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Evolving Legal Conceptions of "Energy Communities"

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The concept of "energy communities" has had long-standing and evolving significance in the United States and in other countries around the world. Under the Biden Administration, the term "energy communities" has acquired new legal meanings that differ by context and continue to evolve. This Article traces the shifting meaning of "energy communities" and examines how it relates to other dominant references to "communities" in the context of energy law and policy, including environmental justice, low-income, underserved, and disadvantaged communities, as well as newer community-scale energy system innovations, such as community solar or "advanced energy communities." International comparisons, such as with the European Union's Citizen Energy Community and Renewable Energy Community concepts, provide context for thinking about the role of energy/community linkages in the clean energy transition. In tracing these related conceptions, this Article shows that significant variability currently exists across energy community models and sees this variability as a strength. As the energy sector shifts from fossil fuel dominance toward increasingly distributed

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models for meeting energy demand, this Article cautions policymakers to avoid anchoring legal conceptions of "energy communities" too firmly to the past, so that the broad concept can continue to drive innovation in community-scale energy systems. Ideally, legal frameworks can favor flexible definitions sufficient to create adaptable and effective transition support regimes without limiting the potential for reimagining the "energy communities" of the future.

INTRODUCTION

In recent years, increased policy attention has turned to the functions and impacts of energy extraction, generation, and consumption at the community scale. Community linkages to energy have commonly evoked communities that host energy infrastructure, whether that be a wind or solar farm or a coal-fired power plant, as well as communities that are economically reliant on energy-related extractive industries. In connection with electric power, this perspective has expanded to align with trends toward an increasingly distributed and decentralized electricity sector, which elevate community-scale possibilities for shared energy projects and even household level shifts toward increased energy efficiency and renewable energy generation. At the same time, the dynamic transitions underway in the energy sector are broadly affecting some local economies negatively, drawing attention to the need for supportive transition policies to help communities dependent on energy industries, such as coal mining, that are now in decline.

As this brief description suggests, the concept of energy communities in the U.S. has had long-standing and evolving significance, which might best be described as multifaceted and multi-contextual. Under the Biden Administration, however, the term "energy communities" is acquiring new legal meanings, even as the concept continues to signify more broadly and variably in state and international policy spheres.

This Article traces the evolving legal conceptions of "energy communities" and examines how the concept relates to other references to and ideas about "communities" in the context of energy law and policy. The research suggests that even as increasingly fixed legal meanings emerge, community/energy linkages are in fact quite wide-ranging. Part I maps these linkages in both early and evolving forms, all of which connect to concepts of community in different ways.

Part II considers emergent legal conceptions of "energy communities" under the Biden Administration and in the states, considering how its legal meaning relates to other important legal definitions in related contexts, such as "environmental justice communities," "disadvantaged communities," and "underserved communities." Part II then offers a point of comparison with the European Union's Citizen Energy Community and Renewable Energy Community concepts.

These E.U. innovations represent an approach designed to integrate community/energy linkages into a more modern electric power sector and, specifically, the broader clean energy transition the E.U. is working to achieve. It then highlights community energy models in India, Brazil, and South Africa showing further conceptual and functional variability. This overview, though by no means exhaustive, shows diverse expressions of the energy community concept.

Part III evaluates these evolving conceptions from the perspective of energy transition and considers how recent developments interact with energy transition narratives that shape the political economy of energy policy. The energy sector is shifting away from fossil fuel dominance toward increasingly distributed models for meeting energy demand, and innovations not yet conceived could very well be just over the horizon. This Article concludes by cautioning against anchoring a legal conception of "energy communities" too firmly to one model, or to the past, to protect possibilities for envisioning robust and beneficial community-scale engagement with the clean energy transition in the future.

I. MAPPING ENERGY/COMMUNITY LINKAGES: EARLY AND EVOLVING FORMS

Wide-ranging energy/community linkages have historically been essential parts of energy's physical and regulatory landscape in the U.S. This Section provides a brief overview of early forms most relevant to the electric power sector and common newer models linking energy to community scale usage or goals. These represent varied conceptions of energy communities that provide the backdrop for understanding relevant new legal definitions and the evolving policy discourse.

From the earliest decades of electric power expansion across the U.S., local communities played active roles in the expanding energy sector in different ways. From hosting resource extraction for energy generation, such as coal mines, to energy infrastructure, such as pipelines and power plants, communities and their local landscapes have long been shaped by the energy industries.

Early notions of "energy communities" in the context of electric power date to the origins of the electric grid, centering on the provi-

sion of electricity at the local level through municipally or cooperatively owned electric utilities.[1] These long-standing localized energy structures remain important to the electricity industry today, despite large investor-owned utilities (IOUs) supplying most of the electricity delivered to U.S. consumers.[2] Roughly 2,000 municipal utilities serve local communities across the U.S., ranging widely in size, but serving "[one] in [seven] Americans" mostly in smaller populations centers.[3] It is possible for municipalities to take over IOU infrastructure through "municipalization"—a process that, though uncommon due to many complicating factors, affords a pathway to exerting control over community energy.[4]

The rural electric cooperative (or "co-op") provides local electric service via a consumer-based ownership model, making it another key early form of localized energy structure in the U.S. Rural electric cooperatives played an especially important role in expanding electricity access to areas poorly served by profit-motivated IOUs.[5] Today, over 850 cooperatives supply electricity to thirteen

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[1] For discussions of the history of publicly-owned utilities and their role in the clean energy transition in my earlier work, see Uma Outka, *Cities and the Low-Carbon Grid*, 46 ENV'T L. 105, 120–21, 131 (2016); Shelley Welton, *Public Energy*, 92 N.Y.U. L. REV. 267, 332 (2017); GABRIEL CHAN ET AL., BARRIERS AND OPPORTUNITIES FOR DISTRIBUTED ENERGY RESOURCES IN MINNESOTA'S MUNICIPAL UTILITIES AND ELECTRIC COOPERATIVES 6 (2019); Stephanie Lenhart et al., *Municipal Utilities and Electric Cooperatives in the United States: Interpretive Frames, Strategic Actions, and Place-Specific Transitions*, 36 ENV'T INNOVATION & SOCIETAL TRANSITIONS 17, 18 (2020); Alexandra B. Klass & Rebecca Wilton, *Local Power*, 75 VAND. L. REV. 93, 101 (2022).

[2] *Today in Energy: Investor-Owned Utilities Served 72% of U.S. Electricity Customers in 2017*, U.S. ENERGY INFO. ADMIN. (Aug. 15, 2019), https://www.eia.gov/todayinenergy/detail.php?id=40913# [hereinafter *Today in Energy*].

[3] *Stats and Facts*, AM. PUB. POWER ASS'N, https://www.publicpower.org/public-power/stats-and-facts (last visited Dec. 20, 2023).

[4] For discussions of the history of rural electric cooperatives and their role in the clean energy transition, see Alexandra B. Klass & Gabriel Chan, *Cooperative Clean Energy*, 100 N.C. L. REV. 1, 3–5, 81 (2021); Lenhart et al., *supra* note 1; CHAN ET AL., *supra* note 1.

[5] *See* JOHN E. KWOKA, JR. POWER STRUCTURE: OWNERSHIP, INTEGRATION, AND COMPETITION IN THE U.S. ELECTRICITY INDUSTRY 12 (1996).

percent of U.S. consumers, serving "an estimated [forty-two] million people in [forty-eight] states."[6]

These early forms represent the concept of "energy communities" by centering ownership and governance in close proximity to the service area and centering consumers in the enterprise mission, instead of shareholders.[7] The American Public Power Association, representing municipal utilities, proudly states that "Public power utilities are: Not for profit; Community-owned; Locally controlled."[8] Similarly, the National Rural Electric Cooperative Association, touts that "[e]lectric cooperatives are built by and belong to the communities they serve . . . led by members from the community and are uniquely suited to meet local needs."[9]

Newer, alternative energy/community linkages have helped local governments pursue reduced electricity costs and cleaner energy sources. For example, community choice aggregation (CCA), where allowed, is a method by which localities can achieve economies of scale in purchasing electricity on behalf of residents.[10] As of this writing, ten states have enabling legislation for CCA and other states are considering it.[11] Although the initial motivation behind CCA was local control over energy costs, it has been used to reduce residential electricity bills and is increasingly seen as a potential pathway to advance community-scale preferences by consolidating and redirecting demand to cleaner energy resources.[12] Power purchase agreements (PPA) for the output from new renewable energy projects is another method by which localities and other entities create energy/community linkages when they do not generate their own

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[6] *Fact Sheet*, NRECA, Mar. 2023, at 1, https://www.cooperative.com/programs-services/bts/Documents/Data/Electric-Co-op-Fact-Sheet.pdf.

[7] *Today in Energy*, *supra* note 2.

[8] *Stats and Facts*, *supra* note 3.

[9] *America's Electric Cooperatives*, NRECA, Apr. 2023, at 4, https://www.electric.coop/wp-content/uploads/2023/04/2023_NCS5233_Coop_FactsAndFigures_4.10.23_v3.pdf.

[10] *See generally* ERIC O'SHAUGHNESSY ET AL., COMMUNITY CHOICE AGGREGATION: CHALLENGES, OPPORTUNITIES, AND IMPACTS ON RENEWABLE ENERGY MARKETS 23 (2019).

[11] *Green Power Markets: Community Choice Aggregation*, EPA, https://www.epa.gov/green-power-markets/community-choice-aggregation (last updated Oct. 27, 2023).

[12] *See* O'SHAUGHNESSY ET AL., *supra* note 10, at 33.

electricity but nonetheless seek to express community-scale energy preferences operationally.[13] Sub-local communities, such as universities, also use PPAs in this way.[14]

A now common, but still newer model promotes the idea of "community energy" in the form of shared energy systems, notably what is known as community solar.[15] As of 2022, the National Renewable Energy Laboratory (NREL) reports that at least twenty-two states have enacted enabling legislation for community solar, some establishing a mandate, some creating incentives, and community solar has been deployed across forty states.[16] This conception does less to characterize a community based on its historic and current economic conditions than to encourage creation of new community-scale structures linking energy consumers to clean energy generation that is (in the best form) closer to their homes, where the electricity will be used. It also has the potential to expand access to solar power for renters and others who are not able to add rooftop solar to their homes.[17] NREL reports that from 2008 to 2022, "cumulative national community solar capacity more than tripled."[18]

As scholars and advocates have observed, however, the fact that a project is community-scale does not necessarily reflect community involvement.[19] For example, a small-scale subscription-based solar array owned and operated by the dominant investor-owned utility in

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[13] STEPHEN ABBOT & RYAN SHEA, A LOCAL GOVERNMENT'S GUIDE TO OFF-SITE RENEWABLE PPA RISK MITIGATION 6, 8–9 (2020) (explaining the difference between physical and virtual PPAs and highlighting the risks to manage from the local government perspective).

[14] The University of Kansas is one example among numerous within higher education. *See KU Becomes a Renewable Energy Leader with 20-Year Wind Purchase Agreement*, UNIV. OF KAN. (Nov. 20, 2018), https://today.ku.edu/ku-becomes-renewable-energy-leader-20-year-wind-purchase-agreement.

[15] KAIFENG XU ET AL., NAT'L RENEWABLE ENERGY LAB'Y, EXPANDING SOLAR ACCESS: STATE COMMUNITY SOLAR LANDSCAPE 1 (2022).

[16] *Id.* at 3–4. Community wind is a related, if less common, model. *See Community Wind Energy*, OFF. OF ENERGY EFFICIENCY & RENEWABLE ENERGY, https://windexchange.energy.gov/markets/community (last visited Dec. 20, 2023).

[17] XU ET AL., *supra* note 15, at 8.

[18] *Id.* at 1.

