are expected to worsen over time are just a few byproducts of the changing climate. Climate change has frequently been labeled as a “wicked problem” because it has multiple causes, its causes and effects cross jurisdictions and policymakers judge climate risk with highly variable value judgments (Levin, Cashore, Bernstein, & Auld, 2012; Termeer, Dewulf, & Breeman, 3). Such challenging problems are

dealt with not only in government hierarchies but also in more informal policy networks and with a multitude of policy tools.

In studying coordinated actions across governments, scholars have acknowledged a shift in social science from the study of “government” to the study of “governance” (e.g., Levi-Faur, 2012; Rhodes, 2012; Schneider, 2012). Governments make policy, but they also work with each other. National governments make top-down policies that are implemented by regional or local governments (e.g., Dye, 2000) that provide feedback and can influence national policy. In more informal and cooperative horizontal networks, regional or local governments join forces to pursue similar policies and share information in pursuit of common goals (e.g. Bowman 2004; Bowman and Woods 2007; Kern and Bulkeley, 2009). Within these vertical and horizontal networks, private actors are also present and regulated by governments, and may provide public services in contractual relationships (Brown & Potoski, 2004; Williamson, 1981). Nongovernmental organizations may have contracts to provide public services as well as acting as accounts auditors (e.g., Alford & O’Flynn, 2012). Where “government” refers to the actions of governments acting separately or together, “governance” entails the variably coordinated actions of these actors within policy networks. Policy tools that go beyond the traditional command-and-control” (C&C), hierarchical modes of regulation have also emerged within the broad world of climate governance. Hierarchical models of organization have traditionally been favored for their ability to reduce transaction costs and increase efficiency (Coase, 1937; Moe, 1984), but binding top-down rules can also create constraints that limit the innovative capacities of subnational governments, businesses, and organizations. “New governance” policy institutions and tools are thought to be reactions to C&C policies, as businesses seek more flexible methods of achieving environmental goals and governments seek methods of reducing enforcement transaction costs (Carrigan & Coglianesse, 2011). New governance tools include management-based regulation, whereby businesses create their own plans for identifying and solving environmental problems

(Coglianese & Lazer, 2003; Coglianese & Nash, 2001, 2006; King & Lenox, 2000); information disclosure requirements, which rely upon transparency to goad businesses into continually improving (Doshi, Dowell, & Toffel, 2013); certification schemes whereby businesses become members and comply with sustainability standards (Auld, 2014; Bartley, 2003, 2007); and, finally, markets, such as emission trading schemes (Schmalensee, & Stavins, 2017; Stavins, 1998).

These policy tools, which rely less upon judicially binding, strictly enforced standards than on incentives and social pressure, provide a degree of flexibility typically absent from traditional, hierarchical regulation. The most stringent measures of emissions reduction may achieve ambitious policy goals but are also likely to have significant costs that present more obstacles to widely shared consensus on how to deal with the problem. Softer solutions, such as information sharing, informal guidelines on best practice, and voluntary, regulatory measures, do not exemplify the same commitment to climate change mitigation, but they can generate higher levels of participation as the costs of adopting such policies are not as high (Abbott & Snidal, 2000). This trade-off of producing less stringent targets in order to secure greater participation is a central dilemma in crafting solutions to complex problems such as climate change.

This article examines the literature and debates regarding the governance of environmental hazards in the United States and the European Union. Governments coordinate to address interjurisdictional climate issues, but there is consequent potential for collective action problems. Both the United States and the European Union are large, hierarchical systems with overlapping vertical and horizontal powers. There are also important differences between the two jurisdictions that affect the ability to overcome coordination challenges in each setting. The Institutional Collective Action (ICA) framework has addressed this problem specifically and addresses how collective action problems across governments may be overcome (Ostrom, 1990). In the European Union, the “multilevel governance” (MLG) approach has been widely

utilized for describing and analyzing how actors across local, national, and supranational levels of the European Union make policies in vertical and horizontal fashion (Bache, 2012; Stephenson, 2013). Utilizing the ICA and MLG frameworks, new governance regulation tools fit into both hierarchies and networks.

The article examines the institutional structure of policies to address climate change and environmental regulation more broadly. These policies encompass preparation for the effects of climate change as well as the prevention of those effects. Policies that build capacity and resilience to deal with acute crises brought on at least partially by climate change should be considered along with policies that are more broadly conceived of as environmental regulation. As climate change is linked to carbon dioxide emissions, an examination of such policies that treat such emissions, and their institutional structure, is warranted.

The article begins with a comparison of the United States and the European Union. This leads into a discussion of how hierarchy is perceived in both jurisdictions and how the “shadow” of hierarchy tends to influence policymaking beyond the hierarchical structures themselves. The discussion then moves toward the establishment and maintenance of networks and how these networks both differ from and overlap with regulatory hierarchies. Markets are discussed within the context of these topics. Finally, because hierarchies and networks do not operate in a vacuum, theories of the policy process are discussed, as well as what they portend for the performance of hierarchies and networks in environmental and climate change governance.

