The Energy Politics of North America

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Abstract and Keywords

Energy resource debates sit at the center of both policymaking and electoral battles across North America. Yet in contrast to Europe, strong international institutions to manage continental energy policy have not developed. Instead, North American energy politics are shaped by four key factors: the federalist nature of North American countries, the absence of effective continental energy institutions, regional economic interdependence, and the relative power asymmetries between the United States and its neighbors, Canada and Mexico. Taken together, these features of North American energy regionalism distinguish it in both form and dynamics from energy politics in Europe and Asia. The North American energy system is an example of regional energy management in which a single dominant state pulls neighbors into a fragmented institutional framework.

Keywords: North America, Canada, Mexico, climate policy, energy policy

When energy infrastructure companies began work on the Keystone XL Pipeline in 2010, the plan seemed straightforward, like any other pipeline built over the preceding years. This one would cross the border, bringing Albertan oil from Canada to refineries in Texas and elsewhere in the United States. But by 2011 environmental groups in the United States had the pipeline in their sights. Given scientific research, they believed that increasing Albertan oil sand production would mean game over for the planet; there simply was not enough of a carbon budget available if the world aimed to avert disastrous climate change (Swart and Weaver 2012; McGlade and Ekins 2015). After years of effort, US activists successfully stalled approval under the Barack Obama administration, frustrating Canadian decision makers and oil companies. Shortly after the Donald Trump administration took office, the Keystone XL began moving forward again. The Canadian government was pleased by this development (Tasker 2017). However, a strong movement of environmentalists and indigenous communities across both countries continued to contest and resist the pipeline's completion through protest and litigation (Romo 2018; Hodges and Stocking 2016; Elbein 2017). The Keystone Pipeline was first proposed in 2008 and still has not been completed.

The Keystone XL Pipeline is just one example of energy politics unfolding across the North American continent. More recently, the United States, Canada, and Mexico renegotiated the North American Free Trade Agreement (NAFTA). The new United States-Mexico-Canada Agreement (USMCA) eliminated long-contentious investor-state dispute settlement (ISDS) rules, which allowed companies in one country to sue a different North American government for legal changes that jeopardized their corporate investments (Gertz 2018; Tankersley 2018). For example, after President Obama denied TransCanada's permit, the energy company filed for arbitration through ISDS (Kent et al. 2018). Energy companies touted the ISDS rules as protection for their foreign investments and against government abuse of power (Kent et al. 2018). Under the USMCA, oil and gas companies maintained ISDS rights for their Mexican investments, despite the elimination of most ISDS provisions in the broader agreement. In another major shift, the new agreement eliminated the contentious "proportionality" clause that had guaranteed the United States proportional access to Canadian energy production.

Debates over energy resources sit at the core of both policymaking and electoral battles across North America (Rippy 1972; Clarkson and Mildenberger 2011; Oreskes and Conway 2010; Stokes 2015, 2016). Yet in contrast to Europe, strong international institutions to manage continental energy and environmental policy have not developed in North America. While oil, natural gas, and electricity are traded across the region, energy policies remain the purview of national and subnational governments in Canada, Mexico, and the United States. Regional energy policy is thus shaped by two opposing tendencies: integration and independence. Growing economic interdependence among the three states has generated pressure from economic stakeholders to integrate energy policy at the regional level, particularly in favor of US energy interests. However, the decentralized nature of energy institutions and policies means that North American national and subnational governments have different electricity markets, energy mixes, regulations, and commitments to the energy transition. In this chapter we map the trajectory of North American energy policymaking, with a focus on the role of politics. We describe how continental energy politics are shaped by four key factors: the federalist nature of North American countries, the absence of effective continental energy institutions, regional economic interdependence, and the relative power asymmetries between the United States and its neighbors.

First, federalist institutions in all three countries dramatically affect energy politics across the region (Clarkson 2008; Selin and VanDeveer 2009). In the United States and Canada, subnational governments enjoy unusually broad latitude in energy policymaking. Canadian provinces and American and Mexican states often work against the energy policies of their federal counterparts, both in support of and in opposition to the energy transition. Subsequently, North American energy politics is shaped by shifting coalitions of subnational actors, often working across national borders. As a result of this decentralization, energy and climate policymaking priorities across federal and subnational levels in North America are rarely synchronized.

Second, integrated regional energy institutions have not developed in North America. The states have not been willing to delegate energy planning authority to continental institutions. As a result, regional-scale energy planning has consisted of trilateral policy harmonization efforts, which have tended toward voluntary and informal institutions (Selin and VanDeveer 2005). For example, in the early 2000s the North American Energy Working Group supported US efforts to guarantee access to Canadian and Mexican energy resources; however, this trilateral energy initiative lacked regulatory teeth. At most, these institutions and negotiations have shaped each country's understanding of its national energy interests.

