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Renewable Energy Federalism

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Article

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INTRODUCTION

Climate change is a national (and international) problem, and the federal government is finally poised to take action on this issue at a national level. Yet a federal drive to expand low-carbon energy will face large obstacles in the form of state and local regulation—particularly land use regulation. Due to a lack of federal leadership on climate or renewable energy to date, numerous, varied state and local policies addressing climate and associated energy solutions have arisen in the past several decades. Joe Biden and Kamala Harris have a vision for America's energy future,[1] one that will help mitigate climate change through substantial investment in renewable energy. To realize this vision, the Biden Administration must facilitate the shift in how we think about the allocation of regulatory power in the renewable energy context.

This Article argues for centralized planning for the location of new renewable installations, coordination of planning and siting,[2] and administrative permitting of siting—all at the federal level. While this solution would not wholly displace traditional state and local land use control, it would substantially transform the existing allocation of powers over energy development. By focusing specifically on utility-scale[3] renewable energy project siting, this Article ex-

1. The Biden Administration has taken a comprehensive approach in developing climate change policies. As of October 2021, twenty federal agencies have drafted climate mitigation and adaptation plans that detail their most significant climate risks and vulnerabilities. Not only do these plans identify agency-specific challenges, but they also offer action items and recommendations. *See FACT SHEET: Biden Administration Releases Agency Climate Adaptation and Resilience Plans from Across Federal Government*, WHITE HOUSE (Oct. 7, 2022), https://www.whitehouse.gov/briefing-room/statements-releases/2021/10/07/fact-sheet-biden-administration-releases-agency-climate-adaptation-and-resilience-plans-from-across-federal-government [https://perma.cc/4GDE-7BNX].

2. This Article primarily addresses siting of renewable energy generation facilities rather than electricity transmission facilities, and thus references to siting are in reference to generation unless otherwise denoted.

3. Utility-scale projects are large installations that produce quantities of electricity similar to traditional power plants. Jurisdictions differ as to the quantity of

amines the geographical and political aspects of siting, federalism values, as well as the role of effective zoning and land use planning in mitigating climate change.

In discussing climate change mitigation, scientists, scholars, and practitioners alike often highlight the importance of reducing greenhouse gas emissions by reducing reliance on fossil fuels.[4] Too little emphasis is placed on the requisite microlevel changes that will make this goal a reality. Thus, two important, but underexamined, aspects of the global effort to combat climate change are the role of local land use planning and zoning in renewable energy project siting and how a lack of federal oversight impedes development.

This Article draws upon scholarly works that advocate for federal or regional collaboration in renewable energy policymaking and the issues of federalism that may arise in the process.[5] These schol-

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electricity required to qualify a project as utility scale, but each of these projects transfers electricity via a larger transmission system. *See* Hannah Wiseman, *Expanding Regional Renewable Governance*, 35 HARV. ENV'T. L. REV. 477, 480 (2011); Jazz M. Tomassetti, Note, *We're All in This Together: A Fair Share Approach to Renewable Energy*, 32 J. LAND USE & ENV'T. L. 193, 197–99 (2016).

4. *See* Troy A. Rule, *Renewable Energy and the Neighbors*, 2010 UTAH L. REV. 1223 (arguing that distributed renewable energy is vital to curbing energy sprawl and reducing reliance on fossil fuels); Patricia E. Salkin, *Sustainability and Land Use Planning: Greening State and Local Land Use Plans and Regulations to Address Climate Change Challenges and Preserve Resources for Future Generations*, 34 WM. & MARY ENV'T. L. & POL'Y REV. 121 (2009) (discussing the need for action across all levels of government to address the climate change problem and how comprehensive planning is a useful tool in furthering sustainability goals); Chi-Jen Yang, Eric Williams & Jonas Monast, *Wind Power: Barriers and Policy Solutions*, CLIMATE CHANGE POL'Y P'SHIP 18 (Nov. 2008), https://nicholasinstitute.duke.edu/sites/default/files/publications/wind-power-barriers-and-policy-solutions-paper.pdf [https://perma.cc/JYL7-3WF2] (discussing the transition toward wind power generation as a method of reducing greenhouse gases provided government agencies and industries work together to exploit its potential); Kevin Perron, Note, *"Zoning Out" Climate Change: Local Land Use Power, Fossil Fuel Infrastructure, and the Fight Against Climate Change*, 45 COLUM. J. ENV'T. L. 573 (2020) (conducting case studies of localities that have utilized zoning laws to ban fossil fuel infrastructure and exploring the role of local governance in developing climate change policy).

5. *See* Alice Kaswan, *A Cooperative Federalism Proposal for Climate Change Legislation: The Value of State Autonomy in a Federal System*, 85 DENV. U. L. REV. 791, 802 (2008) (advocating for a cooperative federalism regulatory regime that grants states authority to develop implementation plans similar to the Clean Air Act); Wiseman, *supra* note 3 (explaining the need for regional governance to address the barriers to renewable energy development); Erin Ryan, *Environmental Federalism's Tug of War Within*, *in* THE LAW AND POLICY OF ENVIRONMENTAL FEDERALISM: A COMPARATIVE ANALYSIS 355 (Edward Elgar & Kalyana Robins eds., 2015) (discussing the pressure on all levels of government to meet the challenges of governing in an interconnected world); Hari M. Osofsky & Hannah J. Wiseman, *Dynamic Energy Federalism*, 72 MD. L. REV. 773

ars have laid the foundation by acknowledging that balanced,[6] but dynamic,[7] federalism is necessary in the energy sector. This Article advances the literature by proposing that renewable energy is the conduit for expanding energy federalism and mitigating climate change.[8] Further, this analysis highlights the intersections of property law,[9] environmental law,[10] and legal geography.[11] Scholars have yet to consider the interconnections between the geographical and political aspects of renewable energy project siting and how a lack of federal guidance or oversight impedes development. This Article will help to fill that gap.

Climate change was an extremely politicized topic under the Trump Administration.[12] With the election of a new climate-conscious president in 2020, this country is primed to lead the renewable energy charge especially given the goals of the Biden Build Back Better plan.[13] Currently, there is no federal renewable portfolio standard[14] or federal legislation that comprehensively addresses

(2013) (proposing dynamic federalism principles for designing systems within the context of energy law).

6. *See* Ryan, *supra* note 5.

7. Osofsky and Wiseman argue that energy law needs a more holistic model, similar to that of environmental law, where federalism is connected to broader governance concerns. They also advocate for greater "complex[ity] and evolutionary understanding in the dynamic federalism scholarship" in order to advance "a more systematic approach to regulating energy." Osofsky & Wiseman, *supra* note 5, at 813.

8. Climate change is a multiscalar issue that encompasses intersecting interests, industries, and stakeholders. The analysis and recommendations set forth in this Article address a critical component of the energy transition: efficiently siting renewable energy projects. Recognizing that this is but one component addressing climate change, it does not discount the need for other mitigation and adaptation measures, particularly those related to transportation, infrastructure, and industry.

9. Michael Pappas, *Energy Versus Property*, 41 FLA. ST. U. L. REV. 435 (2014) (discussing the balance between private property rights and the public interest in energy production).

10. John R. Nolon, *The Land Use Stabilization Wedge Strategy: Shifting Ground to Mitigate Climate Change*, 34 WM. & MARY ENV'T. L. & POL'Y REV. 1 (2009) (arguing that local governments can utilize land use techniques to mitigate climate change).

11. Nicholas Blomley & Joshua Labove, *Law and Geography*, 12 INT'L ENCYC. OF THE SOC. & BEHAV. SCIS. 474, 475 (2015) (defining space as both socially produced and politically constitutive); Hari M. Osofsky & Janet Koven Levit, *The Scale of Networks?: Local Climate Change Coalitions*, 8 CHI. J. INT'L L. 409 (2008) (describing the ways in which two localities interact with various networks to develop a bottom-up approach to climate change regulation as well as the relationship between place, space, and policymaking).

12. *See infra* Part III.

13. *See infra* Part III.

14. Uma Outka, *The Renewable Energy Footprint*, 30 STAN. ENV'T. L.J. 241 (2011)

climate change.[15] Developing policies related to this issue has been a herculean effort given the polarized political viewpoints on the impacts of climate change and sustainable mitigation.[16] Moreover, given the lack of federal leadership and polarization among the populace, state and local governments vary considerably in climate change and renewable energy legislation.[17]

In order to reduce greenhouse gas emissions, states often provide incentives to localities that reduce their reliance on fossil fuels by transitioning to renewable energy sources.[18] Renewable developments require numerous permits from federal, state, and local agencies.[19] One of the most challenging aspects of making this transition is determining where a project should be located.[20] Project siting is a critical component in the development process. Unlike traditional fossil fuels, renewables are not easily transported and can only thrive in locations where sun and wind sources are abundant. Moreover, site assessment can be costly and time consuming given the fragmented regulatory regime.[21]

(arguing that renewable portfolio standards, federal incentives, and federal renewable fuel standards have been the primary drivers of renewable energy development). See *infra* Part III for further discussion of renewable portfolio standards.

15. The Clean Air Act and Clean Water Act are the most comprehensive federal laws that significantly impact pollution control and ultimately climate change. On January 27, 2021, President Biden signed an Executive Order, *Tackling the Climate Crisis at Home and Abroad*, that establishes certain clean energy goals within the federal government and on federal land. Exec. Order No. 14,008, 86 Fed. Reg. 7,619 (Jan. 27, 2021).

16. *See* Hari M. Osofsky & Jacqueline Peel, *Energy Partisanship*, 65 EMORY L.J. 695, 703–18 (2016) (discussing the extremely partisan nature of climate change dialogue and policymaking).

17. Outka, *supra* note 14, at 255 (describing land use regulation as "a system of 'regulatory patches' that are located in the United States primarily at the local level of governance and decision making, but operate in the shadows of: a) the superdominance of private control of land, and b) overlays of federal and state regulations." (quoting Craig Anthony (Tony) Arnold, *The Structure of the Land Use Regulatory System in the United States*, 22 J. LAND USE & ENV'T L. 441, 446–47 (2007))).

18. *See infra* Part III.

19. *See* Steven Ferrey, *Gone with the Wind: State Preemptive Power*, 79 ALB. L. REV. 1479 (2016).

20. *See infra* Part I.C and Part III.A for a description of land use planning and siting requirements across various states.

21. Hannah Wiseman describes the challenges with project development on "renewable parcels," which she defines as plots of land that are created as a result of utility-scale renewable projects being situated upon them. Wiseman, *supra* note 3, at 478–94. Such parcels are often selected for project siting because of their extreme sun and wind exposure. Wiseman argues that renewable development could emerge as a regulatory commons (a concept introduced by William Buzbee) without a cen-

One underappreciated siting cost is that of obtaining public input. Public hearings are generally required for most new development and while feedback from local stakeholders is encouraged, it can also be a project deterrent. Not In My Backyard (NIMBY) complaints[22] serve as a prime example.[23] Some community members recognize the need for renewable energy but do not want it within their neighborhood. There are others who are satisfied with the status quo of fossil fuel use no matter the future risk of harm. Should these perspectives dominate, renewable energy projects can be totally ousted from consideration within the jurisdiction.[24]

Local land use planners and citizens alike also underscore their policy preferences via restrictive zoning[25] regulations and private agreements that prohibit renewable development.[26] Further, as zoning and land use planning evolves to consider issues related to climate change, principles of sustainable development and smart growth have become touchstones of policymaking. Sustainable development has been deemed "a concept of social change" that holistically considers a community's future.[27] Effectuating wide-scale social change requires coordinated national land use planning that incorporates resource preservation and acknowledges the uniqueness of place[28]—the facets of smart growth.[29] The transition towards a clean

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tralized siting process. *Id.* The regulatory commons is "a regulatory environment in which no one government entity controls the policy realm or has sufficient incentive to lead it," which can cause a "fragmented political-legal structure[]." *Id.*

22. Ashira P. Ostrow, *Land Law Federalism*, 61 EMORY L.J. 1397, 1410–13 (2012); Hannah Wiseman, *Disaggregating Preemption in Energy Law*, 40 HARV. ENV'T. L. REV. 293, 304 (2016).

23. *See generally* Michael Dear, *Understanding and Overcoming the NIMBY Syndrome*, 58 J. AM. PLAN. ASS'N 288 (1992).

24. The acknowledgment that NIMBY complaints exist and can serve as a deterrent is not meant to suggest that public participation is not warranted in the siting process. Rather, it is meant to provide insight into the scale of governance challenges that exist by virtue of siting decisions being made at a local level.

25. Ostrow, *supra* note 22; Rule, *supra* note 4, at 1238.

26. LaVonda N. Reed-Huff, *Dirty Dishes, Dirty Laundry, and Windy Mills: A Framework for Regulation of Clean Energy Devices*, 40 ENV'T. L. 859, 882 (2010).

27. Sustainability also seeks to maintain community functions into the indefinite future without degrading institutions, the means of production, infrastructure, or the resource base. Not only have these concepts impacted local land use, but they also influenced policies related to economic development and environmental justice. JULIAN CONRAD JUERGENSMEYER, THOMAS E. ROBERTS, PATRICIA E. SALKIN & MAX RYAN, LAND USE PLANNING AND DEVELOPMENT REGULATION LAW § 9.1 (3d ed. 2013).

28. The definition of "place" differs across disciplines. In the land use context, the legal geography perspective is most fitting. Places are "(relative) 'permanences' of people, relationships, and objects located and bounded in space" and are "contingent

energy future requires collaboration in sustainability and smart growth planning at all levels of government.

This Article addresses the benefits of proactive renewable energy project planning and the establishment of coordinated planning and siting guidelines as well as a centralized siting agency in advancing the decarbonization of the United States' electricity.[30] It analyzes the function of state and local government in the siting process, which is crucial to project development, and advocates for a national or regional siting regime that draws from the siting success under the Telecommunications Act of 1996. Establishing coordinated development guidelines allows for consistency and efficiency across the energy industry.[31] Arguably, a streamlined process will lead to greater investment in renewable energy, a critical gateway to significant climate change mitigation.

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on the processes that create, sustain, and dissolve them." Franz von Benda-Beckmann & Keebet von Benda-Beckmann, *Places That Come and Go: A Legal Anthropological Perspective on the Temporalities of Space in Plural Legal Orders*, *in* THE EXPANDING SPACES OF LAW: A TIMELY LEGAL GEOGRAPHY 30, 31–44 (Irus Braverman, Nicholas Blomley, David Delaney & Alexandre Kedar eds., 2014). Globalization significantly impacts the policies related to place and can lead to complex regimes that regulate rights to land and natural resources, environmental protection, and more. These regimes can involve regulatory scales that are meant to establish certainty, but they can lead to conflict if the regulatory bodies do not reach consensus regarding intersecting policy goals. *Id.*

29. The American Planning Association defines smart growth as:

> [U]sing comprehensive planning to guide, design, develop, manage, revitalize, and build inclusive communities and regions to: have a unique sense of community and place; preserve and enhance valuable natural and cultural resources; . . . [and] increase collaboration and partnerships to advance place-based and regional goals and objectives, while respecting local land-use preferences and priorities.

APA Policy Guide on Smart Growth, AM. PLAN. ASS'N https://www.planning.org/policy/guides/adopted/smartgrowth.htm [https://perma.cc/2VP8-YDND].

30. Establishing a new agency will inevitably result in unintended consequences. In describing the development of new state agencies that address the energy transition, Sharon Jacobs acknowledges the challenges related to regulatory capture, resource costs, and coordination. *See* Sharon B. Jacobs, *Agency Genesis and the Energy Transition*, 121 COLUM. L. REV. 835, 863–79 (2021). These same challenges would likely exist within the proposed federal agency particularly when its goal is to facilitate the interaction between multiple levels of government and private stakeholders.

31. Holly Doremus & W. Michael Hanemann, *Of Babies and Bathwater: Why the Clean Air Act's Cooperative Federalism Framework Is Useful for Addressing Global Warming*, 50 ARIZ. L. REV. 799, 825 (2008).

While combating climate change requires action across several sectors—local, state, and federal—it is an extremely partisan issue.[32] Planning for renewable energy projects can also be influenced by political ideologies behind the impetus for climate change and its mitigation as well as the appropriate level and scale of regulation. Recognizing that coordinated project siting and development is only one piece of the climate change puzzle, it is nevertheless a pragmatic first step towards reprioritizing energy sources and expanding renewable energy governance. Part I will specifically focus on land use and zoning and how appropriate planning can encourage renewable energy development. This Part will also discuss the federal government's traditional authority in electricity siting and will illustrate the current approach to renewable energy siting as illustrated by the case of Campbell County, Virginia. Part II then turns to the role of federalism, state and local police powers, and potential challenges to a federal renewable energy siting plan, while exploring the intersections between regulatory authority and policy coordination across each level of government. Part III reviews federal legislation and key state policies, including centralized siting laws as well as top-down renewable energy guidelines, and how they have led to greater project development and reliance on clean energy sources. Finally, Part IV advances the new vision for renewable energy federalism by providing two policy recommendations. The first is creating minimum siting guidelines that establish place-based plans for adoption by states and localities. The second and most comprehensive is establishing a centralized siting agency on a national or regional scale. These recommendations will allow for a shift towards standardization within utility-scale renewable energy project siting.

I. ENERGY LAND USE REGULATION AND FEDERALISM

Making the case for coordinated siting guidelines and centralized siting first requires a primer on energy generation, transmission, and governance to conceptualize the new vision for renewable energy federalism. This Part begins by describing the electric power sector's significant greenhouse gas emissions and the need for appropriately scaled policies that will facilitate the clean energy transition. As the following case study indicates, local governments cannot bear the transition burden alone as they are often under-resourced and ill-prepared to plan for the complexities of renewable energy projects. Moreover, the geographic centricity of and siting require-

32. *See* Osofsky & Peel, *supra* note 16.

ments for utility-scale projects warrants federal involvement in the planning and siting process.

A. PLANNING FOR ENERGY GENERATION AND TRANSMISSION

Currently, sixty-one percent of electricity in the United States is generated by fossil fuels (natural gas, coal, petroleum, and other gases), while only twenty percent is generated by renewable sources (hydropower, wind, biomass, solar, geothermal).[33] In 2019, the electric power sector[34] made up approximately one-third of the energy-related carbon dioxide emissions in the United States.[35] Carbon dioxide is the most prevalent anthropogenic greenhouse gas emitted across the country.[36] Further, electric power ranks second in the top five major fuel-consuming economic sectors contributing to carbon dioxide emissions.[37] Coal, natural gas, and petroleum are the primary sources of greenhouse gas emissions,[38] whereas renewable sources do not emit any greenhouse gases.

While transitioning to renewable energy would provide significant environmental benefits, there are several other factors that must be considered to facilitate this process. Namely, project siting and electricity transmission are critical aspects of energy project development. Although the siting process for power plants and trans-

33. The remaining twenty percent is generated by nuclear and other sources. *What Is U.S. Electricity Generation by Energy Source?*, in *Frequently Asked Questions*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/tools/faqs/faq.php?id=427&t=3 [https://perma.cc/UUN3-GEWX]. This Article will primarily focus on transitioning from fossil fuels to renewable sources (specifically wind and solar as these are the fastest growing sources and require significant federal, state, and local regulation).

34. The electric power sector is an energy-consuming sector that consists of electricity-only, as well as combined heat and power plants whose primary business is to sell electricity, or electricity and heat to the public. *Electric Power Sector*, in *Glossary*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/tools/glossary/index.php?id=Electric%20power%20sector [https://perma.cc/WF7C-5F37].

35. *How Much of U.S. Carbon Dioxide Emissions Are Associated With Electricity Generation?*, in *Frequently Asked Questions*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/tools/faqs/faq.php?id=77&t=3 [https://perma.cc/PS66-SAFB].

36. *See* ENV'T PROT. AGENCY, EPA 430-R-20-002 INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS 1990-2018, at ES-10 (2020).

37. *Id.* at ES-12. However, public opinion in the United States is split as to whether anthropogenic emissions pose a significant threat. *See* Nolon, *supra* note 10, at 21.