[19] *Id.* at 4 tbl.1 (showing that four out of the top ten states do not have enabling legislation, and instead investor-owned utilities are operating community solar projects).

the area, may have no closer proximity to subscribing customers than being within the utility's service territory.[20] As of 2021, only four states required subscribers to live in the same or adjacent county as the community solar facility.[21]

Increasingly, however, this conception is being associated by advocates and in law and policy to align with the goal of reducing home energy burden in low-income households—a goal aligned with clean energy justice.[22] NREL reports at least seventeen states that have legislation in place containing "stipulations that expand community solar access for [low- and middle-income] households."[23] In support of state efforts, the Department of Energy (DOE) announced an ambitious goal in 2021, under the National Community Solar Partnership, "to enable community solar systems to power the equivalent of five million households by 2025 and create [one] billion [dollars] in energy bill savings."[24]

II. EVOLVING LEGAL CONCEPTIONS OF "ENERGY COMMUNITIES"

There are many ways to conceive of "communities" and many different reasons, of course, for doing so. Commonly, communities are self-created and defined by those who are a part of them—communities of all kinds can be based on myriad points of connection, which may or may not be in anyway limited by geographic proximity. This presents a challenge for policymakers charged with implementing beneficial programs designed to benefit communities with certain characteristics and creating ways to measure the benefits of

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[20] *Id.* at 4.

[21] Those states are California, Colorado, Minnesota, and North Carolina. *Id.* at 6 tbl.2.

[22] XU ET AL., *supra* note 15, at 10–14. Energy burden is the percentage of a household budget that goes to covering energy bills. *See* 42 U.S.C. § 8622(2). Energy burden is highest among low-income households and disproportionately high among low-income households of color. ARIEL DREHOBL, LAUREN ROSS & ROXANA AYALA, HOW HIGH ARE HOUSEHOLD ENERGY BURDENS? AN ASSESSMENT OF NATIONAL AND METROPOLITAN ENERGY BURDEN ACROSS THE UNITED STATES 11–13 (Sept. 2020), https://www.aceee.org/sites/default/files/pdfs/u2006.pdf.

[23] XU ET AL., *supra* note 15 at 9, 24–29 tbl.A-2 & A-3.

[24] *Id.* at 1.

such policies over time. However necessary, crafting a legal definition of "community" from an external vantage point is inherently contextual and may interact in varied ways with existing self-created communities.

As the preceding section conveyed, a range of energy/community linkages has given meaning to the connection between energy production and consumption at the community scale, with varying degrees of formality. What follows discusses the evolving legal conceptions of "energy communities" under the Biden Administration, at the state level in the U.S., in the E.U., and in several other global contexts, including India, Brazil, and Sub-Saharan Africa. Rather than advancing a "best" definition, this overview suggests there is not one, certainly not for every context, showing how evolving conceptions interrelate to one another and to broader trends shaping the political economy of energy transition policy.

A. *Under the Biden Administration*

Two key objectives of the Biden Administration have been to reestablish the United States as a climate leader on the global stage and to recommit the federal government to environmental justice. Within a month of taking office, having immediately submitted the instrument of acceptance to rejoin the Paris Agreement, President Biden signed Executive Order 14008—"Tackling the Climate Crisis at Home and Abroad."[25] In doing so, as Part I of the Order declares, his Administration was "putting the climate crisis at the center of United States foreign policy and national security."[26] Order 14008 then makes historic commitments to "communities too often left behind" with direct, tangible, and significant resources.

Section 212 of the Order, focused on "Empowering Workers Through Rebuilding Our Infrastructure for a Sustainable Economy," explicitly groups together as "communities too often left behind" those "that have suffered as a result of economic shifts" and those

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[25] Exec. Order No. 14008, 86 Fed. Reg. 7619 (2021). The Paris Agreement provides the structure for current global efforts to address climate change under the United Nations Framework on Climate Change. President Biden's predecessor in the White House, President Donald J. Trump, had withdrawn the U.S. from participation. *See* Framework Convention on Climate Change, *Adoption of the Paris Agreement*, U.N. Doc. FCCC/CP/2015/L.9/Rev.1 (Dec. 12, 2015).

[26] 86 Fed. Reg. §§ 101–04.

"that have suffered the most from persistent pollution, including low-income rural and urban communities, communities of color, and Native communities."[27]

Later, the Order disaggregates these various communities. First, the Order narrows the focus on what it terms "energy communities." Section 217 states the goal of "Empowering Workers Through Revitalizing Energy Communities," directing federal agencies to "coordinate investments and other efforts to assist coal, oil and gas, and power plant communities."[28] Here, the term "energy communities" is specifically associated with places most likely to be economically dependent on fossil energy industries—the communities cited in Section 212 as having "suffered as a result of economic shifts."[29] Section 218 reinforces this point of focus for the term "energy communities," establishing an "Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization," whose work to date is discussed below.[30]

At the same time, Section 219 states the goal of "Securing Environmental Justice and Spurring Economic Opportunity," emphasizing "environmental and economic justice" for "disadvantaged communities that have been historically marginalized and overburdened by pollution and under-investment in housing transportation, water and wastewater infrastructure, and healthcare."[31] As the Section title and description of "disadvantaged communities" suggests, this Section is focused on environmental justice as traditionally conceived. Section 219 explicitly seeks to ensure that such communities benefit from economic opportunities expected with the clean energy

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[27] 86 Fed. Reg. § 212.

[28] 86 Fed. Reg. § 217.

[29] 86 Fed. Reg. § 212.

[30] 86 Fed. Reg. § 218. The Interagency Working Group includes the U.S. Department of Energy (which administers the Working Group), U.S. Department of the Interior, U.S. Department of Treasury, U.S. Department of Agriculture, U.S. Department of Commerce, U.S. Department of Labor, U.S. Department of Health and Human Services, U.S. Department of Transportation, U.S. Department of Education, U.S. Environmental Protection Agency, Office of Management and Budget/Domestic Policy Council, Council on Environmental Quality, and the Appalachian Regional Commission.

[31] 86 Fed. Reg. § 219.

transition.[32] To this end, it amends provisions of President Bill Clinton's 1994 Executive Order 12898 establishing a White House Environmental Justice Interagency Council (Section 220), and creates, within the Environmental Protection Agency, a White House Environmental Justice Advisory Council (Section 221).[33] The Order then charges the Council on Environmental Quality (CEQ) to develop "a geospatial Climate and Economic Justice Screening Tool" to be used to "annually publish interactive maps highlighting disadvantaged communities."[34]

Finally, Section 223 makes an historic commitment by establishing the Justice40 Initiative, setting a goal of assuring that "[forty] percent of the overall benefits" of certain federal investments serve "disadvantaged communities."[35] The significant financial commitment of Justice40 captures energy/community linkages with its focus on "clean energy and energy efficiency" and "clean transit," but extends further as well to include investments for "affordable and sustainable housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of critical clean water infrastructure."[36] Most of these latter categories will often, if not always, capture energy/community linkages as well. Sustainable and affordable housing may be able to integrate energy efficiency measures and clean energy, such as rooftop solar. Legacy pollution is often associated with fossil energy industries, from extraction, to transportation, to power generation and waste

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[32] *Id.*

[33] 86 Fed. Reg. §§ 220–21. In this way, Order 14008 builds on President Biden's Executive Order 13985, which addresses racial equity broadly; Order 14008 centers that aim in the environmental context. *See* Exec. Order No. 13985, 86 Fed. Reg. 7009 § 1–2 (2022) (Section 2(b) defines "underserved communities" with reference to "populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life," while Section 2(a) defines those communities in its definition of "equity" to include "Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality").

[34] 86 Fed. Reg. § 222.

[35] *Id.* § 223.

[36] *Id.*

disposal. Training and workforce development connected to federal climate investments will often relate to clean energy industry jobs. Indeed, this has been a significant focus at the DOE, to ensure that new wealth creation associated with the clean energy transition is inclusive and can accomplish a form of restorative justice for communities that have been historically under-served and overburdened by pollution.[37]

1. E.O. 14008 EARLY IMPLEMENTATION: "ENERGY COMMUNITIES"

Following the Executive Order, the Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization created by Section 218 released its initial report, further characterizing "energy communities" as a "set of communities across the country hard-hit by coal mine and coal power plant closures"—a still narrower focus than the language of Section 218 (which also referenced oil and gas, and power plants, not limited to coal plants).[38] In the report, the Working Group identified the "[twenty-five] most impacted regions for coal-related declines . . . to focus on most immediately as priority [e]nergy [c]ommunities."[39]

In the last fifteen years, coal has slipped from being the dominant resource for generating electricity in the U.S., now accounting for only about twenty percent of electric power.[40] From the perspective of greenhouse gas reduction, the downward trend is a distinct

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[37] *See Justice40 Initiative*, U.S. DEP'T OF ENERGY: OFF. OF ENERGY JUST. & DIVERSITY, https://www.energy.gov/diversity/justice40-initiative (last visited Dec. 20, 2023) (highlighting among eight priorities goals to "increase clean energy enterprise creation" and "access to low-cost capital" as well as "increase clean energy jobs, job pipeline, and job training for individuals from [disadvantaged communities]").

[38] INTERAGENCY WORKING GRP. ON COAL AND POWER PLANT CMTYS. AND ECON. REVITALIZATION, INITIAL REPORT TO THE PRESIDENT ON EMPOWERING WORKERS THROUGH REVITALIZING COMMUNITIES 1 (2021) [hereinafter IWG, INITIAL REPORT], https://energycommunities.gov/wp-content/uploads/2021/11/Initial-Report-on-Energy-Communities_Apr2021.pdf.

[39] *Id.*

[40] *Renewable Generation Surpassed Coal and Nuclear in the U.S. Electric Power Sector in 2022*, U.S. ENERGY INFO. ADMIN. (Mar. 27, 2023), https://www.eia.gov/todayinenergy/detail.php?id=55960 (including a graphic that shows a dramatic drop in coal and rise in natural gas and renewables between 2010 and 2022).

mark of progress toward climate change mitigation goals. Numerous factors contributed to this decline, from state and federal policies designed to hasten a clean energy transition, to the rapid expansion of the natural gas industry with hydraulic fracturing, and renewable energy development. At the same time, communities that have historically depended on the coal industry economically are suffering as the industry contracts.[41] According to the DOE, coal production recently "hit its lowest levels since 1978" with "the number of coal mining employees dipp[ing] to just over 43,000 workers [in 2020], down from over 90,000 in 2012."[42] Although the clean energy transition promises new jobs, without deliberate policy interventions, job growth will not automatically benefit the communities experiencing coal industry losses.[43]

A significant body of scholarship and policy research across multiple disciplines has focused on the struggles facing these communities. Professor Patrick McGinley was among the earliest to highlight the tendency in policy circles to ignore environmental and economic suffering in "coalfield communities"—a long-time focus of his work as an advocate for coal mine workers in West Virginia.[44] During the second term of the Obama Administration, policy attention to this important issue increased. A 2015 report by the Center

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[41] BETHEL W. TAREKEGNE ET AL., COAL-DEPENDENT COMMUNITIES IN TRANSITION: IDENTIFYING BEST PRACTICES TO ENSURE EQUITABLE OUTCOMES 2 (2021), https://www.osti.gov/servlets/purl/1821478.

[42] *Id.*

[43] *Id.* at 5.