Government Hierarchies in the United States and the European Union

This article is an examination of the coordinating efforts of the United States and the European Union on environment and climate policy, as the broader patterns of intergovernmental coordination are useful for illustrating how the governance of climate change varies across and within jurisdictions. Both systems can be defined as separation-of-powers systems in which power is shared at the top between executive, legislative, and

judicial branches. In the United States, the federal government has primary authority over a number of policy areas, but the states, which Justice Louis Brandeis referred to as “laboratories of democracy,” have the authority to enact their own policies. In the European Union, power is shared on a two-way street between the member states and the supranational institutions of the Commission, Council, Parliament, and the Courts of Justice.

The basic institutional structure of each of these large jurisdictions is important, as it enables us to understand the extent of hierarchical relations and the potential for networks to thrive in the informal space provided. There is a fundamental contradiction built into hierarchical structures. Their construction through one organization helps to reduce the costs of conducting multiple transactions (Coase, 1937; Moe, 1984), but if power becomes concentrated in national governments at the top of the hierarchy there may be tendencies to pass laws that restrict either the discretion of local government authorities or the businesses that have to comply with these regulations. If such regulations make compliance costly, then the benefits of hierarchy can end up being self-defeating and can make networks or markets appear to be a more flexible and palatable option. In these situations, therefore, centralized governments must make decisions about how much flexibility or discretion ought to be embedded in top-down rules.

These tensions are considered in more detail in the next section, as is the suitability of “new governance” regulatory tools and institutions under hierarchical systems. This broad umbrella of policy tools may exist largely as an alternative to hierarchical structures, but their implementation is still governed by the existing hierarchy or by the “shadow of hierarchy” (Heritier & Rhodes, 2011; Wurzel, Zito, & Jordan, 2013).

Hierarchy and Its Shadow in the United States

Examining the broader question of climate governance requires a look at how hierarchies and networks operate in each jurisdiction and how these arrangements shape the use of markets

and other policy tools of new governance. There is rarely such a thing as a pure hierarchy, but the evidence reveals that hierarchies in environmental governance have played an important role in the United States. In the early 1970s, the policy agenda in Washington focused on the environment, as pollution, overpopulation, and destruction of the commons were perceived as crises that required immediate action (Eisner, 1993; Moe, 1989). The Environmental Protection Agency (EPA) was created under President Nixon and numerous, sweeping environmental statutes were passed into law. This period has been characterized as one of top-down, command-and-control (C&C) regulation whereby regulation was perceived as strict and possessing a one-size-fits-all quality (Bardach & Kagan, 1982; Eisner 1993; Kagan 2001; Moe 1989).¹ Kagan (2001) has described the U.S. regulatory structure as one of “adversarial legalism,” where there is a heavy reliance on litigation as fire alarm oversight; that is, concerned constituents have the ability to object to proposed regulations by bringing lawsuits against the regulators.² This combination of litigation and strict, inflexible environmental standards contributed to the perception in the United States that hierarchical rules were inefficient and costly.³

Since the 1970s, more flexible, networked structures have been developed to complement the American regulatory hierarchy and a multitude of policy tools have entered into use.⁴ These structures and policy instruments have been intended to offer more flexibility in regulatory enforcement, but ultimately they operate in a broader structure governed by C&C, hierarchical regulation (Eisner, 2007). This is a crucial empirical point in the broader debate on environmental governance. Rhodes (1996) has argued that new governance arrangements have supplanted traditional government-administered policy, but more scholars argue that new governance policy tools and structure tend to be employed in the shadow of hierarchy (e.g., Wurzel et al., 2013). Thus, while networks and new governance policy instruments may emerge to complement government hierarchies they are often influenced or shaped by the existing policy apparatus.

In the United States, there is no shortage of examples of how the C&C shadow of hierarchy has influenced the implementation of new governance policy instruments. For example, ISO 14001 is one of the most well-known and easily recognized environmental management systems in use. It has been widely adopted by businesses in a number of OECD countries, but its adoption rate per capita remains below average in the United States (Delmas, 2002; Eisner, 2007; Potoski & Prakash, 2004). The most commonly agreed-upon explanation among scholars is that the question of adopting environmental management systems (EMS) produces a prisoner's dilemma for American businesses and the government. Implementing an EMS reveals possible environmental infractions, but businesses only want to proceed with implementation if they are assured they will have the time to correct these problems without being penalized. According to Delmas (2002), "U.S. companies are fearful of the certification process which lays their performance open to the public scrutiny" (p. 91). The EPA, fearing reputational damage if perceived to be going easy on business, cannot provide such assurances, so EMSs are underutilized in the United States.