38. Of the thirty-two percent of energy-related carbon dioxide emissions, coal contributes fifty-four percent of the sector total, natural gas contributes forty-four percent, petroleum contributes one precent and the remaining percentage is attributed to other fossil fuel sources. *How Much of U.S. Carbon Dioxide Emissions Are Associated With Electricity Generation?*, *supra* note 35.

mission lines occurs primarily at the state and local levels, electricity transmission planning is regional. The majority of electric power supply in the United States is managed by Regional Transmission Organizations (RTOs) or Independent System Operators (ISOs), which were developed to encourage competition and open access to energy transmission.[39] RTOs and ISOs are regulated by the Federal Energy Regulatory Commission and are responsible for dispatching power across multistate electric grids.[40] The energy siting regime differs based upon the type of energy facility at issue. For example, the federal government has significant control over siting of natural gas pipelines.[41] Yet, states and industry stakeholders often employ creative measures to retain some level of control over the siting process.[42]

This difference in regulatory scale can also pose particular challenges for renewable projects because they must be sited in close proximity to transmission lines. Without accessibility to transmission lines, utility-scale renewable energy projects may not be economically viable.[43] If local land use planners do not designate transmission-accessible areas for renewable energy projects, such development is less likely to occur. Because of their geographic proximity, local planners are also in the best position to assess areas with the greatest potential for renewable development, whether they be former brownfields or underutilized industrial or agricultural land.[44]

Not only does the failure to plan affect the local area, but in the case of renewable energy, it can also affect a state's ability to achieve

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39. *About 60% of the U.S. Electric Power Supply is Managed by RTOs*, in *Today in Energy*, U.S. ENERGY INFO. ADMIN. (Apr. 4, 2011), https://www.eia.gov/todayinenergy/detail.php?id=790 [https://perma.cc/Z6SC-D5PT].

40. *Id.* Electricity in the remaining portion of the country is monitored by Independent System Operators or ISOs. There are three main electricity grids within the United States—Eastern Interconnection, Western Interconnection, and Electric Reliability Council of Texas—with essentially no transfer of electricity between them. *See* Alexandra B. Klass, *The Electric Grid at a Crossroads: A Regional Approach to Siting Transmission Lines*, 48 U.C. DAVIS. L. REV. 1895 (2015).

41. *See infra* Part I.B.

42. States have utilized the Clean Water Act's certification process and the Coastal Zone Management Act's management planning process to impose conditions and assert localized interests. Alexandra B. Klass & Jim Rossi, *Reconstituting the Federalism Battle in Energy Transportation*, 41 HARV. ENV'T L. REV. 423, 430–44 (2017).

43. Samantha Gross, *Renewables, Land Use, and Local Opposition in the United States*, BROOKINGS 11 (2020), https://www.brookings.edu/wp-content/uploads/2020/01/FP_20200113_renewables_land_use_local_opposition_gross.pdf [https://perma.cc/4LRN-KGFY].

44. *Id.* at 14–15.

renewable portfolio goals and the transmission of renewable energy across several states. While renewable energy projects may help to mitigate the impacts of climate change, these developments have large physical footprints, pose aesthetic challenges, and impact wildlife habitats.[45] Fossil fuels also have greater energy density—concentrating a large quantity of energy into a small space—whereas renewable sources have greater power density—requiring significant land surface area to produce a specific amount of energy.[46]

Given these challenges, coordinated guidelines and proactive national planning would assist localities in preparing for a renewable energy future by incorporating measures, such as designated land use zones, similar to those currently in place for public utilities and energy sources powered by fossil fuels. Federal oversight is necessary in this instance for several reasons. First, states and localities have been too slow to site renewable energy infrastructure.[47] The federal government also has adequate resources to support states in facilitating the clean energy transition.[48] Most importantly, there are extreme environmental and public safety concerns linked to climate change, and action is necessary at the largest scale of governance to mitigate these concerns.[49] For example, coordinated federal siting guidelines would encapsulate both resource-based and social concerns by addressing typical NIMBY complaints, such as nuisances, while avoiding overly burdensome local siting requirements that block renewable energy development.

Localities should maintain ultimate authority in determining the where, when, and how of small-scale development, but they arguably should be required to plan for utility-scale renewable energy pro-

45. *See* Wiseman, *supra* note 3, at 529; Nolon, *supra* note 10, at 25.

46. The overall land area disturbed by high density fossil fuels is at least ten times less than that of renewable sources. *See* Gross, *supra* note 43, at 3.

47. *See* Outka, *supra* note 14, at 266–85.

48. *FACT SHEET: President Biden Signs Executive Order Catalyzing America's Clean Energy Economy Through Federal Sustainability*, WHITE HOUSE (Dec. 8, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/08/fact-sheet-president-biden-signs-executive-order-catalyzing-americas-clean-energy-economy-through-federal-sustainability [https://perma.cc/WP2P-9ETX].

49. While the emergent nature of the climate change problem requires large-scale policies, these should not overshadow local concerns related to land use and environmental justice. Without appropriate safeguards, climate resilience policies have the potential to exacerbate existing structural inequalities and vulnerabilities. Thus, due care must also be taken to ensure that equitable policies are implemented. *See* Shalanda H. Baker, *Anti-Resilience: A Roadmap for Transformational Justice Within the Energy System*, 54 HARV. C.R.-C.L. L. REV. 1 (2019).

jects just as they plan for other energy facilities. Land use plans are developed and zoning ordinances are implemented in order to make efficient use of resources, protect the environment, and promote the public welfare.[50] In the absence of regulation at the appropriate scale, the clean energy transition will continue to be governed by the default rules of the "commons."[51] Historically, government regulation and the willingness to curtail certain private property rights in favor of advancing energy resources (e.g., coal, oil, hydropower)[52] has allowed development to occur on a larger scale.[53]

Under the new vision of renewable energy federalism, the federal government could provide the top-down perspective needed to identify the most efficient areas for renewable energy production—those with the strongest renewable resources and access to existing or planned transmission, for example. Furthermore, in a collaborative policymaking regime, the federal government would establish siting guidelines that consider the unique aspects of place. States and local governments would be encouraged to incorporate specific zoning requirements for renewables into their ordinances so that developers have a clear understanding of the process that they will need

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50. *See* Erin Ryan, *Zoning, Taking, and Dealing: The Problems and Promise of Bargaining in Land Use Planning Conflicts*, 7 HARV. NEGOT. L. REV. 337, 344–45 (2002).

51. Similar to the arguments made in *The Tragedy of the Commons*, without appropriate regulations, the burden of the clean energy transition will be unequally distributed such that certain jurisdictions receive benefits yet pay no cost or vice versa. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

52. Pappas, *supra* note 9, at 481.

53. From an economic perspective, research findings differ as to whether larger renewable energy projects provide certain cost savings as a result of larger economies of scale. For example, a 2018 MIT study determined that increased plant sizes have enabled economies of scale to reduce costs since 2001. Goksin Kavlak, James McNerney & Jessika E. Trancik, *Evaluating the Causes of Cost Reduction in Photovoltaic Modules*, 123 ENERGY POL'Y 700, 705–06 (2018). However, the Institute for Local Self-Reliance suggests that solar power is competitive at any scale. John Farrell, *Is Bigger Best in Renewable Energy?*, INST. LOC. SELF-RELIANCE 3 (2019), https://cdn.ilsr.org/wp-content/uploads/2016/09/ILSRIsBiggerBestFinalSeptember.pdf [https://perma.cc/FY5Y-WCAW]. When considering federal intervention in environmental regulation, Richard Revesz argues that economies of scale only have marginal cost savings advantages resulting from eliminating duplicated efforts in the standard-setting phase. Richard L. Revesz, *Federalism and Regulation: Some Generalizations*, *in* REGULATORY COMPETITION AND ECONOMIC INTEGRATION: COMPARATIVE PERSPECTIVES 3, 16 (Daniel C. Etsy & Damien Geradin eds., 2001). He also suggests that centralization can have "serious social costs as a result of the difficulty of setting standards that are responsive to the preferences and physical conditions of different regions." *Id.* Scale in this sense is a significant factor that must also be explored but is beyond the scope of this Article.

to follow. The federal government is no stranger to energy regulation and has historically enacted legislation to meet the demands of changing energy needs.[54] During an era of climate crisis, the federal government must be an active participant in state and local land use planning efforts.

B. FEDERAL ENERGY REGULATION

Federal legislation has addressed energy production and consumption for over 100 years.[55] From the Federal Water Power Act to the Energy Independence and Security Act, the federal government has played a key regulatory role in what had previously been an issue of state and local concern.[56] Since the mid-1990s, additional policies have been implemented to address a shift towards clean energy.[57] While climate change mitigation is now a mainstream topic, most federal legislation has simply provided incentives to public utilities that finance and construct renewable energy projects or encouraged research and development of new technology.[58] Congress's failure to enact comprehensive legislation is largely due to the polarized political viewpoints of the government's role in regulating generally and anthropogenic emissions' impact on climate change.[59] Additionally, the fossil fuel industry has significant influence over members of Congress.[60] However, the effects of climate change are now so pervasive that more must be done across all sectors locally, statewide, nationally, and internationally to fully address greenhouse

54. Pamela J. Stephens, *Implementing Federal Energy Policy at the State and Local Levels: "Every Power Requisite"*, 10 B.C. ENV'T. AFFS. L. REV. 875, 876–92 (1982).

55. *Id.*

56. *Id.* (discussing the history of federal energy legislation and the federal government's authority to regulate pursuant to constitutional authority).

57. *See* J.B. Ruhl, *Climate Adaptation Law*, *in* GLOBAL CLIMATE CHANGE AND U.S. LAW 677 (Michael B. Gerrard & Jody Freeman eds., 2nd ed. 2014).

58. *See* American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115; Energy Policy Act of 2005, Pub. L. No. 109-58, § 202, 119 Stat 594, 651–52. For example, the Energy Policy Act instructed the Secretary of Energy to: (1) publish annual reports based upon assessments of renewable domestic energy resources, including solar, wind, biomass, ocean (tidal and thermal), geothermal, and hydroelectric energy; and (2) undertake new assessments as necessary, taking into account changes in market conditions, available technologies, and other relevant factors. Energy Policy Act § 251. The Secretary was also tasked with appointing a Director of Climate Protection within the Department of Energy and establishing a Climate Change Technology Advisory Committee. *Id.* § 1610.

59. Osofsky & Peel, *supra* note 16.

60. Garrick B. Pursley & Hannah J. Wiseman, *Local Energy*, 60 EMORY L.J. 877, 922–28 (2011).

gas emissions. Examining the federal government's historical method of developing energy policies provides insight into how a path can best be forged towards zoning and land use planning for climate change.

In the days when fire and water were the primary energy sources, property owners often compromised their personal property rights and expectations in favor of energy needs.[61] Mill Acts of the 1800s exemplified the willingness of legislatures to prioritize energy generation over property rights particularly where properties were located near desirable energy resources.[62] As the United States transitioned to electricity use and energy resources could be transferred between states, the federal government stepped in to address national needs for energy infrastructure development.[63]

For example, when the Natural Gas Act (NGA) was passed in 1938, Congress determined that federal oversight was necessary to regulate the growth of the natural gas industry.[64] The NGA was enacted as a result of gas shortages in the eastern United States during the Great Depression, while certain southern states were able to stockpile their supply.[65] Not only did the NGA give the Federal Power Commission (predecessor to the Federal Energy Regulatory Commission, or FERC) authority to regulate the sale of natural gas, but also its transportation in interstate commerce.[66] Although they were being regulated more stringently, natural gas suppliers also gained significant federal support under the NGA. Congress granted natural gas companies[67] the right of eminent domain in instances when they are unable to reach an agreement with landowners to acquire all property necessary to construct a pipeline.[68] Thus, natural gas pipe-

61. Pappas, *supra* note 9, at 459–60.

62. *Id.* at 461 (specifically referencing Massachusetts statutes and Fiske v. Framingham Mfg. Co., 29 Mass. (1 Pick.) 68, 70 (1831)).

63. Klass, *supra* note 40, at 1941; *see also* Pappas, *supra* note 9, at 463–64 (discussing federal regulation of hydropower and the authorization of eminent domain power); Reed-Huff, *supra* note 26, at 887–90 (detailing federal legislation that seeks to further energy conservation).

64. Klass, *supra* note 40, at 1905–06.

65. *Id.*

66. 15 U.S.C. §§ 717, 717b.

67. This only applies to those companies that have received a certificate of public necessity and convenience. FERC has the authority to approve or deny a certificate upon review of information related to the company's operations, sales, and construction plans. *See* 15 U.S.C. § 717f; 18 C.F.R. §§ 157.1–157.23.

68. Liquefied natural gas terminals include:

> [A]ll natural gas facilities located onshore or in State waters that are used to

line projects that meet federal permitting requirements are less likely to be deterred by NIMBY complaints.[69]

Congress has also regulated land use and environmental protection within the mining industry. The Surface Mining Control and Reclamation Act of 1977 (SMCRA) required states with active surface mines to establish an enforcement program which included periodic site inspections and proof of compliance with specific guidelines.[70] The issuance of a permit under the program is contingent upon satisfying general standards that prioritize natural resource conservation, land restoration, and environmental protection.[71] The SMCRA takes a cooperative federalism approach and gives states certain enforcement authority that must operate within the statutory parameters.[72] In addition to sharing regulatory authority with states, Congress has tasked FERC with overseeing most of its energy policy.[73]

At present, FERC regulates the interstate transmission of oil, natural gas, and electricity.[74] It also provides licenses for all hydropower plants.[75] In exercising its authority, FERC considers the environmental, cultural, geological, land use, and socioeconomic impacts of a project.[76] Its powers were expanded under the Energy Policy Act of 2005, which granted FERC the exclusive authority to site liquefied natural gas terminals.[77] One of the goals of the Energy Policy Act was to make it easier to overcome local opposition to siting such facilities.[78] The NGA, SMCRA, and Energy Policy Act not only provide evidence that certain energy facilities require federal support, but also

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> receive, unload, load, store, transport, gasify, liquefy, or process natural gas that is imported to the United States from a foreign country, exported to a foreign country from the United States, or transported in interstate commerce by waterborne vessel.

15 U.S.C. § 717a(11).

69. *See supra* Introduction.

70. 30 U.S.C. § 1252.

71. *Id.* § 1265.

72. *Id.* § 1253.

73. *See What FERC Does*, FERC, https://www.ferc.gov/about/what-ferc/what-ferc-does (Nov. 19, 2020) [https://perma.cc/H7CL-SKYF].

74. *See* Avi Zevin, *Regulating the Energy Transition: FERC and Cost-Benefit Analysis*, 45 COLUM. J. ENV'T. L. 419, 422–23 (2020); *What FERC Does*, *supra* note 73.

75. *See* Zevin, *supra* note 74, at 433.

76. *See id.*

77. Energy Policy Act of 2005, Pub. L. No. 109-58, § 331, 119 Stat. 594, 685–88.

78. Benjamin K. Sovacool, *The Best of Both Worlds: Environmental Federalism and the Need for Federal Action on Renewable Energy and Climate Change*, 27 STAN. ENV'T. L.J. 397, 415–16 (2008).

that the federal government is authorized to regulate energy facility siting on a local level where Congress deems necessary.

In considering the complexities of renewable energy transmission, the federal government is best suited to establish siting guidelines to incentivize states and localities to invest in and plan for a renewable energy future.[79] The gravity of the climate change problem requires a reframing of the regulatory scheme for utility-scale renewable energy land use. Combatting global issues such as climate change should not be contingent upon local NIMBY complaints and aesthetic concerns, but public health and safety.[80] While this proposal at a minimum recommends that the federal government establish siting guidelines, it does not suggest that states and localities must relinquish their authority.[81] Rather, the global reach of climate change in conjunction with the multistate electric grid and transmission system positions the federal government to provide oversight and guidance for local planning decisions that often transcend state and local bounds.

Currently, utility-scale renewable energy siting is governed by state law, local ordinance, or has not yet been contemplated.[82] This fractured regulatory system allows for robust policy to be enacted in one jurisdiction while a neighboring jurisdiction a few miles away provides no regulatory guidance. As evidenced by solar energy development in Campbell County, Virginia, a failure to proactively plan for utility-scale renewable energy projects inevitably causes all stakeholders to incur significant costs and potential projects to be deterred.[83] The inefficiencies of the current system of renewable energy federalism must be corrected to address these concerns.

C. THE CURRENT APPROACH TO RENEWABLE ENERGY PROJECT SITING IN ACTION

With this background in mind, consider the first solar power proposals in Campbell County, Virginia. Campbell County is a small, rural area located at the foothills of the Blue Ridge Mountains.[84]

79. *See* discussion *infra* Part IV.

80. *See infra* note 249 and accompanying discussion.

81. *See* discussion *infra* Part IV.

82. *See infra* Part III.

83. *Campbell County Planning Commission Minutes*, CAMPBELL CNTY. PLAN. COMM'N, (Dec. 4, 2017), https://www.co.campbell.va.us/DocumentCenter/View/3760 [https://perma.cc/F4UE-NAVF].

84. *Comprehensive Economic Development Strategy: 2017 Update*, CAMPBELL CNTY. DEP'T ECON. DEV. 48 (2018), https://www.campbellvirginia.com/sites/g/files/

When collecting data for its 2017 economic development strategy, county officials noted a decline in government resources as an economic threat and acknowledged renewable energy as an area of economic opportunity.[85] Yet, at that time the county had not incorporated a land use plan for renewables.

Depending on the jurisdiction, renewable energy siting determinations can be made at the state or local level.[86] In Virginia, the process is local.[87] Developers are required to apply for a special use or other permit to move forward with construction.[88] The local planning commission or other governing body is authorized to approve or deny the application.[89] If the local land use plan contemplates the proposed project type, developers are poised to provide comprehensive project plans addressing the requisite criteria. Conversely, if the land use plan does not contemplate the particular project type, developers provide plans based upon industry standards in the hopes that standard compliance will be deemed acceptable.

In December 2017, Cypress Creek Renewables and Depot Solar Center each proposed to build a 15 megawatt (MW) solar farm across 260 acres and 105 acres of farmland, respectively.[90] In addition to providing a renewable energy source that would power approximately 8,500 single-family homes, the projects would provide additional tax revenue over the thirty-five-year project life and hundreds of jobs during construction.[91] The county planning commissioners opposed the projects for several reasons, but most notably because they were hesitant to move forward with such large-scale projects since the county's zoning ordinance did not contemplate solar facilities.[92] There was no official guidance regarding where projects should be sited, lot requirements, or the most effective permit approval process.[93] With limited county resources and no planning

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vyhlif6261/f/uploads/ceds_17_-_final_3-13-18_1.pdf [https://perma.cc/23SJ-ARV2].

85. *Id.* at 15.

86. *See infra* Part III.A.

87. VA. CODE ANN. §§ 15.2-2316.6 to 2316.9 (2021).

88. *Id.* § 15.2-2310.

89. *Id.* §§ 15.2-2210 to 2222.1.

90. *Campbell County Planning Commission Minutes*, *supra* note 83.

91. Carrie Dungan, *800-Acre Solar Farm Proposed in Campbell County*, NEWS & ADVANCE (Jan. 24, 2018), https://newsadvance.com/news/local/800-acre-solar-farm-proposed-in-campbell-county/article_a802d26e-0156-11e8-88e0-079df91a2d71.html [https://perma.cc/2FDP-RB85].

92. *Campbell County Planning Commission Minutes*, *supra* note 83.

93. *Id.*

directive from the state, the county failed to incorporate solar facilities into its land use plan. The commissioners emphasized the fact that surrounding counties had implemented specific requirements and other safeguards to ensure that appropriate regulations were in place and thus, Campbell County should do the same prior to approving the projects.[94] Six months later, the Campbell County Zoning Ordinance was amended to define Solar Energy Projects[95] and designate the zones within which solar farms are authorized by special use permit.[96]

Subsequently, Depot Solar Center submitted an application for a special use permit in order to move forward with its project.[97] The project was finally approved by the county's Board of Supervisors in November 2018, almost one year after the initial request for review.[98] Conversely, Cypress Creek Renewals withdrew its development application and there is no evidence of resubmittal. Since the ordinance revisions were adopted in 2018, the county approved four solar projects with a combined generation capacity of 215 MW.[99] According to the project plans, the 60 MW facility will provide power to approximately 12,000 single-family homes, significantly reducing re-

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94. *Id.*

95. The Zoning Ordinance defines Solar Energy Projects as:

> A renewable energy project that either (a) generates electricity from sunlight, consisting of one or more PV systems and other appurtenant structures and facilities within the boundaries of the site, or (b) utilizes sunlight as an energy source to heat or cool buildings, heat or cool water, or produce mechanical power by means of any combination of collecting, transferring, or converting solar-generated energy. A solar energy project will not include any project which has a disturbance zone of two or fewer acres, is mounted on or over an existing building or parking lot, or utilizes integrated PV only.

