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Energy Regionalisms in Theory and Practice

Corey Johnson
University of North Carolina at Greensboro

Stacy D. VanDeveer*
University of Massachusetts Boston

Abstract

Regionalism has long conceptual and empirical histories across social sciences, and areas of the international and transnational practice of economics, imperialism, and environmental governance. However, energy regionalism remains in the early stages of development both conceptually and empirically. This article reviews three areas of diverse and interdisciplinary scholarship, including international relations, geography, and regional environmental governance, and draws lessons for research agendas associated with energy regionalism. It draws insights from recent work on comparative regionalisms, together with critical perspectives from geography scholarship, conceptualizing regionness as potentially subnational and transnational, as well as inter-state. Recent geographical literature examines regions and regionalisms as both sets of relational networks and territorial entities, with infrastructure playing a central role around questions of energy. The use of regionalism in international relations literatures, around regionally-framed environmental cooperation regimes, offers another set of conceptual and empirical lessons for an energy regionalism research agenda. Arguing that these areas have much to contribute to the study of a conceptual and theoretically diverse understanding of energy regionalisms research, the piece concludes by identifying five nodes for theorizing empirical research on energy regionalism: constructing regionness; inequality, money and power; epistemic and normative dimensions; diffusion and institutional hybridization; and scaling regionalism.

KEY WORDS: regionalism, environmental governance, energy, theory, geography, international relations

Energy systems are, by their very nature, regional. Most systems of energy extraction and distribution are neither local nor global in their composition, but rather meso-scale–between local and global—regional setups. There are, of course, exceptions, such as distributed energy systems that harness solar, wind, or biomass to meet campus or company (such as Google's) needs, small islands compelled to meet their energy needs without regionalizing, or at the other end of the scale, the practically "global" market that trades and transports oil and its refined products over remarkably long distances from source to user. For many aspects of energy, however, the infrastructure that satisfies our consumptive lifestyles are regional constellations of various geographic extents, which often transcend national and subnational boundaries and create geoeconomic and geopolitical interdependencies and frictions.

These regional energy systems or infrastructures are simultaneously physical and institutional. Their material aspects may include, for example, complex and territorial systems of pipelines, for oil or natural gas, or technologies for electricity generation and distribution—or the railroads and ports, essential for moving coal and oil. As a recent review paper argues (Balmaceda et al., 2019), energy's materiality in relevant social science literature is typically examined via questions about its location, how and by whom it is used, its relational characteristics, and the analytical role it plays. Of course, material components of such systems cannot be understood as entirely

*Corresponding author: Stacy D. VanDeveer E-mail: stacy.vandeveer@umb.edu

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separate from social institutions such as laws and regulations or the norms, values and preferences of consumers and other involved agents, as well as the discursive practices that construct energy infrastructures and practices. The United States has regional pipeline and electricity grid systems, with connections across it borders with Canada and Mexico, governed by a complex mix of transnational, national and subnational institutions and actors. The same can be said of the European Union, where regional energy governance also includes EU-wide policies designed to increase energy efficiency and decrease overall greenhouse gas emissions. Despite the frequently regional character of energy infrastructures and markets, few scholars overtly have identified their research as part of an "energy regionalism" project. Recently, however, has changed—as illustrated by this special issue, Hancock and Allison (2021), and (Hancock, Palestini, & Szuleck, 2021).

Regional approaches have again gained currency in international relations and related fields as a response to the growing realities of supranational governance regimes around the world and perceived decline of global hegemonic orders (e.g., Acharya, 2014; Conca, 2012), and intellectually as a means of addressing the obvious shortcomings of viewing the world through a lens too narrowly state-centric (Agnew, 1994; Debarbieux, 2012). Acharya (2018, p. 183) argues: "Regionalism in its different forms and purposes has been a crucial sight and source of agency in world politics." He further notes that "demand for regionalism remains strong in the non-Western world… [and it] has been an important site for the diffusion of norms and institutions… that have underpinned the evolution of global order."

This article surveys theoretical and conceptual approaches to regions and regionalisms in the spirit of enriching the possibilities for energy regionalism as a field of inquiry. Below, we define broadly regions and regionalisms, in order to facilitate bringing diverse theoretical, conceptual and disciplinary approaches to more fully understand energy regionalisms. Because international relations and geography scholars have spilled considerable ink over decades about meanings, structures, and actors associated with regions, the next two sections focus on insights from those two disciplines. These disciplines, like regionalism, have been substantially shaped by intellectual traditions and empirical experience on both sides of the Atlantic. The next section turns to scholarship about regional environmental politics and governance, as a source of lessons for how we might understand energy regionalisms. The last two sections identify nodes around which to theorize energy regionalism and advance an interdisciplinary concept thus opening more intellectual space for richer, more diverse and more critical interdisciplinary empirical research.

Conceptualizing Regionality across Disciplines

Regions are *constellations of meso-scale political, ecological, infrastructural, economic, and social relations* that are neither exclusively local nor global in scope. They are most often, but not always, territorially contiguous, bounded units. In other words, with region might connote of group of neighboring territorial states or a whole continent, it is by no means an exclusively interstate concept. It might, for example, link together two or more sub-national territorial units like provinces or cities, or be based on an ecological construct like a riverbasin or a mountain range, or be associated with some

primarily cultural or historical idea (such as "the Arab World," "Indian country" or "the Balkans."