Despite the long shadow cast by the U.S. federal government, the system of federalism allows for local variation in standards and enforcement, as it does in the European Union. Under the Clean Air Act, states must submit "state implementation plans" to show compliance with minimum federal standards, although since 1970 California has been able to set its own stricter code. Some scholars believe in the race to the bottom, whereby states may compete for business by weakening regulations. Vogel (1995) used the California example to build a broader theory of the "California Effect," whereby jurisdictions that combine strict standards, strong green groups, and a large import market can actually raise standards in other jurisdictions, especially trading partners. As Vogel indicated, since 1970, the U.S. Congress and other states have found themselves adopting California's standards rather than abandoning them, as the race to the bottom might predict.

The previously stable state implementation of federal standards has become more volatile in recent years, concurrent with increasing levels of party polarization and federalism dynamics in the United States. Federalism has moved through several phases of policy implementation over the past 60 years. In the 1960s, there was “cooperative federalism” or “picket fence federalism” whereby states and the federal government implemented policy in a cooperative fashion (Conlan, 1991). In the 1970s and onward, “coercive federalism” meant that the federal government imposed policies upon the states while actively preempting state policies and innovations on a number of fronts (Bowman & Krause, 2003; Conlan, 1991; Kincaid, 1990). Since the George W. Bush administration (2001–2009), American party politics have become more polarized and state party structures have come to mirror their federal counterparts, so while states at one time acted as faithful implementers of policy, they have taken more resistant stands when ideological differences develop (Conlan, 2017; Conlan & Posner, 2016; Nolette, 2015; Nolette & Provost, 2018). This trend has been most evident in the number of legal challenges brought by states and their attorneys general (AGs) when the EPA issues new rules. Republican AGs took repeated aim at President Obama’s policies on climate change, while Democratic AGs have filed lawsuits at a dizzying pace to slow down President Trump’s agenda of environmental deregulation (Konisky & Woods, 2018; Nolette & Provost, 2018).

Hierarchy and Its Shadow in the European Union

In the European Union, much of the early research treated the supranational institutions and member states as a hierarchy, whereby the debate largely focused on whether member states made rational and informed decisions about how much power was delegated to Brussels or whether the Commission, Council, Parliament, and others gradually assumed more authority over time. For example, Garrett (1995) argued that member states only complied with European Court of Justice (ECJ) decisions if the benefits of doing so exceeded the costs, thus

limiting the scope of the ECJ. Conversely, Stone-Sweet and Brunnell (1998) showed that the number of cases in multiple policy areas brought before the ECJ increased over time, thereby institutionalizing the rules of the E.U. single market and providing enhanced legitimacy for the Court. Kelemen (2011) argued that these dynamics of judicial behavior create more rights of legal action, which in turn have the potential to saddle the European Union with an adversarial legalistic policymaking structure like that of the United States. Finally, Tallberg (2002) challenged studies like Garrett's by showing that E.U. member states may fail to comply with directives and regulations because of a lack of capacity or a failure to understand what the rules require, not simply because of rational decisions to evade the rules.

This debate was largely upended by the emergence of so-called multilevel governance (MLG), a theoretical framework that cast the E.U. governing system as one of public, private, and nonprofit actors engaged in variably complex vertical and horizontal relationships (e.g., Bache, 2008; Bache & Flinders, 2004; Hooghe & Marks, 2001, 2003). Scholars have disagreed about the precise utility of the MLG framework (see Stephenson, 2013), but, if it has succeeded in anything, it has illustrated that E.U. governance is characterized by a complex set of overlapping relationships at all levels of government. This can be witnessed even at the E.U. level where separate bastions of power reign across the directorate generals (DGs) of the commission and in the legislative bodies as well (Rhinard & Boin, 2009).

Fitting somewhere between the debates on intergovernmentalism and MLG is the thriving literature on the extent to which “convergence” has been achieved in E.U. environmental governance. That is, do E.U. laws, policies, and norms cause member state environmental policies—as well as their compliance with E.U.-level laws—to converge harmoniously? Or do member state policies still diverge significantly from each other, thereby producing different abilities to cope with the climate change threat? This is an important question, as it can potentially shed light on whether the E.U. supranational hierarchy can

enable member state policies to harmonize and converge, although there are other factors that can affect such convergence.

In order to understand the extent to which the E.U. hierarchy actually affects member state environmental policy, it is crucial to examine the level of authority actually delegated to member states in this area. Franchino (2004) created measures for the policymaking discretion of both member states and the commission and finds that, of all policy areas analyzed, environmental policy ranks fairly high in member state discretion, while for the commission it ranks fairly low. If member states have high levels of discretion, it suggests that regulatory convergence between member states may lag, as states have more freedom to set laws where they desire. In such a case, the local and informal environmental network actors of the MLG context may be more responsible for raising standards in member states than national governments themselves. At the same time, some caution must be exercised in interpreting Franchino's numbers, as the European Union's supranational institutions have crafted a number of environmental policies, not least the E.U.-wide emissions trading system (ETS), the goal of which has been to reduce harmful air emissions.

