ALEXANDRA B. KLASS** & GABRIEL CHAN***

The last decade has seen significant attention and debate among academics, policymakers, and the broader public about how to accelerate the "clean energy" transition" in the United States. Legal academics have made valuable contributions to the literature in this field, developing a rich body of scholarship on a broad range of legal, policy, economic, and technological aspects of the clean energy transition. But this scholarship has for the most part ignored the role of rural electric cooperatives, which serve 15% of U.S. electricity consumers. This scholarship gap has important implications. Rural electric cooperatives, first created by local communities in the United States in the early part of the twentieth century to electrify rural America, now serve over half of the U.S. landmass. As such, these cooperatives are positioned to be key players in building land-intensive renewable energy resources and expanding the electric grid. And while cooperatives today own and operate fewer coal-fired power plants than they have in decades past, as not-for-profit entities, the drivers for cooperatives to retire existing carbon-intensive power plants and build new clean energy are fundamentally different than the drivers for other actors in the electricity sector shaped by profit motives. Understanding these differences is critical to avoid leaving rural America with billions of dollars of stranded assets that struggle to compete against low-cost clean energy.

In this Article, we draw on the structure and foundational principles underlying the cooperative form itself to offer a framework for rural electric cooperatives to thrive in the clean energy transition. Notably, the proposals we develop in this Article do not primarily rely on imposing new federal or state clean energy mandates on cooperatives, as has been the focus of the limited legal scholarship that exists to date. The long history of Congress and state legislatures allowing cooperatives to "self-regulate" makes exclusive reliance on such mandates a limited solution at best. Instead, we draw on the seven "Cooperative Principles" that govern all cooperatives—open and voluntary membership; democratic member control; members' economic participation; autonomy and independence;

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^{**} Distinguished McKnight University Professor, University of Minnesota Law School. Sarah Bauer, Christopher Cerny, Isaac Foote, Matt Grimley, and Rebecca Wilton provided excellent research assistance on this Article. We received extremely helpful feedback on earlier versions of this Article from numerous academic researchers—James Coleman, Dan Farber, Stephanie Lenhart, Joshua Macey, Brett McDonnell, Ari Peskoe, Richard Pierce, Melissa Scanlan, Keith Taylor, Paul Vaaler, and Hannah Wiseman—as well as numerous experts in the world of electric cooperatives.

^{***} Associate Professor, Humphrey School of Public Affairs, University of Minnesota.

NORTH CAROLINA LAW REVIEW

[Vol. 100

education, training, and information; cooperation among cooperatives; and concern for community. Emphasis on these principles allows cooperatives to engage in the clean energy transition in a way that builds on their history and governing principles as self-help organizations controlled by their members. Such an approach also recognizes the foundational role of member control within cooperatives, which has the potential to inform broader calls for increasing democratic accountability and racial and gender equity within the clean energy transition.

INTRODUCTION	. 2
I. RURAL ELECTRIC COOPERATIVES: A REGULATORY AND	
GOVERNANCE HISTORY	10
A. Rural Electrification, the New Deal, and the Rise of the Rural	
Electric Cooperative	13
B. Federal and State Regulation of Rural Electric Cooperatives	17
1. Federal Regulation of Rural Electric Cooperatives	17
2. State Regulation of Rural Electric Cooperatives	20
C. Modern Cooperative Governance	22
1. Governance of Distribution Cooperatives	25
2. Governance of G&T Cooperatives	30
II. THE CLEAN ENERGY TRANSITION.	34
III. LEVERS OF CHANGE: COOPERATIVE CASE STUDIES	43
A. Change Through Exit	44
1. Member Exit Requests	47
2. G&T Requests for Federal Regulation To Displace	
State Regulation	52
B. Change Through Collaboration	55
C. Change Through Grassroots Advocacy and Member	
Accountability	62
IV. COOPERATIVE CLEAN ENERGY	68
A. Increasing the Value of the Clean Energy Transition for	
Cooperatives Through Wholesale Market Integration	71
B. Allocating the Fixed Costs of Clean Energy Additions	75
C. Allocating the Fixed Costs of Stranded Assets	78
D. Reflecting the Needs of the Full Cooperative Membership	82
CONCLUSION	87

INTRODUCTION

The last decade has seen significant attention and debate among academics, policymakers, and the broader public about how to accelerate the "clean energy transition" in the United States. This attention and debate is

justified given the environmental stakes and public policy challenges. Continued reliance on fossil fuels to generate electricity—particularly coal plants—exacerbates climate change and contributes to localized air pollution.¹ Apart from environmental impacts, running as many coal plants as currently operate can be prohibitively costly.² Experts estimate that phasing out the nation's coal plants and replacing them with renewable energy would, in the aggregate, save electricity customers over \$10 billion annually, while continuing to run those plants could leave power-plant owners and their customers with hundreds of billions of dollars of regulatory risk.³ Legal academics have made valuable contributions to the literature in the field, developing a rich body of scholarship on a broad range of legal, policy, economic, and technological aspects of the clean energy transition in the electricity sector.⁴

But this scholarship has for the most part ignored the role of rural electric cooperatives (also referred to in the energy sector as "RECs," "electric cooperatives," "co-ops," "rural electric associations," "REAs," "electric

3. See, e.g., PAUL BODNAR, MATTHEW GRAY, TAMARA GRBUSIC, STEVE HERZ, AMANDA LONSDALE, SAM MARDELL, CAROLINE OTT, SRIYA SUNDARESAN & UDAY VARADARAJAN, HOW TO RETIRE EARLY: MAKING ACCELERATED COAL PHASEOUT FEASIBLE AND JUST 14 (2020), https://rmi.org/wp-content/uploads/2020/06/How-to-retire-early-June-2020.pdf [https://perma.cc/ 2CRT-W7YZ] (estimating that a phaseout of coal plants and replacement by renewable energy would save customers at least \$10 billion annually); MATT GRAY & LAURENCE WATSON, NO COUNTRY FOR COAL GEN 8 (2017), https://yoursri.at/media-new/images/2017-09-22_no-country-for-a-coal-gen.pdf [https://perma.cc/YH4B-A3CY] (estimating \$185 billion in "regulatory risk" for coal plant owners projected through 2035).

^{1.} David Coady, Ian Parry, Louis Sears & Baoping Shang, *How Large Are Global Fossil Fuel Subsidies*?, 91 WORLD DEV. 11, 20 (2017) (estimating that total monetized environmental externalities from coal totaled \$3.1 trillion in 2015, equivalent to 3.8% of global GDP, of which approximately three-fourths was due to local air pollution and one-fourth was due to global warming).

^{2.} See, e.g., U.S. Coal Plant Retirements Linked to Plants with Higher Operating Costs, U.S. ENERGY INFO. ADMIN. (Dec. 3, 2019), https://www.eia.gov/todayinenergy/detail.php?id=42155 [https:// perma.cc/9U7Z-RH8W] (finding that variations in operating costs are a significant determinant of forecasted retirement dates of coal plants).

^{4.} See, e.g., William Boyd, Public Utility and the Low-Carbon Future, 61 UCLA L. REV. 1614 (2014); William Boyd & Ann E. Carlson, Accidents of Federalism: Ratemaking and Policy Innovation in Public Utility Law, 63 UCLA L. REV. 810 (2016); Matthew R. Christiansen & Joshua C. Macey, Long Live the Federal Power Act's Bright Line, 134 HARV. L. REV. 1360 (2021); Lincoln L. Davies, U.S. Renewable Energy Policy in Context, 15 ENV'T L. & POL'Y 33 (2015); Joel B. Eisen, FERC's Expansive Authority To Transform the Electric Grid, 49 U.C. DAVIS L. REV. 1783 (2016); Jody Freeman & David B. Spence, Old Statutes, New Problems, 163 U. PA. L. REV. 1 (2014); Alexandra B. Klass & Elizabeth J. Wilson, Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch, 65 VAND. L. REV. 1801 (2012); Joshua C. Macey & Jackson Salovaara, Rate Regulation Redux, 168 U. PA. L. REV. 1181 (2020); Jonas J. Monast, Maximizing Utility in Electricity Regulation, 43 FLA. ST. U. L. REV. 135 (2015); Felix Mormann, Clean Energy Federalism, 67 FLA. L. REV. 1621 (2015); Shelley Welton, Clean Electrification, 88 U. COLO. L. REV. 571 (2017); Shelley Welton, Public Energy, 92 N.Y.U. L. REV. 267 (2017) [hereinafter Welton, Public Energy]; Shelley Welton, Electricity Markets and the Social Project of Decarbonization, 118 COLUM. L. REV. 1067 (2018) [hereinafter Welton, Electricity Markets]; Shelley Welton, Grasping for Energy Democracy, 116 MICH. L. REV. 581 (2018) [hereinafter Welton, Energy Democracy]; Hannah J. Wiseman & Hari M. Osofsky, Regional Energy Governance and U.S. Carbon Emissions, 43 ECOLOGY L.Q. 143 (2016).

membership corporations," "EMCs," "rural electric membership corporations," "REMCs," "electric power associations," and "EPAs"), focusing instead on the economic and regulatory structure governing investor-owned utilities, which serve the majority of U.S. electricity consumers.⁵ This scholarship gap has important implications. Rural electric cooperatives—first created by local communities in the United States in the early twentieth century and later expanded by President Franklin D. Roosevelt and Congress to electrify rural America⁶—operate in decision-making environments fundamentally distinct from other parts of the energy system. And while rural electric cooperatives are rapidly transitioning their energy supply mixes,⁷ as of 2019, rural electric cooperatives own and continue to operate 12% of the nation's coal-fired power plants (by output).⁸ Moreover, the debt associated with these coal plants makes