[44] *See* Patrick C. McGinley, *From Pick and Shovel to Mountaintop Removal: Environmental Injustice in the Appalachian Coalfields*, 34 ENV'T L. 21, 23–24 (2004) (addressing environmental, economic, and social justice issues in Appalachian coalfield communities); *see also* Patrick McGinley, *Collateral Damage: Turning a Blind Eye to Environmental and Social Injustice in the Coalfields*, 19 J. ENV'T & SUSTAINABILITY L. 304, 311 (2013) (anticipating the painful impact for "coalfield communities" of the energy sector's shift to gas and renewable resources, and criticizing failure to plan support for these communities' economic transitions); Caitlyn Greene & Patrick Charles McGinley, *Yielding to the Necessities of a Great Public Industry: Denial and Concealment of the Harmful Health Effects of Coal Mining*, 43 WM. & MARY ENV'T L. & POL'Y REV. 689, 694 (2019) (highlighting failures to protect coal workers from preventable levels of exposure to environmental harm on the job).

for American Progress urged investment in "struggling coal communities."[45] A 2016 Brookings report called for urgent support for "coalfield communities" offering policy recommendations to support effective economic transitions at the community scale.[46] The Obama Administration established targeted economic development programs in response to the growing transitional hardship in coal country, building on efforts dating back to the 1990s.[47] Professor Ann Eisenberg has underscored the significant distributive justice issues for rural coal communities left with contaminated landscapes and facing a clean energy transition centered elsewhere.[48] She positions the aim of "just transition," which emerged within the labor movement and captures equity for works in industrial transitions, in relation to clean energy justice, capturing the equity considerations for emerging clean energy technologies.[49] In 2019, the non-profit Just Transition Fund established a National Economic Transition

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[45] TED STRICKLAND ET AL., REVITALIZING APPALACHIA: HOW CONGRESS CAN CORRECT DISTORTIONS IN THE COAL MARKET AND INVEST IN STRUGGLING COAL COMMUNITIES 1–2 (2015), https://www.americanprogress.org/wp-content/uploads/sites/2/2015/02/CoalCommunities-report2.pdf (seeking to show that the federal coal program was out of date and therefore was having the effect of worsening economic hardship in coal communities).

[46] ADELE C. MORRIS, BUILD A BETTER FUTURE FOR COAL WORKERS AND THEIR COMMUNITIES 21 (2016), https://www.brookings.edu/wp-content/uploads/2016/07/Build-a-Better-Future-for-Coal-Workers-and-their-Communities-Morris.pdf (arguing for a carbon tax to support successful economic transitions in "coalfield communities").

[47] *See Partnerships for Opportunity and Workforce and Economic Revitalization Initiative*, APPALACHIAN REG'L COMM'N, https://www.arc.gov/grants-and-opportunities/power/ (last visited Dec. 20, 2023) (explaining how the Obama Administration established the federal Partnerships for Opportunity and Workforce Economic Revitalization Initiative, also known as the Power Initiative, to focus on communities impacted by coal industry declines); *see also* Ann M. Eisenberg, *Transitions in Energy Communities*, 12 GEO. WASH. J. ENERGY & ENV'T L. 103, 106–07 (2021) (summarizing federal efforts to support communities affected by the contracting coal industry). For an in-depth account of the just transition objective in the low carbon shift, see generally her illuminating earlier piece, Ann M. Eisenberg, *Just Transitions*, 92 S. CAL. L. REV. 273 (2019).

[48] *See generally* Ann M. Eisenberg, *Distributive Justice and Rural America*, 61 B.C. L. REV. 189, 190 (2020).

[49] *Transitions in Energy Communities*, *supra* note 47, at 105–06 (contrasting the two frameworks).

platform to encourage a coordinated federal response to coal communities' economic plight.[50] Research up to the end of 2020, at the close of the Trump Administration, showed federal and state policies continuing to fail to meet the needs of "coal communities," despite the Trump Administration's domestic efforts to revive the U.S. coal industry and withdrawal from international cooperation on climate change.[51]

As the Working Group implemented its charge in the first year, its first major action was to prioritize the twenty-five hardest hit coal regions, comprised of communities "found mostly in rural, non-metropolitan areas and often offer[ing] fewer alternative employment opportunities."[52] The Working Group seemed to recognize the imprecise borders of a term like "energy communities," even as the agency coalition employed it mostly in reference to those affected by coal industry closures. The first Working Group report, released just three months after Executive Order 14008, recognized as distinct, but related, "a broader set of energy-impacted communities . . . to focus on stemming the longer-term declines anticipated from the clean energy transition," including "fenceline communities and other communities impacted by environmental and health effects of fossil energy generation."[53] The report cites "health and environmental effects of mining and power generation" that continue to affect "energy workers, their families, and nearby fenceline and other communities," acknowledging that "[i]n this sense, environmental

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[50] *National Economic Transition: Crafted by Community Leaders, A Policy Framework for a Just Transition*, JUST TRANSITION FUND, https://justtransitionfund.org/net/ (last visited Dec. 20, 2023).

[51] *See, e.g.*, Kelli F. Roemer & Julia H. Haggerty, *Coal Communities and the U.S. Energy Transition: A Policy Corridors Assessment*, 151 ENERGY POL'Y 1, 1 (2021) (finding an "absence of a national energy transition policy" and "two distinct and diverging policy corridors" at the state level and concluding that "existing transition assistance policies do not align with the needs and capacity of transitioning coal communities"). President Trump's Executive Order No. 13783 reemphasized the use of coal for electricity and reversed a coal leasing moratorium on federal lands put in place by the Obama Administration. *See* Exec. Order No. 13783, 82 Fed. Reg. 16093 § 1 (2017); *see also President Trump Announces U.S. Withdrawal from the Paris Climate Accord*, WHITE HOUSE (June 1, 2017), https://trumpwhitehouse.archives.gov/articles/president-trump-announces-u-s-withdrawal-paris-climate-accord/.

[52] *See* IWG, INITIAL REPORT, *supra* note 38, at 10.

[53] *Id.* at 1.

justice communities and [e]nergy [c]ommunities share common economic and health interests."[54] Indeed, as the Working Group rightly observed, "many [e]nergy [c]ommunities are themselves, or are adjacent to, 'fenceline communities'—communities situated near energy or industrial facilities," which are "often communities of color and disproportionately exposed to the pollution and environmental impacts generated by these facilities and are among the most polluted communities in the country."[55]

Thus, what emerged from Order 14008 was both a mapping of difference, but also, then, a reacknowledgement of commonality between "environmental justice communities" and "energy communities" as the Order conceives them. In seeming recognition of the potential for negative implications of mapping difference in this critical space, the first among a list of "[i]mmediate steps," the Working Group identified as a priority to "[i]mmediately align the work of the Interagency Working Group with other federal efforts to direct investment to disadvantaged and environmental justice communities."[56]

2. E.O. 14008 EARLY IMPLEMENTATION: "DISADVANTAGED COMMUNITIES"

The term "disadvantaged communities" is important to Order 14008's sections on environmental justice, including most prominently for the Justice40 Initiative (Section 223) and the directive to CEQ to develop a Climate and Economic Justice Screening Tool (Section 222).

Following the Executive Order, the White House Office of Management and Budget (OMB) issued Interim Implementation Guidance for the Justice40 Initiative that defines "*community*" as either: (1) geographic: "a group of individuals living in geographic proximity to one another" (such as census tract), or (2) common condition: "a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions."[57]

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[54] *Id.* at 5.

[55] *Id.* at 10–11.

[56] *Id.* at 2.

[57] OFF. OF MGMT. & BUDGET, EXEC. OFF. OF THE PRESIDENT, M-21-28, INTERIM IMPLEMENTATION GUIDANCE FOR THE JUSTICE40 INITIATIVE 2 (2021)

Under this Interim Guidance and the supplementary Addendum,[58] a "geographic" community is considered "disadvantaged" based on the census tract assessment provided by the Climate and Economic Justice Screening Tool, which incorporates numerous "categories of burden" that form the basis for disadvantaged status.[59] The Screening Tool highlights census tracts as disadvantaged if they are: "(1) at or above the threshold for one or more environmental, climate, or other burdens, and (2) at or above the threshold for an associated socioeconomic burden."[60]

Eight "categories of burden" at the community scale, which are defined within the Screening Tool, include the following: (1) Climate Change (expected impacts); (2) Energy (90th percentile or higher for average annual cost and presence of PM2.5 in the air); (3) Health (90th percentile or higher for asthma, diabetes, heart disease, or low life expectancy); (4) Housing (historic underinvestment or 90th percentile or higher for cost, lack of greenspace, lack of indoor plumbing, or presence of lead paint); (5) Legacy Pollution (presence of abandoned mine land or former defense site, or 90th percentile or higher for proximity to hazardous waste facilities, Risk Management Plan facilities, or NPL superfund sites); (6) Transportation (90th percentile or higher for diesel particulate matter exposure, transportation barriers, or traffic proximity and volume); (7) Water and Wastewater (90th percentile or higher for underground storage tanks and releases or wastewater discharge); and (8) Workforce Development (90th percentile or higher for linguistic isolation, low median income, poverty, or unemployment combined with at least

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[hereinafter OMB, INTERIM JUSTICE40 GUIDANCE]. The Guidance is also intended to support implementation of Exec. Order No. 13985, 86 Fed. Reg. 7009 § 4–5 (2021).

[58] OFF. OF MGMT. & BUDGET, EXEC. OFF. OF THE PRESIDENT, ADDENDUM TO THE INTERIM IMPLEMENTATION GUIDANCE FOR THE JUSTICE40 INITIATIVE 1–2 (2021) [hereinafter OMB, INTERIM JUSTICE40 GUIDANCE ADDENDUM].

[59] *See Explore the Map*, CLIMATE AND ECON. JUST. SCREENING TOOL, https://screeningtool.geoplatform.gov/ (last visited Dec. 20, 2023) [hereinafter CEJST].

[60] *Methodology*, CLIMATE AND ECON. JUST. SCREENING TOOL, https://screeningtool.geoplatform.gov/en/methodology (last visited Dec. 20, 2023). Further, "a census tract that is completely surrounded by disadvantaged communities and is at or above the 50th percentile for low income is also considered disadvantaged." *Id.* Census tracts used in the Tool are based on census tract boundaries from 2010. *Id.*

"[ten] percent of people ages [twenty-five] years or older whose high school education is less than a high school diploma").[61]

Importantly, in nearly all categories of burden, the community must rank at or above the 65th percentile for "low income."[62] This measure considers the percent of "[p]eople in households where income is less than or equal to twice the federal poverty level."[63] The federal poverty level is adjusted over time.[64] For example, in 2023, the federal poverty level for a family of four was a household income of $30,000/year.[65] Thus, a census tract would be considered low-income for most categories of burden if it is at or above the 65th percentile for households earning up to $60,000/year (200 percent of the federal poverty level).[66] With this defining feature, the Climate and Economic Justice Screening Tool is focused on lower-income communities.

A method for identifying "disadvantaged communities" is, of course, essential to implementing the Justice40 Initiative.[67] Indeed, the OMB Interim Guidance Addendum treats the terms as fundamentally linked, even providing that "agencies may refer to disadvantaged communities as 'Justice40 communities' in their own materials."[68] Accordingly, the Climate and Economic Justice Screening Tool is a starting point for making Justice40's historic focus on

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[61] *See* CEJST, *supra* note 59 (search for a particular address, town, city, or state in the prompted search box and then interact with the eight categories that will be found on the right side of the screen).

[62] *See id.* (the one exception is the Workforce Development category, for which disadvantage is based on being in census tracts that "are at or above the 90th percentile for linguistic isolation or low-median income or poverty or unemployment").

[63] *Id.*

[64] *See, e.g.*, Annual Update of the HHS Poverty Guidelines, 88 Fed. Reg. 3424 (2023) (providing "an update of the Department of Health and Human Services (HHS) poverty guidelines to account for last calendar year's increase in prices as measured by the Consumer Price Index").

[65] *2023 Poverty Guidelines: 48 Contiguous States (All States Except Alaska and Hawaii)*, OFF. OF ASSISTANT SEC'Y FOR PLAN. AND EVALUATION, https://aspe.hhs.gov/sites/default/files/documents/1c92a9207f3ed5915ca020d58fe77696/detailed-guidelines-2023.pdf (last visited Dec. 20, 2023).