CAMPBELL CNTY., VA CODE § 22-2.B.86a (1988). Each of the projects that had proposed plans before the planning commission would fit within this definition and would therefore need to comply with any applicable regulations. Small-scale projects are not addressed within the ordinance. *Id.* § 22-16.02(c).

96. The special use permit process requires public hearings with the Planning Commission and Board of Supervisors. *Id.* § 22-35. The Board then has up to 90 days to make a determination. *Id.*

97. *Administrator Report*, CAMPBELL CNTY. BD. SUPERVISORS (Nov. 1, 2018), https://www.co.campbell.va.us/AgendaCenter/ViewFile/Agenda/_11082018-225 [https://perma.cc/VQC3-767W].

98. *Id.*

99. *Board of Supervisors Meeting*, CAMPBELL CNTY. BD. SUPERVISORS (May 18, 2021), https://www.co.campbell.va.us/AgendaCenter/ViewFile/Minutes/_05182021-334 [https://perma.cc/SA2R-RJTZ].

liance on fossil fuels within the transmission area.[100] To date, only one project has broken ground and the county is now reevaluating how to proceed with solar development moving forward.[101] The planning staff acknowledged the challenges of monitoring and regulating the project with their limited staff.[102]

To many, Campbell County got it right. This one county in Virginia illustrates the importance of proactive land use planning and its impact on development.[103] Yet, despite making the appropriate changes to the local land use plan, development has stalled. At the outset, the county planning commissioners were at a disadvantage when a proposed project that would both stimulate the local economy and further the county's infrastructure goals was not approved primarily because they had failed to plan for renewable energy projects. Further, developers were forced to incur the expense of initially presenting a project plan and the additional expense of amending the plan to conform to the updated special use permit requirements. Had the county's zoning and land use plan addressed renewable energy project siting, or better yet, had a national or regional siting plan been implemented, both the commissioners and developers could have saved time and money. With coordinated guidelines that are implemented from the top down, this type of delay and project deterrence will be avoided while under-resourced planning departments will be supported.

Large utility-scale projects are not the only developments that can be deterred due to lack of planning. Land use planners also regulate smaller facilities such as rooftop solar panels and small windmills that are located within a zoning district.[104] If these types of im-

100. Sarah Honosky, *Campbell County Planning Commission Recommends Approval of Gladys Solar Farm*, NEWS & ADVANCE (Sept. 23, 2019), https://newsadvance.com/news/local/campbell-county-planning-commission-recommends-approval-of-gladys-solar-farm/article_e2cdfa85-e337-5013-b852-11b658aa1ff0.html [https://perma.cc/BRR9-6M7X].

101. *Board of Supervisors Meeting*, *supra* note 99.

102. *Id.*

103. Other jurisdictions such as Massachusetts and Iowa have implemented solar access easements which permit the landowner or developer to limit development surrounding a solar project by imposing setback and height restrictions. Such regulations have been set forth either in local zoning ordinances or state statutes. They are indicative of the state or localities willingness to "pre-plan" and invest in solar rights. *See* TROY A. RULE, SOLAR, WIND AND LAND: CONFLICTS IN RENEWABLE ENERGY DEVELOPMENT 106–15 (2014).

104. *See* Nolon, *supra* note 10, at 25; Pappas, *supra* note 9, at 447; Pursley & Wiseman, *supra* note 60, at 879–81.

provements are not contemplated as accessory uses or otherwise, property owners will also be less inclined to make a shift towards renewable energy given the additional costs of proposing a project where no regulations are in place.[105] As a general matter, proactive land use planning at every scale facilitates smart growth and sustainability.

In virtually every state, localities have the ultimate authority when regulating land use planning and zoning.[106] It is an inherently local process and those who reside in the area are often best suited to make decisions about what should or should not be developed there. While this basic tenet that land use should be regulated locally remains true, there are instances, as with climate change, when zoning and land use planning have national and global implications that necessitate federal oversight. Through the new vision of renewable energy federalism, a centralized siting agency would be critical to the siting process given that certain areas are more conducive to development than others, and a bird's eye view can best identify these areas and support efficient, more effective development. Even in the absence of such an agency, the coordinated siting guidelines would allow for the oversight necessary to plan for future energy needs at the appropriate scale.

For example, a particular property's terrain and proximity to transmission lines can determine whether a project is feasible. In

105. For example, a resident of Coral Gables, Florida planned to install solar arrays on various parts of his house. Jenny Staletovich, *Coral Gables Says It Loves Rooftop Solar. A Frustrated Homeowner Finds Otherwise,* MIAMI HERALD, (Dec. 24, 2018), https://web.archive.org/web/20201108125824/https://www.miamiherald.com/news/local/environment/article223187560.html. The installer provided a design that would maximize power generation. *Id.* The resident also opted for sleek, more expensive panels in an effort to comply with community design standards. *Id.* The City rejected the plans because a number of the solar panels would be located on street-facing portion of the roof. *Id.* While the City is thought to be a "green" place, it includes solar development standards that defer to the Architectural Board's aesthetic requirements. *Id.* The primary question at issue was whether the Board's decisions have the effect of prohibiting solar development in violation of Florida's solar rights law. *Id.* The Board of Commissioners ultimately approved the project and subsequently sought consultation from a solar energy specialist regarding their permitting and zoning process. *See Minutes*, CORAL GABLES SUSTAINABILITY ADVISORY BD. (Jan. 23, 2019), https://www.coralgables.com/media/PublicWorks/Sustainability/SAB%20Meeting%20Minutes%20and%20Presentations/Minutes/2019/Minutes%20ADA%20Accessible/sab-1-23-2019-minutes-final-ada.pdf [https://perma.cc/8KH6-366M].

106. *See* Outka, *supra* note 14, at 255 (describing land use regulation as a system of regulatory patches primarily at the local level which operates in the shadows of private land control and federal/state authority).

Campbell County, the proposed project site was in close proximity to a substation and transmission lines.[107] The developers even noted the importance of the prime location in its permit application.[108] Unfortunately, land use planners in areas where development is most favorable often lack the expertise, capacity, and resources necessary to effectively regulate project siting.[109] When we consider the collective impact that land use planning could have on renewable energy development, the case for federal siting guidelines becomes clear. As noted in the above example, the failure to proactively plan can make or break a project, a county's economy, and efforts to mitigate climate change.

Federal involvement in the furtherance of energy goals specifically related to coal, oil, natural gas, and water has allowed development to occur more quickly, efficiently and cost effectively.[110] Historically, each level of government has curtailed the rights of individuals where those rights were superseded by the interests of society at large[111] or were required by private firms. The case for renewable energy is no different. Encouraging such projects will support local and national sustainability efforts and reduce greenhouse gas emissions. Furthermore, regional or national oversight of siting will be able to account for the electric grid's geographic constraints and provide the appropriate scale of governance necessary to address regulatory siting challenges.

II. EXPANDING THE SCALE OF GOVERNANCE

The numerous siting challenges that arise due to inadequate clean energy planning provide evidence that the spatial scale of governance must be expanded. First, this Part describes the traditional

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107. *See Staff Report*, CAMPBELL CNTY. PLAN. COMM'N (Aug. 17, 2018), https://www.co.campbell.va.us/DocumentCenter/View/4529 [https://perma.cc/QK7R-9X4E].

108. *Id.*

109. Gross, *supra* note 43, at 14.

110. Pappas, *supra* note 9, at 481 (describing the energy-property balance facilitated by legislatures and courts in order to promote development of traditional energy sources and how fostering this balance will also encourage renewable energy development).

111. *See* Reed-Huff, *supra* note 26, at 905–06 (discussing private citizens' rights to communication services under the Telecommunications Act); Pappas, *supra* note 9 (finding that societal interests in promoting energy production often outweigh private property rights); *see also* Nicholas Blomley, *Land Use, Planning, and the "Difficult Character of Property"*, 18 PLAN. THEORY & PRAC. 351, 358 (2016) ("Land use planning is not a tool for collectivism, but a calculus that balances and mobilizes individual interests.").

notion of cooperative federalism and the preemption issues that stem from multilevel governance. It then counters this governance framework with that of collaborative federalism which allows for greater negotiation and compromise as well as the development of spaces of engagement. Collaborative federalism seeks to take the fragmented local-state-national siting policies and integrate them into a cohesive governance structure.

A. THE COLLABORATIVE FEDERALISM APPROACH

Because land use planning is inherently local, there are many challenges that may arise in developing a national renewable energy siting policy. Those who favor small government and local regulation are generally opposed to regulatory schemes that grant additional powers to the federal government.[112] Through collaborative policy-making, state and local governments can identify place-specific considerations to be incorporated into the national siting guidelines. A centralized agency would then be responsible for providing siting guidance and recommendations for states and localities. In turn, state and local governments would retain final site approval and would be permitted to impose reasonable project conditions. Implementing a national plan may require some level of preemption of state and local laws, which would trigger issues of autonomy and independent governance. However, when effectively implemented, collaborative federalism can yield cohesive results.

When describing preemption principles impacting the Court's analysis of the Federal Power Act, a federal energy statute, Justice Sotomayor stated that "collaborative federalism statutes[] envision[] . . . federal-state relationship[s] marked by interdependence."[113] She further emphasized the Court's position that preemption inquiries into collaborative programs can be very delicate and do not warrant federal preemption particularly where there is a "complementary administrative framework" and "pursuit of common purposes."[114] Yet, when considering renewable energy project siting and develop-

112. *See* Osofsky & Wiseman, *supra* note 5, at 824–26; Michael Livermore, *The Perils of Experimentation*, 126 YALE L.J. 636, 648 (2017).

113. Hughes v. Talen Energy Mktg., LLC, 578 U.S. 150, 167 (2016) (Sotomayor, J., concurring).

114. *Id.* In discussing the separate zones of jurisdiction within the Federal Power Act, Joshua Macey and Matthew Christensen argue that the evolving electricity sector will lead to specific aspects of regulation controlled by FERC while states simultaneously regulate others. *See* Matthew R. Christiansen & Joshua C. Macey, *Long Live the Federal Power Act's Bright Line*, 134 HARV. L. REV. 1360, 1405–09 (2021).

ment, there cannot be a complementary framework or pursuit of common purpose where the purpose has not been defined and there is not coordination in planning. While an individual project may be sited in a particular locality, it often generates electricity for use within the entire state or even across several states.[115] The interstate nature of electricity generation and transmission should supersede the local land use component of utility-scale renewable energy project siting, thereby giving the federal government authority to directly regulate or establish minimum guidelines. In order to accommodate what should be the common purpose of combating climate change and shifting towards clean energy, it is necessary to implement a system of federalism whereby guidelines are established by collaboration between the federal, state, and local governments.[116]

Most often federalism is viewed through one of two primary lenses: dual federalism or cooperative federalism.[117] Under the theory of dual federalism, powers are strictly separated between the federal government and states with specific authority designated to each.[118] Cooperative federalism, however, distributes authority between the federal government and the states with each recognizing the authority of the other.[119] For example, the Environmental Protec-

115. Pennsylvania, for example, is the third largest net supplier of electricity, but generation exceeds statewide consumption and most of the power that it generates is shipped outside the state. *Pennsylvania State Profile Analysis*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/state/analysis.php?sid=PA (Oct. 21, 2021) [https://perma.cc/C8U2-DFNQ].

116. *See* Hari M. Osofsky & Hannah J. Wiseman, *Hybrid Energy Governance*, 2014 U. ILL. L. REV. 1, 5–12; Ostrow, *supra* note 22; Jim Rossi, *Energy Federalism's Aim*, 134 HARV. L. REV. F. 228, 230–34 (2021); Joel B. Eisen, *Dual Electricity Federalism Is Dead, but How Dead, and What Replaces It?*, 8 GEO. WASH. J. ENERGY & ENV'T L. 3, 10–21 (2017).

117. *See* John Kincaid, *The Eclipse of Dual Federalism by One-Way Cooperative Federalism*, 49 ARIZ. ST. L.J. 1061, 1062–63 (2017) (providing a brief history of federalism in the United States); Robin K. Craig, *Constitutional Contours for the Design and Implementation of Multistate Renewable Energy Programs and Projects*, 81 U. COLO. L. REV. 771, 778–84 (2010) (describing the multifaceted and complex system of federalism and the climate change implications of water resource management).

118. Nestor M. Davidson, *Cooperative Localism: Federal-Local Collaboration in an Era of State Sovereignty*, 93 VA. L. REV. 959, 965 (2007) ("This conception of constitutional structure, often described as a layer cake, posits the federal government and state governments operating in separate, clearly demarcated spheres, with no independent role for local governments.").

119. *Id.* at 965 ("These regimes of 'cooperative federalism' involve ongoing collaboration rather than clear and separate spheres of competing authority."); *see* Ostrow, *supra* note 22, at 1406–07 (providing a specific example of Senator Henry Jackson using cooperative federalism to implement the National Land Use Policy Act).

tion Agency (EPA) prides itself on the many environmental statutes that rely upon embracing cooperative federalism federal agencies working alongside states and localities in furthering goals of protecting public health and the environment.[120] It has prioritized accountability, transparency and collaboration by emphasizing joint governance and public participation.[121] In the cooperative federalism context, the federal government is often deemed superior where there are intersections of policy,[122] and thus, scholars have further dissected cooperative federalism into ideas of Balanced or Collaborative Federalism.[123] Similarly to cooperative federalism, each level of government works collectively in policy implementation.[124] Yet, with collaborative federalism "joint decisionmaking occurs among multiple governing units, in contrast to divided and distributed decisionmaking."[125]

The ideal federal policy will allow for concurrent authority and collaboration in establishing land use and zoning policies that will assist in mitigating climate change by facilitating utility-scale renewable energy project development.[126] It will also rely on principles of

120. *Working Together: FY 2018-2022 U.S. EPA Strategic Plan*, ENV'T PROT. AGENCY (Feb. 2018), https://www.epa.gov/sites/default/files/2018-02/documents/fy-2018-2022-epa-strategic-plan.pdf [https://perma.cc/7AVZ-WG9V] (citing "cooperative federalism" as one of the EPA's three main goals for fiscal years 2018–2022).

121. *Id.* at 30 ("Objective 2.2: Increase Transparency and Public Participation . . . .").

122. *See infra* Part II.B.

123. Balanced Federalism has been described as "emphasiz[ing] dynamic interaction among the various levels of government and shared interpretive responsibility among the three branches of government, with the overall goal of achieving a balance among the competing federalism values that is both dynamic and adaptive over time." Ryan, *supra* note 5, at 369; *see also* Davidson, *supra* note 118, at 977 ("[T]he Constitution clearly contemplates at least *some* form of state sovereignty."); Shelley Welton, *Rethinking Grid Governance for the Climate Change Era*, 109 CALIF. L. REV. 209, 257 (2021) (explaining that jurisdiction over regulation of the electricity sector is now recognized as a space of collaborative federalism). This Article will utilize the phrase collaborative federalism and draw from balanced and dynamic federalism ideals in establishing coordinated guidelines.

124. Ryan, *supra* note 5, at 369.

125. Matthew McKinney, *Whither Public Participation in Federal Land Management? Replicating Homegrown Innovations in Shared Problem Solving*, 48 ENV'T L. REP. NEWS & ANALYSIS 10015, 10028 (2018); *see also* Sovacool, *supra* note 78, at 447 ("In contrast, they advance a notion of interactive federalism, also termed 'collaborative,' 'full-flavor,' and 'polyphonic' federalism, to illuminate how local, state, and national governments have overlapping responsibilities.").

126. Erin Ryan argues that collaborative, multiscalar governance leads to policymaking that is informed by consultation, negotiation, and compromise among all participants. Ryan, *supra* note 5, at 360–71. When considering federalism generally, she

democratic experimentalism, decentralizing power such that localities can utilize their place-specific knowledge and cater to their individual needs, while regional and national coordination provides for knowledge sharing and problem solving.[127] By involving all stakeholders public and private in the policymaking process and clearly defining responsibilities, projects similar to those in Campbell County can be sited more quickly and cost effectively. However, issues related to constitutionality and preemption must be addressed at the outset. The Tenth Amendment grants states all powers not specifically delegated to the federal government.[128] Accordingly, for Congress to regulate within the realm of a state police power, it must demonstrate that it is acting within the scope of its enumerated powers.[129] Additionally, most states have delegated land use and zoning authority to localities either via its constitution or by statute.[130] Preemption of local regulations is also likely to be met with resistance should localities lose the ability to curtail laws to fit their needs.[131]

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suggests that good governance includes five foundational values:

> (1) checks and balances between opposing centers of power that protect individuals; (2) governmental accountability and transparency that enhance democratic participation; (3) local autonomy that enables interjurisdictional innovation and competition; (4) centralized authority to manage collective action problems and vindicate core constitutional promises; and finally (5) the regulatory problem-solving synergy that federalism enables between the unique governance capacities of local and national actors for coping with problems that neither can resolve alone.

Id. at 362–63. This scaffolding helps to frame the collaborative system that is necessary for utility-scale renewable energy regulation. However, there must be buy-in across all levels of government in order to legitimize and implement these values.

127. Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267, 267 (1998).

128. U.S. CONST. amend. X.

129. Printz v. United States, 521 U.S. 898, 935 (1997) ("We held in *New York* that Congress cannot compel the States to enact or enforce a federal regulatory program. Today we hold that Congress cannot circumvent that prohibition by conscripting the State's officers directly."); New York v. United States, 505 U.S. 144, 188 (1992) ("Whatever the outer limits of [state] sovereignty may be, one thing is clear: The Federal Government may not compel the States to enact or administer a federal regulatory program.").

130. Salkin, *supra* note 4, at 125 (showing that states often create a "general plan" for development within the locality but then allow the locality to implement the vision from there).

131. *E.g.*, Bill Shaikin, *Angel Stadium Sale Lawsuit: Anaheim Officials Detail Negotiation Timeline*, L.A. TIMES (Jan. 13, 2022), https://www.latimes.com/sports/angels/story/2022-01-13/angel-stadium-sale-lawsuit-anaheim-officials-detail-negotiation-timeline [https://perma.cc/K6WW-TSPY] (highlighting the current dispute between the State of California and the City of Anaheim over the city's decision

The preliminary preemption question is whether a social challenge is best handled by federal law or if state and local law best serve the policy goals.[132] Federal regulation is typically not in a vacuum, but provides for concurrent governance.[133] Thus, even if Congress regulates within a particular field, the subnational levels of government are either delegated certain authority or there is no prohibition against additional regulation.[134] There is, however, a general presumption against preemption in areas that are traditionally regulated by the states.[135] Accordingly, the Court, has required Congress to include clear statements of legislative intent where it seeks to supersede state laws related to police powers.[136]

Express preemption is undoubtedly clear, but can be ineffective and is the antithesis of collaboration.[137] Developing coordinated siting guidelines requires input from stakeholders across all levels of

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to sell a piece of land without the state's consent).

132. William W. Buzbee, *Introduction*, *in* PREEMPTION CHOICE: THE THEORY, LAW, AND REALITY OF FEDERALISM'S CORE QUESTION 2 (William W. Buzbee ed., 2009) ("Should a social challenge be handled exclusively by federal law, perhaps by a single regulator? Or would that regulatory challenge be better addressed by leaving it to state and local regulation?").

133. Robert R.M. Verchick & Nina Mendelson, *Preemption and Theories of Federalism*, *in* PREEMPTION CHOICE, *supra* note 132, at 15 ("Congress regularly legislates to share power or to preserve state authority.").

134. *See* Ashira P. Ostrow, *Process Preemption in Federal Siting Regimes*, 48 HARV. J. ON LEGIS. 289, 290 (2011) (highlighting "Process Preemption" and how the federal government allows localities to implement national programs individually); Wiseman, *supra* note 22, at 310 n.79 ("In some cases, statutes expressly preempt most of an area but allow conflicting or more stringent local and state regulation in limited circumstances.").