7. For example, the three largest rural electric cooperatives in the country have seen significant changes to their power supply mix in the last ten years. Oglethorpe Power, based in Georgia, met 44% of its members' energy needs with coal in 2010 but only 4% of member energy needs with coal in 2020. *Compare Diverse Mix of Generating Resources*, OGLETHORPE POWER, https://www.sec.gov/Archives/edgar/data/788816/000104746911002388/g82683mm01i007.gif [https://perma.cc/98B3-7RJN], *with Oglethorpe's Diversified Power Supply Portfolio*, OGLETHORPE POWER, https://www.sec.gov/Archives/edgar/data/788816/000162828021006087/a2020q4investorbriefing008.jpg [https://perma.cc/RD6P-742X]. Associated Electric Cooperative, based in Missouri and also serving members in Oklahoma, met nearly 80% of its members' energy needs with coal in 2010 but only 50% of member energy needs with coal in 2019. *Compare* ASSOCIATED ELEC. COOP. INC., ANNUAL REPORT 4 (2010), https://perma.cc/QE2V-76QU], *with* ASSOCIATED ELEC. COOP. INC., ANNUAL REPORT 18 (2019), https://www.aeci.org/media/5138/2019-annual-report-plus-cover-fact-

book-audited-statement-single-pgs.pdf [https://perma.cc/Z9DU-5HUE]. Basin Electric Cooperative, based in North Dakota and also serving members in nine states from Montana to New Mexico to Iowa, met 64% of its winter capacity needs with coal while delivering 9% of energy from renewables in 2010, but met 40% of its winter capacity needs with coal while delivering 19% of its energy from renewables in 2020. *Compare* BASIN ELEC. POWER COOP., ANNUAL REPORT 7 (2010), https://www.transmissionhub.com/wp-content/uploads/2018/12/Annual-Report-Basin-Electric-Power-Cooperative-BEPC.pdf [https://perma.cc/YS63-ASSG], with At a Glance, BASIN ELEC.

8. See CHRISTOPHER VAN ATTEN, AMLAN SAHA, LUKE HELLGREN & TED LANGLOIS, BENCHMARKING AIR EMISSIONS OF THE 100 LARGEST ELECTRIC POWER PRODUCERS IN THE UNITED STATES 34–40 (2020), https://www.ceres.org/sites/default/files/reports/2020-07/ Air%20Emissions%20Benchmark%202020.pdf [https://perma.cc/8G6Q-5A3X] (listing the top one hundred U.S. electric power producers, the energy mix of their power plant assets, and the amount of various air pollutants, including CO₂, emitted by each producer). Rural electric cooperatives own 12% of the nation's coal-fired power plants by output, and those plants, in turn, produce 56% of the energy generation from plants owned by rural electric cooperatives. Form ELA-923 Detailed Data with Previous Form Data (ELA-906/920), U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/data/eia923/

^{5.} See infra note 14 and tbl.1 (discussing different types of electric utilities and the percentage of consumers they serve).

^{6.} ROBERT A. CARO, THE YEARS OF LYNDON JOHNSON: THE PATH TO POWER 519–22 (1982) (discussing President Roosevelt's creation of the Rural Electrification Administration in 1935 and Congress's enactment of the Rural Electrification Act of 1936 in the first part of a chapter discussing President Johnson's role in helping create the Pedernales Electric Cooperative in Texas in 1938 when he was a new Congressman representing that region).

POWER COOP., https://www.basinelectric.com/About-Us/Organization/At-a-Glance/ [https://perma. cc/DM5C-ZJX6].

up a significant fraction of the total debt on cooperatives' balance sheets.⁹ Strategically retiring these plants and replacing them with cleaner energy sources would reduce the nation's contribution to global climate change and help ensure that rural America is not left with billions of dollars of stranded assets.¹⁰ Further, a cost-effective national transition to clean energy is likely to require both utilizing significant land area for deploying solar and wind resources¹¹ and building substantial amounts of new power lines across large regions.¹² Thus, the broad geographic coverage of rural electric cooperatives can enable them to be key players in the deployment of clean energy and its supporting infrastructure, which will bolster the benefits of the clean energy transition for rural Americans.¹³

9. In 2017, rural electric cooperatives produced 50% of the energy they consumed from energygeneration assets they owned themselves because, like most other utilities, they also purchased energy from third parties directly and on wholesale markets to meet their demand. *See* JOSEPH GOODENBERY, ALLISON HAMILTON, LAUREN KHAIR & MICHAEL LEITMAN, ELECTRIC INDUSTRY GENERATION, CAPACITY, AND MARKET OUTLOOK 3 (2019), https://www.cooperative.com/programs-services/bts/ resource-adequacy-markets/Documents/ram_outlook_report.pdf [https://perma.cc/TLZ5-QTJY]. For six of the thirteen largest rural electric cooperatives, coal plants make up over 85% of the power generation assets owned by the cooperative (by output). *See* VAN ATTEN ET AL., *supra* note 8, at 34.

10. See, e.g., RON LEHR & MIKE O'BOYLE, SOLAR FOR COAL SWAPS 5 (2020) [hereinafter LEHR & O'BOYLE, SWAPS] (comparing the economics of coal plants to local solar generation); ERIK HATLESTAD, KATIE ROCK & LIZ VEAZEY, RURAL ELECTRIFICATION 2.0: THE TRANSITION TO A CLEAN ENERGY ECONOMY 6–10 (2019) (discussing the billions of dollars of coal debt held by cooperatives); ERIC GIMON, AMANDA MYERS & MIKE O'BOYLE, COAL COST CROSSOVER 14 (2021), https://energyinnovation.org/wp-content/uploads/2021/05/Coal-Cost-Crossover-2.0-1.pdf [https://perma.cc/D9DF-5Q9L] (comparing the economics of coal, wind, and solar energy).

11. SAMANTHA GROSS, BROOKINGS, RENEWABLES, LAND USE, AND LOCAL OPPOSITION IN THE UNITED STATES 1 (2020), https://www.brookings.edu/wp-content/uploads/2020/01/ FP_20200113_renewables_land_use_local_opposition_gross.pdf [https://perma.cc/RN3X-G6YQ].

12. See Patrick R. Brown & Audun Botterud, The Value of Inter-Regional Coordination and Transmission in Decarbonizing the US Electricity System, 5 JOULE 115, 155 (2021); Electricity Prices Reflect Rising Delivery Costs, Declining Production Costs, U.S. ENERGY INFO. ADMIN. (Sept. 7, 2017), https://www.eia.gov/todayinenergy/detail.php?id=32812 [https://perma.cc/EH2T-2734] (showing that electricity delivery costs made up 22% of the total cost of electricity delivery for FERC-regulated utilities in 2006 but 36% of electricity costs in 2016). In projections of future electricity prices, transmission and distribution costs are estimated to comprise over half of total electricity prices by 2050. U.S. ENERGY INFO. ADMIN., ANNUAL ELECTRICITY OUTLOOK 2021, at 8 (2021) [hereinafter U.S. ENERGY INFO. ADMIN., OUTLOOK 2021], https://www.eia.gov/outlooks/aeo/pdf/ 04%20AEO2021%20Electricity.pdf [https://perma.cc/X83B-QDY]].

13. See KATIE SIEGNER, KEVIN BREHM & MARK DYSON, SEEDS OF OPPORTUNITY 21 (2021), https://rmi.org/insight/seeds-of-opportunity/ [https://perma.cc/JT7X-LK4J] (enter an email address in the box below "Email *"; then click "Download") (estimating that solar and wind generation deployed toward making the U.S. electric grid 90% carbon-free by 2035 would generate greater revenue than cattle, corn, or soy production, the top three agricultural commodities).

[[]https://perma.cc/5F8Q-KXY3] (Nov. 3, 2021) (choose "2020:EIA-923 ZIP" on right sidebar). In 2019, the retail power sold by cooperatives was generated from co-op-owned resources, directly purchased generation, and market purchases amounting to 32% coal, 32% natural gas, 15% nuclear, and 19% renewables. NAT'L RURAL ELEC. COOP. ASS'N, AMERICA'S ELECTRIC COOPERATIVES 2 (2021) [hereinafter AMERICA'S ELECTRIC COOPERATIVES], https://www.electric.coop/wp-content/uploads/2021/04/Co-op-Facts-and-Figures.pdf [https://perma. cc/DRD6-6KXV].

There are over eight hundred rural electric cooperatives in the United States today, which deliver power to forty-two million people across forty-eight states.¹⁴ These cooperatives own approximately 40% of the electric distribution lines that connect residential, commercial, industrial, and agricultural energy consumers to the electric grid.¹⁵ The consumers served by cooperatives are demographically distinct from those served by other utilities, reflecting their history as providers of initial electricity access to rural farmers. While some cooperatives now serve rapidly growing suburban areas of the country, they largely maintain distinct consumer bases from other utilities, serving over 90% of the counties identified as being in persistent poverty by the U.S. Treasury Department, many of which are located in the Southeast.¹⁶ But perhaps the most important difference between cooperatives and other electric utilities is their corporate structure and operation—they are not-for-profit, federally tax-exempt entities governed by boards elected by the member-owners that both own the cooperative and purchase electricity from it.¹⁷

The clean energy transition is well underway in many parts of the U.S. electricity sector. From 2005–2019, increased reliance on natural gas, renewable energy, energy efficiency, and other factors drove a 33% decrease in carbon dioxide emissions from the electricity sector.¹⁸ However, rural electric cooperatives saw only an 18% reduction in carbon dioxide emissions over this period.¹⁹ In the context of flat or declining electricity demand, aging infrastructure, rapid technological change, and state and federal clean-energy policy, the U.S. electric grid has significantly reduced its decades-long reliance on large, "baseload" power plants owned and controlled by electric utilities that function as regulated monopolies.²⁰ The "central station" grid and regulatory structures of the past have been increasingly replaced by regional wholesale electricity markets.²¹ Such markets are able to integrate a growing mix of natural gas and large-scale renewable energy plants, coupled with a simultaneous growth in energy efficiency, smaller-scale solar energy, microgrids, and energy

^{14.} AMERICA'S ELECTRIC COOPERATIVES, supra note 8, at 1; see also infra tbl.1.