Third, all three North American economies remain interdependent. Consequently, the presence of a large, integrated energy market dominated by the United States gives that state substantial power over Mexican and Canadian energy policies. Over the course of the twentieth century, Canadian and Mexican energy resources came to be seen in Washington as part of US energy self-interests. The United States pressured Canada (successfully) and Mexico (unsuccessfully) to guarantee access to their energy resources. Under this proportionality clause, since eliminated as part of the 2018 USMCA agreement, the Canadian government could not restrict energy exports to the United States without proportionally reducing domestic production and consumption. In turn, energy markets in Canada and Mexico developed in the shadow of these US needs. Correspondingly, Canada and Mexico often saw themselves as rule-followers with respect to US regulatory decisions in the energy and climate space. The US market's size largely explains why the United States is the leader and Canada and Mexico are the followers (Studer 2013). Both countries depend more economically on the United States than it does on them. Consequently, Canada and Mexico take pains to avoid regulations that might limit their access to US markets or weaken investment and capital flows from the United States into their markets. For instance, federal Canadian policy makers have repeatedly invoked the importance of aligning domestic climate policies with the United States out of competitiveness concerns. Similarly, Canada likely took cues from the United States when it chose to withdraw from the Kyoto Protocol (Studer 2013).

Fourth, regional trends in energy policymaking often involve independent Canadian and Mexican engagement with US policymaking agendas, rather than coordinated regional planning. Scholars have described this as a form of "double bilateralism," with the United States managing independent and differentiated yet simultaneous policy conversations with Canada and Mexico (Clarkson 2008). Generally, US-Canadian bilateralism operated under a different set of rules and institutions than the US-Mexican relationship, even in the context of NAFTA. For instance, Canadian oil is deeply integrated into US markets, and Canada formally guaranteed the United States access to its oil as part of the Canada-US Free Trade Agreement (CUFTA) in the 1980s. However, Mexico refused similar provisions as part of NAFTA. While both Canada and Mexico moved to decrease their reliance on the US market in the 1980s, the political context was much more favorable for Mexico to hold its ground (Lock and Kryzda 1993).

Taken together, these features of North American energy regionalism distinguish it in both form and dynamics from energy politics in Europe and Asia. The North American energy system is an example of regional energy management in which a single dominant state pulls neighbors into a regional but fragmented institutional framework (Clarkson and Mildenberger 2011). Scholars have described continental environmental governance as “less than meets the eye” (Clarkson, 2008, 128). This conclusion applies equally to continental energy governance.

We begin this chapter with background information on energy resources in North America. Given that there is another chapter in this volume focused on US energy politics (Allison and Parinandi in this volume), we focus here on Canada’s and Mexico’s energy relationships with the United States. Next we consider the regional politics of oil, natural gas, and electricity production. Third, we trace the trajectory of energy and climate policy-making in North America, outlining how shifting coalitions of subnational actors have been the major forces in shaping regional energy policies. Fourth, we describe a series of stunted attempts to develop trilateral North American energy institutions. Finally, we offer a research agenda for the study of North American energy politics moving forward. Throughout, we highlight the complex empirical reality of North American energy policy-making. Given the sparseness of scholarship on continental energy politics, we hope this survey can help precipitate coordinated efforts to place American, Canadian, and Mexican energy politics in their regional context.

North American Energy: Facts and Figures

To understand North American energy politics, we must contrast the size and nature of Canadian and Mexican markets against their dominant economic neighbor. We highlight the relative importance of these regional energy flows to all three North American economies. Figure 1 illustrates the scale and size of these trade flows, charting select US energy exports and imports with Canada and Mexico in 2017.

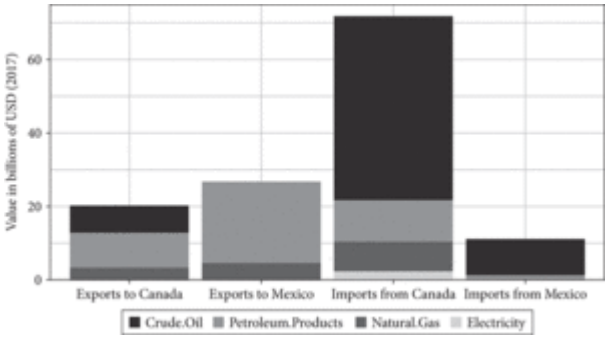

Figure 1 US Import and Export Flows of Select Energy Products

Source: Data from US Census Bureau (2018)

Note: Crude Oil includes US Census End Use Code 11100 only. Petroleum Products includes both Fuel Oil (11110) and Petroleum Products, other (11120). Natural Gas includes both Natural Gas Liquids (11130) and Gas-Natural (11200). Electricity includes Electric Energy (11400) only.

These regional trade and energy market relationships are, in turn, shaped by a diversity of institutional contexts. All North American countries have federal systems of government, though energy policymaking authority varies across each federalist system. At the extreme, Canadian provinces enjoy almost exclusive autonomy over Canadian energy policymaking, with energy issues delegated to these provinces under the Canadian constitution (Harrison 1996). Federal efforts to plan and harmonize Canadian energy policy require negotiation and coordination of provincial efforts, and as we discuss later in this chapter, have generated substantial conflicts (Richards, Noble, and Belcher 2012; Pollard 1986). For instance, while the Canadian federal government has exclusive authority to negotiate international agreements—including international climate agreements—its capacity to implement these agreements is constrained by provinces' willingness to comply with Ottawa's priorities (Cameron and Simeon 2002; Lachapelle, Borick, and Rabe 2012).