135. Verchick & Mendelson, *supra* note 133, at 22 ("Courts have refused to find state law preempted unless a federal statute provides a 'clear statement' that state law is to be preempted or other strong evidence that preemption is the 'clear and manifest purpose' of Congress."); Sovacool, *supra* note 78, at 408 (quoting Anne E. Carlson, *Federalism, Preemption, and Greenhouse Gas Emissions*, 27 ENVIRONS ENV'T L. & POL'Y 281, 300 (2003)).

136. Verchick & Mendelson, *supra* note 133, at 28 (quoting Gregory v. Ashcroft, 501 U.S. 452 (1991)) ("[T]he Court should not 'upset the usual constitutional balance of federal and state powers' unless Congress made 'its intention to do so unmistakably clear in the language of the statute.'"). When viewed from a narrow perspective, renewable energy siting is perceived to be a local land use issue that should be categorized as a state police power. However, the interstate nature of electricity transmission and the global effects of climate change mitigation expand the scope of utility-scale projects and make the case for such projects to be within federal purview.

137. *See, e.g.*, Betsy J. Grey, *Make Congress Speak Clearly: Federal Preemption of State Tort Remedies*, 77 B.U. L. REV. 559 (1997) (showing how corporations were able to turn federal laws on products liability into shields from state tort action using a preemption argument).

government and should operate as a regulatory floor rather than ceiling. Regulatory floors allow states to exercise additional autonomy by developing more stringent regulations and implementing innovative policies.[138] In exercising their autonomy, states should seek to maximize social benefits and minimize social harms.[139] At a baseline, national guidelines provide assurance that there will be a minimum level of health, safety, and environmental protection.[140] Any additional or alternative regulation beyond this minimum should consider the inter- and intrastate outcomes in an attempt to avoid the "race-to-the-bottom."[141]

It is impossible to ensure that a coordinated renewable energy siting scheme will be efficacious, but incorporating good governance values and intergovernmental collaboration during the policymaking process may increase the likelihood of policy viability. With regulatory overlap, there will inevitably be gray areas that could pose compliance challenges causing the courts to be the final arbiters. Consequently, regulators at each level must proactively determine how to assess any conflicts that arise where one attempts to comply with federal, state, and local regulations, but cannot do so because it is impossible or adherence with the subnational regulation frustrates the purpose of the federal regulation.[142] Under the Supremacy

138. William W. Buzbee, *Federal Floors, Ceilings, and the Benefits of Federalism's Institutional Diversity*, *in* PREEMPTION CHOICE, *supra* note 132, at 112 (highlighting California, Minnesota, and Oregon as states that choose to go beyond the minimum requirements for environmental regulation).

139. Livermore, *supra* note 112, at 653 ("Brandeis's laboratories retain their allure, promising policy innovations that can help policymakers slip the bonds of constrained choice sets filled with unattractive tradeoffs and unfortunate compromises.").

140. *See* Verchick & Mendelson, *supra* note 133, at 18.

141. There is a debate among scholars as to whether decentralization furthers or frustrates certain policy goals. Buzbee, *supra* note 138, at 105. For some, "interjurisdictional competition leads to maximization of social welfare, rather than a race to the bottom." Revesz, *supra* note 53, at 4 (citation omitted). Whereas others have provided evidence to the contrary. *See* Buzbee, *supra* note 138, at 105 ("When the federal government takes an area of potential state bargaining off of the table, some states will need to utilize a less-appealing menu of regulatory bargaining chips. The net result will be harms to states that would prefer environmental sacrifice to other choices."). Federal floors provide a middle ground in this debate as states may not enact more lax standards, but opportunities for diverse policies remain. *Id.* However, the risk of providing states regulatory latitude in one area may lead to the creation of suboptimal standards in another, which may still trigger "race-to-the-bottom" policymaking. *Id.*

142. Hannah Wiseman advocates for disaggregating all forms of preemption across the energy sector as it "increases the likelihood of having one level of govern-

Clause, the federal regulation would always prevail.[143] However, that is likely not the most effective outcome in this instance.[144] Stakeholders should thus negotiate the factors to consider when determining how to handle a conflict rather than simply deferring to the federal plan.[145] The regulatory relationship between each level of government is discussed further in Part II.B.

B. SHIFTING POWER DYNAMICS: WHOSE JOB IS IT ANYWAY?

To effectively expand the spatial scale of governance, Congress must be authorized to implement coordinated siting guidelines or establish a centralized agency. There are two powers through which the Constitution empowers Congress to regulate energy and local land use: the Interstate Commerce Clause and the Congressional spending power.[146] Under its Commerce Clause authority, Congress

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ment regulate one aspect of an activity and another level regulate another aspect . . . ." Wiseman, *supra* note 22, at 313. Disaggregation and moving beyond rigid default rules also helps to advance the call for more collaborative energy federalism. *Id.* at 303–13.

143. U.S. CONST. art. VI, § 2.

144. States have made significant strides in renewable energy policy development and their ingenuity should not be discredited. *E.g.*, Jared Anderson, *New York Finalizes Contracts for 2.5 GW of Offshore Wind Power Capacity*, S&P GLOBAL (Jan. 14, 2022), https://www.spglobal.com/platts/en/market-insights/latest-news/energy-transition/011422-new-york-finalizes-contracts-for-25-gw-of-offshore-wind-power-capacity [https://perma.cc/FJR7-38U2] (highlighting the new wind power contracts initiated by the state of New York). Reverse preemption—state override of conflicting federal decisions—in the land use climate change policy context may lead to more robust policies. *See* Ann E. Carlson & Andrew Mayer, *Reverse Preemption*, 40 ECOLOGY L.Q. 583, 595–605 (2013) (emphasizing the successes created by the reverse preemption ability afforded in the Clean Water Act and the Coastal Zone Management Act).

145. There is a richness in federalism particularly in the energy and environmental law contexts as each level of government has a significant role in setting and achieving policy goals. Executive Order 13,132 was implemented to divide governance responsibilities between the national and state governments and can serve as a framework in developing factors for consideration. Exec. Order No. 13,132, 63 Fed. Reg. 43,255, 43,257 § 4(d) (Aug. 4, 1999). For example, this Order limits agency authority and requires consultation with state and local officials where there is foreseeable conflict. *Id.*

146. John R. Nolon, *Historical Overview of the American Land Use System: A Diagnostic Approach to Evaluating Governmental Land Use Control*, 23 PACE ENV'T L. REV 821, 832 (2006) (highlighting congressional use of the Commerce Clause in implementing land control policy); Erin Ryan, *Negotiating Federalism*, 52 B.C. L. Rev. 1, 39 (2011) (providing the Energy Efficiency Conservative Block Grant Program as an example of Congress using its spending power to implement policy).

may "regulate Commerce . . . among the several States . . . ."[147] The Supreme Court has interpreted this clause to include the channels of interstate commerce, the instrumentalities of interstate commerce, and activities that substantially affect interstate commerce.[148] While the Court's Commerce Clause jurisprudence is somewhat murky,[149] in the energy context, the Court has generally upheld federal legislation and regulations.[150] Because utility-scale renewable energy projects plug into the interstate electric grid, they are instrumentalities of and have a substantial effect on interstate commerce.[151] Given the nature of electricity transmission, Congress is thus authorized to regulate renewable energy planning and siting which are critical aspects of the transmission process.[152] This connection to interstate commerce should dispel any doubts as to whether Congress' regulation in this area violates the Commerce Clause.

Congress often relies on its Commerce Clause authority when it seeks to be the sole regulator or is enacting legislation that conflicts with state policies.[153] With this connotation, Congress' reliance on the Commerce Clause likely would not facilitate the level of collaboration that is required to develop widely accepted renewable siting

147. U.S. CONST. art. I, § 8.

148. United States v. Lopez, 514 U.S. 549, 558–59 (1995) (first citing Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 256 (1964); then citing Southern Ry. Co. v. United States, 222 U.S. 20 (1911); and then citing NLRB v. Jones & Loughlin Steel, 301 U.S. 1, 37 (1937)).

149. *See* Felix Mormann, *Market Segmentation vs. Subsidization*: *Clean Energy Credits and the Commerce Clause's Economic Wisdom*, 93 WASH. L. REV. 1853 (2018) (describing the varied dormant Commerce Clause inquiries linked to states' policies to combat climate change including renewable portfolio standards and zero emission credits).

150. Robin Craig argues that *Gonzales v. Raich,* 545 U.S. 1 (2005), suggests that congressional authority over renewable energy remains very broad when it regulates areas that affect interstate commerce, such as the transmission of electricity. Craig, *supra* note 117, at 780.

151. Michael Owen, *How Does Electricity Move from the Wind Turbine to the Business and Communities That Buy It?*, SCIENCING (Mar. 13, 2018), https://sciencing.com/electricity-move-wind-turbine-businesses-communities-buy-it-21904.html [https://perma.cc/995D-JB5W] (providing a detailed explanation of how wind power is transferred to one of the central power grids).

152. *See* F.E.R.C. v. Mississippi, 456 U.S. 742, 757 (1982) (finding that the Public Utility Regulatory Policies Act did not violate the Commerce Clause and acknowledging that electric energy is a basic element of interstate commerce); NRG Power Mktg., LLC v. Me. Pub. Utils. Comm'n, 558 U.S. 165, 171 (2010) (noting FERC's authority to regulate interstate transmission of electricity and wholesale sales).

153. *See F.E.R.C.*, 456 U.S. at 754 n.18 (providing reasoning that the Commerce Clause can be used to its fullest extent, a concept Congress knows well).

policies. Conversely, the Constitution authorizes Congress to "lay and collect Taxes . . . and Excises, to pay the Debts and provide for the . . . general Welfare of the United States . . . ."[154] Spending power partnerships often operate as an incentive for states to participate in a particular federal initiative.[155] They allow for state participation in policymaking and acknowledge the benefits of local expertise.[156] Under such programs, states are able to maintain a certain level of autonomy and can receive a benefit for opting in to the federal plan.[157] While the Commerce Clause argument would likely pass constitutional muster, spending power partnerships would be most advantageous in this scenario since it is outside of the scope of Congress's traditional regulatory repertoire and linked to a politically charged issue such as climate change.[158]

Even under a system of federal regulation, states and localities are vital to policy development and implementation given their expertise and ability to address local needs. States generally grant local governments police powers, which authorize them to establish and enforce laws that protect the general health, safety, and welfare of the public.[159] These powers most often include zoning and land use regulation.[160] The level of autonomy provided to the locality varies. Some states authorize local governments to act where state law is silent.[161] In these states, called "Home Rule" states, localities can take action outside of the scope of the powers explicitly granted by the

154. U.S. CONST. art. I, § 8.

155. Ryan, *supra* note 5, at 402. For example, Congress used its spending power to encourage states to comply with various components of the Coastal Zone Management Act. Erin Ryan, *The Spending Power and Environmental Law After* Sebelius, 85 U. COLO. L. REV. 1003, 1044 (2014). States are incentivized by administrative grants, enhancement grants, nonpoint pollution control grants, and estuarine research reserve grants. *Id.*; *see also* 16 U.S.C. §§ 1455, 1455b, 1456-1, 1456b.

156. *See* Ryan, *supra* note 5.

157. *Id.*

158. Jennifer Marlon, Peter Howe, Matto Mildenberger, Anthony Leiserowitz & Xinran Wang, *Yale Climate Opinion Maps 2020*, YALE PROGRAM ON CLIMATE CHANGE COMMC'N (Sept. 2, 2020), https://climatecommunication.yale.edu/visualizations-data/ycom-us [https://perma.cc/KGY2-DA6W] (showing the stark contrast on climate change opinion between the states).

159. *E.g.*, TEX. LOCAL GOV'T CODE § 231.071 (West 2021).

160. *E.g.*, CAL. GOV'T CODE § 65800 (Deering 2021); N.Y. VILLAGE LAW § 7-700 (Consol. 2021).

161. Jon D. Russell & Aaron Bostrom, *Federalism, Dillon Rule and Home Rule*, AM. CITY CNTY. EXCH. 6 (2016), https://alec.org/wp-content/uploads/2016/01/2016-ACCE-White-Paper-Dillon-House-Rule-Final.pdf [https://perma.cc/N4BG-NQ4G] (discussing the "Home Rule").

state, but must govern within the bounds of state law.[162] Under this system, there is often a lack of coordination in regulation and legislative interpretation across localities.[163] In other states, local governments may only legislate where state law has specifically authorized it to do so.[164] Under this model, known as "Dillon's Rule," localities may exercise authority that is: (1) granted expressly by the state, (2) necessarily implied or incident to express powers, or (3) absolutely essential to the declared objects and purposes of the locality.[165] Where there is fair doubt, courts will resolve against the locality.[166]

Localities derive their Home Rule or Dillion's Rule authority from their state constitution or by statute.[167] It is more difficult to challenge an action where the rule is established by state constitution as compared to those that are codified by statute.[168] Despite some conflict between states and localities as to policy preferences, the scope of governing authority is generally clearly defined, and each governing body has an understanding of its role in the regulatory process.[169]

In addition to the federal/state and state/local government interaction, it is also necessary to explore the relationship between the federal government and localities as well as the opportunity for collaboration between all levels of government. Incorporating the federal government into the land use regulation sphere calls into question the idea of cooperative localism which "asks whether the federal government is authorized to shape local government identity when

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162. *Id.* (showing forty-four states currently implement some type of "Home Rule").

163. *Id.* at 9 (providing fracking and plastic bag regulation as examples).

164. *Id.* at 2 (discussing "Dillon's Rule"); Davidson, *supra* note 118, at 980 (citing GERALD E. FRUG, CITY MAKING: BUILDING COMMUNITIES WITHOUT BUILDING WALLS 5 (1999)) ("The prevailing view of local governments is one of formal legal powerlessness, subject to plenary state authority.").

165. Russell & Bostrom, *supra* note 161, at 2 (citing City of Clinton v. Cedar Rapids & Mo. River R.R. Co., 24 Iowa 455 (1868)); Davidson, *supra* note 118, at 982 (citing JOHN F. DILLON, COMMENTARIES ON THE LAW OF MUNICIPAL CORPORATIONS 449–50 (5th ed. 1911)).

166. Russell & Bostrom, *supra* note 161, at 2.

167. *Id.* at 5; Wiseman, *supra* note 22, at 309.

168. Wiseman, *supra* note 22, at 309–10 (citing Wallach v. Town of Dryden, 16 N.E.3d 1188, 1203 (N.Y. 2014)); Davidson, *supra* note 118, at 1018 n.258 (citing Nixon v. Mo. Mun. League, 541 U.S. 125, 135 n.3 (2004)).

169. Davidson, *supra* note 118, at 966–75 (providing a history of federal-local cooperation and the role each level of government has played in various time periods).

necessary to advance federal aims, even in the face of state resistance."[170]

Although zoning and land use planning are traditionally regulated at the local level, the interconnected relationship between renewable energy projects and climate change should reshape the role of local governments when regulating in this sector, particularly where a locality has more progressive renewable policies than the state.[171] As Hari Osofsky and Janet Levit have noted, there are significant benefits in bottom-up lawmaking and networking whereby a diverse group of local actors coalesce around shared experiences and perceived self-interests.[172] This is evidenced by programs such as the Climate Mayors coalition, which was founded in 2014 to "demonstrate leadership on climate change" and "build political will for federal and global climate action."[173] This bipartisan group of over 450 mayors routinely publishes policy statements urging congressional action on key climate change issues.[174] This method of lawmaking promotes dynamism[175] and bottom-up networking which leads to more comprehensive climate change policies and acknowledges the unique challenges each locality faces simply by virtue of place.[176]

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170. *Id.* at 1018.

171. Given the magnitude of the climate change problem, federal involvement in what is traditionally considered a local matter is warranted. However, this Article does not suggest that centralization and uniformity is always the appropriate solution. Admittedly, there is often a "structural bias" against local governments particularly because local policies can be preempted by both federal and state laws. In our current system of federalism, local policy recommendations are routinely cast to the wayside, which is why this proposal advocates for a more collaborative policymaking process and a reimagination of the system of federalism. *See* Richard C. Schragger, *The Attack on American Cities*, 96 TEX. L. REV. 1163 (2018) (discussing the political and policy hostility against city governance).

172. Osofsky & Levit, *supra* note 11, at 429; *see* Janet Koven Levit, *A Bottom-up Approach to International Lawmaking: The Tale of Three Trade Finance Instruments*, 30 YALE J. INT'L L. 125 (2005) (discussing bottom-up international lawmaking as a regulatory process involving public and private practitioners and governing practices and behaviors).

173. *Who We Are*, CLIMATE MAYORS, https://climatemayors.org/who-we-are [https://perma.cc/53RG-DKME].

174. *Id.*

175. *See* Richard C. Schragger, *Can Strong Mayors Empower Weak Cities? On the Power of Local Executives in a Federal System*, 115 YALE L.J. 2542, 2572 (2006) (describing the possibility of dynamism when cities have a strong mayor system of governance).

176. Osofsky & Levit, *supra* note 11, at 433–34 (providing three ways bottom-up networking enriches policy decisionmaking). Osofsky and Levit also analyze local policymaking through the lens of law and geography, which they define as "two 'plac-

Bottom-up networking emphasizes the critical role that local, state, national and international stakeholders play in mitigating climate change.[177]

Case in point, Campbell County's Zoning Ordinance was amended in part due to the network the commissioners developed with surrounding county officials that had proactively planned for renewable energy development.[178] Where neighboring localities come to a consensus that specific policies are beneficial to the health, safety, and welfare of their citizens, they have more leverage when advocating for policy changes at the state level and beyond.[179] Because of the multiscalar dimensions of the climate change problem, local governments are essential to policy development.[180] Implementing local land use regulations that assist in mitigating climate change exemplifies spatial awareness and an understanding that bottom-up and top-down networking are key factors in addressing the climate change problem.

Political geographer Kevin Cox's description of "spaces of dependence" and "spaces of engagement" provide grounding for reimagining the governing relationship among and between each level of government.[181] Cox defines spaces of dependence "by those

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es' [that] represent complex socio-legal 'spaces' that operate across multiscalar networks." *Id.* at 428.

177. *Id.* at 434 (emphasizing the importance of a local prospective as it provides insight into the dynamics of place when considering greenhouse gas emissions).

178. Dungan, *supra* note 91.

179. Michael Livermore describes the costs and benefits of policy learning—one jurisdiction observing the success or failure of another—in assessing policy experimentation. *See* Livermore, *supra* note 112, at 658–66. He argues that policymakers must balance deliberative information, political information and how the information is put to use in order to assess whether an outcome is socially beneficial. *See id.* at 640–41; *see also* Hari M. Osofsky, Jessica Shadian & Sara L. Fechtelkotter, *Arctic Energy Cooperation*, 49 U.C. DAVIS L. REV. 1431, 1504–08 (2016) (discussing the benefits of hybrid cooperation and the value-add of networking to create institutions and develop regulations).

180. *See* Osofsky & Levit, *supra* note 11, at 431–32 ("[Cities] engage local dimensions of the climate change problem, but do so in formal and informal communication with policy dialogues at multiple levels of governance and with the multiscalar nature of emissions and their impacts.").

181. *See* Kevin R. Cox, *Spaces of Dependence, Spaces of Engagement and the Politics of Scale, or: Looking for Local Politics*, 17 POL. GEOGRAPHY 1 (1998) (arguing that there is a scale division of politics that is defined by spaces of dependence and spaces of engagement); *see also* Osofsky & Levit, *supra* note 11, at 431 (describing bottom-up networking in Portland and Tulsa and the impacts of multiscalar networks); Gordon MacLeod, *Place, Politics and 'Scale Dependence': Exploring the Structuration of Euro-Regionalism*, 6 EUR. URB. & REG'L STUD. 231 (1999) (analyzing the recomposition

more-or-less localized social relations upon which we depend for the realization of essential interests and for which there are no substitutes elsewhere; they define place-specific conditions for our material well being and our sense of significance."[182] Conversely, spaces of engagement are where "the politics of creating a space of dependence unfolds."[183] Spaces of engagement are created by the development of networks between people, firms, and state agencies, which help to "secure the conditions for the continued existence of their spaces of dependence . . . ."[184] When geographers contemplate a multilevel governance approach, they argue that "[t]he local [can] become[] a 'black box', disconnected from the global, international and national contexts" where policy solutions are locally bounded.[185]

Spaces of dependence allow for some locational substitution within the areas of opportunity that have been established either due to market knowledge or specific designation (i.e., a city charter or government permit).[186] Movement, such as legislative reform, is possible within a particular space of dependence, but generally impossible between such spaces.[187] In our example, Campbell County can only regulate land use within its jurisdictional bounds, and it is incentivized to do what is necessary to protect the interest of its citizens. However, where it engages with neighboring counties, they can not only work together to secure clean energy generation on a local scale but engaging beyond their spaces of dependence allows for further security of their interests. If land use policies for clean energy developments are limited to local government regulation, there is a missed opportunity for developing spaces of engagement, which would expand the spatial scale.