[66] *See id.*

[67] *See* OMB, INTERIM JUSTICE40 GUIDANCE ADDENDUM, *supra* note 58, at 1–2.

[68] *See id.* at 3.

investment toward these important objectives in disadvantaged communities a reality.[69]

To that end, one of the most important agencies to the success of the Justice40 Initiative, the DOE, has identified eight policy priorities to guide its Justice40 implementation:

> 1. Decrease energy burden in disadvantaged communities (DACs).
>
> 2. Decrease environmental exposure and burdens for DACs.
>
> 3. Increase parity in clean energy technology (e.g., solar, storage) access and adoption in DACs.
>
> 4. Increase access to low-cost capital in DACs.
>
> 5. Increase clean energy enterprise creation and contracting [minority business enterprise/disadvantaged business enterprise] in DACs.
>
> 6. Increase clean energy jobs, job pipeline, and job training for individuals from DACs.
>
> 7. Increase energy resiliency in DACs.
>
> 8. Increase energy democracy in DACs.[70]

These priorities reflect input from the White House Environmental Justice Advisory Council and emphasize the potential of the clean energy transition to reduce environmental harms and mitigate the harms of historic socioeconomic disadvantage with new opportunities.

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[69] Under the Interim Justice40 Guidance Addendum, a "covered investment" for Justice40 includes federal financial assistance such as grants and "loans, credit, guarantees, or direct spending/benefits;" "[d]irect payments or benefits to individuals;" "[f]ederal procurement benefits;" "[p]rogrammatic [f]ederal staffing costs" such as "federal pay for staff that provide technical assistance;" and any additional federal investments as may be determined by the OMB. *Id.* at 3–4.

[70] *Justice40 Initiative*, OFF. OF ENERGY JUST. & DIVERSITY, https://www.energy.gov/diversity/justice40-initiative (last visited Dec. 20, 2023) (listing eight policy priorities).

3. INFLATION REDUCTION ACT: "ENERGY COMMUNITY"

The concept of energy communities gained a new, different, and more clearly defined legal meaning under the Inflation Reduction Act (IRA), enacted by Congress in 2022.[71] This sweeping legislation, celebrated by supporters for its historic investment in clean energy,[72] creates a special incentive rule to encourage facilities such as renewable energy projects to locate in an "energy community."[73]

Section 13101(g)(11) provides a ten percent bonus tax credit for "a qualified facility" such as a renewable energy project when it is "located in an energy community" and certain conditions are met.[74] For purposes of applying this incentive provision, the term "energy community" is assigned a specific legal definition:

> [T]he term 'energy community' means—
>
> (i) a brownfield site [defined with reference to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980];
>
> (ii) a metropolitan statistical area or non-metropolitan statistical area which—
>
> > (I) has (or, at any time during the period beginning after December 31, 2009, had) 0.17 percent or greater direct employment or 25 percent or greater local tax revenues related to the extraction, processing, transport, or

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[71] *See* Inflation Reduction Act of 2022, Pub. L. No. 117-169, § 13101(g)(11)(B), 136 Stat. 1818, 1912 (2022) [hereinafter IRA].

[72] *See, e.g.*, Aaron Bergman et al., *What Have We Learned About the Inflation Reduction Act, One Year After the Law's Passage?*, RES. FOR THE FUTURE (Aug. 21, 2023), https://www.resources.org/common-resources/what-have-we-learned-about-the-inflation-reduction-act-one-year-after-the-laws-passage/?mc_cid=9a883f8a36&mc_eid=4d21f78199 (quoting Resources for the Future President and CEO Richard G. Newell, who said the Act is "the most comprehensive climate bill in U.S. history"); Amanda Levin & Jacqueline Ennis, *NRDC Analysis: IRA Will Spur Clean Energy Transition*, NRDC (Oct. 12, 2022), https://www.nrdc.org/bio/amanda-levin/nrdc-analysis-ira-will-spur-clean-energy-transition.

[73] IRA, § 13101(g)(11)(A).

[74] *Id.*

> storage of coal, oil, or natural gas (as determined by the Secretary), and
>
> (II) has an unemployment rate at or above the national average unemployment rate for the previous year (as determined by the Secretary), or
>
> (iii) a census tract—
>
> (I) in which—
>
> (aa) after December 31, 1999, a coal mine has closed, or (bb) after December 31, 2009, a coal-fired electric generating unit has been retired, or
>
> (II) which is directly adjoining to any census tract described in subclause (I).[75]

Thus, an "energy community" for purposes of this bonus incentive under the IRA is defined by meeting one of the statute's three geographic descriptions: (1) a brownfield site; (2) census tracts where a coal mine or coal-fired power plant has recently closed; or (3) a metro or non-metro statistical area with unemployment at or above the national average that also meets specified employment or tax revenue thresholds. The second description aligns fairly well with the energy communities concept reflected in Executive Order 14008, but the first and third are surprisingly expansive.

The first, a brownfield site, being a parcel of land, is hard to reconcile with the "community" label, even if it is located within an otherwise definable geographic community.[76] A brownfield site is defined under the cross-referenced provision of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as "real property, the expansion, redevelopment, or re-

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[75] *Id.* § 13101(g)(11)(B).

[76] DANIEL RAIMI & SOPHIE PESEK, WHAT IS AN "ENERGY COMMUNITY"? ALTERNATIVE APPROACHES FOR GEOGRAPHICALLY TARGETED ENERGY POLICY 6 (2022), https://www.rff.org/publications/reports/what-is-an-energy-community-alternative-approaches-for-geographically-targeted-energy-policy/.

use of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[77] The non-profit Resources for the Future (RFF) has helpfully mapped the geographic descriptions of each of the three types of "energy community" under the IRA.[78] Revitalization and community-led redevelopment of brownfields has potential to advance environmental justice.[79] As their analysts rightly note, however, there is a bit of a mismatch in equating "brownfield site" with "energy community" given that a connection to energy extraction, production, or generation is not required under the provision, and many brownfield sites are unrelated to the energy sector.[80] That said, they may be suitable sites for new small-scale energy developments such as community solar arrays—a land reuse strategy that the EPA has long advocated through its RE-Powering America's Land Initiative, which "encourages renewable energy development on current and formerly contaminated lands, landfills, and mine sites when such development is aligned with the community's vision for the site."[81]

The total land area included under the brownfields provision is small compared to the coal plant/coal mine provision, which RFF's geographic analysis estimates would cover about 14.6 percent of the total U.S. land area.[82] The third description has the broadest geographic reach—by RFF's analysis, thirty-nine percent of total U.S. land.[83] If the goal is to help boost communities facing the most hardship, the potential downside of overly expansive qualifying criteria is it may inadvertently dilute the intended impact.[84] Policy analysts

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[77] 42 U.S.C. § 9601(39)(A).

[78] *See* RAIMI & PESEK, *supra* note 76, at 5.

[79] *See, e.g.*, U.S. ENV'T PROT. AGENCY, SUPPORTING ENVIRONMENTAL JUSTICE THROUGH EPA BROWNFIELDS AND LAND REVITALIZATION (2021), https://www.epa.gov/system/files/documents/2021-10/supporting-ej-through-brownfields-10-13-21-508-compliant.pdf.

[80] *See* RAIMI & PESEK, *supra* note 76, at 7.

[81] *RE-Powering America's Land*, EPA, https://www.epa.gov/re-powering (last updated Oct. 4, 2023).

[82] RAIMI & PESEK, *supra* note 76, at 6–9 figs.3, 4, & 5.

[83] *Id.* at 28.

[84] The statute does not clearly address the potential for what RFF analysts worried could be "considerable volatility" in incentive eligibility where unemployment rates hover near and fall below the national average. *See* RAIMI & PESEK, *supra* note 76, at 10–11. Subsequently, the U.S. Internal Revenue Service clarified that once a taxpayer begins construction of a qualifying facility "in a

and advocates continue to offer feedback to help refine this federal approach to ensure that support is channeled effectively to communities in the most need.[85]

4. BILLS IN CONGRESS ADDRESSING "ENERGY COMMUNITIES"

Recent bills proposed in Congress suggest an increasing stabilization of the concept of energy communities aligned with the legal meaning recently attributed to the term, as described here, at the federal level.

A congressional bill was proposed in 2021, for example, entitled the "Just Transition for Energy Communities Act."[86] It would have created a program to make annual payments to states and tribal governments deemed eligible based on "past levels of fossil fuel (including such fossil fuels as coal, oil, and natural gas) development, production and electricity generation" or federal mineral revenue received by the state or tribe between 2016 and 2020, combined with economic indicators.[87]

Similarly, in 2022, a bill was proposed entitled the "National Energy Community Transition Act," to "establish the National Energy Transition Endowment and Community Revitalization Corporation" as a non-profit corporation to channel financial support to communities "experiencing or likely to experience an economic or workforce transition relating to changes in applicable (i) fossil fuel electricity generation; or (ii) fossil fuel extraction, development or demand" and "a decline in fossil fuel-related revenue."[88] This bill

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location that qualifies as an energy community as of the beginning of construction date, with respect to that project, such location will continue to be considered an energy community for the duration of the ten-year [tax credit] period." *Frequently Asked Questions for Energy Communities*, IRS, https://www.irs.gov/credits-deductions/frequently-asked-questions-for-energy-communities#losestatus (last updated June 15, 2023) (scroll to "Timing and Location" and select "Q4. When does my project need to be located in an energy community to qualify for the energy community bonus?").

[85] *See, e.g.*, Rajat Shrestha et al., *Redefining America's 'Energy Communities' Can Boost Clean Energy Investment Where It's Needed Most*, WORLD RES. INST. (July 31, 2023), https://www.wri.org/insights/redefining-americas-energy-communities (showing maps reflecting each geographic definition and urging integration of priority based on need).

[86] H.R. 5193, 117th Cong. (2021); S. 4183, 117th Cong. (2022).

[87] H.R. 5193.

[88] S. 4183.

specifically references the work of the Interagency Working Group created by the Executive Order.

Neither of these bills progressed to become law.[89] However, I highlight them briefly here to demonstrate how meaning can affix to language as it is repeatedly used, rather than because there is necessarily an intrinsic meaning that *must* be represented by the words themselves. These bills show how "energy communities" continues to accrue meaning through use and reiteration of this link to fossil energy at the federal level.

B. *In the States*

At the state level in the U.S., energy/community linkages are increasingly being acknowledged through law and policy, especially in the context of clean energy. The key observation at this point in time is that the concept of energy communities clearly remains varied, with states conceiving of energy communities in ways distinct from the federal conceptions of "energy communities" in the Executive Order 14008 and Inflation Reduction Act.

As noted in Part I, state innovation related to energy/community linkages has taken numerous forms over the years, and well-preceding Order 14008 and the IRA, promoting the idea of "community energy" in the form of shared energy systems, such as community solar, as well as locally-driven, large scale purchases of renewable energy via PPAs or consolidating demand to express community-scale preferences through community choice aggregation, where available.

Several states have developed the concept of energy communities further, separate and apart from the community solar model—taking it in new directions linked to the clean energy transition. Recent developments from New York, California, Indiana, and others provide examples, are briefly described below.

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[89] *H.R. 5193 – Just Transition for Energy Communities Act*, CONG., https://www.congress.gov/bill/117th-congress/house-bill/5193/cosponsors (last visited Dec. 20, 2023); *see also U.S. S4183: National Energy Community Transition Act of 2022*, BILL TRACK 50, https://www.billtrack50.com/billdetail/1484302 (last visited Dec. 20, 2023).