The US federal government maintains relatively more control over energy planning than the central government in Canada does. That said, US states still enjoy substantial energy autonomy relative to other states and governments around the world. As a result, US energy policymaking involves a blend of federal and state legislative and regulatory efforts (Byrne et al. 2007). For example, the Obama administration's proposed Clean Power Plan sought to use regulatory authority under the federal Clean Air Act to set standards for the carbon intensity of state-level energy production. In practice, however, the proposal required individual states to submit plans to the federal government on how they would implement the new federal standard. This effort is representative of many energy policies in the United States that offer substantial subnational flexibility to states. Thus US energy policy tends to be the joint product of state and federal efforts (Lutsey and Sperling 2008).

In contrast to the United States and Canada, Mexican energy policymaking remains largely centralized (Páez 2010). Major state-owned entities still play dominant roles in both electricity and resource extraction markets. While subnational Mexican states have engaged in some forms of energy regulation and management, Mexican energy policy remains far more shaped by its federal government than either the United States or Canada.

Canada

Canada has a long history as an energy-rich state. Oil production from the Albertan tar sands makes the country the fourth largest oil producer globally (US Energy Information Administration 2018). This oil production primarily flows to the United States: more than 75 percent of Canada's domestic production or more than three million barrels of crude oil per day (Government of Canada 2018a). These exports flow through a growing network of proposed and operational pipelines that transport Canadian oil to refineries and other facilities on the US Gulf Coast. Canada exports provide 41percent of US crude oil imports (Government of Canada 2018a). Canada also exports substantial natural gas, again via pipelines, to the United States (Government of Canada 2018b). Despite the development of US shale gas, Canada continues to be a net exporter of natural gas. In the United States, both domestic supplies of natural gas from hydraulic fracturing and imports of natural gas from Canada are important sources of energy for the country.

In terms of its electricity production, Canada's mix is mostly non-fossil fuels, dominated by a very large hydropower sector (59 percent), and a tiny but growing wind and solar market (5 percent) (National Energy Board 2017). As with oil and natural gas trading across the Canadian-US border, the electricity sector is similarly integrated. Canada exports about 10 percent of its electricity production to the United States, particularly hydropower produced in the Canadian provinces of Manitoba and Quebec. In total, Canadian power exports supply about 1.4 percent of US electricity demand (US Energy Information Administration 2015). Its trade occurs across thirty transmission linkages between the two countries, amounting to just under 60 TWh of power flows in 2014 (US Energy Information Administration 2015).

Mexico

Like Canada, Mexico has historically exported crude oil to the United States. However, both declining oil production and a diversification of Mexican export markets have reduced this flow in recent years to under 600,000 barrels per day, around one-fifth of the Canadian supply (US Energy Information Administration 2017). By contrast, Mexico is a substantial net importer of petroleum products and natural gas from the United States. Mexican imports of natural gas have grown in recent years, to supply the Mexican electricity sector. Currently, a pipeline network is under construction to facilitate this regional flow (US Energy Information Administration 2017). It is likely that Mexico will continue

to import cheap natural gas from the United States, given the latter's boom in hydraulic fracturing.

Mexican electricity production and transmission continues to be managed by the state-owned Comisión Federal de Electricidad (CFE). Since 1992 there have been limited opportunities for private providers to contract production to the CFE, including some companies backed by US investors. The Mexican electricity markets remain highly fossil-fuel dependent, with almost 75 percent of the mix coming from coal, gas, and oil. Mexico has only limited hydropower (19 percent) capacity. The Mexican grid has interconnections to the United States and Belize, but imports and exports are on a substantially smaller scale than between the United States and Canada. Over the past decade, Mexico has been either a small net importer or an exporter to the United States, though only in a locally bounded way that does not factor significantly into US electricity demand (US Energy Information Administration 2013).

North American Energy Systems Resources and Policies

Next we survey the current state of North American energy politics. We begin with a discussion of oil and gas resources. In this domain, opposing forces of regional integration and disintegration have characterized North American fossil fuel markets (Craik, Studer, and VanNijnatten 2013; Bird and Heintzelman 2018). While Mexican energy resources were developed with an eye to maintaining independence from US control, Canadian resources became institutionally bound to US demand throughout the latter half of the twentieth century. Second, we consider North American electricity markets. Overall, the United States benefits enormously in terms of energy supply from the cross-border trade in energy (oil and electricity), particularly from Canada. In 2015, $140 billion of energy trade occurred between the United States and its neighbors, with $100 billion of that value from imports. Third, we evaluate linkages between national and subnational North American governments in energy and climate policy planning. We find substantial policy fragmentation across the continent, but also point to important cross-national and cross-jurisdictional linkages. Finally, we survey efforts to develop truly regional energy institutions. In contrast to other parts of the world, regional institutions to manage energy are not present in North America, and attempts to develop such institutions have repeatedly stalled.

Oil and Gas Resources

When Mexico proclaimed its independence in 1917, it prohibited foreign development of national resources, including oil. Some US interests still maintained oil operations in Mexico for a few decades, but President Lázaro Cárdenas eventually implemented a full nationalization of the oil sector in 1937. In the face of declining oil production and a desire for more foreign capital investment, reforms to open up Mexican oil and gas markets began more than half a century later, in the 2000s. However, these reforms proved deeply

controversial with the Mexican public (Economist 2013; Wilkinson 2014). Overall, while Mexico still spent much of the second half of the twentieth century as an important source of US oil imports, the relationship was one of two countries that happened to share a common geography rather than an integrated market. Mexican oil and gas policies have never followed a North American governance logic.