This relatively high level of member state discretion, combined with the institutional arrangements described by the MLG framework, can lead observers to believe that regulatory convergence will remain low while each state (or groups of states) pursues its own policy aims. Borzel (2002) has unpacked this dynamic in more detail and found that some member states aggressively push their own agendas in Brussels, hoping to get their favored policies implemented throughout Europe, while others show greater indecision or even act as "foot-draggers" working to delay or block policies that would adversely affect their own domestic industries' ability to comply with E.U. regulations. The foot-dragging dynamic can be seen at work in the negotiations over the establishment of the ETS. Emissions-trading programs require the presence of tradeable permits that must be purchased by polluting companies, effectively acting like a tax for companies that pollute too much, while cleaner companies can

either bank or sell these permits. When establishing such a program, it is crucial to provide an appropriate number of permits, as a surplus in the market would sink their value and fail to achieve the intended change in behavior of polluting firms. In the case of the E.U. ETS, too many permits were allocated in the first two phases of ETS trading and these permits were freely allocated—twin features that had the effect of depressing the price of carbon and making the emissions trading scheme less effective overall (Schmalensee & Stavins, 2017; Wurzel et al., 2013). Throughout the existence of the ETS there has been lobbying from member states that are heavily dependent on coal and other fossil fuels, namely Poland, to ensure that the ETS rules do not put them at a disadvantage. This lobbying has also stymied the European Union in its efforts to remove a portion of permits from the existing supply, thereby raising their value (Clark & Blas, 2012).

Despite these dynamics, which encourage regulatory divergence, scholars have uncovered specific mechanisms of convergence (e.g., Holzinger & Knill, 2005). Some such mechanisms even encourage the strengthening of domestic regulatory standards, which can then have diffusing effects throughout the rest of the European Union. Before much of the current Europeanization literature emerged, Vogel (1995) found that nations with large markets and strong environmental movements had the leverage to raise the environmental standards of their trading partners. In an important case study, he showed that in the 1980s the coalition of Denmark, Germany, and the Netherlands was able to get France, Italy, and the United Kingdom to agree to stricter emissions standards than the latter coalition initially would have preferred, primarily because Germany had a large import market, influential environmental groups, and an automotive industry, which already had to comply with strict domestic emissions standards. Since that time, the European Union's pursuit of the single market has only increased pressure to harmonize regulations in the name of free trade.

Finally, the E.U. hierarchy takes a comparatively more hands-off approach than that of the United States to firm-level involvement in corporate social responsibility measures such

as environmental management systems. In the United States, revelations of polluting practices in the production process generate fear within companies, whereas in the European Union, “governments have encouraged the adoption of environmental management standards by . . . providing technical assistance to potential adopters” (Delmas, 2002, p. 91). The encouraged adoption of environmental management systems is therefore a good example of how the E.U. shadow of hierarchy adopts a hands-off approach and allows bottom-up improvement in environmental performance. ISO 14001 was released in 1996 and has been embraced eagerly by many European businesses with the warm endorsement of the European Union itself. The European Union has also created the Eco-Management and Audit Scheme (EMAS), which is a slightly more stringent scheme, but has not been as widely adopted as ISO 14001 (Wurzel et al., 2013). E.U. nations that have witnessed a larger adoption rate of EMAS have generally offered higher levels of assistance (E.U. Commission, 2015), particularly financial or legal assistance or relief from regulatory inspections. Such a trend is consistent with previous research, which showed that government support for environmental management systems boosts participation (Delmas, 2002; Kollman & Prakash, 2002).

Networks and Collective Action

While it is fine to speak of hierarchies and their shadows, these institutional arrangements exist alongside networks and new governance policy tools in a more complex governance framework. Networks are also highly important modes of governance for two primary reasons: governments (and other governance actors) often work together horizontally to treat cross-jurisdictional problems and networks offer a more flexible and informal method of coordinating than hierarchy alone can. However, the benefits of this flexibility must be weighed against the costs of collective action problems. Joint action can be beneficial to all involved, but no single actor has the incentive to absorb the costs of starting such action, knowing that other actors then have the incentive of a free ride (Olson, 1965). Such collective

action problems then lead to an underprovision of useful joint programs that might mitigate the impacts of climate change.