1. NEW YORK "CLEAN ENERGY COMMUNITIES"

In 2016, the New York State Energy Research and Development Authority (NYSERDA) established the "Clean Energy Communities" Program, which assists localities to advance the clean energy transition, including renewable energy projects, at a community scale.[90] The concept centers on local governments via a range of clean energy strategies that can be readily adopted using existing local government authority.[91] To that end, the program provides a menu of "high-impact actions" municipalities can take to advance clean energy locally, such as investing municipal fleets to in electric vehicles, streetlights to LED, or making clean energy upgrades.[92] Clean Energy Communities Coordinators are available in each region of the state to assist municipalities with pursuing these high-impact actions, calculators, templates, and also direct guidance.[93]

A New York Clean Energy Community is not a distinct legal entity—in contrast with the European Union (E.U.) conception of "clean energy community" discussed in II(C)—but rather, it is a designation that municipalities can pursue once they have completed high-impact actions. With the designation, they gain access to funds to accelerate the clean energy transition through a locally-driven process.[94] As of writing this Article, there are 893 participating localities, 541 of which achieved Clean Energy Community designations by completing four high-impact actions.[95] To motivate local governments to continue their momentum, NYSERDA launched a Clean Energy Communities Leadership Round in 2021, offering a variety of grants—some available to designated Clean Energy Communities, some based on number of high-impact actions taken, some based on points associated with actions, and some specifically for

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[90] NYSERDA, CLEAN ENERGY COMMUNITIES: LEADERSHIP ROUND GUIDANCE DOCUMENT 4 (2023), https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/CEC/PON-3298-Clean-Energy-Communities-Guidance-Document-Summary.pdf [hereinafter LEADERSHIP ROUND GUIDANCE DOCUMENT].

[91] *Id.*

[92] *Id.* at 7.

[93] *Id.* at 5.

[94] *Id.* at 4.

[95] *Clean Energy Communities Map*, NYSERDA, https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Communities/Tracking-Progress/CEC-Map (last visited Dec. 20, 2023).

community campaigns.[96] The program tracks participating communities' point balances for transparency, comparability, and competition.[97]

Localities pursuing certain grant awards can apply for bonus grants, while they last, to fund a clean energy project if it will "be located in a New York State Disadvantaged Community."[98] So-called "DAC bonus grants" allow "up to an additional 50% bonus funding per project" located in a qualifying census tract.[99] NYSERDA has used the "Disadvantaged Communities" definition approved by the state's Climate Justice Working Group for equitable implementation of the Climate Leadership and Community Protection Act.[100] The Working Group has defined "Disadvantaged Communities" with reference to forty-five indicators of community-scale "environmental burdens and climate change risk" combined with "population characteristics and health vulnerabilities."[101]

In these ways, New York's approach aligns with the federal priority of disadvantaged communities for clean energy investment, but it differs in defining Clean Energy Communities in reference to localities' actions, rather than history or characteristics.

2. CALIFORNIA "ADVANCED ENERGY COMMUNITIES"

In another state administrative example, the California Energy Commission employed the "energy communities" concept as part of a 2015 solicitation under the state's Electric Program Investment

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[96] LEADERSHIP ROUND GUIDANCE DOCUMENT, *supra* note 90, at 6.

[97] *Clean Energy Communities Scorecard*, NYSERDA, https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Communities/Tracking-Progress/Scorecard (last visited Dec. 20, 2023).

[98] LEADERSHIP ROUND GUIDANCE DOCUMENT, *supra* note 90, at 28.

[99] *Clean Energy Communities Program, Program Opportunity Notice PON 3298 – Summary of Revisions, November 2023*, NYSERDA, https://portal.nyserda.ny.gov/servlet/servlet.FileDownload?file=00P8z000003WZ9mEAG (last visited Jan. 26, 2024).

[100] *See Disadvantaged Communities Criteria Fact Sheet*, NYSERDA, https://climate.ny.gov/resources/disadvantaged-communities-criteria/ (last visited Jan. 19, 2024).

[101] *Id.*

Charge (EPIC) focused on "accelerating the deployment of Advanced Energy Communities."[102] The goal of the solicitation was to provide EPIC funding through a challenge competition that would spur "project teams to develop innovative and replicable approaches for accelerating the deployment of Advanced Energy Communities" within service territories of the state's dominant investor-owned utilities.[103]

In contrast to other contexts discussed here, the Commission did not start by anchoring the "Advanced Energy Communities" to a legal definition. Indeed, the use of the concept was expressly intended to be available for creative innovation and open-ended so that project teams might rise to the occasion of envisioning and integrating new energy technologies at the community-scale in ways that can give new meaning to the concept and be replicated by others.[104] The concept is described in broad terms, made coherent by the purpose more than the means, in this way:

> Advanced energy communities strive to meet zero net energy standards for the built environment. These communities take full advantage of local renewable energy, demand response, solar emergency microgrids, and electric vehicle charging infrastructure. More than the sum of their components, advanced energy communities provide numerous co-benefits, including:
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> - Minimizing the need for new energy infrastructure.

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[102] Cal. Energy Comm'n, *Notice of Proposed Award: The EPIC Challenge: Accelerating the Deployment of Advanced Energy Communities*, GFO-15-312 (Mar. 25, 2016), https://www.energy.ca.gov/sites/default/files/2019-12/GFO-15-312_NOPA_ada.pdf. *See generally Electric Program Investment Charge – EPIC*, CAL. ENERGY COMM'N, https://www.energy.ca.gov/programs-and-topics/programs/electric-program-investment-charge-epic-program (last visited Dec. 20, 2023).

[103] CAL. ENERGY COMM'N, PRE-APPLICATION WORKSHOP: THE EPIC CHALLENGE: ACCELERATING THE DEPLOYMENT OF ADVANCED ENERGY COMMUNITIES 9 (2015), https://www.energy.ca.gov/sites/default/files/2019-05/GFO-15-312_Pre_Application_Workshop_Presentation.pdf.

[104] *See id.*

> - Providing energy savings through zero-net energy.
>
> - Improving grid reliability and resilience.
>
> - Offering easier grid integration.
>
> - Providing affordable access through distributed energy resources and energy efficiency for all electricity ratepayers.[105]

Although this was a one-time solicitation, the Electric Power Research Institute has described Advanced Energy Communities in a similar way, to broadly include:

> customer centric demonstrations that integrate multiple customer resources such as [e]nergy [e]fficiency, [d]emand [r]esponse, [c]ustomer storage, [photovoltaic solar] . . . electrification and electric vehicles in an electrically contiguous area to achieve larger . . . goals such as decarbonization, grid hardening and grid support while enabling customer comfort, convenience and cost benefits.[106]

Accordingly, advanced energy communities can reflect a diversity of place-based approaches to clean energy integration.

Looking at some of the projects approved for funding under the solicitation, one can see the kind of innovation and localized energy system restructuring that can advance the clean energy transition at the community-scale.

For example, the Oakland EcoBlock project, funded through the solicitation, studied a "whole-systems approach to retrofitting a low- to middle-income neighborhood block in the City of Oakland from high energy and water dependency to the lowest energy and water

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[105] FRANK WASKO & WENDY BOYLE, CAL. ENERGY COMM'N, FINAL PROJECT REPORT: PENINSULA ADVANCED ENERGY COMMUNITY 1–2 (2019), https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-025.pdf.

[106] Ram Narayanamurthy, *Advanced Energy Communities: Enabling the Customer Centered Grid*, ELEC. POWER RSCH. INST., at 2 (Nov. 1, 2017), https://usgbccc.org/resources/Documents/7%20EPRI%20Presentation.pdf.

footprint possible."[107] Because the Oakland EcoBlock represented "typical housing development in first-ring neighborhoods around almost every city in California," key questions presented were: "(1) can these neighborhoods be retrofitted to achieve zero net energy (ZNE), zero-carbon emissions, and low water usage while promoting the adoption of elective vehicles (EVs) and . . . (2) can such retrofits be rapidly deployed at the community scale?"[108]

Another example, the more geographically expansive Peninsula Advanced Energy Community project, spanned multiple local jurisdictions with a primary goal of investigating barriers to clean energy usage in the area, developing demonstration projects for community microgrids and zero-net energy buildings, and integrated EV charging infrastructure.[109] The project led to key conclusions that the goals of Advanced Energy Communities can be achieved with existing technologies through deep energy efficiency retrofitting of existing residential and commercial buildings, fuel switching, expansion of distributed energy resources like rooftop solar, and more.[110]

This model for instrumentalizing the energy communities concept thus emphasizes existing and emerging technologies in detailed local applications to reshape energy systems consistent with a low-carbon grid.

3. INDIANA "ENERGY READY COMMUNITIES"

In 2023, the Indiana Legislature enacted a new law developing the concept of "Energy Ready Communities" with a focus on utility-scale renewable energy projects.[111] The new law established a Commercial Solar and Wind Energy Ready Communities Development Center within the Indiana Office of Energy Development to provide

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[107] *See* ZACK BARR ET AL., FINAL PROJECT REPORT: ACCELERATING THE DEPLOYMENT OF ADVANCED ENERGY COMMUNITIES: THE OAKLAND ECOBLOCK 7 (2019), https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-043.pdf.

[108] *Id.*

[109] WASKO & BOYLE, *supra* note 105, at 7.

[110] *Id.* at 8.

[111] *See* 2023 Ind. Acts 483–89 (Senate Enrolled Act No. 390) (adding new chapter 23.1 to Indiana Code concerning utilities).

information and support to communities and to administer community certifications as "Commercial Solar Energy Ready Community, a Wind Energy Ready Community, or both."[112]

This conception of "energy communities" reflects a significantly scaled back version of prior legislative efforts, which first sought to make "energy ready" features mandatory statewide, and then to establish funded incentives for "energy ready" communities, but ultimately fell short.[113] The new law (Senate Enrolled Act 390) was enacted against the backdrop of numerous counties across the state restricting or prohibiting commercial renewable energy projects under local land use authority.[114] Act 390 purports to provide a pathway for potential incentives for "energy ready communities" by authorizing the creation of a "commercial solar and wind energy ready communities incentive fund," but without simultaneous state appropriation (a provision that would have allocated state dollars to fund the program was eliminated).[115]

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[112] *Solar and Wind Energy Ready Communities*, IND. OFF. OF ENERGY DEV., https://www.in.gov/oed/indianas-energy-policy/solar-and-wind-energy-ready-communities/ (last visited Dec. 20, 2023).

[113] *See, e.g.*, *Legislation Opens Door for Incentives to Adopt Local Solar, Wind Project Standards*, J. GAZETTE (July 5, 2023), https://www.journalgazette.net/opinion/editorials/legislation-opens-door-for-incentives-to-adopt-local-solar-wind-project-standards/article_e8c4848a-19d0-11ee-82ce-27084e102ee6.html; Peter Blanchard, *Renewable Energy Advocates Seek Legislative Daylight for More Solar and Wind Farms*, INDIANAPOLIS BUS. J. (Mar. 10, 2023), https://www.ibj.com/articles/renewable-energy-advocates-seek-legislative-daylight-for-more-solar-and-wind-farms; Emily Ketterer, *Wind and Solar Standards Bill Heads to Governor Without Incentives*, INDIANAPOLIS BUS. J. (Mar. 4, 2022), https://www.ibj.com/articles/wind-and-solar-standards-bill-heads-to-governor-without-incentives-attached; Sarah Bowman, *Bill Wants Indiana Counties to be Wind, Solar Friendly – But it Doesn't Force Them*, INDYSTAR (Mar. 1, 2022), https://www.indystar.com/story/news/environment/2022/03/01/indiana-solar-energy-wind-power-lawmakers-try-again-pass-statewide-standard-sb-411-senate-bill/6570555001/ (discussing aspects of the legislative process and history leading up to Act 390).