^{15.} AMERICA'S ELECTRIC COOPERATIVES, *supra* note 8, at 1.

^{16.} NAT'L RURAL ELEC. COOP. ASS'N, BUSINESS & TECHNOLOGY ADVISORY: ELECTRIC COOPERATIVES AND PERSISTENT POVERTY COUNTIES 1 (2018), https://www.cooperative.com/programs-services/bts/Documents/Advisories/Member-Advisory-on-Persistent-Poverty-Counties-June-2018.pdf [https://perma.cc/8DJM-GGG9].

^{17.} MICHAEL SETO & CHERYL CHASIN, GENERAL SURVEY OF I.R.C. 501(C)(12) COOPERATIVES AND EXAMINATION OF CURRENT ISSUES 176–77 (2002), https://www.irs.gov/pub/ irs-tege/eotopice02.pdf [https://perma.cc/7PYZ-SU6B].

^{18.} Calculations for emissions reductions in all utilities are based on U.S. ENERGY INFO. ADMIN., AUGUST 2020 MONTHLY ENERGY REVIEW 117 (2020), https://www.eia.gov/totalenergy/data/monthly/archive/00352008.pdf [https://perma.cc/BR5G-UGB5].

^{19.} AMERICA'S ELECTRIC COOPERATIVES, *supra* note 8, at 3.

^{20.} See infra Part II.

^{21.} See infra notes 193-96 and accompanying text.

storage.²² But, as we explain in this Article, the history, governance, regulation, and corporate structure of rural electric cooperatives have combined to create very different conditions under which they might embrace these changes.

In this Article, we draw on the structure and foundational principles underlying the cooperative form itself to create a framework for the clean energy transition in rural electric cooperatives. We evaluate three case studies of cooperatives around the country to build this framework for change. These cases demonstrate different approaches for how cooperatives can navigate their structures and leverage their principles to advance the energy transition: by exiting long-term institutional relationships, collaborating within their existing institutional relationships, and bolstering grassroots accountability and relationships with their member-owners. Significantly, our proposals do not rely on imposing new federal or state clean energy mandates on cooperatives, as has been the focus of the limited legal scholarship on rural electric cooperatives that exists to date.²³ Although such mandates can be effective in certain circumstances, the long history of Congress and many state legislatures allowing rural electric cooperatives to "self-regulate" makes exclusive reliance on such mandates a limited solution at best.²⁴

Instead we draw on the seven "Cooperative Principles" that guide all cooperatives—open and voluntary membership; democratic member control; members' economic participation; autonomy and independence; education, training, and information; cooperation among cooperatives; and concern for community.²⁵ Emphasis on these principles can allow rural electric cooperatives

24. See infra Part I (discussing limited federal and state regulation of cooperatives).

25. See Understanding the Seven Cooperative Principles, NAT'L RURAL ELEC. COOP. ASS'N, https://www.electric.coop/seven-cooperative-principles%E2%80%8B/ [https://perma. cc/8WNZ-UADH]; Jeter et al., *supra* note 23, at 385–86 (discussing the seven Cooperative Principles

^{22.} See infra Part II.

^{23.} A Westlaw search of law review articles on the topic of rural electric cooperatives and clean energy yields only two results. See Gabriel Pacyniak, Greening the Old New Deal: Strengthening Rural Electric Cooperative Support and Oversight To Combat Climate Change, 85 MO. L. REV. 409 (2020); Zachary Brecheisen, Comment, Green Acres: How Bringing Pennsylvania Rural Electric Cooperatives Under the Full Provisions of the Alternative Energy Portfolio Standard Can Boost Renewable Energy Growth in Pennsylvania, 19 PENN ST. ENV'T L. REV. 333 (2011). Unlike this Article, both of the prior articles propose new federal or state regulation governing cooperatives to enable clean energy transition. Pacyniak, supra, at 481; Brecheisen, supra, at 334. Two other law review articles address deficiencies in rural electric cooperative governance more broadly and do not discuss clean energy transition. See Debra C. Jeter, Randall S. Thomas & Harwell Wells, Democracy and Dysfunction: Rural Electric Cooperatives and the Surprising Persistence of the Separation of Ownership and Control, 70 ALA. L. REV. 361 (2018); Jim Cooper, Electric Co-Operatives: From New Deal to Bad Deal?, 45 HARV. J. ON LEGIS. 335 (2008). Both of these articles also advocate for new federal or state legislation to reform cooperative governance problems. See Jeter et al., supra, at 442-43 ("[W]e think it necessary to complement a movement to apply state corporate law to [rural electric cooperatives] with federal legislative action to make clear that [cooperative] member interests are securities under the federal securities laws."); Cooper, supra, at 370 ("Because it is unlikely that co-op insiders will voluntarily change their behavior, even at the urging of their own advisors, legislation will be necessary.").

to engage in the clean energy transition in a way that is consistent with their history and identity as self-help organizations controlled by their members. Such an approach also incorporates the increasing grassroots activism within cooperatives, which has the potential to increase democratic accountability focused on clean energy deployment and increase racial and gender equity in cooperative governance.

Part I begins by introducing the cooperative model—first developed in England in the 1840s—and its adoption by rural communities in the United States in the early part of the twentieth century. It explains how the federal government enabled the electrification of rural America beginning in the 1930s, at a time when nearly 90% of farms lacked access to electricity.²⁶ This part then explores the unique regulatory status of rural electric cooperatives under federal and state law. Unlike investor-owned utilities, which are subject to comprehensive federal and state regulation of their rates, prices, charges, and contracts under the Federal Power Act, Congress excluded rural electric cooperatives from federal regulation when it enacted the statute in 1935.²⁷ Likewise, most states exempt rural electric cooperatives from rate regulation and clean energy mandates.

Part II discusses the clean energy transition in the United States. It documents the dramatic increase in the deployment of low-cost renewable energy, made possible by state and federal policies to encourage clean energy, the development of regional wholesale electricity markets across much of the country, and the increasing economic feasibility of a variety of "distributed energy resources," including energy efficiency, load-control devices, microgrids, energy storage, and smaller-scale solar.²⁸ This part explains the unique financial

27. See infra Section I.B.1.

and their application to rural electric cooperatives); CTR. FOR THE NEW ENERGY ECON., POWERING COOPERATIVES 7 (2019).

^{26.} See Celebrating the 80th Anniversary of the Rural Electrification Administration, U.S. DEP'T AGRIC. (Feb. 2017), https://www.usda.gov/media/blog/2016/05/20/celebrating-80th-anniversaryrural-electrification-administration [https://perma.cc/GJB4-8QLZ]; Cooper, supra note 23, at 345–46, 346 n.77 (discussing REA financing for rural electric cooperatives); Jonathan Adelstein, From REA to RUS—75 Years of Lighting the Way for Rural America, U.S. DEP'T AGRIC. (Feb. 21, 2017), https://www.usda.gov/media/blog/2010/05/00/rea-rus-75-years-lighting-way-rural-america [https:// perma.cc/AVJ9-PTMG] (discussing history of the REA and transition to the RUS); The Electric Cooperative Story, NAT'L RURAL ELEC. COOP. ASS'N, https://www.electric.coop/our-organization/ history/ [https://perma.cc/9HUF-BDHB] (same).

^{28.} Distributed energy resources or "DERs" are "physical and virtual assets that are deployed across the distribution grid, typically close to load, and usually behind the meter, which can be used individually or in aggregate to provide value to the grid, individual customers, or both" and include "solar, storage, energy efficiency, and demand management." Tanuj Deora, Lisa Frantzis & Jamie Mandel, *Distributed Energy Resources 101: Required Reading for a Modern Grid*, ADVANCED ENERGY ECON. (Feb. 13, 2017), https://blog.aee.net/distributed-energy-resources-101-required-reading-for-a-modern-grid [https://perma.cc/CAT5-YEKT]. For a recent discussion of regulations related to energy storage, see Nat'l Ass'n of Reg. Util. Comm'rs v. FERC, 964 F.3d 1177 (D.C. Cir. 2020) (upholding FERC rule setting pricing rules for energy storage in regional wholesale energy markets).

and operational environments of cooperatives that preclude the usual tools available to spur clean energy deployment in investor-owned utilities—state clean energy mandates, tax and other financial incentives, ratepayer-funded programs, and shareholder pressure.²⁹ Thus, rural electric cooperatives require a different approach.

Part III evaluates the challenges facing rural electric cooperatives through three case studies. Each case study explores how different cooperatives have addressed internal and external pressures for reform and are pursuing the clean energy transition through different pathways. The first case study illustrates an "exit" approach, focusing on contentious litigation between a group of rural electric cooperatives in the Intermountain West. These cooperatives created long-term contractual obligations among themselves decades ago to costeffectively produce and distribute power. Now, however, as some member cooperatives seek increased reliance on renewable energy, they have attempted to exit these long-term contracts. The second case study shows a "collaborative" pathway through recent clean energy development at the Great River Energy cooperative in Minnesota. In that case, Great River Energy and its member cooperatives made decisions, including contract renegotiations, to allow a smoother transition to retire or divest from their jointly owned coal plants. The third case study illustrates a "grassroots" pathway, focusing on the recent rise of grassroots organizations in the southeastern United States intent on promoting participation, equity, and racial diversity in cooperative governance as well as an accelerated transition to cleaner energy. Collectively, these case studies illustrate a range of tools available to cooperatives to enable the clean energy transition.