Scholars have asserted that "scales are not permanently fixed, but are porous and contestable . . . ."[188] To move beyond a fixed space and secure local interests, "organizations often have to construct

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of political space and the growth of economic programs developed between local and regional coalitions in the European Union).

182. Cox, *supra* note 181, at 2.

183. *Id.*

184. *Id.*

185. Harriet Bulkeley & Michele M. Betsill, *Rethinking Sustainable Cities: Multilevel Governance and the 'Urban' Politics of Climate Change*, 14 ENV'T POL. 42, 47 (2005) (quoting Simon Marvin & Simon Guy, *Creating Myths Rather than Sustainability: The Transition Fallacies of the New Localism*, 2 LOCAL ENV'T 311 (2007)).

186. Cox, *supra* note 181, at 5.

187. *Id.*

188. MacLeod, *supra* note 181, at 236.

networks with centers of social power that lie beyond their space of dependence."[189] In the climate change context, it is necessary to both expand and decentralize the spatial scale within which policies are defined. Local interests, such as land use regulation, must be expanded to a national or global scale, while certain global initiatives, such as the United Nations' Paris Agreement,[190] should be decentralized such that the network of engagement can reach the lowest levels of governance. When each occurs in tandem, a comprehensive spatial scale is developed where concrete interests can clearly be defined.

Yet, even if new networks and spaces of engagement are formed, the regulatory regime must have a basis in law. Federal and state involvement in local regulation must still work within the current governmental structure and have sufficient basis for preemption of state and local policies. An analysis of federal and state statutes that incorporate multilevel governance can inform both the substantive and procedural aspects of a national renewable energy siting policy. Part III will look to the Telecommunications Act and Clean Air Act as well as state renewable energy policies in California, Florida, New York, Nevada, and Texas for policy guidance.

III. NATIONALIZING A RENEWABLE ENERGY PLAN

Reframing renewable energy federalism requires an analysis of best practices across the various sectors of government. This Part explores current policy initiatives and investment across key states and at the federal level. Many states have grappled with specific siting regulations and have established renewable energy goals, while the federal government has mainly prioritized tax credits for research and development. Yet, the federal government, with input from states and localities, is uniquely positioned to implement a policy regime that will effectively nationalize a renewable energy plan.

A. STATE RENEWABLE ENERGY POLICY FRAMEWORKS

While there is currently no federal requirement for renewable energy generation, thirty-seven states have developed renewable portfolio standards (RPS) or renewable energy goals.[191] These guidelines set forth a state's target generation of clean energy by a pre-

189. Cox, *supra* note 181, at 17.

190. *See infra* Part III.B.

191. *Renewable Energy Explained*, U.S. ENERGY INFO. ADMIN. (June 29, 2021), https://www.eia.gov/energyexplained/renewable-sources/portfolio-standards.php [https://perma.cc/45RE-FKJ6].

scribed date.[192] Most often these standards drive renewable energy development and those states with RPS goals typically have additional legislation that promotes sustainable land use planning and renewable energy project siting.[193] Scholars praise these states for making a commitment to invest in and plan for renewable energy, but they also acknowledge that the regulatory patchwork of standards can "distort the market for renewable energy technologies."[194] Further, there are inconsistencies in how renewable energy is defined across states and the methods by which an RPS is met. Fragmented policies aside, states have led the renewable energy charge and have been policy innovators across the board. The states discussed in this Part have been leaders in the renewable energy sphere by developing statewide siting processes for specific projects or enacting legislation that encourages renewable energy planning at the local level. The permitting schemes and policy initiatives described below can serve as models for coordinated guidelines and a centralized siting agency on a national scale.

1. Statewide Centralized Siting

Power plant siting was primarily regulated by local governments until the 1970s,[195] when the National Association of Regulatory Utility Commissioners developed a model siting statute.[196] The purpose was to provide for a reliable, economical energy supply that encouraged environmental preservation.[197] The intent behind the model siting statute was to provide a "one-stop procedure for the expeditious resolution of all matters concerning the siting of utility facilities."[198] Following this effort, several states enacted statewide

192. While an RPS is most often a mandate with set consequences where the target is not met, other states have implemented voluntary renewable generation goals. *See id.* ("Most states have enforceable renewable portfolio standards (RPS) or voluntary goals or objectives for renewable energy generation within defined time frames.").

193. Florida is an outlier in that it does not have an RPS, *id.*, but it does have a uniform siting policy for all projects over 75 MW, *see* FLA. STAT. §§ 403.501–518 (2020).

194. Sovacool, *supra* note 78, at 404 (finding that the patchwork of inconsistent policies can also unintentionally inflate electricity prices).

195. *See infra* Part IV for a discussion on U.S. energy and environmental law policy developments during this decade.

196. Outka, *supra* note 14, at 257.

197. *Id.* at 257–58.

198. 5 FRANK P. GRAD, TREATISE ON ENVIRONMENTAL LAW § 11.04[2] at 11-142.2 (2021).

siting policies for electricity facilities.[199] However, no state has developed a centralized siting process without some measure of compliance with local law.[200] Such processes provide further support of the notion that collaborative policymaking along with expanded networks and spatial scale are facets of good governance. This Section will highlight Florida and New York with a focus on the siting process, legislative goals, and project outcomes.

Since its enactment in 2008, Florida's Electrical Power Plant Siting Act (PPSA) has governed the permitting process for electrical power plants, including solar facilities that generate 75 MW or more of solar energy.[201] The Florida legislature passed the PPSA in order to facilitate power plant development by encouraging efficiency in the permitting process.[202] It recognized that state oversight was necessary in site selection because of its impact on industry growth and natural resource consumption.[203] Florida opted to strike a balance between state and local governance whereby the PPSA certification preempts all other permits with the exception of a local zoning and land use regulation compliance certification.[204] In essence, the "centralized" siting process requires both state and local approvals. To obtain a certification, applicants must first obtain a determination of need from the Public Service Commission.[205] They must also include a land use consistency statement in their application materials.[206] If a local government determines that a project is inconsistent with its comprehensive plan or zoning ordinance, the locality must provide a

199. Outka, *supra* note 14. Currently, twenty-eight states have centralized power plant siting acts, many of which regulate certain renewable energy projects of a set size. Twenty of the twenty-eight states have qualified or limited preemption authority to override local land use requirements. 2 STEVEN FERREY, LAW OF INDEPENDENT POWER § 10:173, at 10-756 (2020).

200. Some state legislation explicitly addresses the issue of preemption of local requirements, but most policies include a mandate that applicants obtain a certification from other state and local agencies. GRAD, *supra* note 198, § 11.04[6] at 11-144.

201. *See* FLA. STAT. § 403.503(14) (2021).

202. *See id.* § 403.502.

203. *Id.*

204. *See id.* § 403.511(b)(3).

205. Only the Commission can make this determination and its review includes: (1) the need for electric system reliability and integrity; (2) the need for adequate electricity at a reasonable cost; (3) the need for fuel diversity and supply reliability; (4) whether the proposed plant is the most cost-effective alternative reliable; and (5) whether renewable energy sources and technologies have been used to the extent possible. *Id.* §§ 403.503(25), 403.519(3).

206. *Id.* § 403.50665(1).

statement detailing how the project can come into compliance.[207] However, inconsistency with local plans does not typically deter project development as the Siting Board is authorized to make the final siting determination provided it is "in the public interest to authorize the use of the land for a site . . . ."[208]

As of 2021, renewable energy—primarily solar and biomass—made up approximately five percent of Florida's electricity generation.[209] The state also ranked fourth nationally in total solar generating capacity and utility/small-scale solar installations.[210] There are likely several factors that contribute to Florida's considerable amount of solar energy generation, including its access to an abundance of sunlight as well as its need to reduce carbon emissions as it is the third largest energy-consuming state in the nation.[211] In addition to its location and need to curb emissions, the centralized siting process has undoubtedly facilitated greater solar energy development given the time and cost efficiency of the central siting process.[212]

The overlapping authority between Florida's state and local government in this context is perhaps one reason why its centralized siting process is at times circumvented.[213] There can be a tussle be-

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207. *See* Uma Outka, *Siting Renewable Energy: Land Use and Regulatory Context*, 37 ECOLOGY L.Q. 1041, 1061 (2010).

208. *Id.* at 1062.

209. *Florida State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN. (Dec. 18, 2021), https://www.eia.gov/state/analysis.php?sid=FL [https://perma.cc/B9JM-R89P].

210. *Id.*

211. *Id.*

212. *See, e.g.*, Outka, *supra* note 207, at 1072.

213. Since 2019, several new solar projects in Florida have been approximately 74.5 MW, which does not trigger the PPSA process. *FPL Adds Another 1.4 Million Solar Panels to the Sunshine State with the Completion of Five New Solar Energy Centers*, FPL (Dec. 28, 2020), http://www.newsroom.fpl.com/news-releases?item=126198 [https://perma.cc/Y3DZ-BZ83]; *Duke Energy Florida Announces 3 More Solar Power Plants, Totaling 195 Megawatts*, DUKE ENERGY (Mar. 25, 2019) https://news.duke-energy.com/releases/duke-energy-florida-announces-3-more-solar-power-plants-totaling-195-megawatts [https://perma.cc/RPZ7-55T6]. It is unclear how the requisite determination of need and land use consistency assessments may factor into a developer's calculus when configuring project size. While the PPSA certification may be more efficient, there are likely other political considerations impacting whether one complies with the statewide, dual governance process or opts to build in a locality with a clear land use plan. For example, Nassau County permits solar farms in open rural areas by conditional use permit. *See* NASSAU CNTY. LAND DEV. CODE § 22.03(Y) (2022). The county's zoning ordinance clearly sets forth the regulatory process. NASSAU CNTY. LAND DEV. CODE § 22.03(Y) (2022).

tween regulators that would likely benefit from additional collaboration in the regulatory process. As a Home Rule state, the Florida constitution only prohibits municipal bodies from acting on any subject preempted by county ordinance, state general law, or the state constitution.[214] Moreover, Florida requires incorporated municipalities and counties to adopt comprehensive plans to guide future development and growth.[215] Such plans must include land use elements and public facilities planning.[216] While there is no specific requirement for electricity facilities, renewable or otherwise, state guidance recommends adopting energy policies that promote energy conservation and do not contribute to urban sprawl.[217] In Florida, localities are empowered to develop their own plans, but are subject to state limitations.[218] Despite this being a Home Rule jurisdiction, the state's preemptive authority is prevalent throughout and could be a point of contention in the power plant siting regulatory process. Under this model of centralization, which does not seem to encompass collaboration, state regulators are the ultimate authority. Florida's model indicates that centralization can be advantageous in some respects, but may pose political and regulatory challenges where there is an explicit preemption regime.

In 2020, New York enacted the Renewable Energy Growth and Community Benefit Act (REG Act), which designates a specific siting process for renewable energy projects exceeding 25 MW.[219] The REG Act was designed to facilitate achievement of the state's RPS goal of seventy percent renewable generation by 2030.[220] By creating an Of-

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214. *See* FLA. CONST. art., 8 § 1; FLA. STAT. § 125.66 (2021) (detailing county powers); *see also* FLA. CONST. art. 8 § 2(b); FLA. STAT. §§ 166.021, 166.042 (2021) (detailing state law limitations on municipal powers).

215. FLA. STAT. § 163.3167 (2021).

216. *Id.* § 163.3167(2); *id.* § 163.3164(39) ("'Public facilities' means major capital improvements including, sanitary sewer, solid waste, drainage, potable water, educational, parks and recreational facilities.").

217. *See id.* § 163.3164(52).

218. *See, e.g.*, *id.* § 166.042.

219. *NYS Announces Passage of Accelerated Renewable Energy Growth and Community Benefit Act as Part of 2020-21 Enacted State Budget*, N.Y. STATE ENERGY RSCH. DEV. AUTH. (Apr. 3, 2020), https://www.nyserda.ny.gov/About/Newsroom/2020-Announcements/2020-04-03-NEW-YORK-STATE-ANNOUNCES-PASSAGE-OF-ACCELERATED-RENEWABLE-ENERGY-GROWTH-AND-COMMUNITY-BENEFIT-ACT-AS-PART-OF-2020-2021-ENACTED-STATE-BUDGET [https://perma.cc/BZF6-HW7D]; N.Y.S.B. 9508 (N.Y. 2020).

220. The REG Act has two primary goals: (1) increasing renewable energy generation with a timely, cost-effective siting process; and (2) constructing new distribution and transmission infrastructure necessary to access and deliver renewable ener-

fice of Renewable Energy Siting (ORES), New York may become the first state to actually have a "one-stop shop," at least where renewable energy is concerned.[221] The ORES is tasked with developing uniform permit standards and conditions, conducting comprehensive studies of the state's solar grid, providing for workforce training in disadvantaged communities, and incentivizing developers to adapt or reuse sites that are or were previously undesirable land uses.[222] While it is impossible to fully assess how effective the ORES will be in achieving its goals, the state has acknowledged that advancing renewable energy goals is a statewide initiative that should be expedited. Under the ORES siting process, localities will receive notice that an application has been filed and will then be given the opportunity to submit a statement to the Office indicating whether the proposed facility is designed to operate in compliance with local law.[223] Similarly to the Siting Board under the PPSA, the ORES is authorized to make the final decision on siting approval.[224] However, the ORES process has been defined in a more collaborative manner. Rather than providing explicit preemption rules that declare ORES authority as superior, instead the REG Act gives credibility, at least in theory, to local governments. The text of the REG Act simply grants ORES discretion to apply any local laws that are not unreasonably burdensome,[225] as opposed to preempting any regulations that are in con-

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gy resources. N.Y.S.B. 9508. Previously, statewide siting of major electric generating facilities was governed by N.Y. PUB. SERV. LAW §§ 160–73. This statute did not differentiate between renewable and nonrenewable sources. *See id.* There was a lengthy permitting process (approximately two years) that often led to issues between developers and agencies. *Id.* As of December 2018, only one renewable energy project had been fully certified under the Article 10 program and dozens had been stalled in the certification process. Cullen Howe, *Breaking Down the Barriers to Siting Renewable Energy in New York State*, N.Y. LEAGUE CONSERVATION VOTERS EDUC. FUND (Feb. 28, 2019), https://nylcvef.org/wp-content/uploads/2019/02/renewable-siting-whitepaper.pdf [https://perma.cc/2LRW-7R33].

221. *About the Office of Renewable Energy Siting*, OFF. RENEWABLE ENERGY SITING (2020), https://ores.ny.gov/about-office-renewable-energy-siting [https://perma.cc/77N9-B7PC].

222. N.Y.S.B. 9508.

223. *Id.*

224. *Id.*

225. *Id.* While discretion may be subjective, this backstop will alleviate issues of prohibitive local governance. For example, in *Escogen v. Town of Italy*, the court had to determine whether aesthetics or renewable energy development was of greater importance. 438 F. Supp. 2d 149, 152–53 (W.D.N.Y. 2006). Specifically, the developer argued that the Town had violated the Fourteenth Amendment by passing an ordinance that established a moratorium on wind project construction until such time that the Town enacted a comprehensive plan. *Id.* at 154. While the court did not find

flict.[226] This process seemingly provides a balancing test between state and local planning goals and siting preferences.

Only time will tell whether the ORES siting process will be efficient and cost-effective in practice, but it has been formulated in a way that acknowledges how critical renewable energy infrastructure is to climate leadership and the significance of state and local collaboration. In considering the environmental, economic, and national security threats that will likely ensue due to climate change, the call for centralized siting during the 1970s[227] is even more pressing today. As compared to siting traditional power plants, renewable energy facilities bear the additional geographical burden of being weather contingent and requiring close proximity to transmission equipment. If the federal government is not willing to establish a centralized agency, it should at minimum consider implementing or incentivizing renewable energy policies such as those described next in Part III.A.2.

2. Fostering Renewable Development Through Pragmatic Policies

In their role as laboratories for policy experimentation, states have enacted laws that not only incentivize and facilitate renewable energy siting, but have also extended their citizens the right to a clean environment.[228] From establishing RPS to "green" comprehensive planning, states have made legislative and political investments in renewable energy on a far larger scale than has the federal government. For example, California, Nevada, and Texas have each engaged in innovative renewable energy policymaking, which likely accounts, at least partially, for their leadership in renewable energy electricity generation.

In 2019, renewable resources accounted for approximately fifty percent of California's in-state electricity generation[229] and the state

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that the developer had been denied due process, it required the locality to complete its comprehensive plan within 90 days or provide the developer a hardship waiver to the moratorium. *Id.* at 162.

226. *See, e.g.*, FLA. STAT. § 403.510(2) (2021).

227. Outka, *supra* note 14, at 257.

228. The Pennsylvania Constitution grants its citizens the "right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment." PA. CONST. art. I, § 27. In essence, the state has recognized it has a responsibility to ensure that the next generation will inherit a clean environment. With such an explicit declaration of rights developers and landowners alike should be able to rely on this provision to combat NIMBY and other aesthetic complaints.

229. *California State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN. (Feb. 18, 2021), https://www.eia.gov/state/analysis.php?sid=CA [https://perma.cc/4V4K

ranked second in total utility-scale electricity generation across all renewable sources.[230] While California does not have a centralized siting system, it has determined that the installation of solar energy systems is not a municipal affair, but a statewide matter. It recommends that localities encourage installation by removing obstacles, minimizing costs, and authorizing such systems in designated areas.[231] More precisely, the state has recommended proactive land use planning for renewable energy sources.[232] California has also developed a Permitting Guidebook and Toolkit for local governments, providing streamlined guidelines to be used statewide.[233] In a 2014 study, the Center for Law, Energy and the Environment at the University of California at Berkeley School of Law recommended that cities and counties integrate distributed renewable energy project planning into their land use plans.[234]

Under California law, localities must contemplate future land use development by preparing a General Plan.[235] The General Plan must adhere to specific requirements that are reviewed annually by the Governor's Office of Planning and Research.[236] Of the nine plan requirements, two are of particular interest in the renewable energy siting context.[237] First, the land use component must include ele-

-TKQ5]. The current RPS is sixty percent of retail sales by 2030. *Id.* Additionally, the goal is for eligible renewable energy sources and zero-carbon resources to supply 100% of retail sales of electricity by 2045. *See* CAL. PUB. UTIL. CODE § 454.53(a) (2019).

230. California leads in solar, geothermal, and biomass generation and ranks as the fifth largest wind producer. *See California State Profile and Energy Estimates*, *supra* note 229.

231. CAL. GOV'T CODE § 65850.5(a) (2020).

232. *Id.*

233. *See* Solar Permitting Task Force, *California Solar Permitting Guidebook: Improving Permit Review and Approval for Small Solar Systems*, GOVERNOR'S OFF. PLAN. & RSCH. (2019), https://opr.ca.gov/docs/20190226-Solar_Permitting_Guidebook_4th_Edition.pdf [https://perma.cc/R3QL-8HTF].

234. The specific goal was to assist local governments in creating efficient processes for small-scale solar photovoltaic (PV) systems and projects between 10 kilowatts and 20 MW. Christopher Williams & Mark Goodman, *Integrating Solar PV and Distributed Renewable Energy Policies and Programs into California City and County General Plans*, CTR. FOR L., ENERGY & ENV'T 5 (Dec. 2014), https://www.law.berkeley.edu/files/CLEE/Renewable_Energy_Template_FINAL_Dec_2014.pdf [https://perma.cc/RFC9-SJ8V].

235. CAL. GOV'T CODE § 65300 (2021).

236. *Id.* § 65400(a)(2) (2022).