By contrast, Canadian oil production was incrementally integrated into a shared US-Canadian market over the twentieth century.[1] After the discovery of Albertan oil, US officials lobbied Canadians to develop an integrated supply chain south to US markets, rather than moving Canadian oil east to Quebec and Ontario. This orientation became formalized in Canada's 1961 National Oil Policy. By 1970 an official US task force report conceptualized Canadian-American oil production as an integrated whole because of "the existence of an integrated transport system and the likelihood the two countries would consult closely during a crisis" (Schultz Report, 1970, para. 252b). When Prime Minister Pierre Trudeau proposed that Canada reorient its energy production and consumption toward domestic needs as part of his 1980 National Energy Policy (NEP), US actors joined with subnational Albertan political officials to oppose the reform. Regional economic interests felt the NEP was an unconstitutional imposition on their resource management autonomy. Albertan preferences for regional cross-border energy planning won out, and the NEP faltered. In this way, subnational Canadian actors helped channel energy planning according to a regional rather than national logic. Since the NEP's contentious debates, Canadian federal governments have been particularly sensitive about antagonizing provinces on energy issues.

Despite the NEP's failure, the United States continued to worry that Canada might revisit an NEP-like policy in the future, pivoting away from its commitment to US energy exports. This fear, echoed by domestic Canadian constituencies looking to guarantee access to US markets, animated negotiations for CUFTA in 1987. Under the agreement's "proportionality clause," Canada gave up the right to restrict oil exports to the United States if it did not simultaneously reduce domestic consumption by the same amount. CUFTA thus eroded the Canadian federal government's ability to shape Canadian oil production patterns and institutionalized a continental logic into patterns of Canadian fossil fuel development. Some US political actors have subsequently rejected the notion that Canadian oil is foreign altogether (Taber 2010).

However, when CUFTA was expanded into NAFTA, Mexico strongly objected to the inclusion of any similar proportionality clause that might hamper its resource autonomy. In contrast to CUFTA, NAFTA explicitly acknowledged Mexico's autonomous control over its oil resources. Powerful economic interest groups with a stake in the economic status quo were able to block Mexican energy liberalization during this period (Rodriguez-Padilla and Vargas 1996). Instead, reforms to Mexican energy markets only materialized two decades later, in 2014, partly the result of declining oil output and a perceived need for foreign investment in the national energy sector (Alpizar-Castro and Rodriguez-Monroy

2016). However, energy liberalization proponents have criticized these reforms as being incomplete (Ibarra-Yunez 2015).

Debates over fossil fuel production in North America have more recently shifted away from negotiating market access toward the physical integration of energy supply chains. Over the past decade, natural and oil pipelines have risen to the top of the North American political agenda. Oil and gas pipelines form the physical backbone of integrated North American energy markets. As Canadian oil production from the Albertan tar sands increased in the 1990s and 2000s, proposed infrastructure projects to transport and deliver this energy across the continent generated high-profile, contentious politics. One of the most prominent conflicts was over the Keystone XL Pipeline. The Keystone XL line proposed to expand capacity under an existing pipeline network, providing an easier route to transport Albertan oil to Gulf Coast markets. However, the pipeline proposal became a major point of conflict between the industry and environmentalists and North American indigenous peoples over the project's climate impacts. It was delayed by the Obama administration, but the Trump administration tried to facilitate the project's construction in early 2017; legal and technical barriers remain at the time of this chapter's writing.

Similar conflicts over pipelines exist within Canada and the United States. For example, efforts to develop infrastructure to carry Albertan oil to the Pacific Ocean via an expansion of the Kinder Morgan Trans Mountain pipeline have pitted the governments of British Columbia and Alberta against one another. The Canadian federal government has intervened, backing Alberta's continuing oil production by agreeing to purchase the half-built pipeline outright. In May 2018 a left-leaning Albertan government took the extraordinary step of passing legislation to give it power to restrict oil and gas flows to British Columbia in an effort to strong-arm its provincial peer into approving the pipeline expansion. In the United States, indigenous and environmentalist protests against the Dakota Access Pipeline (DAPL) from North Dakota to Illinois became a focal point of climate and energy debates in recent years.

Compared with these high-profile oil pipelines, the construction of new natural gas infrastructure in North America has generated less resistance, particularly pipelines south from the United States to Mexico. Mexico increasingly imports cheap natural gas from the United States (Parfomak, Campbell, and Pirog 2017; Fang 2014). This natural gas supports Mexico's growing electricity production. However, liquefied natural gas (LNG) facilities have proven contentious (Boudet and Ortolano 2010). As part of LNG terminal planning, differential regulations across North America have created something of a continental logic. While LNG terminals are operational in Maryland, Georgia, and some parts of the Gulf Coast, they have been more difficult to build in other parts of the United States, such as on the West Coast. As a result, some US companies have opened terminals just over the border in Mexico to import gas from overseas while avoiding more contentious regulatory environments. Similarly, efforts to site LNG terminals in Maine stalled for over fifteen years in the face of opposition from groups concerned with environmental risks. By contrast, an LNG terminal across the border in Saint John, New Brunswick, was con-

ceived as a gateway to US natural gas imports. In these ways, the ability of fossil fuel corporations to move their goods across national borders remains central to their business and profitability.