Despite the potential for free-riding, Coase (1960) suggested that if numbers were small and transaction costs were low, parties could overcome their own collective action problems. Elinor Ostrom (1990) built on Coase's research with an "institutional collective action," (ICA) framework through which she found that different organizations can come together in the absence of hierarchy when given small enough transaction costs. Such an approach offers significant advantages. Submitting to a centralized institution typically means losing some authority over the issues in question, so conflicts are more likely to arise as lower governments may not agree with the policies they are asked to implement (Feiock, 2009). Working horizontally with other local governments is less likely to result in sacrifice of authority and the actors in question are more likely to be able to work toward a solution that benefits everyone, given their better knowledge of local problems. Efforts to consolidate local American governments into county governments in the name of hierarchy or coordination have often failed, due to the autonomy local governments would lose in the process (Feiock, 2009; Feiock & Carr, 2004).

Networks vary substantially in terms of structure and the number of participants. As Provan and Kenis (2008) have argued, some networks are characterized by "shared governance" (p. 234) in which each actor contributes to the network's output, while others have a "lead organization" (p. 234) that is responsible for coordinating much of the activity, approving the decisions and ultimately creating a more centralized structure with an asymmetric power distribution. Similarly to Coase and Ostrom, Provan and Kenis argue that a shared governance model is more likely to be effective with a small number of actors in the network, as there is less potential for significant collective action problems. Following this logic, lead organization networks are more effective when there are a large number of participants and thus greater potential for failures of collective action. Scholz, Berardo, and

Kile (2008) find that smaller and denser networks are better at securing credible commitments to particular ideas or policies, while larger and more liquid networks tend to do best with information exchange.

Different types of networks are possible in European and American climate governance. Networks that combine hierarchies—the presence of the U.S. federal government or the E.U. policymaking institutions—may be thought of more as lead organization networks in climate governance as they set standards while allowing some policymaking latitude among network members. However, in the spirit of the ICA framework, many local or regional governments may seek to establish alliances and pursue action against climate change independent of their respective hierarchies. The number of local government participants in such networks across either the United States or the European Union can be expected to be large, thus generating collective action problems or uneven effort from the network participants. For example, urban governments are typically blessed with greater authority, larger budgets, and more resources within civil society than suburban or rural governments. These governments are more likely to be innovative and willing to adopt policies that further sustainability (Lubell, Feiock, & Handy, 2009), while suburban governments around these urban entrepreneurs may free-ride off such efforts. In his examination of American cities and the Mayor’s Climate Protection Agreement, Dierwechter (2010) found that suburban governments were considerably slower to adopt or implement such policies than urban governments. A similar portrayal emerged from Kern and Bulkeley’s (2009) treatment of transnational municipal networks that govern climate change. The authors argued that the networks tend to be “networks of pioneers for pioneers,” meaning that there are more active municipalities that engage with each other while more passive cities do considerably less to contribute to the network’s effort.

Beyond the size and basic structure of networks, there are a number of other important factors, such as the levels of trust, goal consensus, and capacity within networks, that determine their formation, maintenance, and effectiveness. First, high levels of trust are

important for establishing and maintaining networks. Provan and Kenis (2008) echo the idea that network governance can be effective when there are only a few network actors, but effectiveness is more likely when there is a high level of trust between the actors. A larger number of actors or lower levels of trust introduces the need for a lead actor or perhaps even an external governing network administrative organization. Isett, Mergel, Leroux, Mischen, and Rethemeyer (2011) argue that “the relatively closed structure” of formal networks may lead to more stability as it can produce more trust among the participants (p. 164). It may also be the case that trust between network actors is more easily generated when those actors have key political characteristics in common. Gerber, Henry, and Lubell (2013) found that local governments in the United States with similar constituencies in terms of partisanship and voting behavior are more likely to collaborate in regional planning. Similarly, Lubell (2007) found that trust and attitudes toward other network actors correlate closely in U.S. agricultural water policy networks. He cautioned against generalizability, suggesting that institutional and political structures are unique.

Second, potential network actors are also likely to come together when they share similar problems. Lubell, Schneider, Scholz, and Mete (2002) found that watershed partnerships in the United States are more likely to form in response to complex pollution problems that are more difficult to solve with either rigid C&C policies or unilateral action. Additionally, similar problems may lead to greater consensus on goals to be achieved within the network. As Provan and Kenis (2008) and Scholz et al. (2008) illustrated, this goal consensus is more likely to be observed in smaller networks and, as a result, network objectives are less likely to be derailed by collective action problems.

Third, the governing capacity of regional and local jurisdictions is also crucial. Zahran, Grover, Brody, and Vedlitz (2008) examine which American cities joined the Cities for Climate Protection campaign that was organized by the International Council for Local Environmental Initiatives. They found that environmental interests and social movements had

a clear impact on the likelihood of participating in the initiative. At the U.S. state level, Bowman and Woods (2007) found that states are more likely to join compacts when they have less policymaking capacity, but that they still need bureaucratic capacity to assist with implementing these compacts. Geographic proximity also encourages states to go beyond mere policy harmonization and achieve a more ingrained level of policy coordination. Greater interest group density at the state level also appears to encourage more interstate compact involvement, although this is driven more by nonprofit groups than industry groups or trade associations (Bowman & Woods, 2010). On the other hand, concentrated capacity in the form of power can deter coordination among groups. Bolleyer and Borzel (2010) find that across federalist systems the concentration of power in lower-level governments is important for the possibility of coordination. Governments with concentrated levels of power are less likely to enter agreements with other lower governments, whereas power-sharing governments are more likely to coordinate efforts.