[114] *See* TAMARA M. OGLE & KARA SALAZAR, INDIANA RENEWABLE ENERGY COMMUNITY PLANNING SURVEY AND ORDINANCE INVENTORY SUMMARY 13 fig.8 (2022), https://extension.purdue.edu/cdext/thematic-areas/community-planning/collaborative-projects/_docs/renewable-energy-report1.pdf (showing numerous counties that have prohibited utility-scale wind projects).

[115] *See* Ind. Acts §§ 4, 16.

The Act in final form still provides that the fund, if established, can provide "payments to commercial solar energy ready communities" or "wind energy ready communities" of one dollar per megawatt hour of electricity generated by an operational commercial wind or solar project for ten years.[116] The fund may only consist of "(1) grants, gifts, and donations intended for deposit in the fund; (2) federal funds; (3) interest that accrues from money in the fund; and (4) any amounts returned to the fund by units [if forfeited by inconsistency with the Act]"—state funds are excluded.[117] As of this writing, a "commercial solar and wind energy ready communities incentive fund" had not yet been established.[118]

It is too early to assess whether Act 390, in its voluntary, unfunded final form, will have any impact on community-scale buy-in for renewable energy development in Indiana. However, it nonetheless provides another example of how the evolving conception of energy communities is accruing legal meaning, distinct in this case from recent federal definitions in the Executive Order or the IRA's use of the term.

4. OTHER STATE CONCEPTIONS

The three state models highlighted above illustrate significant variability in how energy communities are conceived. In contrast to the recent federal focus on a fossil-energy based economic past as a central feature of "energy communities," New York, California, and Indiana all characterize energy communities in relation to clean energy technologies and the future of energy systems change at the community scale. Even with this general unifying focus, there is variation across the models in terms of the scope of energy resources considered and the means by which the concept is implemented through and in relation to broader law and policy regimes.

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116 *Id.* at §§ 16(a), 13(b), 14(b).

117 *Id.* at § 16(c).

118 *See id.* at § 16(a). Applicant localities are required to include "a specific plan for how incentive funds granted by [the Office of Economic Development] will be used for economic development within or near the project, or otherwise benefits residents and businesses within or near the project" with a footnote caveat on the funds "if available." *See* IND. OFF. OF ENERGY DEV., COMMERCIAL SOLAR & WIND ENERGY READY COMMUNITIES: APPLICATION FOR CERTIFICATION n.1, https://www.in.gov/oed/files/Application-for-Certification.pdf (last visited Dec. 20, 2023).

At the same time, recent state level conceptions of energy communities are also emerging that build on or otherwise align with the Executive Order and the IRA's use of the term. For example, the Illinois Energy Community Reinvestment Act defines "energy worker" to mean a person who has worked full time for at least a year during the previous five years "at a fossil fuel power plant, a nuclear power plant, or a coal mine located within the State of Illinois."[119] The bill established, among other things, a "Displaced Energy Workers Bill of Rights" to assure notice to energy workers of upcoming closure of an electric generating unit or coal mine, to provide education and employment consultation for displaced energy workers, and to contribute other transitional assistance.[120] The Colorado Legislature explicitly referenced the IRA energy community bonus credit in a recent bill stating supplemental labor requirements for in-state "energy sector public works projects" that may benefit from IRA incentives.[121]

C. *In the European Union*

In the E.U., the concept of "energy communities" has emerged as a central strategy for the E.U. clean energy transition.[122] In 2019, the E.U. approved a wide-ranging "Clean Energy for All Europeans Legislative Package" setting forth a plan for accelerating renewable energy development across the E.U. over the next decade.[123] In connection with this far-reaching plan, the European Commission final-

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[119] *See, e.g.*, Energy Community Reinvestment Act, 20 ILL. COMP. STAT. ANN. 735/10–10 (West 2021).

[120] 20 ILL. COMP. STAT. ANN. 735/10–25.

[121] 2023 Colo. Sess. Laws 1349.

[122] *See* RENEWABLE ENERGY COMMUNITIES AND THE LOW-CARBON ENERGY TRANSITION IN EUROPE 23 (Frans H. J. Coenen & Thomas Hoppe eds., 2011) [hereinafter COENEN & HOPPE].

[123] For general information on clean energy in Europe, see *Clean Energy for All Europeans Package*, EUR. COMM'N, https://energy.ec.europa.eu/topics/energy-strategy/clean-energy-all-europeans-package_en (last visited Dec. 20, 2023). The history is discussed in COENEN & HOPPE, *supra* note 122.

ized implementing Directives that capture related energy community concepts in two legal definitions.[124] The first defines "renewable energy communities;"[125] the second defines "citizen energy communities."[126]

In the 2018 Renewable Energy Directive, the overarching purpose of which is to establish "a common framework for the promotion of energy from renewable resources,"[127] the E.U. defines "renewable energy community" to mean:

> [A] legal entity:
>
> > (a) which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity;
> >
> > (b) the shareholders or members of which are natural persons, [small and medium enterprises] or local authorities, including municipalities;
> >
> > (c) the primary purpose of which is to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits.[128]

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[124] *See* 2018 O.J. (L 328) 82 [hereinafter Renewable Energy Directive II]; 2019 O.J. (L 158) 131 [hereinafter Internal Electricity Market Directive].

[125] Renewable Energy Directive II, *supra* note 124.

[126] Internal Electricity Market Directive, *supra* note 124.

[127] Renewable Energy Directive II, *supra* note 124, at art. 1.

[128] *Id.* at art. 2(16). Numerous terms included in this definition (e.g., "proximity") are not defined by the Directive and instead are left to Member States to define at the national level. For a more detailed discussion of open questions based on the language of the Directive, see Professor Annalisa Savaresi's analysis in Annalisa Savaresi & Uma Outka, *Energy Communities: Comparative Perspectives from the EU and the US*, *in* HANDBOOK OF ENERGY LAW IN THE LOW-CARBON TRANSITION 497–502 (Giuseppe Bellantuono et al. eds., 2023).

In a 2019 Internal Electricity Market Directive, which broadly seeks to create "truly integrated competitive, consumer-centred, flexible, fair and transparent electricity markets,"[129] the E.U. defines "citizen energy community" to mean:

> [A] legal entity that:
>
> > (a) is based on voluntary and open participation and is effectively controlled by members or shareholders that are natural persons, local authorities, including municipalities, or small enterprises;
> >
> > (b) has for its primary purpose to provide environmental, economic or social community benefits to its members or shareholders or to the local areas where it operates rather than to generate financial profits; and
> >
> > (c) may engage in generation, including from renewable sources, distribution, supply, consumption, aggregation, energy storage, energy efficiency services or charging services for electric vehicles or provide other energy services to its members or shareholders.[130]

It stands out as noteworthy that the E.U. clean energy transition plan features "energy communities" both conceptually and with recognition as legal entities. The Renewable Energy Directive stresses the value of the concept to "local acceptance of renewable energy . . . more choice for consumer and greater participation by citizens in the energy transition."[131] Similarly, the Internal Electricity Market Directive emphasizes the goal of providing "an inclusive option for all consumers to have a direct stake in producing, consuming[,] and sharing energy"[132] while both Directives stress the

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129 Internal Electricity Market Directive, *supra* note 124, at art. 1.

130 *Id.* at art. 2(11).

131 Renewable Energy Directive II, *supra* note 124, at recital 70.

132 Internal Electricity Market Directive, *supra* note 124, at recital 43.

importance of advancing "energy efficiency at [the] household level and help[ing] fight energy poverty through reduced consumption and lower supply tariffs."[133] Less formally, the Directorate-General of Energy for the European Commission has characterized the policy objective this way: "We are putting consumers at the center of the energy market [for an] E.U. people-centered green energy transition."[134] By encouraging proliferation of non-profit, community-scale legal entities with environmental social objectives, the goal is to expand access to clean energy resources as well as build a "more inclusive society and social cohesion."[135]

Reading the Directives in isolation, it is difficult to envision exactly how these legal entities—Renewable Energy Communities (RECs) or Citizen Energy Communities (CECs)—will be established and what they will look like across the E.U. This is in part because the Directives are drafted to support flexibility of implementation, first at the national level in each E.U. Member State, and then at the community-scale, where the impetus for energy transition is expressly encouraged by these provisions, and where models akin to what the Directives seek to foster emerged over decades prior to the new formalization.[136] In this way, the E.U. sought to provide "at the Union level . . . an enabling framework, fair treatment, a level

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[133] Renewable Energy Directive II, *supra* note 124, at recital 67; Internal Electricity Market Directive, *supra* note 124, at recital 43.

[134] *The Role of Local Energy Communities in Clean Energy Transitions*, INT'L ENERGY AGENCY (May 3, 2023), https://www.iea.org/events/the-role-of-local-energy-communities-in-clean-energy-transitions?utm_campaign=IEA+newsletters&utm_source=SendGrid&utm_medium=Email [hereinafter *The Role of Local Energy Communities Webinar*].

[135] *Id.*

[136] *See, e.g.*, Annalisa Savaresi, *The Rise of Community Energy from Grassroots to Mainstream: The Role of Law and Policy*, 31 J. ENV'T L. 487, 487 (2019) (discussing how the reshaped Renewable Energy Directive seeks to build upon existing community energy trends); Tineke van der Schoor & Bert Scholtens, *Power to the People: Local Community Initiatives and the Transition to Sustainable Energy*, 43 RENEWABLE & SUSTAINABLE ENERGY REV. 666, 669 (2015) (assessing factors that contribute to success of local community energy initiatives, based on thirteen such initiatives in the Netherlands); Marieke Oteman et al., *The Institutional Space of Community Initiatives for Renewable Energy: A Comparative Case Study of the Netherlands, Germany, and Denmark*, 4 ENERGY, SUSTAINABILITY & SOC'Y 1, 1 (2014) (comparing emergent models preceding the Directives and the effect of countries' institutional arrangements for energy policy on this development).

playing field and a well-defined catalogue of rights and obligations."[137] At the national level, for example, Member States can shape implementation by choosing any form of legal entity that may be used to establish RECs and CECs, so long as key elements of the common frameworks are honored.[138] In turn, within any confines established by a Member State, eligible persons and entities may establish Energy Communities that advance renewable energy projects or the kinds of advanced energy services provided for in the Directives as they see fit.[139]

Through an Energy Communities Repository, the European Commission is working to track RECs and CECs across the E.U., accelerate their development, collect data, and facilitate exchange of information and effective practices.[140] It includes a policy database of E.U. Member States implementing policies and regulations—as of this writing, countries with posted policies include Cyprus, Estonia, France, Greece, Malta, Poland, and Romania, though legislative processes are more broadly underway.[141] A new Rural Energy Community Advisory Hub was recently established to provide technical assistance tailored to rural settings.[142]

Academic and policy analyses of the Directives and their implementation help to explain the strengths and potential weaknesses in the models that may warrant refinement or reform as experience bears out the efficacy of RECs and CECs.[143] A threshold challenge

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[137] Internal Electricity Market Directive, *supra* note 124, at recital 43.

[138] *Id.* at recital 44.

[139] Renewable Energy Directive II, *supra* note 124, at recital 71.

[140] *See Energy Communities Repository*, EUR. COMM'N, https://energy-communities-repository.ec.europa.eu/index_en (last visited Dec. 20, 2023).

[141] *See* EUR. COMM'N, CREATING VALUE AND ENGAGING CITIZENS IN THE ENERGY TRANSITION 3 (2022), https://energy-communities-repository.ec.europa.eu/system/files/2022-09/GD1_Rural-Energy-REPORT-FINAL.pdf [hereinafter EU RURAL ENERGY COMMUNITIES GUIDANCE]; *see also* Dorian Frieden et al., *Are We on the Right Track? Collective Self-Consumption and Energy Communities in the European Union*, 13 SUSTAINABILITY 1, 2 (2021) (reporting "the transposition is in progress in most Member States").