In relation to energy, regionality typically reflects one or more of the following:

1. Outcomes of historically contingent processes resulting in unintentional regional expressions of these types of relations, as in a regional set of trading relationships of oil, or a regional power grid.
2. A rescaling of these types of relations at a regional level either as a byproduct of some combination of economic considerations, geopolitical dynamics, technological change, or environmental concern, or as a deliberate rescaling through policy to address some combination of these factors such as the emergence of a Europe-wide energy union as a consequence of European integration or the creation of regional electricity grids in the USSR as an element of central economic planning;
3. A normative response to historically entrenched energy production, consumption, and transmission patterns that are viewed as problematic, such as reliance on a scarce or dirty fuel source (e.g., coal), that seeks geographical/regional fixes to the problem. Examples include regional renewable power compacts or supranational blocs of states centered on energy security or the Southern African Power Pool in which South Africa wants to bring more hydroelectric into its grid by connecting to water-rich countries.

As such, our transdisciplinary conceptualization of regionalism may refer to any of the following:

1. *Explicit Governance Arrangements* that often seek to harness or encourage certain types of energy relationships across borders, either in supranational/intergovernmental contexts (e.g., European Union Energy Union or ASEAN), transboundary regions (e.g., Northeast Energy Corridor in US), Regional Trade Agreements, and so on.
2. *Actor-centered Regional Constructions* in which individuals, groups, or institutions (including media, politicians, or other elites) seek to influence or frame an energy topic through regionalization. Whereas the previous form of regionalism finds an institutional arrangement, this form is less formal. Examples include the South China Sea and Arctic as geopolitically significant energy regions, or the Bakken shale play as a "new" energy region.
3. *Analytical Tools* that seek to understand a particular energy problematic through the lens of a region of materially/socially/politically interconnected or similar spaces. Examples include using the geographical template of "Eastern Europe" to conceptualize energy dependence, or using a river basin, such as the Nile or the Mekong, or an ocean basin such as the Mediterranean or Atlantic to conceptualize energy relations outside standard spatial units of states.

As such, regionalization refers to a somewhat more systematic approach of classification based on defined shared attributes, and this can be undertaken for purposes of analysis (e.g., defining a region based on dominant energy source), to frame an issue in the realm of public discourse, or to identify potential spaces for appropriate

governance arrangements. Furthermore, the term invokes region-making processes of, which are in part discursive via the language used by various individual and organization agents.

Keeping this transdisciplinary understanding of regionality in mind, the following two sections summarize a set of disciplinary approaches to further inform our understanding of energy regionalism, drawing on international relations and geography. Subsequently, we turn attention to regional environmental governance research, an interdisciplinary subfield that draws heavily on IR and geography and is thus a valuable guide for energy regionalism. We then offer a set of five important nodes of conceptual and empirical research about energy regionalism, before concluding with a set of challenges faced by such interdisciplinary research.

Regionalism in International Relations

Regions have long been subjects of both political practice and scholarly analysis, at least dating to Lewis Mumford's work in the 1930s (Börzel & Risse, 2016; VanDeveer, 2004). Regionalism has been a prominent theme in IR, political economy and comparative politics for decades, with long histories in subject areas of study such as security and trade, as well as more recent histories in human rights, migration and environmental politics. Just as other politically salient constructions like nations or states are indeed not the same everywhere, regions are not simply individual microcosms of the global level, nor do they follow all the logics of national level politics (Prys, 2010). Factors such as proximity, shared histories of cooperation or conflict, and relationships to aspects of the overarching international system impact regional politics (Prys, 2013).

Research on regionalism in IR focuses mainly on the institutional, norm and rule setting functions, and administrative structures of regions, which in IR typically mean the voluntary associations of states that emerged mainly after WWII. Relevant theories or normative political projects include federalism, functionalism, neo-functionalism, transactionalism, and intergovernmentalism (Söderbaum, 2016). IR scholars often conceptualize regions as vehicles for jointly increasing states' security, or for manifesting, advancing or deepening economic integration. As discussed further below, international and comparative scholarship and policy practices associated with regionally framed environmental governance and scientific and technical cooperation have challenged aspects of traditional IR understandings of regionness and regionalisms. Recently, Amitav Acharya (2018), himself an IR scholar, argues that regionalism must not be too narrowly understood in terms of integration and traditional notions of state security—arguing that regions in the Global South must also be seen as source of Third World agency to shape and redefine notions of human security and sovereignty within regional and global orders.

In the 1990s and 2000s, scholars created the "new regionalism" literature which took the focus off state actors (see Mittelman, 2000; Söderbaum, 2016). These scholars sought to include ideas, identities, the construction of space and power into our understanding of regionalization processes (Anderson, 1991; Checkel, 2016; Jasanoff, 2004; VanDeveer, 2004). The line of research also seeks to account for roles of civil society groups, private and state-owned companies and more hybrid forms of governance beyond an exclusive focus on formal, inter-state agreements. Adding these

more nuanced conceptualizations of governance actors, institutions and processes yields a more accurate and less state-centric regionalisms research agenda.

Some recent regionalism scholarship focuses on systematic comparison (Balsiger & VanDeveer, 2012; Börzel & Risse, 2016). While early regionalism studies were predominantly about Europe, this line of research de-centralizes Europe. In doing so, scholars see other regions as having their own histories, mechanisms, structures, and processes, which are sometimes compared to Europe but increasingly compared to other non-European cases and to historical cases (Acharya, 2012; Mattli, 1999).