237. The nine required plan elements are land use, circulation, housing, conservation, open space, noise, environmental justice, air quality, and safety. *State of California General Plan Guidelines 2017*, GOVERNOR'S OFF. PLAN. & RSCH. 39 (2017) [herein-

ments such as housing, open space and natural resources, recreation, and education.[238] State guidance recommends that this component also designate certain areas of least conflict for solar energy and take inventory of energy resources, including renewables, during its natural resource review.[239] Second, in 2020, the requirements were revised to incorporate an updated environmental justice element.[240] Under this element, localities must consider whether there is equitable distribution of new public facilities and the proximity of schools and residences to locations that pose significant hazards to human health and safety.[241] The state has acknowledged that there is also a human aspect to facility siting and is cognizant that the costs of siting should not be borne by overburdened communities.[242]

However, California also has an opportunity to further its commitment to renewable energy and climate change mitigation. Climate change was previously an "additional consideration" in a locality's General Plan calculus until January 1, 2022, when it became a mandatory element.[243] The state's aim for this component is to reduce greenhouse gas (GHG) emissions and streamline the California Environmental Quality Act review process.[244] Localities are also encouraged to permit renewable energy generation by right in land use zones that have compatible uses[245] such as agricultural or industrial. Arguably, a state that consistently suffers from the impacts of climate change would also require General Plans to incorporate a renewable energy siting policy as part of its land use or climate change element, but localities are permitted to make a determination whether such uses are feasible within the jurisdiction.[246]

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after *CA General Plan*], https://www.opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf [https://perma.cc/HVU3-F4RR].

238. *Id.* at 45.

239. *Id.* at 42.

240. *Id.* at 166; *Chapter Four: Required Elements*, GOVERNOR'S OFF. OF PLAN. & RSCH. (June 2020), https://www.opr.ca.gov/docs/20200706-GPG_Chapter_4_EJ.pdf [https://perma.cc/MYC2-GZBG].

241. *See CA General Plan*, *supra* note 237, at 312.

242. *See id.* at 197.

243. S.B. 379, Reg. Sess. § 608(g)(4)(A)(i) (Cal. 2015).

244. *CA General Plan*, *supra* note 237, at 223.

245. *Id.* at 338.

246. In the 2019 report on the Annual Planning and Survey Results, the Office of Planning and Research indicated that communities across the state are adopting policies to mitigate GHG emissions and adapt to the impacts of climate change. *2019 Annual Planning Survey Results*, GOVERNOR'S OFF. PLAN. & RSCH. 4 (Aug. 2020), https://www.opr.ca.gov/docs/20200828-2019_Annual_Planning_Survey_Results.pdf

Yet, the state imposes certain limitations on local planning authority particularly where renewable energy is concerned. For example, localities are prohibited from enacting unreasonable barriers to solar system installation.[247] Under the Solar Rights Act, localities must assert a public health or safety concern prior to denying any project.[248] Denials solely for aesthetic reasons are deemed unreasonable, ultimately limiting the effect of NIMBY complaints.[249]

Nevada has taken a similar approach to California in urging localities to promote and encourage solar energy systems. Not only does Nevada prohibit local ordinances that unreasonably restrict or have the effect of prohibiting a property owner from obtaining solar[250] or wind[251] energy, but it also prohibits covenants and deed restrictions that similarly have a prohibitory effect.[252] Moreover, most localities in the state are required to establish a planning commission that is responsible for adopting a Master Plan.[253] Generally, the Master Plan must include a conservation element. If the plan includes a conservation element, it must also incorporate a plan for solar and wind energy development and utilization.[254]

Nevada further affirmed its support of renewable generation with the passage of its Renewable Energy Bill of Rights in 2017.[255]

[https://perma.cc/3JFW-FJPV]. The report states that in the last five years localities have updated their ordinances to promote climate change mitigation and activities supporting solar energy systems have doubled. *Id.* Of the 368 participating localities, approximately sixty percent indicated that their jurisdiction has adopted programs or ordinances to facilitate the development of small-scale or distributed solar energy systems. *Id.* at 20. However, the majority of jurisdictions had not planned to incorporate GHG emissions reduction in their renewable energy action plans. *Id.* at 10.

247. CAL. GOV'T CODE § 65850.5(a) (2020). Other states have also prohibited ordinances and deed restrictions that restrict or have the effect of restricting renewable energy development. *See, e.g.*, DEL. CODE ANN. tit. 29 § 8060 (2020); HAW. REV. STAT. § 196-7 (2020); IND. CODE § 36-7-2-2 (2020); UTAH CODE ANN. § 10-9a-610 (West 2020).

248. CAL. GOV'T CODE § 65850.5(a) (2020).

249. *Id.*

250. *See* NEV. REV. STAT. § 278.0208 (2020).

251. *See id.* § 278.02077. For wind projects, the reasonable restriction requirement does not apply to Federal Aviation Administration permits or project rejection by local governments that "represents a danger to the health, safety, or welfare of the public" or "is not compatible with the character of the area in which the system is located." *Id.*

252. *See id.* §§ 278.0208, 278.02077.

253. *Id.* § 278.150.

254. *Id.* § 278.160.

255. *Id.* § 701.525. Renewable energy in this context includes biomass, fuel cells, geothermal energy, solar energy, waterpower, and wind. *Id.* § 701.070 (2020).

This Bill of Rights affords property owners the right to generate and store energy at their residence, connect to the utility grid, and receive fair value for any energy that is exported.[256] With these protections in place, property owners and utility companies alike are able to properly plan for renewable development and ensure that any generation and export requirements comport with the statute. These protections complement the general planning process and provide localities with additional context when developing their Master Plan.[257]

Not only has Nevada established an interest in renewable projects at the state level, but it has also gone a step further than California and required renewable energy conservation planning at the local level. Thus, Nevada localities are well positioned to include coordinated guidelines given that Master Plans currently address renewable energy, at least minimally.[258] Both California and Nevada have underscored renewable energy development as a statewide priority and have encouraged planning at the local level in furtherance of the state's goals.

In Texas, the legislature has emphasized another component of renewable energy land use planning: proximity to transmission lines. In 2005, Texas increased its renewable energy generation goals and sought to meet them by designating certain competitive renewable energy zones (CREZ).[259] The Public Utilities Commission was charged with developing a plan to designate suitable land areas with sufficient resources and constructing transmission facilities to deliver the capacity.[260] Since this time, Texas has been the leading state in

256. *Id.* § 701.540.

257. Nevada requires developers, with the exception of local governments, to obtain a Utility Environmental Protection Act (UEPA) permit—in addition to other permits required by a locality—prior to constructing a utility facility, including renewables, in excess of 70 MW. *Id.* §§ 704.860–704.865. The purpose of the UEPA permit is to balance the potential environmental impact of a proposed utility with the public interest served by such facility. *Id.*

258. For example, the Nye County Master Plan specifically addresses renewable energy in its conservation plan. *Pahrump Regional Planning District Master Plan Update*, PAHRUMP REG'L PLAN. COMM'N (2014) https://www.nyecounty.net/DocumentCenter/View/23642/20141216_PUBLICATION-VERSION_As-amended-by-BOCC [https://perma.cc/X6NZ-UH3L]. It suggests that its solar resources are among the best in the nation for concentrating solar power and PV systems. *Id.* at 81. There is mapping available of locations that are designated good, better, and best for solar energy development. *Id.*

259. TEX. UTIL. CODE ANN. § 39.904 (West 2019).

260. *Id.*

wind energy generation and was the second largest solar producer in 2020.[261] Identifying CREZ, along with establishing its RPS and renewable energy credit program, has been deemed the impetus for Texas's significant wind development.[262]

Yet, Texas is also unique because it is the only state within the contiguous U.S. with primary control of its electricity grid, and thus is not subject to federal oversight.[263] While this fact may seem to contradict the recommendation for federal oversight and guidance, it actually reinforces the point. With total autonomy and oversight of its transmission grid,[264] Texas is able to assess the full scale of challenges present in renewable energy generation and transmission. With full knowledge regarding siting and load allocation, it can regulate more effectively. However, no other state has this ability.[265] States are unable to see a full picture and make determinations about where development is most efficient, and as such their project analysis is limited in scope.

Notably, as seen with the electricity crisis in February 2021, Texas also exemplifies the risks of failing to regulate at the appropriate scale. With no formal connection to the eastern and western interconnections, the Texas grid was limited in transmission access.[266]

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261. *Texas State Profile Analysis*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/state/analysis.php?sid=TX (Apr. 15, 2021) [https://perma.cc/YS92-42BQ] [hereinafter *Texas Profile*] (reporting that Texas leads the nation in wind-powered generation and that the state was the country's second-largest producer, after California, of solar photovoltaic-sourced power).

262. Elizabeth A. Weis, *Wind Energy Legislation Strategies for the Lone Star State*, INQUIRIES J. (2018), http://www.inquiriesjournal.com/articles/1738/wind-energy-legislation-strategies-for-the-lone-star-state [https://perma.cc/28TJ-ER35] ("Texas' wind boom most likely resulted because of inventive programs such as the Renewable Portfolio Standard (RPS), Renewable Energy Credits (RECs) and Competitive Renewable Energy Zones (CREZ).").

263. *Texas Profile*, *supra* note 261 (reporting that ERCOT operates Texas's main electricity grid which, because it does not extend across the state's borders and therefore operates completely within the state, is not subject to federal oversight).

264. The Electric Reliability Council of Texas (ERCOT) was the first independent system operator in the United States. It is one of the eight regional entities within the North American Electric Reliability Corporation. It is the southern center between the eastern and western interconnections, which link several states in the transmission grid. *About ERCOT*, ERCOT, http://www.ercot.com/about [https://perma.cc/44QB-2368].

265. Asher Price, *'An Electrical Island': Texas Has Dodged Federal Regulation for Years By Having Its Own Power Grid*, USA TODAY (Feb. 17, 2021), https://www.usatoday.com/story/news/nation/2021/02/17/texas-power-grid-why-state-has-its-own-operated-ercot/6782380002 [https://perma.cc/7RSE-39SE].

266. Reuters Staff, *Texas Will Have to Winterize Its Grid or Interconnect with*

Where a state or locality fails to network with surrounding jurisdictions, they become regulatory islands[267] and ineffective policymakers, and the siting issues are exacerbated. Not only will the failure to plan hinder development, but a failure to recognize the interconnected pieces of the siting process will do so as well. By establishing coordinated policy guidelines and robust land use plans, the aspiration of greater reliance on renewable energy becomes a reality.

Each of the states mentioned above recognize the value of expanding the regulatory scale for energy projects by creating statewide policies that prioritize renewable energy development. The state and localities each serve a distinct purpose in the planning and siting process and each is reliant on the other for policy advancement. Yet, without federal support, clean energy transitions that are solely facilitated at the state level pose significant timing and scaling challenges. The Princeton Net-Zero America Report estimates that at least 228,000 square miles (a distance larger than Wyoming and Colorado combined) of renewable energy would be required to meet the United States' energy needs.[268] To facilitate development at this scale and fully realize the Biden Administration's goal of net-zero emissions by 2050,[269] comprehensive clean energy policy investment must be made on the national level.

Neighbors: Experts, REUTERS (Mar. 4, 2021), https://www.reuters.com/article/us-usa-texas-electricity/texas-will-have-to-winterize-its-grid-or-interconnect-with-neighbors-experts-idUSKBN2AW20W [https://perma.cc/E6E7-YV54] (explaining that Texas should winterize its electric generation plants or consider connecting its grid with other parts of the country to help avoid another deadly blackout like the one in January 2021).

267. Hannah J. Wiseman, *Regulatory Islands*, 89 N.Y.U. L. REV. 1661, 1661 (2014) ("In these areas and others, the states may still be laboratories, but in some cases they are laboratories on islands, with no comprehensive, uniform information exchanged among them.").

268. *See* Eric Larson, Chris Greig, Jesse Jenkins, Erin Mayfield, Andrew Pascale, Chuan Zhang, Joshua Drossman, Robert Williams, Steve Pacala, Robert Socolow, Ejeong Baik, Rich Birdsey, Rick Duke, Ryan Jones, Ben Haley, Emily Leslie, Keith Paustian & Amy Swan, *Net-Zero America: Potential Pathways, Infrastructure, and Impacts*, PRINCETON UNIV. (Dec. 15, 2020), https://netzeroamerica.princeton.edu/img/Princeton_NZA_Interim_Report_15_Dec_2020_FINAL.pdf [https://perma.cc/5VWA-QFN9] (reporting the need for approximately 590,000 square kilometers of onshore wind and energy, which is roughly 228,000 square miles).

269. *FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies*, WHITE HOUSE (Apr. 22, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets

B. HISTORICAL DEVELOPMENT OF CLIMATE CHANGE POLICY IN THE UNITED STATES

The United States began promoting clean energy research,[270] developing emission reductions schemes,[271] and encouraging investment in renewable energy[272] as early as the 1970s. The National Energy Act of 1978 was enacted to promote energy conservation via tax incentives and other policies in an effort to reduce reliance on foreign oil.[273] By 1980, the Energy Security Act explicitly encouraged the use of renewable energy sources and established a three-year renewable energy self-sufficiency program.[274] Further, following the Great Recession, the federal government's enactment of the American Recovery and Reinvestment Act was indication that renewable energy investment was a critical component in stabilizing the economy.[275] In each of these instances, renewable energy development was essential in furthering the country's national security and economic agenda, and federal legislation was required in order to incentivize action. While renewable energy policies have been incorporated into legislation for decades, the policies have not underscored

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-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies [https://perma.cc/7Y7G-ZBGJ] ("On Day One, President Biden . . . set a course for the United States to tackle the climate crisis at home and abroad, reaching net zero emissions economy-wide by no later than 2050.").

270. *See* 42 U.S.C. § 7374 (establishing energy self-sufficiency initiatives); *id.* § 8201 (establishing the National Energy Conservation Policy Act); *id.* §§ 8251–8262k (establishing the Federal Energy Management Program); *id.* § 16231 (establishing national energy policy and programs).

271. *See id.* §§ 17061–17124 (establishing energy savings programs in buildings and industry); 49 U.S.C. § 32902 (creating average fuel economy standards).

272. *See* 12 U.S.C. § 3601 (establishing what was initially the Solar Energy and Energy Conservation Bank, repealed in 1992); 16 U.S.C. § 2701 (establishing the Small Hydroelectric Power Projects Program); 42 U.S.C. § 8272 (establishing the Photovoltaic Energy Program); *id.* § 13317 (establishing the Renewable Energy Production Incentive); *id.* § 16235 (establishing a program to promote renewable energy in public buildings); *id.* § 17152 (establishing the Energy Efficiency and Conservation Block Grant Program); 26 U.S.C. § 48 (establishing an energy credit program); 15 U.S.C. § 636(a)(31)(F) (providing that small businesses may take out express loans to purchase renewable energy systems or carry out energy efficiency projects for small business concerns under the Small Business Act).

273. 42 U.S.C. § 8201.

274. *See* National Energy Conservation Policy Act, Pub. L. No. 95-619, 92 Stat. 3206 (1978).

275. S*ee* American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115.

such development as a method of combating climate change.[276] Policies specifically related to climate change have most often been advanced or challenged by the executive branch.

During the Obama Administration, renewable energy was at the forefront of the national agenda as a means of mitigating the impacts of climate change. There were significant investments in clean energy that increased solar and wind generation exponentially.[277] Additionally, the Clean Power Plan was developed in 2015 as an effort to reduce carbon pollution from power plants and increase electricity generation from renewable sources.[278] The plan included a multifaceted approach that incorporated federal, state, and local governments.[279] In March 2017, President Trump signed Executive Order 13,783, which addressed the affordability, reliability, safety, security, and cleanliness of energy sources.[280] All agencies were tasked with promoting clean air and water and were required to review all existing regulations that potentially burdened[281] the development or use of domestically produced energy sources (specifically including oil, natural gas, coal, and nuclear energy).[282] As a final rejection of cli-

276. The Global Warming Initiative emphasizes the reduction of greenhouse gas emissions with "continued economic development, such as forest conservation, end-use energy efficiency, least-cost energy planning, and renewable energy development." 22 U.S.C. § 2621-3(d). This Initiative sets forth benchmark requirements for Multilateral Development Banks and is only applicable to international development. *See generally id.* § 2621-3.

277. *See President Obama on Climate & Energy: A Historic Commitment to Protecting the Environment and Addressing the Impacts of Climate Change*, OBAMA WHITE HOUSE ARCHIVE: RECORD, https://obamawhitehouse.archives.gov/sites/obamawhitehouse.archives.gov/files/achievements/theRecord_climate_0.pdf [https://perma.cc/A4QB-KK7B].

278. EPA Review of the Clean Power Plan, 82 Fed. Reg. 16,329 (Apr. 4, 2017).

279. *Id.*

280. Exec. Order No. 13,783, 82 Fed. Reg. 16,093 (Mar. 28, 2017).

281. In this context, "burden" means "to unnecessarily obstruct, delay, curtail, or otherwise impose significant costs on the siting, permitting, production, utilization, transmission, or delivery of energy sources." *Id.*

282. The Executive Order also revoked certain Energy and Climate-Related Presidential and Regulatory Actions and rescinded certain reports: (1) Executive Order 13,653—Preparing the United States for the Impacts of Climate Change; (2) The Presidential Memorandum of June 25, 2013–Power Sector Carbon Pollution Standards; (3) The Presidential Memorandum of November 3, 2015–Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment; (4) The Presidential Memorandum of September 21, 2016–Climate Change and National Security; (5) The Report of the Executive Office of the President of June 2013–The President's Climate Action Plan; and (6) The Report of the Executive Office of the President of March 2014—Climate Action Plan Strategy to Reduce Methane Emissions. *Id.* at 16,094. The Executive Order also stated that the Council on Environmen-

mate change policies, the Trump Administration formally served notice that the United States would be withdrawing from the United Nations' Paris Agreement on Climate Change in November 2019.[283]

As evidenced by the changes in policy noted above, the executive branch plays a critical role in determining the climate change agenda given the lack of federal legislation. The Biden Administration ran on a platform promoting net-zero emissions policies by 2050 and a commitment to investing in clean energy and innovation.[284] Additionally, on his first day in office, President Biden signed an executive order rejoining the Paris Agreement and renewed the United States' promise to be a leader in limiting greenhouse gas emissions.[285] The Build Back Better plan includes "design[ing] common-sense zoning and building codes" and developing renewables projects on federal lands as part of its climate adaptation agenda.[286] Without direct action from Congress, climate change policies will continue to be spearheaded by the executive branch and thus subject to change with every presidential election cycle. For over a decade, acts of Congress have been decided along extremely partisan lines. There is little evidence to suggest that this will change under the cur-

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tal Quality must rescind its final guidance entitled "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews." *Id.* Further, the Executive Order required the review of the Clean Power Plan, which was ultimately replaced by the Affordable Clean Energy Rule in June 2019. *Id.* at 16,095; EPA Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations, 84 Fed. Reg. 32,520 (July 8, 2019).

283. The Paris Agreement set forth a plan for developing and developed countries with the following objectives: (1) holding the global temperature increase to 1.5 degrees Celsius above preindustrial levels; (2) increasing the ability to adapt to adverse impacts of climate change; and (3) investing in pathways towards reducing greenhouse gas emissions. Terms of the Agreement required at least one-year's notice prior to any member country's withdrawal. U.N. Framework Convention on Climate Change, *Adoption of the Paris Agreement*, 22, U.N. Doc. FCCC/CP/2015/10/Add.1, annex (Jan. 29, 2016).

284. *9 Key Elements of Joe Biden's Plan for a Clean Energy Revolution*, BIDEN-HARRIS, https://joebiden.com/9-key-elements-of-joe-bidens-plan-for-a-clean-energy-revolution [https://perma.cc/4YB6-4VB3].

285. *See Paris Climate Agreement*, WHITE HOUSE (Jan. 20, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement [https://perma.cc/7Z5Q-V9LB]; *The Biden-Harris Administration Immediate Priorities*, WHITE HOUSE, https://www.whitehouse.gov/priorities [https://perma.cc/QGK7-MCA7].

286. *The Biden Plan for a Clean Energy Revolution and Environmental Justice*, BIDEN-HARRIS, https://joebiden.com/climate-plan [https://perma.cc/DP22-Z25F].

rent administration.[287] Yet, there has been an emphasis on climate policies in recent years, which suggests that comprehensive legislation could be on the horizon. There are several federal statutes that can serve as models for renewable energy siting and planning, two of which will be discussed in Part III.C below.