Part IV addresses how to define and implement "cooperative clean energy." Building on the case studies in Part III, we propose a range of approaches for rural electric cooperatives to move into a clean energy future that focus on using the existing cooperative structure and the seven Cooperative Principles. These approaches include: (1) increasing the value of the clean energy transition by more closely integrating cooperatives into wholesale markets, (2) rethinking cost allocation for clean energy investments, (3) rethinking cost allocation for retirement of fossil fuel assets, and (4) bolstering support for internal governance that provides representation for all cooperative members equitably.

^{29.} See, e.g., 1 NAT'L RURAL ELEC. COOP. ASS'N, COOPERATIVE UTILITY PV FIELD MANUAL 25–26 (2018) (explaining that "[e]lectric cooperatives are almost exclusively tax exempt and thus not able to monetize [renewable energy] tax incentives" and therefore work with third parties or for-profit subsidiaries to monetize most federal renewable incentives).

I. RURAL ELECTRIC COOPERATIVES: A REGULATORY AND GOVERNANCE HISTORY

NORTH CAROLINA LAW REVIEW

Cooperative businesses were first established in England in the nineteenth century, predating rural electric cooperatives by seven decades.³⁰ Modern definitions of cooperatives emphasize their operation as autonomous businesses owned and controlled by their users, workers, or another aligned group to meet the common economic, social, and cultural needs of their community.³¹ Modern cooperatives generally adhere to the seven Cooperative Principles, which were developed by the International Cooperative Alliance.³² Today, one-in-three Americans are a member of at least one cooperative business, with the agriculture, grocery, health care, and finance sectors having the largest cooperative businesses.³³

At a conceptual level, cooperatives have been proposed as a viable business model to address the concern of consumer-harming monopoly rents that result from suppliers holding market power and setting prices above what competitive markets would otherwise establish. Aspects of electric service delivery can be considered a "natural monopoly," which creates the potential for consumer welfare losses.³⁴ There are generally four primary approaches to protecting consumers from bearing the costs of monopoly rent-seeking that are relevant for electric service delivery, each implying a different utility business model and level of regulation. First, for-profit, investor-owned utilities can be granted an exclusive franchise for providing electric service and regulated by publicly accountable bodies to control prices and availability of quality service.³⁵ Second, competition can be introduced in some aspects of providing electric service to reduce the market power of incumbent firms.³⁶ Third, providing electric service

^{30.} KIMBERLY A. ZEULI & ROBERT CROPP, COOPERATIVES: PRINCIPLES AND PRACTICES IN THE 21ST CENTURY 1 (2004).

^{31.} Id.

^{32.} MICHAEL BOLAND, AN INTRODUCTION TO COOPERATION AND MUTUALISM 9 (2017); Cooperative Identity, Values & Principles, INT'L COOP. ALL. (2018), https://www.ica.coop/en/ cooperative-identity [https://perma.cc/34TK-V7LU]; Understanding the Seven Cooperative Principles, supra note 25.

^{33.} NAT'L COOP. BANK, THE 2019 NCB CO-OP 100, at 3 (2020).

^{34.} A natural monopoly is defined as a firm in a product market for which "the entire demand . . . can be satisfied at lowest cost by one firm rather than two or more." *See* Richard A. Posner, *Natural Monopoly and Its Regulation*, 21 STAN. L. REV. 548, 548 (1968).

^{35.} In the absence of competition—particularly for electric transmission and distribution services—direct control of for-profit utilities through regulation has been the general approach taken to protect customer interests against monopoly costs. *See* HENRY HANSMANN, THE OWNERSHIP OF ENTERPRISE 169–70 (2009). However, regulation is also costly due to imperfection in the government's ability to monitor firms and an efficiency disincentive associated with overly stringent regulation. *See id.*

^{36.} Wholesale markets and other structural changes have increased the ability for the generation functions of electricity service delivery to experience some degree of competition that lowers costs. For example, merchant generators provide market-rate generation in restructured wholesale electricity

can be made a government function.³⁷ Finally, cooperative businesses, in which consumers own the means of production, can be established to provide electricity in a manner that aligns the interests of producers with consumers, converting any excess revenues back to the cooperative's consumers through capital credits.³⁸

In the electric sector, cooperative businesses have provided electric service to U.S. consumers for over a hundred years.³⁹ Rural electric cooperatives were created to transform rural America. Their purpose was not just to provide electric service for the first time to the areas they served, but also to educate farmers in democratic practices and create rural economic wealth.⁴⁰ Today, rural electric cooperatives provide electric power to forty-two million people in over

37. See ERIC RAUCHWAY, WHY THE NEW DEAL MATTERS 50 (2021) (detailing the justification for the federal government's large hydroelectric generation buildout in the 1930s and 1940s with the express goal of serving as a "'national yardstick' against which to measure the prices levied by private power companies . . . [and] 'prevent extortion against the public' by private firms." (quoting President Franklin D. Roosevelt, Campaign Address in Portland, Oregon, on Public Utilities and Development of Hydroelectric Power (Sept. 21, 1932))). At a local level, municipal retail electricity providers municipal utilities or "munis"—are also nonprofit entities like rural electric cooperatives but, unlike cooperatives, they are governed by democratically elected city councils or a utility commission appointed by a city council, raise capital through operating revenue or tax-exempt bonds, and are subject to few federal or state regulations. See, e.g., What Is Public Power?, AM. MUN. POWER, https://www.amppartners.org/consumers/what-is-public-power [https://perma.cc/4JBC-EK2D]; see also supra note 14 and tbl.1 (showing percentage of U.S. power provided by government utilities).

38. The economic justification for cooperatives as an alternative to investor-owned utilities is in the ability of cooperatives to align "the firm's interests with those of its customers" and avoid "not only the costs of monopoly but also the costs of rate regulation." *See* HANSMANN, *supra* note 35, at 169–70. Capital credits are the excess revenues above costs that a cooperative distributes to members, analogous to the dividends an investor-owned utility returns to its shareholders. *Understanding Capital Credits*, OCONTO ELEC. COOP., https://ocontoelectric.com/understanding-capital-credits/ [https://perma.cc/PJF5-SSP2]; *see also infra* notes 121–22. Retiring capital credits through direct payments to members helps cooperative members internalize the economic benefits of being cooperative members and creates tax benefits for the cooperative. *See* NAT'L RURAL ELEC. COOP. ASS'N & NAT'L RURAL UTILS. COOP. FIN. CORP., CAPITAL CREDITS TASK FORCE REPORT 18 (2005). However, member equity can also be retained by a cooperative to invest in parallel enterprises not necessarily related to electricity service provision, which can create risks and rewards for the cooperatives?, 5 WASH. & LEE J. ENERGY CLIMATE & ENV'T 221, 239–40 (2014); *infra* Section I.C (discussing investments).

39. See Jeter et al., supra note 23, at 364–65; see also Linda A. Cameron, Rural Electrification in Minnesota, MNOPEDIA (Feb. 7, 2019), https://www.mnopedia.org/thing/rural-electrification-administration-minnesota [https://perma.cc/8GCW-VWCX] (noting one of the earliest electric cooperatives formed in Minnesota in 1914); History, PARKLAND LIGHT & WATER, https://www.plw.coop/about-us/history/ [https://perma.cc/K22X-QZYX] (noting the history of an electric cooperative formed in Washington in 1914).

40. See Jeter et al., supra note 23, at 365.

markets. However, electricity transmission and distribution functions generally still meet the conditions of natural monopoly. *See, e.g.*, Scott Hempling, Testimony Before the California Public Utilities Commission Forum on Governance, Management, and Safety Culture: To Improve Utility Performance, Fix the Culture of Entitlement 7 (Apr. 26, 2019), https://www.scotthemplinglaw.com/files/pdf/hempling_culture_of_entitlement_cpuc_26_apr.pdf [https://perma.cc/22AS-TRML]. Other aspects of electricity service delivery may be opened to competition to greater or lesser extents. *See id.*

twenty million residences, businesses, farms, and schools across forty-eight states.⁴¹ Rural electric cooperatives were formed to serve dispersed energy needs in rural areas, and today, they cover over 50% of the U.S. landmass.⁴² To serve this wide area, rural electric cooperatives own approximately 40% (over two million miles) of the nation's electric distribution lines, which connect electricity users to the electric grid.⁴³ By mile of distribution line, rural electric cooperatives have about one-third of the consumer density compared to other utilities.⁴⁴

Rural electric cooperatives today have self-organized into multilevel, federated structures. There are approximately eight hundred "distribution cooperatives," which sell and distribute power to their member-owners.⁴⁵ Groups of distribution cooperatives collectively own and manage over sixty "generation and transmission" or "G&T" cooperatives.⁴⁶ The G&T cooperatives generate or procure power from a variety of energy resources—hydropower, coal, natural gas, nuclear, wind, and solar—and sell power to their member distribution cooperatives. The terms of the power sales between distribution cooperatives and the G&T cooperatives they own are generally set in power supply contracts. Many of these contracts are binding, long-term contracts, known as "all-requirements" contracts, discussed in more detail below.⁴⁷

In 2019, cooperatives sold 14% of total U.S. electricity and served 15% of the nation's energy consumers through their network of transmission and distribution lines, as shown in Table 1.⁴⁸ The breakdown of the share of

^{41.} See AMERICA'S ELECTRIC COOPERATIVES, supra note 8, at 1.

^{42.} Id. For maps showing the geographic coverage of U.S. rural electric cooperatives, see *id.*; *America's Electric Cooperative Network*, NAT'L RURAL ELEC. COOP. ASS'N (2004), https://www.otsegoec.coop/sites/otsegoec/files/documents/CooperativeNetwork.pdf [https://perma. cc/C846-PA4T].

^{43.} See infra tbl.1.

^{44.} See infra tbl.1.