With the rise of "postmodern" forms of governance that challenged the primacy of the nation-state as the key locus of decision-making, exercise of power, and sources of conflict, IR scholars were compelled to challenge some previously held methodological and theoretical assumptions undergirding much of the field. The European Union represents the main case in point, and it is no coincidence that some of the key developments in theories related to regionalism emerged with the EU as a point of departure, such as multilevel governance (Hooghe & Marks, 2001; Selin & VanDeveer, 2012). The recent publishing of the twenty-seven chapter *Oxford Handbook of Comparative Regionalism* (Börzel & Risse, 2016) by two political scientists gives some indication of the growing importance of regionalism and regional analysis in the field. The primary focus of much of the work on display in this large work is regional blocs of states, "regional orders" such as trading blocs (NAFTA, ASEAN, etc.) or institutions set up to focus on some thematic arena of governance (environment, migration, finance, etc.).

This is certainly a welcome resource, but two aspects of this compendium are noteworthy for this article's treatment of energy regionalism: with the exception of two chapters co-authored by contributors to this special issue, one on regional development governance (Bruszt & Palestini, 2016), the other on Eurasia (Hancock & Libman, 2016), there is scant reference to energy as an arena where regionalization is occurring or where regionally-attuned analysis may aid in understanding the issues at hand with energy systems and governance. The second aspect is that even though the authors explicitly call out the shortcomings of theories of regional cooperation and integration for treating states as the main drivers of regionalism (Börzel, 2016, p. 2), the handbook chapters narrowly conceive of regions as blocs of states even if the drivers of some forms of regionalism may lie beyond state institutions.

This may be adequate for many in the discipline of IR, but it does not capture the richness of regional forms at various scales that shape energy relationships, from city-regions to transboundary regions, to continental-scale arrangements (Balsiger & VanDeveer, 2010, 2019). Thus, the key shortcoming of IR approaches to regionalism in relation to energy is that the focus on institutions and inter-statism neglects material realities of energy infrastructures. The "territorial trap" (Agnew, 1994) of allowing the dominant juridical-territorial unit (i.e., states) to dictate the questions asked impoverishes the insights that could be gained by a broader perspective. Geographers and other social scientists that work with regional concepts could serve in broadening and enriching the forms of regions and regionalisms as they pertain to energy. The following sections provides some of the possible ways this could occur. In Tables 1 through 3, existing approaches to regionalism that have primarily emerged from IR are indicated including their possible relationships to the field of energy regionalism. Table 1 shows dominant approaches to European integration, while Table 2 reflects

Table 1. A Hypothetical Energy Regionalism from IR Using Theories of European Integration (After Söderbaum, 2016; See Also Selin & VanDeveer, 2015)

Approach	Description	Key Names
Functionalism	Energy regions recognize that provision of common needs and functions unite people across international borders. Form follows function. New centers of governance	David Mitrany
Neo-functionalism	Integration of energy regions leads to spillovers into other governance realms. Polycentricity	Ernst Haas, Jean Monnet, Joseph Nye
Intergovernmentalism	Energy integration occurs when participating states view it as in the national interest	Stanley Hoffmann

the turn to "new regionalism" and subsequent bodies of literature that accounted for intellectual shifts, an end of bipolarity after 1991, and economic globalization. Table 3 shows the post-New Regionalism trajectories that take into account a flagging neoliberal consensus, neo-nationalism, multiplex global order, and various crises of the last decades.

Certainly, IR scholarship has much to say about regionally-framed (or constructed), formal inter-state organizations' roles in state efforts to advance national security and/or economic integration in cooperation with other states. Such approaches might help us understand EU efforts to enhance its energy security and liberalize internal energy trade and investment flows—or to understand rationalist (or realist and liberal internationalist) debates about how to understand European dependence on energy imports from Russia and other parts of the former Soviet Union. More reflectivist and constructivist approaches might help us to understand how predominant notions arose about where a region is and what are its boundaries. For example, such approaches help interrogate why some powerful actors pursue "European" energy security for states and societies with the EU and NATO, while others advocate for energy policies and governance arrangements that seek to include states, societies and other actors all around the Mediterranean Sea or across large parts of the former Soviet Union. Similarly, some regionally framed governance initiatives in Africa seek to attract foreign investment from around the globe and integrate energy infrastructures across African state boundaries—goals common in United States government supported programs, for example, such as "Electrify Africa" and "Powering Africa." Other initiatives may invoke colonial and imperial histories to demand energy-related national sovereignty or local scale energy independence and highly decentralized generation. In recent years, World Bank-supported programs have endeavored to balance their traditional focus on national, grid-expanding energy production with a greater focus on more locally framed, "off-grid" access. But even when associated with local, off-grid production the Bank seeks a "harmonized regional approach" across 19 African states (World Bank, 2020).

Regional Approaches in Geography

The region has historically been one of geography's "central objects of study" (Allen, Massey, Cochrane, & Charlesworth, 1998). For much of the discipline's early history, "regional" studies in geography were largely descriptive exercises in cataloging the distinctive features subnational, and in some instances, larger scale cultural regions.