Electricity Markets

Like the physical infrastructure for the oil and gas industry in North America, electricity infrastructure and markets are also integrated across the continent, in this case through regional transmission networks that cross national boundaries; for instance, the United States and Canada share thirty-seven major electricity interconnections. This Integration of regional electricity grids predates NAFTA. Important regional transmission organizations (RTOs) that cross the US-Canadian border include the Midwest Independent System Operator (MISO) (US Energy Information Administration 2012). Overall, Canada has had net exports to the United States since 1990, with significant growth in exports over the past decade (Vine 2017). Almost two-thirds of Canadian exports come from Quebec and Ontario to the Northeast United States, with an additional fifth of the supply coming from British Columbia to the Pacific Northwest (Vine 2017). There are also plans for additional transmission interconnections between Canada and the United States, particularly in provinces from Ontario eastward. Under the Canadian constitution, provinces have lead authority to develop their electricity resources, and there is potential for greater connections between some provinces and US states. The Federal Energy Regulatory Agency (FERC) also plays a role in overseeing US-Canadian electricity ties.

If the United States and Canada increased their electricity interconnections, these efforts might be particularly beneficial for North American action on climate change. Canadian hydropower, which dominates that country’s electricity grid, has inherent storage and therefore the ability to balance intermittent renewables (Vine 2017). Indeed, Canada is the world’s second largest hydropower producer (Rowlands 2017). Ontario has led in decarbonizing its electricity grid, with its 2003 goal to phase out coal from its grid achieved in 2014 (Rowlands 2017; Stokes 2013; Vine 2017). Given that the Canadian federal government proposed a policy in 2018 that would accelerate the phase-out timeline for coal to 2030, Canadian electricity supplies will continue to decarbonize. Research has shown that greater connections between the two countries could also help balance intermittent resources and reduce emissions overall (Amor et al. 2011). Further, these international electricity connections require less transmission capacity than bringing wind resources from the Midwest (Ek and Fergusson 2014).

While there are links through the electricity grid, there has been less effort to link subnational renewable energy policies across the continent. Instead, there is likely learning across jurisdictions about what works and does not work. For example, a policy entrepreneur from California was instrumental in getting Ontario to adopt a feed-in tariff (FIT) policy in the mid-2000s (Stokes 2013). Later, when this policy struggled under poor design, other North American jurisdictions took note, steering away from this option toward other policies, such as renewable portfolio standards (Stokes and Breetz 2018).

Not all of this cross-border action and learning is pro-renewables, however. The United States has challenged Ontario's FIT on trade grounds (Stokes 2013). Many anti-wind groups have linked up via the Internet, creating networks that cross borders to develop strategies to block wind development, particularly in Ontario and the US Northeast (Stokes 2016). Electricity interests in the United States have also attempted to shape domestic energy policy in an effort to block certain types of electricity trade. For instance, Rowlands (2009) describes how US-Canadian trade in electricity shapes incentives to jointly support renewable energy capacity. Many of these debates have centered on the classification of large-scale hydropower. For example, while Quebec has lobbied US states to include such hydropower within its renewable portfolio standards, some states have resisted this inclusion. These debates echo earlier controversies about hydropower exports to the United States, including a successful effort by US environmental groups to pressure New York to cancel a $17 billion contract with Hydro-Quebec in 1992 on environmental grounds (Rowlands 2009). In these ways, North American electricity policy remains fragmented despite the presence of cross-border grid interconnections.

Interdependent and Incongruent Climate Policies

North American environmental policymaking has long been shaped by cross-border interactions, both between Canada and the United States (Rabe and Zimmerman 1995; Dorsey 1998; Le Prestre and Stoett 2006) and in a more limited way between the United States and Mexico (Mumme 2003). In some environmental disputes, economic interdependence has led to regulatory interdependence (Harrison and Hoberg 1991). In the case of Canada and the United States, networks of mid-level bureaucrats and scientists have a history of working together to manage technical features of shared environmental challenges (VanNijnatten 2004). (For more on the politics of energy and climate change, see Hughes in this Handbook.)

That said, the federal governments of Canada, Mexico, and the United States have rarely been on the same page in terms of their international climate commitments. Canada and Mexico ratified the Kyoto Protocol, while the United States withdrew from the process under President George W. Bush. When Canada later withdrew, then prime minister Stephen Harper cited economic ties with the United States to justify slowing down on addressing the climate crisis. Given economic integration, Harper argued that Canadian federal climate policy needed to be de facto harmonized with US efforts. However, after the Obama administration began to take a more aggressive set of climate stances in 2008, Harper's Conservatives maintained their resistance to global climate policies. While the election of Justin Trudeau's Liberals briefly aligned Canadian and US leadership on the climate file, the Trump administration brought any plans for continental climate policy cooperation to a swift end, including the administration's stated intention to withdraw entirely from the Paris Protocol. Thus, regional integration is used more as an excuse than as a binding constraint on either country's climate actions.