High levels of commitment and capacity are required between local and regional/state governments in order to facilitate cooperation in joint policy implementation. Peter May (1995) found in his study of Australia and New Zealand that commitment to cooperation is necessary to implement environmental management policies, but insufficient without the accompanying capacity. Local governments that lack capacity may be more likely to be laggards in joining collective, environmental agreements in addition to being limited in solving their own problems. Such “laggard” governments may actually benefit from a more coercive, hierarchical approach, as they are forced to comply with mandates from above (May & Burby, 1996). Local governments that are committed to the national policies in question, however, benefit from a more cooperative approach. Such commitment can be built through national policies that are designed to communicate information regarding the hazards in question (Burby & May, 1998).

Variation in the capacity to implement policies also varies within the European Union. Regulators in laggard nations often lack the “cognitive, material or political” capacities to implement voluntary regulations, whereas regulators in leader nations tend to make soft regulations more effective (Koutalakis, Buzogany, & Borzel, 2010). The laggard effect ultimately has a diminishing outcome on E.U. governance. The European Union’s supranational institutions have both cooperative and coercive measures to bring member states into compliance with environmental regulations, but the variations in noncompliance are significant (Tallberg, 2002). In summary, networks offer flexibility and the ability of governments and organizations to come together around common purposes. Networks do not typically involve sacrificing authority to hierarchies, but they will usually be more successful when there are higher levels of trust and members of the network have similar beliefs and problems to pursue. These characteristics are more likely to be found in smaller networks and hence have less potential for collective action problems.

Policy Processes and Climate Change Governance

Hierarchies and networks do not operate in vacuums, so a complete picture of how these institutions operate requires consideration of additional theories of the policymaking process. Environment and climate policies in multilevel systems such as the United States and European Union remain mostly stable but can undergo significant change for a number of reasons. First, the salience of environmental issues may shift over time, a trend perhaps caused by a focusing events, smaller events, or well publicized knowledge of environmental risks and potential disasters. Such salience can also cause or be caused by shifts in institutions that allow policy subsystems to be disrupted and in turn bring policy punctuations (Baumgartner & Jones, 1993). Finally, cleavages in business coalitions whereby some companies recognize competitive benefits from supporting regulations can also provide the impetus for environmental policy change through so-called Baptist-bootlegger alliances.

Many of the most prominent theories of policymaking are concerned with explaining how policy changes occur. Kingdon's (1984) theory of policy streams, for example, posited that policy change could only occur when the three streams—problems, politics, and policies—came together to form a policy window. Policy entrepreneurs take advantage of these windows by pushing specific policies in response to carefully framed problems when the right political coalitions are in place. The American birth of social regulation in the 1960s and 1970s, with laws such as the Clean Air Act, can be viewed through the multiple streams framework. With a willing Congress and Republican president, stringent C&C regulations were seen as the ideal solution to pervasive problems of pollution and natural resource degradation. These problems were made salient by books such as Rachel Carson's *Silent Spring* and Garrett Hardin's *Tragedy of the Commons* and focus on events such as the fire in Ohio's Cuyahoga River (for the specific entrepreneurs in these stories, see, Eisner, 1993; Moe, 1989).

Other scholars have sought to build on Kingdon's work, notably Paul Sabatier and Hank Jenkins-Smith (1993), with the advocacy coalition framework (ACF), and Frank Baumgartner and Bryan Jones (1993), with their theory of agenda setting. The ACF envisions long-term policy change occurring through the work of subsystems and characterized by different sets of beliefs. Actors in each subsystem share deep, steadfast core beliefs. The theory of agenda setting, popularized primarily by Baumgartner and Jones (1993), also builds on the idea of policymaking subsystems, but argues that a number of different factors, such as focusing events, statistics, other indicators, or institutional changes have the power to reframe the agenda, thus potentially destroying such subsystems and changing policy in the process. Thus, policymaking often proceeds in an incremental fashion for an extended period of time, but large policy punctuations can and do occur (Baumgartner & Jones, 1993; John, Bertelli, Jennings, & Bevan, 2013). The notion of disrupting subsystems implies that significant policy

change often occurs in subsystems that are tight and more closed, whereas many of the horizontal networks under discussion are more fluid and involve potentially hundreds of municipal governments that can enter, leave, and re-enter the subsystem with less difficulty.