Table 2. A Hypothetical Energy Regionalism from IR Using Theories of "New Regionalism" (After Söderbaum, 2016; See Also Börzel & Risse, 2016)

Approach	Description	Key Names
Rationalist (including realist, neoliberal, liberal institutionalist, liberal intergovernmentalist)	Why do states enter into regional energy arrangements? Are states less likely to regionalize significant energy policy authority in the energy than in others?	Stephen Krasner, Robert Keohane, Anne-Marie Slaughter, Martha Finnemore
Reflectivist	What is the relationship between economic globalization, neoliberalism, and the pursuit of political regionalism?	John Ruggie, James Rosenau, Friedrich Kratochwil
Constructivist	How are energy regions socially constructed, made, remade, and unmade. "region building approach"	Iver Neumann, Alexander Wendt, Emanuel Adler, Jeffrey Checkel

Table 3. A Hypothetical Energy Regionalism from IR Using "Comparative Regionalism" (After Söderbaum, 2016)

Approach	Description	Key Names
World of regions	Regions are everywhere, constitute a new global order in nearly all policy realms	Amitav Acharya; Peter Katzenstein
Heterodox regionalism	Study of energy regionalism should incorporate variety of theoretical perspectives and case studies	Ole Waever, Barry Buzan

Table 4. A Hypothetical Energy Regionalism from Geography (Agnew, 2012; Murphy et al. 2015; Murphy & O'Loughlin, 2009)

Approach	Description	Key Names
Constructivist	Study of energy systems that are regional should not assume regional institutions match material or social realities	Anssi Paasi
Multi-scalar regionalism	Analyzes role of city-regions, associations of city-regions, transboundary energy regions, and continental arrangements, and seeks to understand relationships between different scales of energy systems. Institutions matter, but not just state/inter-state institutions, e.g., Austrian "energy regions," NE Energy Corridor in USA	Harriet Bulkeley
Networks and Assemblages	Regions must be at some level territorial, but what matters in energy regionalism is understanding how connectivity (and lack thereof) create regions	John Allen & Allan Cochrane

In this rendering of regionalism, geographers practiced the God's eye trick of dividing a country or the world into building blocks that were non-overlapping and meant to simplify the complexities of the world for our understanding. The major challenge of such an approach to bounding spaces and calling them regions based on some set of shared characteristics is that they may have simplified reality but did so in a way that tended to gloss over the porousness of these imposed boundaries. The rise of "spatial science" starting during the middle of the 20th century was rooted in larger trends of applying mathematics and the scientific method to social life; "regional science," the positivist and economics-based discipline that emerged out of this turn sought to model and map functional regions using such criteria as economic relations and commuting patterns, largely ignoring, however, not only the cultural aspect of regions but also the ways in which the public imagination and governance efforts could be mobilized by framing problems at various scales as "regional" issues.

Table 4 provides a hypothetical path for energy regionalism based on recent theoretical trends on regions and regionalism in the discipline of geography. While distilling research in this vast area of scholarship to a manageable summary is not easy, the following interrelated questions clearly shape much of the inquiry around regions:

1. To what extent is the conceptual tool of scale useful in thinking about the spatial characteristics of social, political, cultural, and environmental systems, i.e., is it even possible or desirable to draw a meaningful distinction between energy systems existing regionally versus at local or global scales? While Paasi's work is largely focused on the socio-cultural facets of regional institutionalization (e.g., Paasi, 1991), it is not too difficult to extend the theoretical insights from this work to, for example, the ways in

which river-basin scale hydroelectric planning construct and institutionalize an energy region (Sneddon & Fox, 2012; Vogel, 2011).

2. In an era practically defined by hypermobility (of ideas, goods, energy, humans), does attempting to territorially fix human activities such as energy networks in spatial "boxes" such as regions make analytical sense (Paasi, 2002)? An extensive literature in economic geography, for example, attempts to de-center approaches to regions as fixed, territorial and instead focus on their relational aspects (Macleod & Jones, 2007; Murphy et al. 2015).
3. What is the relationship between the material and discursive aspects of energy regionalism? Constructing a region can refer both to the material elements that link places together, for example the building of pipelines between a host of countries (Johnson, 2017; Johnson & Derrick, 2012), but also to the ways in which a region is brought into being by popular and specialist discourses, maps, etc. For example, maps of the natural gas and oil pipelines linking Russia with Central and Eastern Europe are a frequent feature in news articles and other media about the geopolitics of this area, and thus contribute to a societal consciousness of "region-ness."
4. How can a more robust tapping of social theory help to enrich traditional approaches to regions/regionalism? For example, networks of actors and material relations tend to easily transcend "old" regional geographies; how can concepts such as Actor-Network Theory, assemblage theory, and others, help to build out, or even fundamentally challenge, the notion of a regional world in the realm of energy (Balmaceda et al., 2019)?

While this article does not seek to answer these four questions in any comprehensive way, it is useful to insert geographical approaches in order to problematize any sort of notion of "spatial fixity" in our usage of the term regionalism. Regions, at least among a large cohort of regional geographers, are processes, not places, and energy systems seem like a good case of this. The following case study from regional environmental politics seeks to make this interdisciplinary bridge more explicit.

Case Study: What Can Regional Environmental Politics Teach Us about Energy Regionalism?

A growing area of comparative regionalism research and theorizing looks at specific issue areas, such as environmental cooperation or governance, comparing these across regions/scale. A number of recent reviews attempt to take stock of the drivers, outcomes, characteristics and quantity of regional environmental governance (Balsiger & Prys, 2016; Balsiger & VanDeveer, 2010, 2012, 2019; Elliott & Breslin, 2011; Haas, 2016). Turning to the dynamics and institutions of regional environmental politics, it will not surprise participants or observers of environmental politics and policy to learn that characteristics of the identified environmental problems or particular resources on which governance institutions focus also shape agents and structures. So, for example, some institutions and constellations of actors associated with particular regional fisheries management initiatives differ somewhat from those associated with governance arrangements aimed at marine pollution control or

some environmental aspects of a regional trade agreement. After several decades of regional environmental cooperation and governance—in practice and in scholarship about its origins, institutional developments and results—this interdisciplinary area of inquiry offers comparative research and lesson-drawing opportunities for emerging energy regionalisms.