^{45.} AMERICA'S ELECTRIC COOPERATIVES, *supra* note 8, at 1.

^{46.} Id.

^{47.} Id. at 2; see also Liz Veazey, Overview of Generation & Transmission Co-ops & All Requirements Contracts, WE OWN IT, https://weown.it/resource-gnt-all-requirements-overview [https://perma.cc/ TP4X-ACCF] (showing map of G&T cooperatives); infra note 221 (discussing all-requirements contracts).

^{48.} U.S. ENERGY INFO. ADMIN., ELECTRIC POWER ANNUAL 2019 (2021); U.S. ENERGY INFO. ADMIN., ELECTRIC POWER ANNUAL 2015 (2016). For details on different types of power providers, see *supra* notes 35–38 and accompanying text. The number of retail entities for investor-owned utilities and power marketers is based on the count of distinct entities reporting electricity sales in 2019 to the Energy Information Administration (accounting for sales in multiple states). The number of rural electric cooperatives is based on merging cooperative utilities that complete form EIA-861 and hold membership in the National Rural Electric Cooperative Association. Government utilities include municipal utilities, federal power marketers (such as the Bonneville Power Administration), political subdivisions (such as the Salt River Project), and state utilities (such as the Long Island Power Authority). Customers of municipal utilities make up 74% of customers of government utilities. *See*

2021] COOPERATIVE CLEAN ENERGY

electricity sold, share of consumers served, share of transmission and distribution line miles, consumer density per mile of distribution line, and number of retail entities by all utility types is detailed in Table 1.

Utility Type	Share of Electricity Sold (2019)	Share of Consumers Served (2019)	Share of Transmission Lines (by mile, 2015)	Share of Distribution Lines (by mile, 2015)	Consumers per Mile of Distribution Line (2015)	Number of Retail Entities (2019)
Investor-						
Owned	59%	64%	66%	54%	29.1	158
Power						
Marketers	8%	5%				87
Government (including municipal, state, federal, and other public utilities)	19%	16%	18%	10%	31.2	~2,000
Rural Electric Co- ops	14%	15%	17%	37%	8.0	~800

Table 1. Key Statistics of Different Utility Types

The remainder of this part explores the creation and development of rural electric cooperatives starting with the New Deal period in the 1930s, the limited role of federal and state regulation of cooperatives, and present-day dynamics of cooperative governance.

A. Rural Electrification, the New Deal, and the Rise of the Rural Electric Cooperative

The first rural electric cooperatives in the United States were established in the 1910s by small rural communities.⁴⁹ By the 1930s, as part of the New

QUADRENNIAL ENERGY REV., TRANSFORMING THE NATION'S ELECTRICITY SYSTEM: THE SECOND INSTALLMENT OF THE QER, at A-33 (2017), https://www.energy.gov/sites/prod/files/2017/02/f34/Quadrennial%20Energy%20Review--Second%20Installment%20%28Full%20Report%29.pdf [https://perma.cc/6KC2-3443]. Miles of transmission and distribution lines were corrected due to a labelling issue in the original data. The American Public Power Association reports that there are approximately two thousand public power utilities, which are primarily municipal utilities. AM. PUB. POWER ASS'N, PUBLIC POWER FOR YOUR COMMUNITY 7 (2016).

^{49.} See D. CLAYTON BROWN, ELECTRICITY FOR RURAL AMERICA: THE FIGHT FOR THE REA 13–14 (1980) (noting that, while the earliest history of electric cooperatives in the United States is disputed, the Stoney Run Light and Power Company in Granite Falls, Minnesota, was functioning as an electric cooperative in 1914, and by the time the REA was formed in 1935, there were approximately

NORTH CAROLINA LAW REVIEW [Vol. 100

Deal, President Franklin D. Roosevelt embraced the capability of the federal government to provide financing as a tool to enable the electrification of rural America. This effort came at a time when nearly 90% of farms lacked access to electricity, despite having the technical capability to receive electric service, and when research was demonstrating that farm electrification would improve lives.⁵⁰ The large majority of farms were not connected to the electric grid because the existing investor-owned utilities asserted that they could not earn a sufficient profit from rural electrification, even with government incentives.⁵¹ This led Congress, with the strong support of President Roosevelt's administration, to enact the Rural Electrification Act of 1936,⁵² which enabled the Rural Electrification Administration or "REA" (renamed the Rural Utilities Service, or "RUS," in 1994), to provide low-interest financing for rural electrification.⁵³ Initially, federal loans primarily financed the construction of

50. See RURAL ELECTRIFICATION ADMIN., RURAL LINES USA: THE STORY OF COOPERATIVE RURAL ELECTRIFICATION 3-4 (1966) (noting that by 1915, engineers were able to transmit power one hundred miles and that most farmers lived within one hundred miles of a generating station and discussing a study in the early 1920s showing that connecting farms with electricity and electric equipment improved health and happiness).

51. See Celebrating the 80th Anniversary of the Rural Electrification Administration, supra note 26; see also CARO, supra note 6, at 516 ("For two decades and more [prior to the 1930s], in states all across the country, delegations of farmers, dressed in Sunday shirts washed by hand and ironed by sad iron, had come, hats literally in hand, to the paneled offices of utility-company executives to ask to be allowed to enter the age of electricity But in delegations or alone, the answer they received was almost invariably the same: that it was too expensive"); JOHN RIGGS, HIGH TENSION: FDR'S BATTLE TO POWER AMERICA 147 (2020) ("[Morris] Cooke threw the administration's weight behind a more aggressive national approach, claiming the private utilities' failure to electrify rural areas was due to 'prohibitive costs of line construction, to excessive demands for cash contributions from farmers to pay for the lines which would serve them, to high rates which discourage the abundant use of current, and to the traditional policy of private utilities of extending the monopolistic franchises as widely as possible, while extending their actual service only to those areas which are most profitable." (quoting Letter from Morris L. Cooke, Adm'r, Rural Elec. Admin., to George W. Norris, U.S. Sen. from Nebraska (Nov. 14, 1935))); Richard Hirsh, Shedding New Light on Rural Electrification: The Neglected Story of Successful Efforts To Power Up Farms in the 1920s and 1930s, 92 AGRIC. HIST. SOC'Y 296, 296-97 (2018); Abby Spinak, Infrastructure and Agency: Rural Electric Cooperatives and the Fight for Economic Democracy in the United States 239-40 (Jan. 16, 2014) (Ph.D. dissertation, Massachusetts Institute of Technology) (on file with Massachusetts Institute of Technology Libraries).

52. Rural Electrification Act of 1936, Pub. L. No. 74-605, 49 Stat. 1363 (codified as amended in 7 U.S.C. §§ 901–950cc-2).

fifty electric cooperatives in operation, each with approximately twenty to two hundred memberowners); *see also* JACK DOYLE, LINES ACROSS THE LAND: RURAL ELECTRIC COOPERATIVES: THE CHANGING POLITICS OF ENERGY IN RURAL AMERICA 3 (Vic Reinemer ed., 1979) (discussing how early advocates of rural electrification in the United States were inspired by rural electric cooperatives established in the early 1900s in Germany, Sweden, Denmark, and Ontario).

^{53.} RURAL ELECTRIFICATION ADMIN., *supra* note 50, at 4–6. The Rural Electrification Act of 1936 made loans available for financing the construction and operation of generation, transmission, and distribution to rural areas not receiving service from a central station, including home wiring and appliances. *Id.* The Act defined rural areas as those outside of municipalities with populations above 1,500. *Id.* at 5. While the REA initially sought to work with private utilities, applications to the REA from private companies included provisions for rates in rural areas significantly higher than those in

15

electric distribution networks and only supported a relatively small amount of energy generation.⁵⁴

When many rural electric cooperatives were first being established in the late 1930s, many states lacked laws specifically addressing rural electric cooperatives, despite already having in place extensive laws regulating private, investor-owned utilities. In response, REA legal staff drafted a model state law—the Electric Cooperative Corporation Act—which established the authority to create rural electric cooperatives and exempted them from rate regulation by state utility commissions under the assumption that they would be "self-regulated," not-for-profit corporations.⁵⁵ By 1940, twenty-three states had adopted a version of the Electric Cooperative Corporative Corporation Act.⁵⁶ As of 2020, only seven states fully regulated cooperative rates, charges, and contracts.⁵⁷

By the 1950s, rural electric cooperatives had become the primary means by which over 90% of rural Americans accessed electricity.⁵⁸ Around this same time, the economics of electricity were fundamentally changing. Large-scale generation with substantial economies of scale—particularly large coal plants but also nuclear power—began to crowd out alternatives.⁵⁹ In order to take advantage of the lower-than-average cost power from centralized generation and build the large-scale transmission infrastructure necessary to transport electricity over long distances, the hundreds of rural electric cooperatives across the country began to work together to form G&T cooperatives.⁶⁰ G&T

- 57. See infra note 90 and accompanying text.
- 58. See The Electric Cooperative Story, supra note 26.

place in urban areas and thus were not seriously considered. *Id.* at 4. The Rural Electrification Act then included language specifically calling for preference to public entities and cooperatives. *Id.* at 5–6; *see also* CARO, *supra* note 6, at 519–21 (discussing President Roosevelt's creation of the REA by executive order in 1935 and congressional enactment of the Rural Electrification Act in 1936); FRANK J. BUSCH, POWER FOR THE PEOPLE: MONTANA'S COOPERATIVE UTILITIES 157–73 (1976) (discussing REA policies and requirements for financing); PHILIP J. FUNIGIELLO, TOWARD A NATIONAL POWER POLICY: THE NEW DEAL AND THE ELECTRIC UTILITY INDUSTRY, 1933–1944, at 139–45 (1973) (discussing the failure of investor-owned utilities to work with the REA to expand electricity to rural parts of the country and the agency's subsequent pivot to cooperatives).