Jones (2003) later built on the agenda-setting research by incorporating Herbert Simon's notion of bounded rationality more explicitly and arguing that boundedly rational organizations were capable of output punctuations. As Simon (1947) stressed, civil servants have cognitive limitations that prevent them from focusing on all important policy issues at once and also prevent them from foreseeing all the consequences of policy decisions. This means that agencies often do not respond proportionately to policy problems such as climate change or smaller-scale environmental problems, but instead overreact to problems once their magnitude is realized (Jones, 2003). Such overreaction is caused by collectively bounded rationality embedded in institutions and procedures, some of which condition organizational responses by imposing higher decision-making costs (Baumgartner et al., 2009; Jones, Sulkin, & Larsen, 2003; Robinson, 2004). Jones (2001) summarized the issue, explaining that "humans are disproportionate information processors" and that output of organizations in response to new information will be "disjointed and episodic" (p. 25).

Maor (2016) agreed that underinvestment in policymaking may occur, but he argued that it may be due to reasons of emotion in that policymakers do not want to invest in issues that fill them with negative emotion. This distinguishes his argument from that of Jones and others, who believe the disjointed responses are due more to institutional features and higher decision-making costs. In subsequent research, Jones, Thomas, and Wolfe (2014) illustrated how governments pay more attention to certain policy areas, thereby overinvesting in them and creating what they call "policy bubbles." Climate change, or even environmental policy broadly speaking, is not one of the areas they examine with regard to policy bubbles, although they do not say that it cannot happen in this area. Finally, while Jones and others argue that disjointed policy responses will often occur due to collective bounded rationality or because

of self-perpetuating positive feedback, Maor, Tosun, and Jordan (2017) argue that politicians may strategically over- or under-invest in some policy areas, a phenomenon frequently witnessed in the area of climate change and environmental policy.

To what extent do these theories of the policy process help us to understand the manner in which climate and environment policies are passed and implemented? To answer this, one must map out the different subsystems within the overall system of environment and climate policy and the cleavages are likely to fall between different policy areas, such as mobile source air pollution, stationary source air pollution, water pollution, and toxic waste treatment and removal. This is not a perfect bifurcation of environmental policy subsystems, but policies will frequently aim to deal with one of these particular problems, thereby affecting a particular subsystem. Within subsystems, we must consider how policy changes affect the distribution of costs and benefits for each set of actors. These subsystems may consist of and spread across both networks and hierarchies. In its most basic form, and borrowing from Wilson (1980), environmental policy can be thought of as having benefits that are diffusely spread across citizens, while the costs are heavily concentrated upon industry. It therefore fits into Wilson's typology as being an issue of "entrepreneurial politics," as it requires an entrepreneur to overcome the twin challenges of collective action problems among the citizenry while also finding solutions that are agreeable to better organized business interests who bear the costs of new regulations.

The idea that environmental policy involves "entrepreneurial politics" is consistent with Gormley's (1986) classification of air and water pollution and toxic waste treatment as issues that are both salient and complex. Gormley evaluated the levels of salience of an issue, as well as its technical complexity, to assess who was paying attention to each issue and who in effect was in each subsystem. Subsequent research by Ringquist, Worsham, and Eisner (2003) supported the idea that climate and environmental policies are both salient and complex. This means that numerous environmental and public health groups, as well as other NGOs and

their allies, are on one side fighting to get stricter regulations passed, while industry groups and their allies on the other side are trying to ensure that regulations do not become too costly or onerous.

This mapping envisions a largely pluralist system, even though collective action problems persist, especially on the proenvironment side. However, issue salience and the respective distributions of costs and benefits should be thought of as variables rather than constants. While the salience of environmental issues has remained fairly high over time (e.g., Dunlap & Mertig, 2014), it will be higher when environmental issues dominate the agenda or if a focusing event such as a natural or human-made environmental disaster brings the issue to the fore. Focusing events inevitably channel a large amount of attention onto the issue in question (Birkland, 2006), which may result in a policy paradigm shift. As Maor, Tosun, and Jordan (2017) have argued, a focusing event may also present an opportunity to “overreact” in an intentional and strategic manner at a time when attention to a particular issue is already high. They cite the example of the German government electing to close down all nuclear reactors in 2011 after the Fukushima nuclear disaster in Japan. Of course the level of safety in these plants did not change overnight, but the questions surrounding safety of nuclear energy overall raised by the disaster in Japan enabled German Chancellor Angela Merkel’s ruling coalition to make a significant policy change.