Energy issues are, of course, related to the environment and environmental regionalism in practice and in scholarship may thus provide some insights into energy regionalism. Recently, attention has turned to regional governance arrangements that arise around particular transboundary eco-systems, such as regional seas (Baltic, Mediterranean, Caspian, etc.), rivers (the Rhine, Danube, Mekong, Rio Grande or Nile, for example) or mountain ranges (i.e., The Alps, Rockies, Carpathians, or Himalayas). This has produced growing scholarly and policymaker interest in varying conceptions of environmental regionalism (sometimes called eco-regions), often focused on a broad array of environmental governance arrangements (Balsiger & Prys, 2016; Balsiger & VanDeveer, 2010, 2012; Haas, 2016).

Peter Haas, whose work on regional seas cooperation and epistemic communities' roles in regional and global environmental cooperation, notes that regional environmental governance is constituted by a very complex, diverse, and highly fragmented overlapping set of institutional arrangements.[1] He argues that it is more like the complex structures associated with human rights governance and arms control arrangements, than like trade governance, for example. Generally, regional environmental governance institutions are weak, lacking substantial authority or the ability to substantially curb state, firm or citizen behaviors—although there are a minority of exceptions.

Haas (2016, p. 430) defines regional environmental governance (REG) in terms of "processes of collective deliberations about norms, institutions, participation, practices, and rules which occur at geographic scales." He notes that these scales—and indeed regions themselves—are socially constructed and vary in size. These constructions of regionness often have broader social and cultural resonance, of course. So, for example, it is not only environmental scientists who speak of—or "see"—a Mediterranean or a Baltic region. However, participating scientific and technical knowledge might well impact these constructions. Conceptualizing whole river basins and large marine watersheds—and arguing that these are the appropriate scales at which to make policy and build governance institutions—is quite different than imagining rivers and seas as water flows and ecosystems contained within their banks and coasts (VanDeveer, 2004).

Haas' accounts of regional environmental governance highlight the roles and varying importance of epistemic or knowledge communities—generally knowledge of a scientific and technical character—in the construction of regionally framed institutions, organizations and consensus positions or knowledge about identified problems, causes and possible solutions. So, for example, oceanographers, marine biologists and fisheries scientists might play prominent roles in transnational efforts to identify environmental problems around regional seas such as the Baltic or the Mediterranean, and work to build regionally framed scientific monitoring and research—and policy making—institutions (Brooks & VanDeveer, 1997; Haas, 1990, 1993; VanDeveer, 2000). As Haas argues, the combination of formal institutions, such as treaties and

international organizations, with organized knowledge characterizes a substantial portion of regional environmental governance, in terms of both its institutional structure and its origins in transnational political activity. Most can be characterized as functionally specific regimes.

In terms of the most common environmental subjects of REG, Haas (2016) review covers regional environmental governance around seas and oceans, air pollution, fisheries, and river basins. He notes that there is also substantial environmental governance activity—and those substantial scholarly research—around regionally framed economic cooperation and integration institutions such as NAFTA (and its associated Commission for Environmental Cooperation) and the European Union. Other work draws attention to environmental aspects of mountain regionalisms (Balsiger & VanDeveer, 2010), as well as to the growing regionalization of some aspects of global environmental governance in evidence in global chemicals regimes, where regional centers of expertise, training and implementation were created (Selin, 2010).

Drawing on his international relations, international organizations and international regimes traditions, Haas (2016, p. 432) argues that three types of REG arrangements are commonly seen: "negotiated legal arrangements (treaties and regimes), international organizations, and regularized patterns of practice and behavior." He argues that states create such arrangements to address or govern identified environmental problems, usually by (1) using an existing regional organization judged to have the appropriate membership, expertise and authority, (2) creating a new regional organization or (3) requesting assistance or modifying an existing global organization.

While a subset of these regional environmental governance arrangements is well studied over the last 20–40 years, many are not. Balsiger and Prys (2016) identify over 1,000 regional environmental agreements, constituting about 60 percent of the entire population of international environmental agreements. Note, however, that Balsiger & Prys include a substantial number of bilateral agreements, while the Börzel and Risse (2016) definition cited by many participants in this energy regionalisms project insists on the that regions should be constituted by three or more states. From the constructivist perspective, among others, there is little reason to insist on this state-based, multilateral definition except that it seems to adhere to the traditional international relations conception of multilateralism. From my perspective, there is little reason to bless North America as a "region" that can be studied and compared to others while denying that status to the regionally framed environmental cooperation and governance initiatives around the North American Great Lakes or New England Governors and Eastern Canadian Premiers (NEG-ECP). In both of these latter regions—one defined by a prominent and socially salient large ecosystem and the other defined in terms and organization of political jurisdictions—numerous regionally framed environmentally and energy focused initiatives have been launched. In fact, it's plausible—perhaps likely—that these "bilateral" and thus uncounted initiatives have yielded more significant political and/or economic outcomes than those associated with NAFTA's Commission for Environmental Cooperation. In fact, both of these regions illustrate the meso-scale and cross scale dynamics more often addressed in geography-informed research than in that deploying more strictly IR approaches.