^{54.} Cooper, supra note 23, at 345-46, 346 n.78.

^{55.} RURAL ELECTRIFICATION ADMIN., *supra* note 50, at 7 (discussing the model state law and self-regulating nature of rural electric cooperatives); *see also, e.g.*, ARK. CODE ANN. §§ 23-18-301 to -311 (LEXIS through Apr. 20, 2021) (demonstrating how states, like Arkansas, adopted the model state law, titled it the "Electric Cooperative Corporation Act" and included provisions for rural electric cooperative articles of incorporation, bylaws, membership, and use of revenues).

^{56.} RURAL ELECTRIFICATION ADMIN., supra note 50, at 7.

^{59.} Energy Sources Have Changed Throughout the History of the United States, U.S. ENERGY INFO. ADMIN. (July 3, 2013), https://www.eia.gov/todayinenergy/detail.php?id=11951 [https://perma.cc/ E9BA-L7SS] (showing that, in the mid-20th century, coal-powered and nuclear electric generation began to rise).

^{60.} See CLYDE T. ELLIS, A GIANT STEP 60-61 (1966). The first G&T cooperative was established in 1938 in Wisconsin, and by the 1970s, nearly 20% of cooperative power was sourced from

NORTH CAROLINA LAW REVIEW [Vol. 100

cooperatives provided the structure for small distribution utilities to collectively govern investments in large-scale generation and transmission infrastructure.⁶¹ Following the 1973 Oil Crisis, and during the time that many G&T cooperatives were investing in new generation capacity to support loads that would grow through the 1980s, Congress enacted the Powerplant and Industrial Fuel Use Act⁶² requiring that all new baseload power plants have the capability to use coal rather than natural gas or petroleum.⁶³ About two-thirds of the coal generation owned by cooperatives today was built between 1978–1987, the years this law was in force.⁶⁴

To support the financing of large collective investments, local distribution cooperatives accepted the REA's mandate that they enter into long-term "all-requirements" contracts for energy services, thereby binding themselves together with their G&T cooperative "families" for multiple decades, consistent with the expected lifetime of their co-invested assets.⁶⁵ In the past decade, these contracts—originally intended to protect the federal government's investments—have come under intense scrutiny as the economics of electricity shift toward lower-cost, wholesale electricity wheeled over long distances and distributed energy resources that lack the economies of scale of fossil fuel generation.⁶⁶ This greater diversity of the cost-effective means of delivering

G&Ts, with the remainder sourced from investor-owned utilities or federally owned power producers. *See id.*; DOYLE, *supra* note 49, at 3.

^{61.} Greensboro Lumber Co. v. Ga. Power Co., 634 F. Supp. 1345, 1359–62 (N.D. Ga. 1986), *affd*, 844 F.2d 1538, 1539 (11th Cir. 1988) (discussing the formation of G&T cooperatives and stating that they "were formed to meet the perceived need for greater efficiency in rural electric service through large-scale power generation and distribution").

^{62.} Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (codified as amended in scattered sections of 15, 19, 42, 45, and 49 U.S.C.).

^{63.} Building a 100 Percent Clean Economy: Solutions for the U.S. Power Sector: Hearing Before the Energy Subcomm. of the H. Comm. on Energy and Com., 116th Cong. 6 (2019) [hereinafter 100 Percent Clean Economy Hearings] (statement of Hon. Jim Matheson, Chief Executive Officer, National Rural Electric Cooperative Association), https://www.electric.coop/wp-content/uploads/2019/10/Matheson-NRECA-Written-Testimony.pdf [https://perma.cc/MK8M-3MR5] (explaining that, from 1978–1987 under the Power Plant and Industrial Fuel Use Act, G&T cooperatives were under federal mandate to build "coal capable" baseload power plants to preserve scarce natural gas supplies because cooperatives could not purchase affordable power elsewhere); see also Pacyniak, supra note 23, at 452.

^{64.} Nat'l Rural Elec. Coop. Ass'n, Comments on Proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units and Notice of Data Availability 51 (Dec. 1, 2014); see also Pacyniak, supra note 23, at 452–53.

^{65.} Ala. Power Co. v. Ala. Elec. Coop., 394 F.2d 672, 675 (5th Cir. 1968) (explaining that the REA mandate that G&T cooperatives enter into long-term, all-requirements contracts with their member-owners is "to assure that the borrower will have a market for the power generated and transmitted by the REA-financed facilities and thus be able to repay the loan"); see also Greensboro Lumber Co., 634 F. Supp. at 1541–42 (rejecting argument that REA-mandated all-requirements contracts violate federal antitrust laws).

^{66.} Compare FED. ENERGY REGUL. COMM'N, AD18-10-000, DISTRIBUTED ENERGY RESOURCES: TECHNICAL CONSIDERATIONS FOR THE BULK POWER SYSTEM 7 (2018), https://www.ferc.gov/sites/default/files/2020-05/der-report_0.pdf [https://perma.cc/7LRY-L4NZ]

energy services to individuals and businesses is creating opportunities and challenges for all corners of the energy system to develop greater flexibility.⁶⁷ For cooperatives, this may require unique approaches, which are discussed throughout the remainder of the Article.

B. Federal and State Regulation of Rural Electric Cooperatives

In this section, we discuss federal and state law regulating rural electric cooperatives. As explained below, the Federal Energy Regulatory Commission ("FERC") does not generally regulate cooperative rates, charges, or contracts under the Federal Power Act of 1935 ("FPA"),⁶⁸ but states have authority to regulate such rates, charges, and contracts in the public interest.⁶⁹ As a policy matter, however, very few states regulate cooperative rates or impose clean energy standards or other requirements on cooperatives.⁷⁰ The generally stated justification for designating cooperatives as "self-regulating" and "self-governing" stems from the cooperative form itself—cooperatives are not-for-profit, federally tax-exempt entities governed by locally-elected boards that return or reinvest all excess revenues.⁷¹ This means that rural electric cooperative decisions about energy resources, electricity rates, and other business operations are subject to far less federal, state, or public scrutiny than such decisions by investor-owned utilities.

1. Federal Regulation of Rural Electric Cooperatives

Under the FPA, FERC regulates contracts, rates, and charges for the transmission and wholesale sale of electricity in interstate commerce to ensure such contracts, rates, and charges are "just and reasonable."⁷² At the time of its enactment, the FPA regulated "public utilities" and excluded from coverage

⁽citing a study by Navigant showing growth in annual installations of distributed energy resource capacity from approximately 25 gigawatts ("GW") per year in 2015 to over 40 GW per year in 2020 and forecasting growth to approximately 65 GW per year by 2024), with Renewables Account for Most New U.S. Electricity Generating Capacity in 2021, U.S. ENERGY INFO. ADMIN. (Jan. 11, 2021), https://www.eia.gov/todayinenergy/detail.php?id=46416 [https://perma.cc/6LWF-WTXW] (estimating that less than 40 GW of capacity tracked by the EIA—excluding most distributed energy resources—will be installed in 2021).

^{67.} INT'L RENEWABLE ENERGY AGENCY, POWER SYSTEM FLEXIBILITY FOR THE ENERGY TRANSITION pt. 1, at 8 (Nov. 2018), https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Nov/IRENA_Power_system_flexibility_1_2018.pdf?la=en&hash=72EC26336F127 C7D51DF798CE19F477557CE9A82 [https://perma.cc/HVH5-EDY5].

^{68.} Public Utility Act of 1935, ch. 687, tit. II, 49 Stat. 803, 838-63 (codified as amended in scattered sections of 16 U.S.C.).

^{69.} See discussion infra Section I.B.1; see also JIM LAZAR, REGUL. ASSISTANCE PROJECT, ELECTRICITY REGULATION IN THE US 15–16 (2d ed. 2016).

^{70.} See infra Section I.B.2.

^{71.} See supra note 23 (discussing scholarly criticism of this lack of regulation); see also Beecher, supra note 38 (questioning the continued tax-exempt status of rural electric cooperatives).

^{72. 16} U.S.C. § 824(a), (b), (d), (e), (f).

NORTH CAROLINA LAW REVIEW [Vol. 100

"the United States, a State or any political subdivision of a State... or any agency, authority, or instrumentality of any one or more of the foregoing, or any corporation which is wholly owned, directly or indirectly, by any one or more of the foregoing...."73 Because this statutory exclusion did not mention rural electric cooperatives at all, the question arose whether they should be included in the definition of a "public utility" or should otherwise be subject to rate regulation under the FPA.

By the 1960s, FERC's predecessor—the Federal Power Commission—and the lower federal courts had held that the FPA applies only to "public utilities" and that Congress did not intend to subject rural electric cooperatives to FPA regulation.⁷⁴ The U.S. Supreme Court confirmed this analysis in 1983 in *Arkansas Electric Cooperative Corp. v. Arkansas Public Service Commission.*⁷⁵ The Court agreed that the lack of FPA coverage for rural electric cooperatives was based on the history leading up to Congress's enactment of the FPA, which was an effort to address rampant fraud, misrepresentation, and financial abuses by investor-owned utilities in the electricity sector.⁷⁶ It stated that Congress used the FPA to govern the actions of public utilities and chose the REA (which was created around the same time) to govern the actions of rural electric cooperatives through its authority under the Rural Electrification Act.⁷⁷ At the

^{73.} See id. In the Energy Policy Act of 2005, Congress addressed cooperatives explicitly by amending § 824(f) to exclude from regulation any "political subdivision of a State, an electric cooperative that receives financing under the Rural Electrification Act of 1936 (7 U.S.C. 901 et seq.) or that sells less than 4,000,000 megawatt hours of electricity per year..." Pub. L. No. 109-58, § 1291(c), 119 Stat. 594, 985 (2005) (codified at 16 U.S.C. § 824(f)); see also infra Section III.A.2 (discussing Tri-State's request to be subject to FERC regulation under the FPA by adding a new member that was not a rural electric cooperative).