In Mexico, domestic considerations have structured climate policy debates, including domestic scientific and bureaucratic pressures (Pulver 2009). Mexico hosted the 2010 United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties talks in Cancun and was widely perceived as playing a promising leadership role. Its national climate commitments have remained delinked from political developments in Canada and the United States. Mexico has committed to the development of a national-level carbon market and has signaled a strong commitment to harmonizing this system with North American jurisdictions that are pursuing parallel cap and trade systems, including Quebec and California (McCarthy 2018). System development is ongoing as of late 2018.

But while national actions receive greater attention internationally, subnational climate action in North America has consistently been ahead of federal leadership across all three countries (Harrison 2013). These subnational actors have a long history of linking up climate action across national borders through regional cooperation (Rabe 2004, 2007, 2010; Selin and VanDeveer 2011; Selin and VanDeveer 2005). Three significant groups of subnational actors have worked to control carbon across the continent, from the US East Coast to the Midwest and the West. While some of these links have been very slow to develop from plans on paper to actual cooperation, there are some success stories.

The first effort began on the East Coast. Beginning in the mid-2000s, a series of regional carbon pollution trading schemes was proposed across the United States, which also drew interest from Canadian provinces (Betsill 2009; Bernstein et al. 2010). In the US Northeast, this regional cooperation grew from a preexisting institution: an annual meeting that has long brought New England governors and eastern Canadian premiers together (Selin and VanDeveer 2009). These subnational jurisdictions developed a shared 2001 Climate Change Action Plan to coordinate climate mitigation policies and carbon pollution reduction targets. The plan was revised in 2017. Importantly, the American governors in this area developed a Regional Greenhouse Gas Inventory (RGGI) program covering carbon pollution from regional power plants, setting up emissions trading for this pollution in 2009. The Atlantic Canadian provinces, alongside Quebec and Ontario, all undertook preliminary conversations with their regional US state counterparts about joining in the program (Selin and VanDeveer 2005), but no Canadian jurisdiction ever moved beyond observer status for the program. Likewise, the Midwestern Greenhouse Gas Reduction Accord was signed in 2007 with the Canadian province of Manitoba as a signing partner and Ontario as an official observer; however, the effort to develop a regional trading scheme in the Midwest region failed.

In 2007 California began coordinating the Western Climate Initiative. Four Canadian provinces had signed onto this initiative by 2008: British Columbia, Ontario, Quebec, and Manitoba. Observers included the Canadian province of Saskatchewan and six Mexican states: Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora, and Tamaulipas. These links mirrored other bilateral conversations across the US-Mexican border. For instance, Arizona and the Mexican state of Sonora signed a 2005 bilateral agreement to coordinate carbon pollution reductions in the region, though this was a purely symbolic effort that did not generate reform momentum in either jurisdiction. Like earlier initiatives in the

Northeast and Midwest, these efforts struggled to move past symbolic discussions toward concrete policy action. By 2011 only California remained committed to establishing a regional emissions trading scheme among the western US states. Instead, the first jurisdiction to join the state's trading market was Quebec in 2014, followed by an announced commitment by Ontario in 2015, although the agreement with Ontario was not signed until 2017. In Ontario, the carbon market remains controversial. In that province, the opposition Progressive Conservatives ran their 2018 election campaign on a promise to eliminate Ontario's carbon price and withdrew from the market after their election win. At the 2016 Climate Summit of the Americas, Quebec, Ontario, and Mexico agreed to expand the market. Mexico has not yet joined the Western Climate Initiative in practice, but there are still ongoing plans to integrate the national market with California and Quebec's linked system (McCarthy 2018). Before linking—and then delinking—their carbon pricing strategies, Ontario and California also signed an agreement to coordinate fuel efficiency standards for cars in 2007.

In summary, North American subnational governments have coordinated policies across international borders to pursue reforms at odds with their domestic peers' and federal governments' priorities. These subnational, cross-border relationships continue to support the emerging architecture of North American climate policymaking (Rabe 2007). Some scholars suggest that because federal governments are laggards in climate action, it is increasingly important to turn to transboundary governance on the subnational level (VanNijnatten and Olvera 2018; Bird and Heintzelman 2018). However, these plans have struggled to move into practice, with only California and Quebec currently operating linked carbon markets across international borders. Given growing skepticism that linked carbon markets are preferable, particularly if there is over-allocation due to political capture, this may not necessarily be a bad thing (Green 2017). However, if provinces and states quit regional initiatives and instead do little to nothing to address climate change, this is equally if not more problematic. Thus, the norms that regional cooperation creates for action may be important, even if linking carbon markets waters down the stringency of the policies.

Continental Energy and Environmental Initiatives

North America as a region is less than the sum of its parts (Clarkson 2008). This is acutely true for its energy and environmental politics, in which only a few truly regional-level institutions have emerged. By and large, these institutions have not had a significant impact on continental policymaking. The most prominent institution for regional cooperation in North American has been NAFTA. Scholars have analyzed the impact of NAFTA on environmental policymaking in North America and find little evidence that the agreement has boosted environmental outcomes (Audley 1997; Deere and Esty 2002; Gallagher 2004; Markell and Knox 2003). The first major trilateral environment institution grew out of NAFTA. After President Bill Clinton took office in 1993, he brought Mexico, Canada, and

the United States together to negotiate labor and environmental side agreements to the treaty. NAFTA's environment provisions were enacted despite substantial opposition from the Mexican Ernesto Zedillo administration, which was uncomfortable formalizing links between trade and environmental policy (Deere and Esty 2002). The environmental side agreement established the North American Council for Environmental Cooperation (CEC), funded jointly by all three countries. Prior to NAFTA, trilateral environmental cooperation had been rare (Clarkson 2008, 118).