In fact, identifying and responding to persistent state-centrism in regionalism theory and research is a significant theme in some recent work (Balsiger & Prys, 2016;

Balsiger & VanDeveer, 2010). Identified or constructed regions are often perfectly matched with state boundaries, particularly when such regionalism is framed in environmental terms. For example, Balsiger & Prys note that state membership in particularly regional organizations is rarely congruent with the spaciality of a discursively constructed region. As Haas' three types of regional cooperation arrangements (above) suggest, most REG analysis occurs within the scope of traditional state territoriality where government actors negotiate with each other to create such arrangements and governance takes shape and occurs substantially shaped by statist institutions.

Balsiger and VanDeveer (2010) typology of REG distinguishes such interstate regional environmental governance from "governance in ecoregions." Eco-regions, conceptualized around watersheds, river basins or mountain ecosystems for example, exist within the state-based territorial system, of course. But ecoregional governance research focuses more attention on non-state actors and institutions, often trying to explicitly reshape authority and activity around or across statist institutions. Such governance organizers knowledge and politics—one might say coproduces them—with an ecosystem framework at the center, rather than with state-based territoriality. One set of manifestations of such governance work can be found in ecosystem mapping, where scientists or non-scientists citizens might center discussion of problems or potential solutions around a river basin or marine watershed map, or images of a mountain region. While such regionally framed cooperation often has important inter-state components, state actors and institutions often find themselves responding to or negotiating with eco-regionally framed conceptions, claims or demands. It seems likely that many eco-regionalist conceptions of regional governance may exist in tension with energy regionalism, in light of the often substantial environmental impacts of energy infrastructures, technologies and externalities.

A recent turn in scholarship about global and regional—usually European—climate change politics deploys the concept of "polycentricity" (Cole, 2011; Jordan, Huitema, Asselt, & Forster, 2018; Jordan et al. 2015; Ostrom, 2010; Sovacool & Van de Graaf, 2018). This concept overlaps and connects with a series of related terms, but when applied to governance it has tended to mean that "the state" is not the single or most important point of reference and a host of public, private and civil society actors (and related institutions)—and multiple scales—are or may be playing roles in and shaping governance. This complex and dynamic conceptualization of governance may contain hierarchies of various kinds, but these are not assumed to prioritize the state. In fact, in polycentric governance, concepts such as "orchestration," "linkages," "diffusion," "leadership" and "experimentation" are often used to characterize the relationship and processes among various actors and institutions. As this concept gained cache in climate change scholarship, it has also increasingly seen in energy governance research (Chirambo, 2020; Goldthau, 2014; Hoppe & Miedema, 2021; Wurzel, Andersen, & Tobin, 2021), particularly in relation to renewable energies and energy transitions.

There is little doubt that, in both practice and in scholarship, regionalism(s) generally and regional environmental governance in particular have been heavily Eurocentric and OECD-centric. Despite highly varied success, in terms of environmental protection, European regional marine pollution and air pollution are often treated as de facto models for governance—in the same way that aspect of EU or NAFTA

trade and economic integration institutions frequently serve as the standard to which other such regional cooperation initiatives are compared. The data compiled and presented by Balsiger and Prys (2016) demonstrate that the Euro- or North- centrism often seen in REG scholarship is not simply a product of empirical practice. There is substantial environmental regionalism across the global south.

A final issue often vexing REG analysis—like regional analysis in many other subject areas—is the nature of its relationship to "the global." Conca (2012) raises questions about whether recent enthusiasm for regional cooperation and governance, in environmental and potentially other subject areas, is at least partially inspired by or related to a sense that global cooperation is dying, failing or (at the very least) quite disappointing. Not only can formal global environmental (and other) institutions be painfully weak, inadequate to the tasks at hand, and glacially slow, but they clearly globalize or diffuse norms and mobilize support very unevenly at the very best. Conca argues that regional governance might face fewer and less severe collective action problems, with fewer participants and less diversity of interests than the global. Perhaps, echoing arguments put forward by fans of federalism, regional spaces might also afford more opportunities for norm entrepreneurialism. It is certainly possible this argument might well apply to energy governance. Global energy governance organizations, and social institutions such as norms, remain weak in terms of their formal authority, even if the data, knowledge and norms they produce and promulgate have some global influence (Van de Graaf & Colgan, 2016). As such, regional energy governance organizations and cooperative initiatives might well prove to be an attractive alternative to weak and unevenly institutionalized global ones.

Five Nodes for Theorizing Empirical Research on Energy Regionalisms

Attempting to outline a broad set of potential areas of conceptualization, theorizing and empirical research on energy regionalism, we offer five thematic nodes that seek to highlight how IR, Geography and regional environmental governance scholarship help to provide a basis for more interdisciplinary comparative scholarship about energy regionalism.

(1) Constructing regionness and connecting it to energy: Who, why & how? Early analysis of regional environmental cooperation was quite 'realist' in science and technology studies terms (Högselius, Vleuten, & Högselius, 2016). In other words, many assumed that scientists and other experts were "speaking truth to power" and state actors would respond to identified environmental problems by creating or adapting institutions. As attention turned to more constructivist approaches, the content of scientific consensus and discord and the processes by which these were created received substantially more attention. So too is the interaction of broader ideas from ecological, economic and political spaces in which REG is embedded. So ideas and discourses associated with the Cold War era become embedded in some regional institutions, giving way to (and interacting with) those framed around "Europeanization" in the post-1992 era.