^{74.} See Salt River Project Agric. Improvement & Power Dist. v. Fed. Power Comm'n, 391 F.2d 470, 474 (D.C. Cir. 1968); City of Paris v. Fed. Power Comm'n, 399 F.2d 983, 986 (D.C. Cir. 1968); In re Dairyland Power Coop., 37 F.P.C. 12, 15 (1967).

^{75. 461} U.S. 375, 380–83 (1983) (discussing reasons for lack of FPA jurisdiction over rural electric cooperatives).

^{76.} See id. (discussing reasons for lack of FPA jurisdiction over rural electric cooperatives); Salt River Project Agric. Improvement & Power Dist., 391 F.2d at 475 ("It is not easy to choose words which will adequately characterize various ethical aspects of [the actions of investor-owned utilities prior to the enactment of the FPA] without an appearance of undue severity. Nevertheless the use of words such as fraud, deceit, misrepresentation, dishonesty, breach of trust, and oppression are the only suitable terms to apply if one seeks to form an ethical judgment on many practices which have taken sums beyond calculation from the rate paying and investing public.").

^{77.} Ark. Elec. Coop. Corp., 461 U.S. at 384. The Rural Electrification Act authorized the REA to, among other things, make loans for rural electrification, including loans to finance power plants, transmission and distribution lines, and other approved energy-related programs; assist electric borrowers to implement demand side management, energy conservation programs, and renewable energy systems; and promote studies, investigations, and reports on the progress of electrification service in rural areas. See Rural Electrification Act of 1936, Pub. L. No. 74-605, §§ 1–2, 49 Stat. 1363, 1363 (codified as amended at 7 U.S.C. §§ 901–902); United States ex rel. Rural Utils. Serv. v. Cajun Elec. Power Coop., Inc. (In re Cajun Elec. Power Coop., Inc.), 109 F.3d 248, 255 (5th Cir. 1997) (discussing powers of the REA Administrator).

2021] COOPERATIVE CLEAN ENERGY

same time, the Court rejected the argument that cooperatives are inherently "self-regulating,"⁷⁸ and upheld states' power to regulate the rates, charges, and contracts of rural electric cooperatives.⁷⁹ Nevertheless, the Court left open the possibility that a state ratemaking-decision could "so seriously compromise important federal interests," including REA loan repayment, that the REA could preempt the state action.⁸⁰

In the years following the Supreme Court's decision in Arkansas Electric Cooperative Corp., the lower federal courts addressed the extent to which the REA can preempt state regulatory authority over cooperatives. Of particular concern was the potential for conflicts between the REA's desire to ensure repayment of REA loans and efforts of state public utility commissions to shield cooperative ratepayers from price increases. In the 1980s, power providers around the country, including G&T cooperatives, had invested heavily in nuclear plants that were never built due to cost overruns and overestimations of electricity demand growth.⁸¹ These G&T cooperatives had secured REA loans for their investments, and with the mounting losses from the unbuilt plants, they risked defaulting on the loans unless they could significantly raise member rates.⁸² When the REA demanded that the G&T cooperatives raise member rates to ensure repayment, state public utility regulators in Indiana and Louisiana asserted jurisdiction over those rates, found that the public interest was not served by increasing rates, and prohibited the cooperatives from charging them.⁸³ The REA then enacted new regulations designed to preempt the state public utility commission decisions and ensure loan repayment.⁸⁴ These cases reached the U.S. Courts of Appeals for the Seventh Circuit and the Fifth Circuit in the 1990s in Wabash Valley Power Association v. Rural Electric

^{78.} Ark. Elec. Coop. Corp., 461 U.S. at 394 ("An argument could be made that, because AECC's Board of Directors consists exclusively of representatives of its 17 customers, it is effectively self-regulating, and that therefore any state regulation is not supported by an appreciable state interest Nevertheless, there is evidence that even cooperative power utilities may engage in economically inefficient behavior, ... and we will not under these circumstances second-guess the State's judgment that some degree of governmental oversight is warranted." (citations omitted)).

^{79.} Id.; see also Matt Grimley, Just How Democratic Are Rural Electric Cooperatives?, INST. FOR LOC. SELF-RELIANCE (Jan. 13, 2016), https://ilsr.org/just-how-democratic-are-rural-electric-cooperatives/[https://perma.cc/VX6S-3XR5] (discussing the limited number of states that regulate the rates cooperatives charge their members); *infra* Section I.B.2 (discussing state regulation of cooperatives).

^{80.} Ark. Elec. Coop. Corp., 461 U.S. at 389.

^{81.} See Wabash Valley Power Ass'n v. Rural Electrification Admin. (*Wabash II*), 988 F.2d 1480, 1482 (7th Cir. 1993); LINCOLN L. DAVIES, ALEXANDRA B. KLASS, HARI M. OSOFSKY, JOSEPH P. TOMAIN & ELIZABETH WILSON, ENERGY LAW AND POLICY 352–53 (2d ed. 2018) (discussing nuclear plant cost overruns and electricity growth overestimations).

^{82.} Wabash II, 988 F.2d at 1482; In re Cajun Elec. Power Coop., Inc., 109 F.3d at 252-53.

^{83.} Wabash II, 988 F.2d at 1482; In re Cajun Elec. Power Coop., Inc., 109 F.3d at 252-53.

^{84.} Wabash II, 988 F.2d at 1482; In re Cajun Elec. Power Coop., Inc., 109 F.3d at 252-53.

Administration⁸⁵ and United States ex rel. Rural Utilities Service v. Cajun Electric Power Cooperative, Inc.⁸⁶ Both courts held that the REA did not have authority under the Rural Electrification Act to preempt the state commissions' regulation of cooperatives.⁸⁷

These cases thus establish that even though FERC does not generally regulate cooperative rates, charges, and contracts under the FPA,⁸⁸ states retain broad authority to regulate cooperative actions regarding rates and the use of energy resources. As set forth below, however, as a matter of policy, very few states regulate cooperative rates, choosing instead to consider cooperatives as not-for-profit "self-regulating" and "self-governing" entities. Moreover, many states that impose clean energy standards or other requirements on investor-owned utilities either do not apply them to cooperatives or apply them more leniently.

2. State Regulation of Rural Electric Cooperatives

In general, states regulate the rates of their investor-owned utilities for services they provide to retail electricity customers, whether for energy, transmission, or distribution services.⁸⁹ When it comes to rural electric cooperatives, however, the regulatory landscape is vastly different. Only seven states—Arizona, Hawaii, Kentucky, Louisiana, Maine, Maryland, and Vermont—fully regulate the rates G&T or distribution cooperatives charge to their members.⁹⁰ In a few other states, the public utility commission can assert

20

89. See ALEXANDRA B. KLASS & HANNAH J. WISEMAN, ENERGY LAW 219–22 (2d ed. 2020) (discussing state regulation of utilities). Even in states that have "restructured" their electricity sector to allow competition among energy providers, utilities still retain monopoly status regarding the transmission and distribution of electricity in set service areas and state utility commissions continue to regulate the rates for those services. *Id.*

90. See, e.g., ARIZ. CONST. art. 15, § 2; ARIZ. REV. STAT. ANN. §§ 40-203, -365, -367 (Westlaw through legislation effective April 20, 2021 of the 1st Reg. Sess. of the 55th Leg.); HAW. REV. STAT. §§ 269-1(1), -16(b) (2021); KY. REV. STAT. ANN. §§ 278.040, 279.201 (Westlaw through legislation effective Apr. 12, 2021 of the 2021 Reg. Sess. and the Nov. 3, 2020 election); LA. CONST. art. IV,

^{85. 988} F.2d 1480 (7th Cir. 1993).

^{86. 109} F.3d 248 (5th Cir. 1997).

^{87.} See Wabash II, 988 F.2d at 1490; In re Cajun Elec. Power Coop., Inc., 109 F.3d at 257-58.

^{88.} Under the FPA, if a cooperative does not have outstanding REA/RUS loans and is not wholly owned by cooperatives with REA/RUS loans, or is over a certain size, it becomes FERC-regulated. See Public Utility Act of 1935, Pub. L. No. 74-333, tit. II, § 201, 49 Stat. 803, 847 (codified as amended at 16 U.S.C. § 824(f)) ("No provision in this subchapter shall apply to, or be deemed to include, the United States, a State or any political subdivision of a State, an electric cooperative that receives financing under the Rural Electrification Act of 1936 (7 U.S.C. 901 et seq.) or that sells less than 4,000,000 megawatt hours of electricity per year, or any agency, authority, or instrumentality of any one or more of the foregoing, or any corporation which is wholly owned, directly or indirectly, by any one or more of the foregoing"); Tri-State Generation & Transmission Ass'n, 170 FERC ¶ 61,224 paras. 82–86 (June 12, 2020) (finding that a G&T cooperative is subject to FERC regulation if it adds a member-owner that is not itself exempt under 16 U.S.C § 824(f) because it is no longer wholly owned by exempt entities).