But while the CEC was established in 1994, its principals—the environmental ministers in all three countries—have never funded it broadly or provided it with serious regulatory or enforcement power. Consequently, its interventions in North American energy and environment debates have remained limited to writing reports—few of which have had a material impact on energy or environmental trade patterns. While the CEC included an innovative mechanism for citizens and nongovernmental organizations (NGOs) to bring environmental claims against polluting actors, an opaque claim review process that relied on private sector actors' voluntary disclosures ensured this process remained ineffectual. Some speculative conversations that the CEC could provide effective institutional context to establish a "tri-national emissions trading scheme" within continental electricity markets never gained traction because the idea had no political support from member governments (Betsill 2009). More generally, there is not a lot of evidence that environmental provisions within NAFTA have reshaped continental policymaking (Audley 1997; Gallagher 2004).

A decade after the CEC was established, the George W. Bush administration oversaw a more specific effort to support integrated North American energy planning. Following the publication of an energy taskforce report spearheaded by Vice President Dick Cheney, the US government facilitated the establishment of the North American Energy Working Group (NAEWG) in 2001. The NAEWG was a response to the Cheney report's arguments that US strategic interests were served by fostering access to Canadian and Mexican resources. The NAEWG meet twice annually and largely comprised mid-level actors (Clarkson and Mildenberger, 2011). Tasked with reorienting energy planning across all countries to conceptualize energy management at the continental level, the group prepared a series of technical and regulatory reports to exchange information and facilitate policy harmonization.

Later, NAEWG provided support for the 2005 Security and Prosperity Partnership of North America (SPP), which incorporated a push for integrated continental energy planning within its broader security policy ambitions. SPP conversations helped play a role in driving Mexican commitment to gradual liberalization of its oil sector, including to the United States as a regional ally (Clarkson and Mildenberger 2011). This liberalization included both the partial reforms of 2008 as well as the more dramatic liberalization reforms pursued by the Mexican government in 2014. However, the SPP's broader impact on North American energy policymaking remained limited, and it was phased out in favor of an annual North American Leaders summit in 2009. SPP dialogue may also have undermined other forms of continental environmental cooperation by splitting discussions of

environmental issues from economic debate (VanNijnatten 2007). Further, North American summits declined in importance over the 2010s and have not been held since the election of Donald Trump to the US presidency.

Most recently, the renegotiation of NAFTA will have a bearing on regional energy reforms, but the long-term impacts of the new trade agreement still remain unclear. The Trump administration's interest in dropping NAFTA's existing investor-state settlement provisions, which industry believed was critical to protecting energy-related investments from such threats as nationalization, initially complicated negotiations. More generally, had NAFTA negotiations collapsed, some analysts believed this could have disrupted continental oil and gas markets (Denning 2018). Conversely, the new USMCA is viewed as a boon to the energy industry. For example, in a major win for fossil fuel producers, in the final treaty investor-state settlement provisions were maintained for Mexican energy investments.

A Future Research Agenda

This chapter has reviewed existing academic literature on energy politics and policy in North America. Where would future research prove most productive? We recommend research focus on several key areas: how to scale up energy and climate cooperation to regional levels, how corporate and business power shapes continental energy politics, and how the Trump presidency and the renegotiated USMCA will reshape energy policymaking priorities. As this chapter has shown, trade and access to fossil fuels, most notably the export of oil to the United States from Canada and Mexico, have long structured North American energy cooperation. Yet we are at the beginning of a major global transition away from fossil fuels toward low-carbon sources due to the climate crisis. North American cooperation will eventually need to shift from a focus on access to and trade in fossil fuels toward other energy sources. In the future, research could also take up a wider array of methods than those that have been used to date. While most work has involved case studies and process tracing, future research could also rely on econometric tools of quantitative causal inference now used widely in political science.

Around the world, governments are grappling with how to scale up cooperation on energy and climate policies across international borders. The 2015 Paris agreement allows countries to propose their own post-2020 carbon pollution targets; it does not specify a minimum ambition for these targets, nor does it spell out how the international community can enforce these commitments. In doing so, it delegates to each country the responsibility to propose self-determined climate commitments—even though every country will be impacted unless all countries act jointly. The Paris agreement's success will depend on simultaneous and decentralized decarbonization and energy transition efforts by all countries.

The fate of the energy transition in North America is no different. The region's energy policy will remain a function of distributive energy and climate politics at national and subnational levels. Despite substantial attention to some of the positive anomalies—cities

or states and provinces that have taken early action to push clean energy—many other jurisdictions across the continent have actively resisted such efforts. Future research will need to grapple with the limits of this approach, particularly as some policies fail. How does this variation in reform enactment interact with the strong federal and weak regional institutions that structure North American energy politics? The nascent emergence of some cross-border emissions trading linkages, critically between California and Quebec, suggests a possible route for regionalism during the energy transition. Future scholars may wish to think of low-carbon energy sources as shared resources that can cross borders to benefit global decarbonization. The alternative is a system in which Canada retains very inexpensive hydropower resources but does not use them optimally, as shown for example in Quebec's lack of energy efficiency efforts (Langlois-Bertrand et al. 2015). Additional research is needed on trade in electricity and renewable energy technologies across the region.