Where, in energy regionalism, might aspects of neoliberalism—so prominent, at least, in the rhetorics of energy development—be in contestation or accord with those associated with sustainable development, energy poverty, energy sovereignty,

or so on? Recently, North America has played host to divisive debates over existing and future investments in oil and natural gas pipelines. It does not require in-depth, neo-marxist theory to see that large pipeline construction and oil and gas companies have deployed substantial funding and political access in attempts to construct meaning around jobs and energy security across North America. Similarly, debates about European "dependence" on Russian natural gas are often proxies for various actors views about Russian domestic and foreign policies, and the security threats they may pose (Goldthau, 2008). Another example is found in the global spread of carbon trading as a policy mechanism to address climate change mitigation, which cannot be explained merely on the basis of the persuasiveness of a few academics who championed carbon markets. Economic and financial actors championed and profited from the construction of carbon markets in the European Union and northeast region of the United States—and to use these experiences as models for a growing set of a such markets around the world. Analysis must attend to an idea's fit with neoliberal discourses and its uptake by many of the most important firms and professions in the financial services sector (Meckling, 2011; Newell & Paterson, 2010). In other words, framing energy strategies, institutions or threats in region terms is in itself a political act.

(2) Inequality, Money & Power: There are few examples of environmental governance advocates possessing huge amounts of money, being the representatives of the wealthiest national or regional economic interests, or being generally congruent with statist security conceptions and interests. The same cannot be said of energy actors, interests and political dynamics. Certainly, resource and discursive inequities exist in environmental politics, but the political economy of regional energy politics and institutions seems likely to play host to enormous differences in material power among actors, and to sit more squarely at the center of state and firm economic and security interests. Since state, private sector and public energy interests are notoriously difficult to separate at the national and local level, regional energy politics is likely to require more of the theories, concepts and methods deployed by critical political economy analysis than have generally been deployed in the study of REG. Haas (2016) noted that power and coercion based theories were not often central to explaining the creation and growth of regional environmental cooperation. Who would characterize regional energy dynamics similarly? Regional petro-politics in the Persian Gulf and Caspian regions, and regional natural gas pipeline systems and investments decisions in Eastern Europe or the Black Sea regions, are rarely characterized without reference to substantial economic inequities and military competition (Boersma, 2015; Johnson, 2017; Klare, 2004). But the challenge for energy regionalism research to avoid the territorial trap remains acute, in these examples. Using power and exploiting or addressing inequality is not the exclusive purview of states. For example, firms, societal groups and/or competing interests within a state—actors and institutions operating at meso-scale, as geographers say—cannot be ignored or sidelined in a conceptually and theoretical more informed energy regionalism research agenda. Are "land grabs" and/or systematic displacement of people and communities framed as necessary to build damns, large solar or wind developments or power distribution systems? As the aggregate amounts of capital invested in energy transitions grows rapidly, are we likely to see more or less coercion of the less powerful by the more powerful?

(3) Epistemic & normative dimensions: In regional environmental governance, it is clear that scientific and technical consensus, and the organization of S&T communities and their relationships to the state and to public concern, often play important roles in regional cooperation. But normative consensus may be difficult to achieve among energy-related scientific and technical communities spanning expert communities associated with very different energy sources and technologies. While diverse interdisciplinary communities of environmental scientists have often built consensus around environmental protection norms, should we expect renewable energy, nuclear and fossil fuel experts to achieve such agreement? As Bridge and Le Billon (2017) note, the normative politics associated with energy—the damage done by fossil fuel's carbon emissions, the injustices related to climate change impacts, and the violence and corruption often associated with energy extraction—change over time and are often quite divisive. Furthermore, our conception of energy regionalisms would include regionally framed fossil fuel divestment campaigns or regionally framed activist campaigns and policy initiatives such as "coal free New England" and "Europe Beyond Coal"? How many other climate change-related mitigation, adaption or renewable energy governance arrangements might sit within different conceptions of energy regionalism? In another example of contrasting discourses and ideologies, North American pipeline debates are playing host to clashing views associated with economic security, energy security, environmental values and Native American sovereignty and cultural rights. How might the various meanings and lessons drawn from "Keystone XL" and "Standing Rock" by a host of different actors shape regionally framed discourses and programmatic initiatives in North America?

In the European context, the normative aspects of energy have long served as a backdrop to integration dating at least to the development of the proto-EU, the European Coal and Steel Community (1951). More recently, the regionalization strategies around the so-called "Energy Union" as strategy of solidarity in response to concerns about dependence on Russian oil and gas and the potential for Russia to be able to use energy as a "weapon" have a strong normative element: How can a regional-cum-institutional energy union hedge against bad-intentioned state actors? In Poland, the large share of coal in the country's energy mix as well as aggressive pursuit of unconventional fossil fuel development has met with considerable skepticism from European Union actors (Johnson & Boersma, 2013) In a sense the institutional region (Poland as an EU member bound by its own volition to certain norms and rules) is in tension with the historical energy regionalism formed by Poland's cold war dependence on Soviet oil and gas, and a strong desire by Poles to re-scale energy provision to reduce its dependence on Russia.