[142] *See Energy Communities Repository*, *supra* note 140; *see also* EU RURAL ENERGY COMMUNITIES GUIDANCE, *supra* note 141, at 1–2.

[143] *See, e.g.*, Frieden et al., *supra* note 141, at 2–23 (evaluating the Directives discussed in this section, assessing the progress of transposition at the national level, and identifying barriers to effective implementation for RECs and CECs); Gabriella Dóci, *Collective Action with Altruists: How Are Citizens Led Renewable*

is assuring Member States and citizens alike are aware of the availability and understand the potential of RECs and CECs.[144] Policy advocate Joshua Roberts cautions that lack of understanding may, at the outset, allow companies to successfully lobby at the national level for terms that would, in effect, be "citizen-washing"—that is, "work[ing] against true citizen-led energy communities" and inadvertently allowing for abuse of the energy communities concept.[145]

In a similar vein, Professor Annalisa Savaresi has highlighted questions about whether energy justice dimensions are in fact advanced under the E.U. framework in practice.[146] It takes time for Member States to develop national level transposition of the E.U. Directives, and the pace across the E.U., according to policy observers, has been "very uneven" to date.[147]

To the extent awareness of national transposition and citizen awareness are uneven, this may contribute to widening gaps in progress between countries and between energy communities. Professors Frans H.J.M. Coenen and Thomas Hoppe see "a clear difference in the starting situation between front-runners and late starters," with benefits for late starters who have access to information and experience from the front-runners.[148] This suggests the possibility, at least, of accelerating proliferation of RECs and CECs as successful entities grow in number and diversity of form, as the goals for community-scale energy initiatives expand to include not only

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Energy Communities Developed?, 13 SUSTAINABILITY 1, 1–14 (2021) (discussing the study of four Dutch and German communities and concluding renewable energy communities can succeed with only a few volunteers).

144 *See* COENEN & HOPPE, *supra* note 122, at 42 (noting lack of understanding has resulted in "overly narrow definitions" being adopted by Member States, resulting in incomplete implementation); *see also* EU RURAL ENERGY COMMUNITIES GUIDANCE, *supra* note 141, at 2 (estimating that "just 16% of citizens in Europe know what an energy community is" and lack of awareness "has been found to be the main reason for low engagement, followed by a lack of skills and knowledge").

145 COENEN & HOPPE, *supra* note 122, at 43–45 (citing examples of such abuse in Germany and Greece).

146 *See generally* Annalisa Savaresi, *Community Energy and a Just Energy Transition: What We Know and What We Still Need to Find Out*, *in* ENERGY JUSTICE AND ENERGY LAW 67–68 (Iñigo del Guayo et al. eds., 2020) (focusing on Denmark, Germany, and UK).

147 COENEN & HOPPE, *supra* note 122, at 41.

148 *Id.* at 8–9, 266–69, 271–73.

energy generation but also "energy efficiency and charging services for electric vehicles."[149] Further, as more RECs and CECs are established, both successful examples and instances showing abuse of the model may help to inform where refinements at the E.U. or national levels are needed to realize the Directives' goals.

D. *International Models Beyond the U.S. and E.U.*

The concept of energy communities is evolving around the globe, animating energy/community linkages in ways similar to emerging legal conceptions in the E.U. and U.S. The International Energy Agency (IEA) has recently highlighted "the role of local energy communities in clean energy transitions" by spotlighting the E.U. approach alongside approaches in India, Brazil, and South Africa.[150]

1. IN INDIA

India is among the top global emitters of greenhouse gas emissions (GHGs), although with far lower per capita emissions than either the E.U. or the U.S., as the country continues to work to provide basic energy access for all citizens.[151] Innovating the concept of energy communities is among many strategies India is employing in the interest of expanding energy access and GHG reduction across the nation's energy system. A model highlighted by the IEA in India is pilot projects for "peer-to-peer" solar energy trading (often referred to as P2P).[152] According to Reena Suri, Executive Director of the India Smart Grid Forum, "energy communities" in India first

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[149] *Id.* at 3–14, 270–71.

[150] Vida Rozite et al., *Empowering People – The Role of Local Energy Communities in Clean Energy Transitions*, INT'L ENERGY AGENCY (Aug. 9, 2023), https://www.iea.org/commentaries/empowering-people-the-role-of-local-energy-communities-in-clean-energy-transitions. *See generally People-Centred Clean Energy Transitions*, INT'L ENERGY AGENCY, https://www.iea.org/programmes/people-centred-clean-energy-transitions (last visited Dec. 20, 2023).

[151] *See generally India*, INT'L ENERGY AGENCY, https://www.iea.org/about/global-engagement/india (Feb. 23, 2023).

[152] *See generally* Rozite et al., *supra* note 150.

were focused on expanding access in rural areas with energy generation and storage, but the scope has since expanded to include urban areas.[153] She explains how

> [t]oday, energy communities in India are focused on promoting renewable energy, demand side management, and energy conservation measures to reduce carbon emissions and combat the climate change we are experiencing . . . [and] have significant potential to shape India's energy landscape.[154]

Peer-to-peer trading of solar energy aims to optimize the use of solar photovoltaics in support of "local self-sufficiency, reduc[ing] transmission losses and promot[ing] uptake of renewables to match India's targets."[155]

Peer-to-peer energy trading is not a concept limited to India, as the same or similar concept is being explored in other parts of the world as well.[156] However, several pilot projects testing peer-to-peer trading demonstrate the potential of the concept for India.[157] According to Suri, recommendations from pilot projects in Uttar Pradesh, West Bengal, and Delhi have already led to regulatory changes.[158] For example, she stated, the pilot projects led to

> guidelines . . . for peer-to-peer solar energy transactions through a blockchain based platform in Uttar Pradesh, which is a groundbreaking regulation,

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153 *The Role of Local Energy Communities Webinar*, *supra* note 134. For information on the India Smart Grid Forum, see *India Smart Grid Knowledge Portal*, INDIA SMART GRID F., https://www.indiasmartgrid.org (last visited Dec. 20, 2023).

154 *The Role of Local Energy Communities Webinar*, *supra* note 134.

155 *Id.*

156 *See, e.g.*, *Global Observatory on Peer-to-Peer Energy Trading*, INT'L ENERGY AGENCY (Oct. 25, 2021), https://www.iea.org/articles/global-observatory-on-peer-to-peer-energy-trading (discussing research projects on P2P energy trading, including within Australia, Belgium, Ireland, Italy, the Netherlands, Switzerland, the U.K. and the U.S.).

157 Saroj Jhajhriya & Satish Sharma, *Peer-to-Peer Energy Trading: A Review and Indian Scenario*, *in* 2022 IEEE DELHI SECTION CONFERENCE (Feb. 11–13, 2022), https://ieeexplore.ieee.org/document/9753221.

158 *The Role of Local Energy Communities Webinar*, *supra* note 134.

> which is expected to open up [a] new era of local energy communities transacting clean energy among their peers, . . . an important step toward net zero energy in India.[159]

2. IN BRAZIL

An IEA-showcased energy communities concept in Brazil is the solar energy cooperative, which represents a "new regulatory model . . . for shared generation," organized through the support of non-profit entities.[160] Such cooperative models for distributed energy resources were authorized in Brazil in 2015.[161] According to Eduardo Avila, Executive Director of the non-profit RevoluSolar in Rio de Janeiro, Brazil, the focus of the organization's efforts is "serving those under-served by [the] existing energy system."[162] That is, the aim of the cooperatives is to connect the benefit of clean energy resources with low-income communities.[163] Avila emphasized that eighty percent of the project leaders come from within the communities serviced, with the effect of community "connecting grassroots movement with municipal and national levels of government."[164] To foster this grassroots leadership, RevoluSolar also emphasizes vocational training and education.[165] Under this model, community members pay a monthly fee to cover operational costs.[166] This concept of energy communities, still only just emerging in Brazil, is

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[159] *Id.*; *see also* INDIA SMART GRID F., OPPORTUNITIES FROM ENERGY MARKET REGULATORY REFORMS IN INDIA 2, 18–20 (2023), https://indiasmartgrid.org/isgf/public/banner_img/1690604163wPzsGitK3ppF8FRSwn4dlFgpQHrE23jPojqL9hWG.pdf.

[160] *The Role of Local Energy Communities Webinar*, *supra* note 134.

[161] *Brazil's RevoluSolar Project*, INT'L ENERGY AGENCY (Aug. 3, 2023), https://www.iea.org/policies/17860-brazils-revolusolar-project; Heriberto Araújo, *From the Favelas: The Rise of Rooftop Solar Projects in Brazil*, THE GUARDIAN (May 24, 2016, 7:06 AM), https://www.theguardian.com/sustainable-business/2016/may/24/favelas-solar-energy-projects-brazil.

[162] *See The Role of Local Energy Communities Webinar*, *supra* note 134. For more information about RevoluSolar, visit *RevoluSolar*, https://revolusolar.org.br (last visited Dec. 20, 2023).

[163] *See The Role of Local Energy Communities Webinar*, *supra* note 134; *see also RevoluSolar*, *supra* note 162.

[164] *The Role of Local Energy Communities Webinar*, *supra* note 134.

[165] *Brazil's RevoluSolar Project*, *supra* note 161.

[166] *The Role of Local Energy Communities Webinar*, *supra* note 134.

similar to newer community solar models elsewhere, including in the U.S. and the E.U., where despite near universal access, it is also becoming more common to emphasize the potential of community solar projects to reduce energy burden for low-income households.

3. IN SOUTH AFRICA

In South Africa, an IEA-featured eco-village pilot project represents an energy community model built on some of the same energy system strategies as California's Advanced Energy Communities.[167] Researcher Sharne Bloem detailed to the IEA how the "Smart Embedded Residential Microgrid" demonstrated an "economically and socially diverse intentional community organized by common interest in energy efficiency and environmental concerns."[168] Incorporating the concept at the heart of the P2P concept discussed above, the goal was to test possibilities for an energy trading platform in Africa.[169] The research centered on twenty-seven households with mini-grid and rooftop solar PV, and while it was regarded as showing potential, the research found the inconsistent funding for community projects and difficulty determining an appropriate tariff for the program with South Africa's national energy regulator as current barriers to the concept's expansion.[170]

These barriers affect Sub-Saharan Africa (SSA) more broadly. Energy access rates are low in SSA compared to most other parts of the world. A recent study led by Kenyan scientist Amollo Ambole and other climate energy experts in Kenya and South Africa highlights that "[o]ver 600 million Africans lack access to adequate electricity and 890 million still depend on unsafe traditional fuels."[171] In surveying forty-six SSA countries for energy community models, they concluded that although there are fewer structured energy communities than in the Global North, "these communities are gradually

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[167] *Id.*
[168] *Id.*
[169] *Id.*
[170] *Id.*
[171] Amollo Ambole et al., *A Review of Energy Communities in Sub-Saharan Africa as a Transition Pathway to Energy Democracy*, 13 SUSTAINABILITY 2128, 2131 (2021).

emerging as a pathway towards sustainability and resilience for millions of households in the region."[172] Presently, they observe, "the few energy communities that exist are predominantly set up to bridge energy access gaps" due to "nascent energy systems" in SSA, but they reject the conclusion others have drawn that this nascency is necessarily a barrier to energy communities.[173] Instead, they argue "the nascent energy systems in SSA offer an opportunity to collaboratively design energy communities that address energy access challenges present in many SSA countries," drawing "linkages between energy communities, stakeholder engagement, and energy democracy."[174] To that end, they see "a need for effective policy at the national and local levels to encourage establishment and management of energy communities" as well as for "community energy intermediaries, such as non-governmental organisations or think-tanks" to assess "feasibility . . . and provide co-design tools, business services, and policy advise to communities to enhance their active participation and ensure fair compensation."[175]

III. ENVISIONING ENERGY COMMUNITIES FOR THE FUTURE

There are a number of key observations to be taken from the descriptive survey offered here. First, the community-scale models for energy system design, both legal and technical, are not new. Energy/community linkages have long characterized aspects of the energy sector, and a wide array of such linkages exist today: from local energy resource extraction and production industries, to community-scale models for energy resource ownership, to new development or integration of new clean energy technologies for localized energy system transformation.