However, these efforts must simultaneously grapple with the reality of entrenched carbon-intensive economic interests in all three North American countries. Climate and energy policy opponents, particularly in the oil and gas communities, still enjoy a privileged position within energy policy debates (Mildenberger 2019). We still know too little about the strategies that these actors take to shape political debates and the conditions under which the social and economic needs of North American publics for a safe climate can override the economic needs of these private companies. In this way, shifting coalitions of energy and climate reformers have brought North American governments together to promote and oppose decarbonization over the past two decades. These coalitions supporting climate action have largely proved more unstable than those supporting the fossil fuel status quo. To gain traction on these issues, scholars may need to bring in a wider array of data, from public opinion to vulnerability assessments to campaign contributions and lobbying data.

Further, the federal governments' energy priorities in Canada, Mexico, and the United States have rarely been synchronized. To date, analyses of these cross-national linkages may be overly optimistic. Some analysts tout federalist systems as an opportunity for policy experimentation. They point to the ability of subnational units to pursue climate and energy reforms even in the absence of national policymaking efforts. Yet over a decade of efforts to develop meaningful cross-border subnational climate policies in North America has not cohered into serious policy gains. The ability to drive the North American energy transition "from below" remains an open question. In part, this will require more attention to issues of distributional compensation in the face of necessary climate and energy reforms. Energy and climate policies will need to restructure some of the economic institutions that quite literally fuel the contemporary North American economy. Carbon will have to be kept in the ground, at the expense of companies seeking to profit from its extraction and the workers whose jobs depend on these efforts. Some existing infrastructure may need to be mothballed, leading to stranded assets. Scholars will need to make sense of how to manage these transitions in equitable fashion. One place to begin this effort may be to study the politics of post-coal communities across the continent. These areas may be experiencing some of the dislocation and political upheaval that oil-dependent

communities may face in the coming decades as the climate crisis deepens and more extreme policy action becomes necessary to protect public welfare. Political science scholars have a role to play in outlining what the social and political repercussions are of the energy transition and how the needs and interests of these dislocated communities can be met by public policy.

There are also conceptual questions about whether “North America” is a relevant analytical category to make sense of developments in the energy space. Trilateral efforts to negotiate energy policy have never developed, despite the efforts of some North American proponents (Pastor 2001). Despite the existence of an integrated economic zone under NAFTA, US energy relations still tend to develop separately along bilateral Canadian and Mexican tracks. More broadly, studies of North American regionalism have only rarely included comparative analysis of both US-Canadian and US-Mexican relations (but see Clarkson 2008 and Clarkson and Mildenberger 2011). To what degree does the region as a whole bound the politics of energy, rather than acting as an arbitrary geographic delimiter? For instance, is Mexican energy and climate policy best understood through a North American lens? Or should it be conceived within the context of an emerging economy that happens to have a shared geography with the United States?

Finally, what will the lasting consequences of the Trump administration be for North American climate and energy policymaking? While Canada and Mexico should be mostly viewed as sources of security, economic, and energy strength for the United States (Clarkson and Mildenberger 2011), the Trump administration has instead framed North American trade and US-Mexican migration as major threats. The consequences of this disruptive shift in the US executive branch’s orientation toward its North American neighbor remain to be seen. The administration has begun efforts to abandon the Clean Power Plan and promote oil, coal, and gas resources; however, is not clear that these efforts are shifting secular changes in the US energy mix. Federal opposition to the Paris agreement, if anything, seems to have precipitated a new wave of state and local declarations of commitment to climate reforms, which may seed a new wave of coordinated, subnational reforms. And what will be the long-term consequences of a renegotiated NAFTA agreement on North American energy flows? Some of the features of NAFTA that most privileged the United States—for instance the proportionality clause that guaranteed Canadian energy exports to the United States—were removed in the new USMCA. Will the United States still use its economic advantage to maintain informal control over patterns of North American energy production and investment? And how will new entrants into continental energy production reshape continental-level policy conflict? In this regard, scholars may need to look beyond the North American continent to understand resource flows, particularly given China’s massive investment of more than $20 billion from 2009 to 2013 in the Canadian oil sands (Jacobs 2017). To what extent is China emerging as an alternative market for Canadian crude oil, and how will that affect climate commitments globally?

Clearly there are many open questions on energy politics and policy in North America. Unlike in Europe, regional energy policymaking in North America has remained fragmented, echoing in the policy domain divergences across the continent in public energy and climate beliefs (Mildenberger et al. 2016; Lachapelle, Borick, and Rabe 2012). Diverse national and subnational governments continue to push competing policy and institutional reforms to facilitate or block the energy transition. Ultimately, energy policymaking in all three countries is conditioned by the North American context without being fully constrained by a continental logic. How the shared geography of Canada, Mexico, and the United States constructs and constrains twenty-first-century energy conflict deserves further study.

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Notes:

(1.) The following policy histories of Canadian and Mexican oil and gas relationships with the United States are drawn from the histories offered in Clarkson and Mildenberger (2011), which remains one of the few systematic surveys of the politics of North American energy relationships.

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