C. FEDERAL STATUTORY MODELS

Beginning in the summer of 2021, legislators introduced the Infrastructure Investment and Jobs Act (Infrastructure Act), which incorporated several facets of the Build Back Better Plan.[288] As related to the environment, the Act provides funding for upgraded power infrastructure with a focus on renewable energy, development of electric vehicle charger stations nationwide, and environmental regulation.[289] The bill initially passed in the Senate but was stalled in the House of Representatives for several months given disagreements related to spending on climate polices and other social infrastructure spending.[290] Several aspects of the Infrastructure Act were present in the Green New Deal proposal that was introduced in February 2019.[291] While the Infrastructure Act has been signed into law, both pieces of legislation were contentious policy recommendations given the significant level of government regulation and redistribution of wealth that would be necessary for its implementation.[292] Most often such stark proposals further polarize lawmakers and decrease the likelihood that any level of regulation will be successful.

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287. For example, the Infrastructure and Investment Jobs Act was passed with 228 votes, only eight of which were Republican members. Roll Call 369 Bill Number: H.R. 3684, OFF. CLERK, U.S. HOUSE REPRESENTATIVES (Nov. 5, 2021), https://clerk.house.gov/Votes/2021369 [https://perma.cc/6WHN-S7FZ].

288. Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021).

289. *Id.*

290. This spending is related to child care, Medicare expansions, and additional child tax credits. Melissa Quinn & Kathryn Watson, *What's in Democrats' $1.75 Trillion Social Spending and Climate Bill?*, CBS NEWS (Nov. 18, 2021), https://www.cbsnews.com/news/bill-build-back-better-spending-bill-contents [https://perma.cc/XE55-NU2L].

291. The Green New Deal had stated goals of: (1) achieving net-zero greenhouse emissions; (2) ensuring economic security; (3) investing in infrastructure and industry; (4) securing a sustainable environment; and (5) promoting justice and equality. Green New Deal, H.R. Res. 109, 116th Cong. (2019).

292. Steven Ferrey, *The "Green New Deal": Constitutional Limitations; Rerouting Green Technology*, 44 VT. L. REV. 777 (2020) (analyzing the "trip wires" that confront implementation of the Green New Deal).

Implementing coordinated siting and planning guidelines encourages a shift towards renewable energy development, which ultimately reduces greenhouse gas emissions,[293] but in a less controversial manner. It is clear that policies that provide tax incentives and other benefits for renewable energy development have garnered sufficient support and now legislative efforts must specifically focus on utilizing renewable energy as a means of mitigating the effects of climate change.[294] Both the Telecommunications Act (TCA) and the Clean Air Act (CAA) can serve as models for establishing a national or regional planning and siting policy for utility-scale renewable energy projects.

1. The Telecommunications Act of 1996

For years, scholars have drawn comparisons between the siting of telecommunications and renewable energy facilities.[295] The TCA was enacted to "promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and *encourage the rapid deployment of new telecommunications technologies*."[296] The purpose of the TCA's mobile services siting policy was to increase regulatory consistency and predictability for telecommunication service providers and to facilitate the growth of national telecommunications.[297] As related to mobile services, the TCA preempts state governments from regulat-

293. *See* Rule, *supra* note 4 (analyzing distributed renewable energy from the perspective of communities and proposing a new, coordinated strategy towards renewable energy); Yang et al., *supra* note 4 (providing an overview of the barriers and outlining general policy options for lawmakers who wish to speed the development and/or wide-scale deployment of low-carbon energy technologies).

294. Hari Osofsky argues that practitioners and government officials are less prone to adopt partisan perspectives and are more inclined to work cooperatively where climate and energy issues are framed through an economic or disaster relief lens. Osofsky, *supra* note 16, at 719.

295. *See* Patricia Salkin, *The Key to Unlocking the Power of Small Scale Renewable Energy: Local Land Use Regulation*, 27 J. LAND USE & ENV'T. L. 339, 367 (2012) (writing that other industries have had reasonable success in advocating for federal standards and guidelines); Ostrow, *supra* note 134 (identifying the same framework articulated in the Telecommunications Act of 1996 to empower local governments to make primary siting decisions); Reed-Huff, *supra* note 26 (noting the parallels between the government's interests that led it to occupy a space in the regulation of satellite dish placement and the government's interests in encouraging Americans to conserve energy and incentivizing the creation of "green" energy technology).

296. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (emphasis added).

297. Ostrow, *supra* note 134, at 307.

ing the entry of or rates charged by commercial or private mobile services.[298]

However, the TCA also exemplifies cooperative federalism as states and localities retain zoning authority over the "placement, construction, and modification of personal wireless service facilities . . . ."[299] This authority is not in a vacuum as they must adhere to statutory guidelines. States and localities are specifically prohibited from enacting regulations that would have the effect of prohibiting wireless facilities which enable the provision of personal wireless services.[300] Courts have ruled against municipalities where their zoning ordinance restricted or unduly burdened the siting of telecommunications facilities.[301] Because of its framework, the TCA has protected the interests of consumers and service providers alike. In the late 1990s, the siting of small satellite dishes on private property was the subject of many consumer complaints and led to the development of the Over-the-Air Reception Devices Rule.[302] This rule prohibits restrictions, including zoning and land use regulations as well as private covenants and contract provisions, that "impair[] the installation, maintenance, or use of" antennas that provide satellite service.[303] These checks and balances are indication of the regulatory role that each level of government plays.

Even with the many technological advances of today, the TCA continues to facilitate the expansion of broadband technology. The newest generation of wireless service, 5G, utilizes small cell wireless facilities to increase bandwidth and provide rapid responses from servers.[304] This technology requires several small power-base stations in close proximity to one another, which increases the number of cell towers and transmission facilities that are sited within a par-

298. 47 U.S.C. § 332(c)(3)(A).

299. *Id.* § 332(c)(7)(B)(i).

300. Localities are also required to act on any request to construct wireless service facilities within a reasonable amount of time and must state in writing why the project was denied. *Id.* § 332(c)(7)(B)(ii). A petitioner may bring an action in any court of competent jurisdiction where the state or local government fails to act or does not rule in her favor. *Id.* § 332(c)(7)(B)(v).

301. *See* Sprint Spectrum, L.P. v. Town of W. Seneca, 659 N.Y.S.2d 687 (Sup. Ct. 1997). The court determined that Sprint was not required to apply for a rezoning or special use permit as mandated by the Town and their review of Sprint's permit application had to comply with federal statutory and New York decisional law. *Id.* at 689.

302. Reed-Huff, *supra* note 26, at 860.

303. 47 C.F.R. § 1.4000 (2020).

304. City of Portland v. United States, 969 F.3d 1020, 1033 (9th Cir. 2020).

ticular community.[305] In an effort to streamline the development process, the Federal Communications Commission (FCC) imposed three orders that placed limits on local government authority to regulate telecommunications providers.[306] Specifically, when considering the TCA's requirement that no state or local regulation prohibit or have the effect of prohibiting certain wireless facilities, the FCC outlined two general categories of such regulations: express and de facto moratoria.[307]

Express moratoria is defined as "'statutes, regulations or other written legal requirements' in which state or local governments 'expressly . . . prevent or suspend the acceptance, processing, or approval of applications or permits necessary for deploying telecommunications services.'"[308] Conversely, de facto moratoria "effectively halt or suspend the acceptance, processing, or approval of applications or permits for telecommunications services or facilities in a manner akin to an express moratorium."[309] Thus, state and local governments retain their ability to regulate and determine where facilities should be located, but only to the extent that the regulation does not have the effect of a moratorium. The federal government has expressed an interest in and need for developing 5G technology. This requires both intra- and interstate collaboration and can only be furthered by imposing certain limitations at each level of government.[310]

As a general matter the TCA's preemption regime has led to an exponential increase in telecommunications facilities.[311] Further, local ordinances often explicitly encourage the location of wireless telecommunications facilities (particularly in areas that minimize ad-

305. *Id.*

306. *Id.* at 1032.

307. *Id.* at 1047.

308. *Id.* (quoting *In re* Accelerating Wireline Broadband Deployment By Removing Barriers to Infrastructure Inv., 33 FCC Rcd. 7705 (2018)).

309. *Id.*

310. There are several similarities between the interconnection necessary for telecommunications technologies and power sources in the electric grid and this argument holds true in each context.

311. Ostrow, *supra* note 25, at 1420 (noting that the number of cell phone towers sited across the country has "increased exponentially" as a result of the TCA's process-preemption regime); Patricia E. Salkin & Ashira Pelman Ostrow, *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, 37 HOFSTRA L. REV. 1049, 1091–92 (2009) (analyzing how the TCA has led to an increase in cell towers).

verse impacts) and detail the permitting process for facility siting.[312] With the enactment of the TCA, the federal government determined that equal access to telecommunications was a national priority that required certain levels of preemption in order to reach specific goals. While the stated purpose of the TCA references promoting competition,[313] the federal government's willingness to encroach into the state and local regulatory realm by preempting legislation was likely also due to the globalization and national defense implications linked to and the interstate nature of telecommunications.

These are similar concerns to those raised regarding the climate crisis and the need to shift towards clean energy. Not only does climate change raise national security[314] and interstate commerce issues,[315] but there are also health and safety consequences where renewable energy technology is not also rapidly deployed. A few months following the TCA's enactment, President Clinton issued the Critical Infrastructure executive order which identified "telecommunications, *electrical power systems*, gas and oil storage and transportation, banking and finance, transportation, water supply systems, emergency services . . ., and continuity of government" as critical infrastructures, the destruction of which would debilitate the defense and economic security of the United States.[316] The order also emphasized the importance of the government and private sector working together to develop strategies to ensure sustainability of this infrastructure.[317] Various executive departments were required to assign members to a committee that was tasked with assessing critical infrastructure threats and recommending a comprehensive national

312. *See* MARTIN CNTY., FLA., LAND DEV. REGULS. § 4.791 (2021); SAN BERNARDINO CNTY., CAL., DEV. CODE § 84.26 (2012); CLARK CNTY., NEV., CODE § 5.02 (2019).

313. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56.

314. Mark Patrick Nevitt, *On Environmental Law, Climate Change, & National Security Law*, 44 HARV. ENV'T L. REV. 321 (2020) (highlighting climate change's multifaceted national security risks, including accelerating national security threats, threatening nations' territorial integrity and sovereignty, and causing internal displacement within nations and climate change refugees across national borders).

315. Benjamin K. Sovacool, *The Best of Both Worlds: Environmental Federalism and the Need for Federal Action on Renewable Energy and Climate Change*, 27 STAN. ENV'T. L.J. 397, 458–59 (2008) (analyzing the growing tension between state and federal electricity regulators and its impact on interstate commerce).

316. Exec. Order No. 13,010, 61 Fed. Reg. 37,347 (July 15, 1996) (emphasis added).

317. *Id.*

policy.[318] Twenty-five years ago electrical power systems were deemed vital to national and economic security.

Today, as the effects of climate change become more prevalent, the need for federal policies that facilitate the transition to renewable energy is underscored. Climate change poses a threat to peace and stability given the conflict that will arise due to the competition for natural resources.[319] Food and water scarcity, sea level rise, and increased temperatures will likely lead to mass migrations of vulnerable populations to developed countries, such as the United States.[320] In turn, this places a greater burden on the military, immigration officials, and the government generally. If promoting competition and maintaining local autonomy in land use regulation while regulating interstate commerce was a sufficient justification for rapidly deploying telecommunications facilities, the same should hold true for renewable energy facilities. Specifically, the rationale behind developing coordinated standards for utility-scale renewable energy siting mirrors that of the TCA's mobile service siting policy: establishing regulatory consistency and predictability in order to facilitate industry growth. This new vision of renewable energy federalism[321] also draws upon the regulatory relationship between states and the federal government under the CAA.

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318. *Id.*

319. *See* Nevitt, *supra* note 314, at 332–37 (analyzing how climate change could exacerbate resource competition on an international scale); Sanford E. Gaines, *Sustainable Development and National Security*, 30 WM. & MARY ENV'T. L. & POL'Y REV. 321 (2006) (writing that environmental degradation, in combination with other factors, creates competition for increasingly scarce resources, which in turn can lead to political instability set the stage for armed civil and interethnic conflict); Brian La Shier & James Stanish, *The National Security Impacts of Climate Change*, 10 J. NAT'L SEC. L. & POL'Y 27, 33 (2019) (mentioning the 2003 conflict in Sudan's Darfur region as an example of the devastating impacts that climate-related migration could have on the social, economic, and political stability of countries, since the conflict has been partly attributed to climate- and drought-related migration that led to competition for scarce resources).

320. La Shier & Stanish, *supra* note 319, at 33.

321. *See* Salkin & Ostrow, *supra* note 311. The proposal set forth in Part IV of this Article differs from the TCA framework detailed by Patricia Salkin and Ashira Ostrow in that it grants the federal government authority to make siting recommendations, subject to the guidelines developed through coordinated policymaking. Ostrow suggests utilizing the TCA's process preemption scheme in the federal siting regime as it accounts for the interjurisdictional nature of regulations that require local governments to site nationally significant facilities. Ostrow, *supra* note 134, at 341. This Article's proposal places greater emphasis on the substantive components of siting, but relies on process preemption principles.

2. The Clean Air Act of 1970

The CAA currently serves as the primary federal legislation with a direct impact on climate change given its regulation of greenhouse gases. The CAA was passed in 1970 due at least in part to public pressure resulting from emerging social consciousness about air and water pollution.[322] Through its predecessor, the Air Quality Act of 1967, the federal government established Air Quality Control Regions (AQCRs) and introduced the concept of implementation plans but gave the states ultimate authority for oversight.[323] During this time, the federal government's role was primarily advisory as it could only enforce compliance where a state failed to promulgate air quality standards, there were intrastate pollution issues, or upon request by a governor.[324]

Once enacted, the CAA became the seminal cooperative federalism legislation and its delegation of authority between the state and federal government now serves as a solid framework for dividing regulatory power. In regulating air quality and emissions limitations, Congress tasked the EPA with establishing primary and secondary National Ambient Air Quality Standards (NAAQS) for criteria pollutants.[325] To further its cooperative federalism goals, Congress believed that states should shoulder most of the clean air burden by developing State Implementation Plans (SIPs) detailing how NAAQS will be achieved and maintained within each AQCR.[326] Congress' designation of, and state compliance with, regulating emissions within AQCRs provides evidence that there are benefits to regional govern-

322. *See* Christopher D. Ahlers, *Origins of the Clean Air Act: A New Interpretation*, 45 ENV'T. L. 75, 113–14 (2015) (noting that two important events proceeded the passage of the 1970 Clean Air Amendments: Earth Day, when millions of Americans participated in public demonstrations calling for more action to address pollution of the environment, and the creation of EPA).

323. ENV'T L. INST., *History of Federal Legislation to Address Air Pollution, in* LAW OF ENVIRONMENTAL PROTECTION § 12:5 (Cynthia R. Harris, Donald W. Stever & Stanley P. Abramson eds., 2021).

324. *Id.*

325. 42 U.S.C. § 7409. Criteria air pollutants include carbon monoxide, lead, ground-level ozone, particulate matter, nitrogen dioxide and sulfur dioxide. *See* 40 C.F.R. §§ 50.1–50.19 (2021).

326. SIPs set forth the "implementation, maintenance, and enforcement" mechanism for each primary standard in the respective air quality control region. This area consists of multiple states that have been grouped by EPA to serve as a unit for purposes of monitoring pollution control and achieving NAAQS. *See* 42 U.S.C. §§ 7407, 7410.

ance.[327] Each AQCR is "defined by the Administrator of the [EPA] based not upon local jurisdictional lines but upon criteria she 'deems necessary or appropriate for the attainment . . . of [NAAQS].'"[328] An AQCR can be comprised of two or more cities, counties or other municipalities and in certain cases may even extend across state lines.[329] Thus, states have created regional entities to develop their SIPs and provide a mechanism for oversight and compliance.[330]

Each SIP must adhere to thirteen requirements[331] set forth by Congress, who may also impose additional restrictions.[332] The SIP must at least meet these minimum criteria. If the criteria are not satisfied, EPA may impose a Federal Implementation Plan (FIP) for the noncomplying state.[333] EPA has limited ability to interfere with SIPs and the state management process as Section 110 of the CAA specifies that EPA must approve all SIPs that meet the thirteen statutory requirements.[334] This minimum criteria review process ensures that the federal government is not overstepping the states' regulatory authority. If the SIP does not satisfy the minimum criteria or is disapproved in whole or in part, EPA can write a FIP for the state within two years.[335] However, the FIP only takes effect if the state does not make the necessary plan revisions.[336] Additionally, the EPA has authority to impose sanctions, including reductions in federal highway funds, against the state in cases of noncooperation.[337]

The CAA sets forth minimum requirements with which each state must comply, but it does not prohibit a state from setting strict-

327. Davidson, *supra* note 118, at 1028; *see* Janice C. Griffith, *Regional Governance Reconsidered*, 21 J.L. & POL. 505, 514 (2005) (describing "[c]onsensus building and collaborative planning" as the "hallmarks of the new regionalism" in the context of metropolitan governance).

328. City of Columbus v. Ours Garage & Wrecker Serv., Inc., 536 U.S. 424, 439 n.4 (2002) (quoting 42 U.S.C. § 7404(c)).

329. *See* 42 U.S.C. § 7407 ("[T]he portion of such State which is not part of any such designated region shall be an air quality control region, but such portion may be subdivided by the State into two or more air quality control regions with the approval of the Administrator.").

330. *See* Davidson, *supra* note 118, at 1028.

331. *See* 42 U.S.C. § 7410(a)(2)(A)–(M) (specifying thirteen requirements for state SIPs).

332. *See id.* § 7416.

333. *Id.* § 7410(c)(1)(A).

334. *Id.* § 7410(a)(3)(B).

335. *Id.* § 7410(c)(1)(A)–(B).

336. *Id.* § 7410(c)(1).

337. *See id.* § 7509.

er standards. This legislation is often praised for its ability to establish consistency and standardization while also enabling states to engage in their own, more innovative efforts.[338] Federal regulation that operates as a floor rather than a ceiling generally allows for greater stringency and creativity in developing and implementing regulatory standards.[339] However, this "cooperative" system is not without flaws.[340] States often complain that EPA does not provide adequate guidance and fails to review plan submission in a timely manner.[341] Conversely, states are at times resistant to mandates or fail to develop plans that are consistent with federal goals.[342]

When considering coordinated siting guidelines for renewable energy facilities, any federal legislation must define the breadth of state and local flexibility in establishing additional requirements.[343] Further, it is imperative that participants at all levels of government be provided a seat at the regulatory table. Even if the federal government manages implementation and enforcement of the guidelines, the state and local government actors must have an active role in developing them. With the implementation of minimum criteria, SIPs establish parameters for new development and provide guidance as to environmental best practices. Similarly, minimum siting guidelines would inform local land use planning and encourage best siting practices. By including all applicable parties, a coordinated renewable energy siting plan can utilize the strongest aspects of the CAA's cooperative federalism structure, but with a greater focus on collaborative federalism. With these lessons in mind, the final Part will provide recommendations for how a collaborative process for utility-scale renewable energy siting can be implemented.

IV. THE NEW VISION FOR RENEWABLE ENERGY FEDERALISM

Although certain states, as noted in Part III, have made great strides in their renewable energy planning, a collaborative federalism regime that incorporates the best aspects of federal, state and local regulations will do more to mitigate climate change than relying

338. *See* Doremus & Hanemann, *supra* note 34, at 823–25; Kaswan, *supra* note 5, at 800.

339. *See* Sovacool, *supra* note 78, at 472; Osofsky & Wiseman, *supra* note 5, at 825–26.

340. *See* Osofsky & Wiseman *supra* note 5, at 825.

341. *See* Doremus & Hanemann, *supra* note 31, at 829.

342. *See* Kaswan, *supra* note 5, at 822.