(4) Diffusion & institutional hybridization: Certainly diffusion of regionally framed idea and other institutions has been an important area of comparative regional research (Duina & Lenz, 2016; Risse, 2016; VanDeveer, 2000, 2004). Risse's framework for assessing direct and indirect mechanisms of regional-ist diffusion may offer fruitful avenues for research. In regional environmental cooperation, diffusion is often credited to socialization, emulation, explicit attempts at learning and lesson drawing, and so on. The agents of such processes have often been scientists, environmental activists and international organizations such as UNEP. Might IEA, IRENA, G20 or the World Bank play similar roles, as different and overlapping aspects of energy are increasingly the objects of "global" and "regional" governance initiatives (Van de Graaf & Colgan,

2016)? Might large multinational energy companies be important norm diffusors and policy or governance hybridizers? For example, how might attention to norm diffusion and institutionalization processes shape recent attention to the opportunities and considerable institutional challenges to more rapid deployment of renewable energy sources in Africa (Gore, 2017; Hancock, 2015)?

(5) Scaling, regionalisms, and the global Conca and others are right to problematize regional-global framings and interactions. Given the highly fragmented, contradictory and normatively complex system of global energy governance (de Graaf & Colgan, 2016; Van Bridge & Le Billon, 2017), how might we characterize the changing relationship between regionally framed energy governance, patterns and dynamics with that of the global? The growing body of scholarship on global energy governance, politics and institutions illustrates that a plethora of globally framed institutions are engaging various aspects of energy issues, actors, sectors and institutions (Andrews-Speed & Shi, 2016; Boersma & VanDeveer, 2016; Downie, 2015; Goldthau, 2013; Goldthau & Sitter, 2015; Hughes & Lipscy, 2013). One might think of this global—regional debate in the broader terms of scaling (or rescaling) regionalisms. Not only are there multiple ways (and geographic and social scales) at which to understand/conceptualize regionness just in the environmental area, but these multiple scales of regionality interact and influence conceptions of local and global. In other words, there is not one space "between" the local and the global—nor is if there a single institution form in said space. And developments within the regional are shaped by—and shape—those said to be happening in local or global spaces.

Toward an Interdisciplinary Conception of Energy Regionalisms

We argue that regionalisms are plural, varied, and complex. Any search for a single set of institutional forms or single dominant pattern of actor interactions or outcomes is likely to be disappointed. Just as regional environmental governance in the above case study varies quite substantially across ecological spaces and environmental "problems" such as marine or air pollution, or mountain ecosystems or fisheries management, so too are energy regions likely to vary substantially in terms of main drivers, actors and institutional structures—around the world and across energy sources, infrastructures and governance goals. River basin management alone, can vary from the highly institutionalized, cooperative and technocratic to much more conflictual, competitive dynamics where the threat of violence—if not actual local scale violence—looms large.

This contribution, and the special issue of which it is a part, endeavors to provide a broad framework to understand and conduct research on energy regionalism—and to help meet the challenge to further theorize energy regionalisms (Hancock & Allison, 2021). Based on our survey of the field, social science scholars have ample opportunity to contribute to this emerging field by drawing on the richness of theoretical and methodological tools at their disposal. To date, however, we find that this is largely an untapped potential, or at least in explicitly applying social science to something called "energy regionalism." Our modest—and certainly not definitive—observations about possibilities for energy regionalism conclude here with the following tensions with which this emerging field of inquiry must grapple if more interdisciplinary research

and conceptualizations of energy regionalism are to shape knowledge and future research:

1. *Mobility of molecules:* Though regions are often presented as fixed spatial containers, energy as such is rarely constrained by such borders, nor are the political or economic forces that shape our energy systems (Balmaceda, 2018). Energy regionalism is as much defined by porosity and permeability of energy relations as by discrete, internally homogenous blocs. This is true both in governance contexts and conceptual-analytical framings.
2. *Global-local dynamism*: as soon as energy relations become global in scope, they cease to be regional. Regions are constantly in flux as states, firms, and individuals adapt and respond to changing conditions. Energy regionalism studies must not fall into the trap of treating regional constellations as fixed, natural units, but rather as logics and strategies.
3. *Pluralities of usage*: regionalism means different things to different people, and that is okay! *Energy Regionalisms* in their various guises share a common feature of challenging existing spatialities of energy relations. Furthermore, scholars from a host of disciplinary and transdisciplinary traditions are likely to bring conceptual and theoretical diversity to this area of inquiry, thereby expanding and deepening both contemporary understanding and intellectual communities engaged in empirical research and theorizing (Balmaceda & Heinrich, 2021; Delina, 2021).
4. *Incidental energy*: Not only does research need to ask to what extent something is a "regional" problem, but also to what extent it is an energy one. How "energy" is defined, and to what extent energy defines political, economic, social, etc., relations, will affect considerably to what extent a given topic is primarily about energy.

Note

1 The remainder of this section draws heavily on Balsiger and VanDeveer (2019).

About the Authors

Corey Johnson is Professor and Head of the Department of Geography, Environment, and Sustainability at the University of North Carolina at Greensboro. He serves as co-editor of the journal *Geopolitics*. Corey's research and teaching areas include the political geography of Europe and Eurasia, borders and border security, natural resources and energy geopolitics, and Germany.

Stacy D. VanDeveer is Professor of Global Governance and Human Security and Chair of the Department of Conflict Resolution, Human Security and Global Governance in the John C. McCormack Graduate School of Policy and Global Studies at the University of Massachusetts Boston. His research interests include EU environmental and energy politics, global environmental policymaking and institutions, comparative environmental politics, connections between environmental and security issues, the roles of expertise in policymaking, and the global politics of resources and consumption. In addition to authoring and co-authoring over 100 articles, book chapters, working papers and reports, he has co-edited or coauthored ten books.

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