Baumgartner and Jones (1993) show in their original study of punctuated equilibrium how changes in institutions can change the dynamics of political participation, thereby raising the salience of particular issues and causing major disruption to environmental subsystems. They presented the case study of the U.S. Atomic Energy Commission (AEC), an independent regulatory commission that had traditionally operated in a regulatory “iron triangle”—an almost completely impenetrable subsystem in which members of Congress and “independent” regulators worked to protect the interests of the nuclear power industry. Public safety advocates and atomic scientists were concerned about siting and safety issues around new

plants. When the AEC began to hold public licensing hearings, it allowed safety advocates to attend meetings and register their safety complaints, which gradually gained momentum. Gradually, nuclear power came to be seen in the American media as much less safe and promising as had once been heralded, a reflection of how significant policy change can occur through changes in the policy agenda.

In addition to variable issue salience, the costs of regulation also vary across specific business actors within subsystems as well as across time. Costs of regulation can decrease over time, as substitutes that create fewer negative externalities (e.g., natural gas or renewable energy sources) become cheaper and more widely available. However, even if we remove the temporal element, the costs of complying with regulations will significantly hurt some companies while benefiting others that can comply more easily and cost-effectively. These cracks in industry alliances can produce what are known as “Baptist-bootlegger alliances,” whereby environmental groups and certain business interests both favor stricter standards but the businesses in question do so because of the detrimental effect it has on their competition. There are a number of examples of how this particular phenomenon can push policymaking in a proenvironment direction. Vogel (1995) argued that Germany’s stringent auto emission standards united German auto companies and environmentalists in pushing for stronger European-wide emission regulations in the 1980s. Similarly, Murphy (2004) argued that DuPont’s ability to cheaply produce substitutes for ozone-destroying chlorofluorocarbons (CFCs) made them natural allies with environmental groups that wanted to ban CFCs when negotiating the Montreal Protocol, also in the 1980s. These dynamics illustrate how different cost functions for companies can produce policy change, especially if companies stand to gain from stricter standards. These examples also speak to the ACF framework in that environmentalists are likely to possess deep core beliefs but business belief systems may be more flexible if strict rules can diminish their competition.

Conclusion

This article has examined multilevel environmental governance in the United States and European Union, its forms and structures and what they mean for the crafting and implementation of environmental policy in both jurisdictions. Both the United States and European Union have complex multilevel structures that combine hierarchies and networks through various policy processes. Both jurisdictions embrace networked governance that allows policymaking to occur in a more open and flexible setting and lets network members craft policies that appeal to a wide number of actors. At the same time, the built-in flexibility means that there may be less credible commitment to such policies, or the commitment may be uneven. Jurisdictions that have the capacity to implement far-reaching and innovative measures to mitigate climate change will do so, but collective action problems and free-riding may persist, particularly where network features such as trust and policymaking capacity are absent.

Hierarchies trade flexibility for more binding commitments to particular policies, but these can be costlier to businesses that must comply with them or to local governments that must implement them. National or supranational governments offer some flexibility for how such policies are implemented at the local level, but the shadow of hierarchy persists. Twenty-first-century environmental policies are complex and cover numerous and heterogeneous industries. This fact, coupled with the abundant use of new governance policies means that a return to the strict and precise C&C policies adopted in the United States in the 1970s is highly unlikely. The shadow shapes and influences how much local discretion is offered and the parameters around which voluntary policy instruments such as clubs or management-based tools are employed. Thus, networks, hierarchies, and their shadows overlap and operate in tandem.

These structures do not operate in a vacuum, however. Their existence must be discussed in the context of theories of the policy process. These theories are often concerned with large

policy changes, which are more likely to occur with the disruption of large policymaking subsystems. Networks may operate in a fluid manner for long periods of time with competing advocacy coalitions, and major change only occurs when a given coalition has added enough members to its group. This may occur when particular environmental issues become highly salient or if cracks appear in the alliance of businesses whereby some firms begin to support stricter environmental standards.

Research on environmental policy and climate change will continue to be important as the effects of climate change become more apparent and urgent. Understanding the effect of regulations and policies requires an understanding the policymaking process and associated institutions behind them. The effects of climate change will increasingly require joint action, which means that hierarchies and networks will continue to overlap, reinforce, and oppose each other.

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Notes

¹ It is also important to point out, however, that these regulations did succeed to an extent in reducing pollution levels (Ringquist, 1993) and the EPA in the 1970s did offer states the ability to participate in emissions-trading programs (Stavins, 1998).

² See McCubbins and Schwartz (1984) for a more detailed discussion on fire alarm oversight.

³ Coglianese and Lazer (2003), however, present an excellent discussion in which they argue that C&C, or what they call technology-based regulations, may be suited to solving regulatory problems if the targeted industry is relatively homogeneous and if those in the industry are relatively confident of the benefits of such regulation.

⁴ There have been emissions trading systems such as the SO₂ allowance trading program, the Regional Greenhouse Gas Initiative and California's cap and trade program; information disclosure programs such as the EPA's Toxics Release Inventory Program; voluntary measures, such as EPA's 33/50 program and certification programs, such as the Department of Energy's "Energy Star" Program.