Second, the concept of "energy communities" is proving to be a useful trope for recentering aspects of energy transitions at the scale

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[172] *Id.*

[173] *Id.*

[174] *Id.*

[175] *Id.* at 2139–41. For more on the prospects for energy communities in Africa, see *Energy Communities for Sustainable Energy Solutions in Sub-Saharan Africa*, GREEN PEOPLE'S ENERGY FOR AFRICA (Aug. 30, 2023), https://gruene-buergerenergie.org/en/topics/community-energy/energy-communities-for-sustainable-energy-solutions-in-sub-saharan-africa/.

of human experience. Energy transitions are multifaceted, as reflected in the plural *transitions*, even as the variable local and regional changes they represent may fairly be considered collectively part of *a* clean energy transition nationally and globally. The emphasis on energy/community linkages reflects a broad recognition, it seems, that a purely technocratic policy approach misses something vital that is essential to the success of energy transitions, both substantively in terms of results—such as drastic greenhouse gas reductions—and the civic durability of those successes, which are so integrally bound up with citizen engagement, leadership, and inclusivity.

Third, the variability of energy/community linkages—whether existing, evolving, or on the horizon—and their potential to shape energy transitions in ways that elevate diverse and decentralized perspectives is significant and in flux. In both the U.S. and the E.U., evolving legal conceptions are being defined with increasing specificity, and yet in notably different ways. At the federal level in the U.S., "energy communities" are increasingly defined with reference to the energy-related past or soon-to-be-past of geographically defined communities. Yet even within the U.S., federal legal definitions, specific to their contexts, differ from state conceptions making their way into law and policy programs that are instead focused on clean energy technologies. The E.U. models for "energy communities" as legal entities emphasize clean energy, exclusively with the Renewable Energy Community model and to a large extent with Citizen Energy Communities. Critically, however, they also focus on citizen engagement and empowerment as owners, decision makers, and drivers of transition within the broader energy system of Europe. Emerging global models in India, Brazil, and Africa discussed here align more closely with this emphasis on a flexible future-facing conception of "energy communities" based on community-scale integration of clean energy resources driven by local engagement.

These observations suggest the current variability is itself a core strength of the energy communities concept—a feature that should be protected as much as possible to allow for creative and innovative interpretations to emerge as policy perspectives, energy resources, and community-scale needs and conditions change. This will be important as the Biden Administration's historic community-scale in-

vestments in the clean energy transition proceed. Anchoring the concept of "energy communities" in the U.S. to "coal, oil and gas, and power plant communities" may work well now as a short-hand term for communities with legacy fossil energy industries in need of immediate governmental support. Thinking ahead, however, if current initiatives, such as the IRA and EPA's RE-Powering America's Land Program, succeed in revitalizing these communities with clean energy projects, local energy histories will evolve beyond their pasts. An "energy community" defined by its legacy coal industry today may well be, a decade from now, more closely associated with the renewable energy industry, or may develop away from the energy sector altogether. Accordingly, even as the current federal terms serve their worthy intended purpose today, it will be important for the concept to remain conceptually available to be reimagined as future-facing, especially by communities themselves, the way it is in some U.S. states and elsewhere around the globe to capture community-scale participation in the clean energy transition as it evolves. European researchers have also noted this risk of calcifying meaning in their evaluation of progress to date with Renewable Energy Community and Citizen Energy Community implementation, observing that "avoiding a lock-in into frameworks that are not future proof may be an important challenge" to the "longer-term learning, development and adaptation process" that will be needed to realize their potential over time.[176]

It will also be crucial, particularly in the U.S., to guard against potential unanticipated negative implications of segmenting communities too firmly based on their interaction with the energy sector. As noted in Part II, Executive Order 14008 disaggregates communities united in being "too often left behind" (Section 212) into "energy communities" (associated with waning fossil energy industries) (Sections 217–218) and "disadvantaged communities" (associated with environmental justice, historic marginalization, and disproportionate pollution burden) (Sections 219–223). This mapping of difference makes sense in some respects, to be sure—there are unique histories, capabilities, and immediate needs in communities with legacy fossil energy industries that place-based research shows must

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[176] Frieden et al., *supra* note 141, at 23.

be accounted for if effective support in the name of just energy transitions is to be achieved. Under the very best scenarios, these communities face loss and change that pose daunting economic, educational, and cultural challenges, even when transitions reduce local pollution and create new economic possibilities. In contrast, communities with environmental justice concerns and other measures of disadvantage may not be losing economic ground but standing to gain it anew in the clean energy transition. Place-based understanding is just as crucial to effectively channeling benefits of the clean energy transition in ways that meet local needs for these communities as those suffering from fossil energy decline.

At the same time, "energy communities" as now defined under federal law may also have environmental justice concerns and be disadvantaged; so, while the overlapping features are not universal, they are substantial. The Interagency Working Group (IWG) stressed this connection in its initial report, noting that "[e]nvironmental degradation resulting from abandoned traditional energy infrastructure is also an environmental justice issue. . . . In this sense, environmental justice communities and [e]nergy [c]ommunities share common economic and health interests."[177] Recent lawmaking has provided essential funds to address environmental pollution from abandoned coal mines and other energy sector brownfields, to plug polluting orphan oil and gas wells, and more, underscoring this important commonality among traditional environmental justice objectives and economic revitalization for the identified energy communities.[178]

Considering the volatile political economy of energy policy and the backlash already beginning against the Administration's environmental justice priorities, it will be critical to amplify commonalities and closely monitor potential misuse of mapped differences to avoid negative ramifications for funding access and other benefits

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[177] *See* IWG, INITIAL REPORT, *supra* note 38, at 5.

[178] See discussion of these remediation investments in INTERAGENCY WORKING GRP. ON COAL & POWER PLANT CMTYS. & ECON. REVITALIZATION, REVITALIZING ENERGY COMMUNITIES: TWO YEAR REPORT TO THE PRESIDENT 15–18 (2023) [hereinafter IWG, TWO-YEAR REPORT].

in the future.[179] The IWG is alert to this potential and rightly taking steps to guard against unnecessary tension or competition. Following up on the priority set out in the initial report—to "[i]mmediately align the work of the Interagency Working Group with other federal efforts to direct investment to disadvantaged and environmental justice communities"[180]—the IWG's Two-Year Report to the President cites, as its first achievement, the alignment of its work on behalf of Energy Communities "with work to define the geography and benefits to disadvantaged communities through the Justice40 Initiative; the work through the U.S. Department of Agriculture [] Rural Partners Network . . . and the focus on Tribal energy transition happening through the White House Council on Native American Affairs."[181] With the emphasis on energy justice under the current DOE, the agency has been well-positioned to pursue this alignment and interagency coordination through the Communities Local Energy Action Program, "which supports energy transition planning in both energy and environmental justice communities" and "joint efforts across all member agencies to coordinate technical assistance, metrics of success, and evaluation measures for Bipartisan Infrastructure Law and Inflation Reduction Act funding."[182] The IWG emphasizes how this alignment "is especially important given the significant overlap between energy communities, rural and remote communities, Tribal communities, and frontline environmental justice communities."[183]

At a future point in time, review of Executive Order 14008 implementation will show whether these efforts at alignment and coordination were effective, and whether the overlap was successfully leveraged for mutually beneficial results across communities. Certainly that is the express aim of the current Administration. If a future presidential administration reverses course on energy and environmental justice priorities, however, minimizing segmentation of

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179 *See, e.g.*, THE HERITAGE FOUNDATION, MANDATE FOR LEADERSHIP: THE CONSERVATIVE PROMISE 422, 424 (Paul Dans & Steven Groves eds., 2023) (proposing strategies for conservative reversal of climate policies, Justice40, and energy and environmental justice work at the DOE and EPA).

180 IWG, INITIAL REPORT, *supra* note 38, at 2.

181 IWG, TWO-YEAR REPORT, *supra* note 178, at 2.

182 *Id.* at 2.

183 *Id.*

communities by elevating commonality more than difference could prove key to helping guard against partisan withdrawal of federal support for communities of color with environmental justice concerns, when bipartisan support for legacy fossil-energy communities would likely continue.[184] Relatedly, and at the global scale, professors Raphael Heffron and Darren McCauley warn against the potential for "greenwashing" just transition policies, stressing the importance of ensuring such policies are designed to accelerate transitions to a low-carbon economy, rather than—as Heffron and McCauley observe in some places—slowing transitions by extending operation of GHG-intensive energy industries, or simply insulating them from market forces.[185]

These cautionary notes embrace the overarching goals of Executive Order 14008: to advance climate action and environmental justice while leaving no community behind in the global clean energy transition. There are so many forces reflected in the models surveyed here that are driving efforts to envision community-scale engagement and leadership in energy system transformation, from energy access, to social acceptance of clean energy technologies, to equalizing access to economic development, to workers' rights, to energy and environmental justice, to rapid decarbonization of the energy sector. Evolving legal conceptions of "energy communities" reflect a still mostly flexible space to envision what the concept can mean in the future.

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[184] This kind of partisan withdrawal of support occurred in the U.S. as of recently in the last presidential administration. *See, e.g.*, Uma Outka & Elizabeth Kronk Warner, *Reversing Course on Environmental Justice Under the Trump Administration*, 54 WAKE FOREST L. REV. 393, 421 (2019). For a strong argument in favor of elevating an even more thoroughgoing commonality, see Rebecca Bratspies, *"Underburdened" Communities*, 110 CAL. L. REV. 1933, 1938, 1972 (2022) (addressing New York waste handling, environmental justice, and the "social imaginary of *away*," and arguing that "focusing on underprivileged, overburdened communities without seeing them in the context of the underburdened, over privileged communities they make possible misses a crucial piece of the story").

[185] *See* Raphael J. Heffron & Darren McCauley, *The 'Just Transition' Threat to Our Energy and Climate 2030 Targets*, 165 ENERGY POL'Y 112949, 112949 (2022) (recounting the increased prominence of "just transition" policy supports for fossil energy industries via focus on the affected local communities and warning these could undermine decarbonization timelines).

CONCLUSION

Energy/community linkages have long predated recent developments in law and policy organized around the idea of "energy communities." This history suggests that energy communities will continue to emerge and evolve organically, whether or not they are reflected in legal frameworks. Indeed, new legal definitions may reflect an effort to institutionalize and expand recognition of models first devised at the community scale, as seen with the E.U.'s Renewable Energy and Citizen Energy Communities. That said, as certain meanings affix to certain words, especially when adopted in law, they often last, making an assessment of "energy communities" worthwhile and timely as the concept receives increasing attention as a strategy for advancing clean energy transitions globally.

In surveying evolving legal conceptions of "energy communities," this work captures a snapshot in time, as new community-scale approaches to energy transition continue to emerge both in the U.S. and around the world. Ideally, policymakers will avoid anchoring the concept of "energy communities" too firmly to one meaning or another to preserve space for radical reimagining. On the one hand, it is empowering to realize the tools exist to dramatically transform energy systems at the community scale, but on the other, it is also humbling to acknowledge how much is uncertain about how new developments, constraints, and possibilities will affect energy/community linkages in the future. Legal frameworks should, where possible, favor flexible definitions for "energy communities" sufficient to create adaptable support regimes without limiting the potential for grassroots energy community innovation.