343. *See id.* at 814–15.

on state and local initiatives alone.[344] The goal of implementing coordinated guidelines or a centralized agency at a federal or regional level is to create efficiency and consistency in the siting process, which, in turn, cuts costs for all stakeholders.[345] Either proposal first requires a reimagination of the federal government's role in land use regulation.[346] There is a general consensus that local government officials are best suited to regulate land use and zoning.[347] However, this authority should be limited where such regulation impedes development.[348] As noted with Campbell County, failing to incorporate a siting plan and develop standards for renewable energy siting could significantly delay or even deter project development.[349] As exemplified by the NGA, SMCRA, TCA, and CAA, federal regulation and/or oversight, while not perfect, promotes consistency, efficiency, and project development.[350]

Preemption default rules must also be contemplated during policymaking, particularly where states or localities currently regulate renewable energy project siting. There can often be a disconnect between federal and state objectives particularly when concerning contentious policies. States with their own regulatory regimes are wary of preemption, while industries seeking consistency in standards and states that have yet to regulate within the specific field are more supportive of preemptive provisions.[351] The same is arguably true where state regulations preempt those of local governments. The varying policy goals and objectives at each level of government underscore the need for implementing collaborative federalism and co-

344. The Biden climate plan has acknowledged that cities and states (specifically highlighting New Mexico, Colorado, and Oregon as well as the 29 states with RPS goals) have led the way in addressing climate change and has committed to partnering with these bodies. *The Biden Plan for a Clean Energy Revolution and Environmental Justice*, *supra* note 286. J.B. Ruhl has noted certain federalism concerns related to climate change adaptation and suggests that "there is broad consensus that to effectively and efficiently . . . reduce global emissions . . . require[s] the United States both to adopt comprehensive national-scale initiatives . . . and to participate in an international agreement to reduce emissions." *See* Ruhl, *supra* note 57, at 705.

345. Pappas, *supra* note 9, at 446–47 (explaining that historically government involvement in furthering energy goals has increased project development).

346. Osofsky and Wiseman have argued against "forcing energy law into existing, constrained understandings of federalism" by advocating for a more dynamic approach. Osofsky & Wiseman, *supra* note 5, at 778.

347. *See* Rule, *supra* note 4, at 1255–56.

348. *See* Ostrow, *supra* note 25, at 1412.

349. *See supra* Part I.B.

350. *See supra* Parts I.B, I.C.

351. Kaswan, *supra* note 5, at 814.

operative localism ideals into the regulatory process. When there is true collaboration in the policymaking process, each stakeholder can advocate for what is best for its constituents such that policies are reflective of interests at all levels. Further, each regulator can help to develop the preemption default rules where there is policy conflict.

By looking to existing state and federal frameworks and following a collaborative federalism approach, land use and zoning can be a pivotal tool in reducing greenhouse gas emissions and mitigating climate change. Given the nature of electricity generation and transmission, coordinated planning and siting guidelines established on a federal or regional level is the most practical way to reach this objective. At a minimum, such guidelines will establish parameters for place-based planning and will allow for renewable energy siting at the appropriate scale.

A. COORDINATION IN SITING: ESTABLISHING ZONING AND PLANNING GUIDELINES

In rebalancing renewable energy federalism, the scale of governance must be expanded to include all levels of government and key stakeholders. The TCA's mobile service siting policy provides evidence that federally imposed, standardized siting requirements promote development and decrease costs.[352] A similar approach should be taken for renewable energy project siting. The size and scope of the projects may differ, but the rationale behind the rapid deployment of telecommunications[353] facilities is similar to that for increasing the development of renewable energy facilities.[354] However, given the plethora of complex issues related to promoting renewable energy (e.g., the shift from fossil fuels to clean energy, the electricity generation process, and transmission access), a policy that is directly tied to federal funding will likely garner more support than would a policy solely based on Commerce Clause authority and no reliance on financial incentives.

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352. Ostrow, *supra* note 25, at 1439.

353. The American Recovery and Reinvestment Act also included a "[t]emporary program for rapid deployment of renewable energy . . . projects." While the Act did not reference climate change in relationship to the renewable energy goals, it was a factor in determining construction priorities for electric power transmission systems. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 1705, 123 Stat. 115, 145–48.

354. *See* Outka, *supra* note 14, at 244 (arguing that "land impact is a necessary 'trade-off'" or price that must be paid to reduce the carbon footprint).

Congress alongside subnational government officials and key stakeholders could establish a coordinated siting policy by passing legislation that conditions certain funding[355] upon compliance with minimum guidelines.[356] Similar to the TCA[357] and Nevada's statutes,[358] these guidelines would prohibit: (1) the enactment of regulations that have the effect of preventing renewable energy projects within a jurisdiction; (2) restrictions in zoning regulations and certain private covenants that provide for an outright ban of renewable energy facilities (particularly in zones where a project is feasible or is in close proximity to transmission lines); and (3) untimely project approvals.[359] Additionally, the policy should encourage designation of specific zones where renewable energy projects are most feasible. Such guidelines would promote development and eliminate policies that have the effect of a moratorium. These guidelines could also make permit approval contingent upon compliance with general standards that require land restoration and environmental protection in an effort to hold developers and utility companies accountable in the climate change mitigation process. As with the CAA, states

355. For example, this could include funding from the Infrastructure Act to implement sustainable land use plans or technical assistance grants.

356. For example, the structure of the Sex Offender Registration Act (SORNA) and the integration of its policy goals into the Department of Justice framework provides a model that can be utilized in the renewable energy space. The Department of Justice developed the Sex Offender Sentencing, Monitoring, Apprehending, Registering and Tracking (SMART) Office in an effort to provide guidance and technical assistance to the states, local governments and to public and private organizations. SORNA provides a comprehensive set of minimum standards for offender registration and notification. States must have substantially implemented the minimum standards in order to receive ten percent of federal funds allocated for state law enforcement. Currently, eighteen states, four territories and 135 tribes have implemented SORNA. Where a provision of a state's constitution makes compliance with the statute impossible, it will be determined that the state has substantially implemented the requirements provided that reasonable alterations are developed. Given the partisan nature of the climate change problem, any federal plan should likely be structured similarly to the SORNA legislation, which conditions funding upon compliance with minimum standards. States would be rewarded for opting in rather than be punished for failure to comply with specific regulations. This structural system underscores the ideals of collaborative federalism and allowing states and localities to retain a level of control. *See* 34 U.S.C. §§ 20901–20945.

357. *See supra* Part III.C.1.

358. *See supra* Part III.A.2.

359. Both California and Nevada have enacted legislation that prohibits unreasonable local ordinances that would deter renewable energy project developments. *See* CAL. GOV. CODE § 65850.5 (2020); NEV. REV. STAT. §§ 278.02077, 278.0208 (2020).

and localities would develop implementation plans[360] to indicate how these objectives are being met and would also have the ability to impose additional requirements. Where a state fails to submit a plan or the plan does not meet the specified guidelines, the federal regulatory body would be authorized to provide an implementation plan. "Under existing cooperative federalis[m] approaches, many states do not choose to deviate from the federal minimums," but would have the autonomy to do so.[361] Each plan would require all municipalities to review its ordinances and provide periodic updates to show progress.

In addition to implementing these guidelines, Congress could take a similar approach to Florida and New York[362] by designating a centralized siting agency. This recommendation would allow for a comprehensive national siting regime that plans for the clean energy transition at the appropriate scale. This could be done at either the federal (FERC) or on a Regional Transmission Organizations (RTOs) level, as discussed in the next Section.[363] Federal regulation and oversight of a traditionally local matter would most likely be met with resistance, especially if policy design and implementation is not collaborative.[364] However, any challenge as to whether the Constitution authorizes Congress to regulate in the land use and renewable energy space would most likely fail.[365] The regulation of telecommunications facilities[366] and fossil fuel sources[367] both include a land use component and thus far have not been invalidated.

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360. State Master Plan requirements such as those in California and Nevada could also serve this function. *See* statutes cited *supra* note 359.

361. *See* Kaswan, *supra* note 5, at 802.

362. *See supra* Part III.A.1.

363. *See infra* Part IV.B.

364. *See* Ostrow, *supra* note 25, at 1406–07 (discussing Congress's failure to approve the National Land Use Policy Act, which sought to garner support at the national, state, and local level for cooperative land use planning with a single agency overseeing compliance with state land use plans). Questions related to federalism and expanding powers of the federal government often arise when proposed policies grant additional authority to the federal government due to concerns that state autonomy and independence are at risk. *See* Kaswan, *supra* note 5, at 798–801.

365. *See* Rule, *supra* note 4, at 1255; Outka, *supra* note 14, at 255–56. *See generally* Craig, *supra* note 117 (detailing constitutional challenges to multistate renewable energy agreements).

366. *See supra* Part III. C.1.

367. *See supra* Part I.

B. COORDINATION IN SITING: ESTABLISHING A CENTRALIZED SITING AGENCY

When considering a centralized agency on a federal scale, it is first necessary to establish parameters regarding the type of projects it will regulate. Arguably, a federal agency should only oversee utility-scale projects of a certain size to maintain a sense of state sovereignty while encouraging a system of collaborative governance. State and local governments should thus retain siting authority over small-scale renewable energy projects but must ensure that the general guidelines discussed above are implemented.[368]

FERC is likely best suited for this role given its experience in regulating and siting energy facilities.[369] Further, its regulation of electric power sales and markets uniquely positions it to regulate siting and make land use planning recommendations. While FERC has limited transmission siting authority, the Energy Policy Act authorizes it to "designate any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers as a *national interest electric transmission corridor*."[370] Areas that are designated as such then fall into FERC's regulatory purview.[371] The Energy Policy Act also authorizes "three or more contiguous States to enter into" interstate compacts to establish regional siting agencies to facilitate transmission siting.[372] Regional transmission siting agencies are permitted to "review, certify and permit siting of transmission facilities, including facilities in na-

368. *See* Sara C. Bronin, *Curbing Energy Sprawl with Microgrids*, 43 CONN. L. REV. 547, 552 (2010) (suggesting that states provide guidance to localities to regulate microgrid projects in an effort to further small-scale renewable development).

369. For example, in regulating liquified natural gas terminals, FERC must consider the environmental implications that may be triggered under the National Environmental Policy Act and is required to work with state and local governments to address any potential safety concerns. *See* 15 U.S.C. § 717b-1.

370. 16 U.S.C. § 824p (emphasis added).

371. While it is not the focus of this Article, electric transmission and grid reliability is a critical issue that impacts electricity generated from all sources. Scholars continue to highlight the challenges of weakened infrastructure and the inability to upgrade transmission facilities due to the many regulatory bodies involved. *See* Rule, *supra* note 4 (discussing issues related to aesthetics and high costs associated with transmission build-outs); Ferrey, *supra* note 292 (describing FERCs role in the electricity transmission process); Klass, *supra* note 40 (analyzing the need for a new regulatory framework to match the physical aspects of the electric grid). The recommendations in this Article are meant to supplement the scholarship that calls for improved transmission siting regulations.

372. 16 U.S.C. § 824p(i). The interstate compacts must be approved by Congress as required by Article I, Section 10 of the Constitution. U.S. CONST. art. 1, § 10.

tional interest electric transmission corridors."[373] While no states have currently entered into a compact and created such an agency, such partnerships are recommended given the interstate nature of electricity transmission. Although the designation of national interest corridors has not proven to be particularly successful, the notion of "national interests" in monitoring and improving transmission infrastructure,[374] is also important for siting renewable energy facilities that plug into the transmission gr)

Regional governance could also be extremely impactful in the renewable energy sector and with electricity transmission generally. There is the potential for a more robust governance regime should states determine that the value of their renewable energy resources justify developing a regional compact.[375] Accordingly, instead of a federal siting agency, Congress could grant FERC oversight authority and FERC could in turn grant Regional Transmission Organizations (RTOs) or Independent System Operators (ISOs)[376] authority similar

373. 16 U.S.C. § 824p(i). Designation of National Interest Electric Transmission Corridors has not gained much traction. *See* Piedmont Env't Council v. FERC, 558 F.3d 304 (4th Cir. 2009); Cal. Wilderness Coal. v. U.S. Dep't of Energy, 631 F.3d 1072 (9th Cir. 2011).

374. *See* 16 U.S.C. § 824p.

375. Alexandra Klass argues that states could be inclined to shift towards regional governance if "Congress strengthened federal siting authority beyond" the powers included in the Energy Policy Act or states are incentivized by "federal clean energy policies." Klass, *supra* note 40, at 1948. There are at least two examples of regional governance in the climate change sphere that model an expanded scale of governance: the Regional Greenhouse Gas Initiative (RGGI) and the Western Governors' Association (WGA). RGGI is a non-profit organization created by the New England and Mid-Atlantic states in order to: (1) support the development of each state's CO_2 Budget Trading Program, (2) limit CO_2 emissions from power plants, (3) issue CO_2 allowances and (4) establish CO_2 parameters for regional CO_2 allowance auctions. *See Elements of RGGI,* REG'L GREENHOUSE GAS INITIATIVE, https://www.rggi.org/program-overview-and-design/state-regulations [https://perma.cc/FGH9-QFLL]. The WGA has advocated for standardized, streamlined, fast-tracked permitting procedures for utility scale renewable energy development plans. *See* Yang et al., *supra* note 4, at 18–26 (proposing "[p]olicy options to address barriers to wind energy[,]" including "[s]treamlining [the] transmission permit process"). In its 2018 energy report, the WGA set a goal of advancing efficient environmental reviews as well as siting and permitting processes by creating "functional partnerships among states, federal agencies, tribal governments and local jurisdictions to solve conflicts that hinder energy infrastructure and resource development." Energy Vision for the West, W. GOVERNORS' ASS'N, https://westgov.org/images/editor/Energy_Vision_for_the_West_1.pdf [https://perma.cc/TG6C-PYKU].

376. Regional governance could also be facilitated through newly established agencies such as the Regional Energy Boards proposed by Hannah Wiseman. The primary purpose of the agency is "to govern the development of utility-scale renewa-

to the powers they were provided under FERC Orders 888 and 2000.[377] RTOs and ISOs run, operate, and allocate load on the transmission grid and have been tasked with providing reliable, nondiscriminatory transmission service.[378] They are typically non-profit organizations formed by energy experts, government officials, and other cooperatives.[379] RTOs service approximately two-thirds of the United States population and meet about two-thirds of electricity demand.[380] These entities have region-specific insights as to areas of opportunity for project development, which would be beneficial to zoning and land use officials as they plan for a sustainable future.[381]

The regulatory relationship between FERC and the RTOs/ISOs could serve as a prime example of collaboration and creation of spaces of engagement. This polycentric approach to governing includes stakeholders from the public and private sector, while also allowing for innovation and incorporation of diverse perspectives.[382] Thus, shifting primary siting authority to an entity beyond the state level should not be considered a loss of state and local autonomy, but rather an opportunity to enhance sustainability planning by decreasing the costs of clean energy.[383] Whether the centralized siting agen-

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bles." *See* Wiseman, *supra* note 3, at 528. RTOs and ISOs are suggested here given their expertise with electricity transmission, which is also a significant factor in the siting process.

377. Order 888 encouraged, but did not require, public utilities to form ISOs to control the combined transmission systems of all utilities within a given region. Order 2000 further emphasized regional coordination and urged every region to create regional RTOs to operate and plan the nation's gr*id.* RTOs would have more power than ISOs, regulate more markets and cover more geographic area. Utilities' compliance with RTO governance is voluntary. *See* Ferrey, *supra* note 19, at 1488–93.

378. FERC regulates "RTOs and other complex transactions for the transmission and wholesale sale of electric power pursuant to" the Federal Power Act. ADAM VANN, CONG. RSCH. SERV., IF11411, THE LEGAL FRAMEWORK OF THE FEDERAL POWER ACT (2020).

379. *See* Klass, *supra* note 40, at 1937.

380. *Id.* at 1938.

381. Shelley Welton argues that RTOs can help to tackle the climate crisis if FERC develops a reform agenda that modifies the current power structure and improves grid governance. Welton, *supra* note 123, at 264–75.

382. While this Article argues that a coordinated regulatory scheme that incorporates policies that have been developed from the top down and bottom up, state and local governments should continue to implement their own place-centric policies that will encourage renewable energy development. The private sector is also well positioned to positively influence policy decisions. *See* Osofsky & Peel, *supra* note 16, at 793 (discussing a "do whatever it takes" plan for mitigating climate change).

383. *See* Ostrow, *supra* note 25, at 1439 (arguing that increased uniformity reduces compliance costs and creates a more predictable regulatory environment for regional and national developers).

cy is established on the federal or a regional level, it would be an entity of specialized knowledge that would be able to assist under-resourced local planning offices. For example, the agency could develop model renewable energy ordinances for incorporation into land use and zoning plans.[384] Localities would still be permitted to determine the exact location of such projects, but they would be provided a framework and recommendations based upon the transmission grid. Further, developers would only have to navigate one regulatory system to obtain siting permits. To assuage concerns about federal involvement in local land use regulation and facilitate collaboration, state and local governments should have distinct roles in the siting process. For example, local governments can encourage utility- and small-scale renewable energy development by implementing new site plan and comprehensive plan requirements, providing financial incentives, and offering zoning bonuses.[385]

Even with collaboration at each level of government, there are risks of redundancy of regulation, bureaucratic inefficiencies, and confusion.[386] There is a possibility that certain issues could take longer to address given dependency on multiple levels of government. However, with the appropriate balance of authority and substantive contributions from all levels of government, the number of renewable energy projects will likely increase significantly. Developers would only be required to navigate one agency and states/localities will have not only planned for project siting, but many of the barriers to development will be eliminated. By considering the larger implications, utility-scale renewable energy project siting is seen as more than a local land use issue. Because these projects

384. While there are several states that do not require land use or comprehensive planning, model ordinances can support a locality's planning process and possibly encourage a more structured system. For example, many rural areas do not have any zoning or land use ordinances in place and are not required to under state law. *See* Outka, *supra* note 14, at 258–59. In 2006, Pennsylvania developed a model ordinance for wind energy facilities in an effort to provide guidance to any municipality seeking to amend or integrate wind energy into its zoning ordinance. *See Wind Energy*, PA. DEP'T ENV'T PROT., https://www.dep.pa.gov/Business/Energy/Wind/Pages/default.aspx [https://perma.cc/22ZR-A6CJ].

385. *See* Nolon, *supra* note 10, at 25. Localities can also adapt to climate change by implementing zoning and land use plans that anticipate the risks of global warming (floods, erosion, wildfires, etc.). *See* Kaswan, *supra* note 5, at 798–801 ("Environmental problems are not one-dimensional: Global problems like climate change have local manifestations that could shape the nature of a locality's desired response. Thus . . . a state like California, that perceives significant risks from climate change, could be willing to establish more stringent goals than the federal government.").

386. *See* Sovacool, *supra* note 78, at 451; Livermore, *supra* note 112, at 696–700.

reduce reliance on fossil fuels and decrease emissions, project siting can have large-scale environmental consequences. Not only should the federal government set clear emissions reductions goals, but it should actively engage in renewable energy policymaking that will help to achieve these goals and empower state and local governments to do or continue to do the same.[387]

CONCLUSION

The current climate crisis has catapulted environmental law to the forefront of the national policy agenda. By emphasizing the role of zoning and land use planning, this Article advances policy goals calling for "sustainable infrastructure . . . [and] an equitable clean energy future."[388] While the Biden Administration has committed to providing significant financial investment, the clean energy transition requires substantive policy investment as well. Current policies have failed to address the microlevel, practical solutions that will mitigate the impact of climate change. Reframing renewable energy federalism provides one solution.

Drawing from state and federal policy frameworks, this proposal advocates for a centralized siting agency and coordinated siting guidelines that incorporate place-based nuances. The federal government is uniquely positioned to provide siting recommendations given the geography-specific nature of renewables and their transmission requirements. Yet, to facilitate the appropriate balance between centralized governance and experimentalism, state and local governments must retain certain authority in the planning process. The new vision for renewable energy federalism designates a role for the federal, state, and local governments in the renewable energy siting process. Furthermore, collaboration between each level of government leads to streamlined, comprehensive regulation and stronger networks.

The proposed coordinated siting policy will also need to ensure that citizens are both informed and engaged throughout the siting process. Efficient siting has been the focus of this Article, but future

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387. *See* Pursley & Wiseman, *supra* note 60, at 934–35 ("Our suggestion, then, is that the federal government should first establish some minimum standard-most likely a simple prohibition on state and local regulations that impede renewables siting-for fostering the adoption of distributed renewable energy technologies and should allocate primary authority for implementation and regulation, with substantial discretion, to local governments.").

388. *The Biden Plan for a Clean Energy Revolution and Environmental Justice*, *supra* note 286.

works should also consider the environmental justice and equity implications in renewable energy siting. Further analysis into these issues must take place at the convergence of environmental law, property law, and legal geography in order to realize a clean energy future that mitigates climate change and emphasizes environmental justice.