2021]

authority over cooperative rates or charges if they are responding to a consumer complaint, if the cooperative raises rates above a certain percentage, or if the cooperative is over a certain size.⁹¹ In all other states, the public utility commission either has no jurisdiction over cooperative rates or cooperatives may choose to opt in or opt out of rate regulation.⁹²

91. See, e.g., WYO. STAT. ANN. § 37-17-103 (LEXIS through 2021 Gen. Sess. of the Wyo. Leg.) (stating that cooperative boards may adopt a resolution to obtain exemption from public service commission rates except for cooperatives with annual sales over two billion kilowatt-hours); N.M. STAT. ANN. § 62-6-4 (Westlaw with emergency legislation through Ch. 140 (End) of the 1st Reg. Sess. and Ch. 4 (End) of the 1st Spec. Sess. of the 55th Leg. (2021)) (requiring a G&T cooperative to file rates with public regulation commission and allowing the commission to determine reasonableness of those rates in response to a protest by three or more member utilities); S.C. CODE ANN. § 58-27-10(7) (Westlaw through 2021 Act No. 20) (stating that cooperatives are not considered "electric utilities" subject to rate regulation, but must file rates and schedules with office of regulatory staff and are subject to rate audits); COLO. REV. STAT. ANN. §§ 40-1-103(2)(a), -9.5-106 (LEXIS through Ch. 31 of the 2021 Reg. Sess. and effective as of Apr. 29, 2021) (stating that rural electric cooperatives can vote to become exempt from commission rate regulation but commission retains jurisdiction over disputes concerning cooperative rates, charges, rules, and regulations); ALASKA STAT. §§ 42.05.990(6), 42.05.141, 42.05.711-712 (2021) (stating cooperatives may vote to be exempt from commission rate regulation); ARK. CODE ANN. §§ 23-4-903 to -906, 23-4-908 (LEXIS through Apr. 20, 2021) (stating cooperatives are generally exempt from rate regulation but must notify the commission of any rate changes, and the commission retains authority to regulate reasonableness of rates; additionally, cooperative members can petition for rate review); VA. CODE ANN. § 56-585.3 (LEXIS through the 2021 Reg. Sess. of the Gen. Assemb. and Acts 2021 Spec. Sess. I, cc. 55, 56, 78, 82, 110, 117, 118, 171, 216, 220 and 243) (stating commission does not regulate or set rates for cooperatives so long as the rate change does not exceed 5% within a three-year period).

92. See, e.g., NAT'L RURAL UTILS. COOP. FIN. CORP., SETTING RATES: BEST PRACTICES FOR ELECTRIC COOPERATIVES pt. 3, at 3-4 (Jan. 4, 2008), https://www.cooperative.com/cfc/documents/ rates_setting_part3.pdf [https://perma.cc/QUT3-63CV] (discussing state regulation of cooperative rates). In Minnesota, one distribution cooperative, Dakota Electric, has chosen to allow the Public Utilities Commission to regulate its rates while the other cooperatives in the state have not. See MIKE BULL, RSCH. DEP'T OF THE MINN. HOUSE OF REPRESENTATIVES, REGULATION OF ENERGY UTILITIES IN MINNESOTA *1 (2002), https://www.house.leg.state.mn.us/hrd/pubs/ss/ssegutil.pdf [https://perma.cc/U55B-Z7CY]. In Iowa, one cooperative has opted in to rate regulation. See IOWA CODE ANN. § 476.1A (2021) ("The board of directors or the membership of an electric cooperative corporation or association otherwise exempt from rate regulation may elect to have the cooperative's rates regulated by the board."); IOWA UTILS. BD., FISCAL YEAR 2017 ANNUAL REPORT 4 (2018), https://iub.iowa.gov/sites/default/files/documents/2018/09/annualreport_fy2017_final.pdf [https://perma.cc/YUY5-PXAG] (noting that Linn County REC had opted in to rate regulation by the Iowa Utilities Board). In Oklahoma, five out of thirty-two cooperatives have declined to opt out of rate regulation. See OKLA. STAT. ANN. tit. 17, § 158.27 (Westlaw with emergency effective legislation through Ch. 365 of the 1st Reg. Sess. of the 58th Leg. (2021)) ("[T]he member-consumers of a rural electric cooperative [are allowed to] exempt themselves from regulation by the Commission"); Electric Utility, OKLA. CORP. COMM'N, https://oklahoma.gov/occ/divisions/public-utility/electricutility.html [https://perma.cc/XX4V-TU5K] (listing cooperatives that have and have not opted out of rate regulation).

 ²¹⁽B); Cajun Elec. Power Coop., Inc. v. La. Pub. Serv. Comm'n, 544 So. 2d 362, 363–66 (La. 1989) (confirming public service company jurisdiction over cooperative rates); ME. STAT. tit. 35-A, §§ 111, 310, 3502, 3709 (2020); MD. CODE ANN. PUB. UTIL. §§ 1-101(x), -101(ff), 4-101, -209, 7-502 (LEXIS through legislation effective Apr. 13, 2021, from the 2021 Reg. Sess. of the Gen. Assemb.); VT. STAT. ANN. tit. 30, §§ 201(1), 209(a)(4), 218d(c) (LEXIS through Act 2 of the 2021 Sess.).

State regulation of rural electric cooperatives in areas besides ratemaking is also often lighter than that imposed on investor-owned utilities. For instance, thirty states require at least some electricity providers to comply with state "renewable portfolio standards" or "clean energy standards" by sourcing a certain percentage of electricity sales from renewable energy resources or carbon-free energy resources.⁹³ However, most of these states either do not impose those requirements on rural electric cooperatives at all or impose more relaxed standards.⁹⁴ Nevertheless, cooperatives may still voluntarily adhere to the standards applied to investor-owned utilities as a matter of proactive policy compliance or in response to member expectations.

Although several states have recently imposed very aggressive clean energy mandates or greenhouse gas reduction targets—up to 100% clean electricity and greenhouse gas neutrality by a particular year⁹⁵—there is no guarantee that existing policies will be successfully implemented, that a significant number of additional states will follow suit, or that such policies will apply to all sectors and utilities, including rural electric cooperatives. Indeed, many states do not have clean energy mandates on *any* power providers, have very modest mandates, or have rescinded requirements enacted in prior years.⁹⁶

Thus, without new state policies, rapidly transitioning to a clean energy future may require rural electric cooperatives across the country to evaluate how their internal decision-making could be brought into closer alignment with the changing dynamics of the clean energy transition. Importantly, such an evaluation must grapple with the challenges of leveraging internal cooperative self-governance, as discussed below.

C. Modern Cooperative Governance

Rural electric cooperatives nationwide have long operated according to seven Cooperative Principles, originally developed in the 1800s to guide the operation of all types of cooperatives.⁹⁷ Applying these principles to support the

^{93.} See, e.g., DSIRE & NC CLEAN ENERGY TECH. CTR., RENEWABLE & CLEAN ENERGY STANDARDS *1 (2020), https://s3.amazonaws.com/ncsolarcen-prod/wp-content/uploads/2020/09/ RPS-CES-Sept2020.pdf [https://perma.cc/N6GR-946S] (showing renewable portfolio standards and clean energy mandates in all the states); Laura Shields, *State Renewable Portfolio Standards and Goals*, NAT'L CONF. ST. LEGISLATURES (Apr. 17, 2020), https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx [https://perma.cc/3CJM-5QXD] (describing renewable portfolio standards and summarizing laws in the states); GALEN BARBOSE, LAWRENCE BERKELEY NAT'L LAB'Y, U.S. RENEWABLES PORTFOLIO STANDARDS: 2018 ANNUAL STATUS REPORT 6 (2018); Welton, *Electricity Markets, supra* note 4, at 1084–86 (discussing state renewable portfolio standards).

^{94.} See, e.g., Shields, supra note 93 (showing thirty states with renewable energy or carbon-free mandates on electricity providers but only thirteen that apply those standards to rural electric cooperatives).

^{95.} See DSIRE & NC CLEAN ENERGY TECH. CTR., supra note 93.

^{96.} See, e.g., id.; Shields, supra note 93.

^{97.} Understanding the Seven Cooperative Principles, supra note 25.

2021] COOPERATIVE CLEAN ENERGY

clean energy transition in the twenty-first century is made complex because technologies, the electric grid, policy, and member expectations are changing. These changes create situations in which the Cooperative Principles can work against each other and cooperative members whose interests previously aligned no longer see the same mutual benefit in maintaining historic agreements. Rural electric cooperatives were designed as vehicles for democratically directed collective action to enable cooperatives to capture economies of scale and make collective decisions on behalf of their members. In some cases, however, the democratic functioning of cooperatives has been challenged by a lack of accountability to—and representation of—all members. Some of these challenges arise due to governance concerns that are manifest in all democratic institutions when representative agents are not accountable to their constituents—a challenge that may be even more contentious in multilevel, federated structures, like those in which cooperatives operate, where the interests of some members diverge from others.⁹⁸

In recent years, academics,⁹⁹ legislators,¹⁰⁰ activists,¹⁰¹ and some cooperatives themselves¹⁰² have offered critiques of rural electric cooperative governance, often suggesting that some cooperatives have violated their own foundational principles. While there is considerable diversity of circumstances and differences in institutional capacity among the hundreds of cooperatives in the country, in this section we discuss a range of issues in cooperative governance that can apply to distribution cooperatives and G&T cooperatives. We also acknowledge that our review of cooperative governance issues is somewhat limited in that the cases that have developed a public record are only those in which extreme governance challenges have required outside mediation. In these cases, there is some degree of failure (or claims of failure) to implement the Cooperative Principles, but more generally, these cases illustrate how the Cooperative Principles can come into conflict with each other. We acknowledge

^{98.} See, e.g., Yannis Papadopoulos, Accountability and Multi-Level Governance: More Accountability, Less Democracy?, 33 W. EUR. POL. 1030, 1033–36 (2010).

^{99.} See Jeter et al., supra note 23, at 396–97.

^{100.} Governance and Financial Accountability of Rural Electric Cooperatives: The Pedernales Experience: Hearing Before the H. Comm. on Oversight and Gov't Reform, 110th Cong. 67 (2008) [hereinafter Pedernales Hearings] (statement of Rep. Jim Cooper, Member, H. Comm. on Oversight & Gov't Reform) ("Without full disclosure, co-op democracy is a sham."); id. at 106 (statement of Rep. Patrick Rose, Tex. H. of Reps.) ("We need open meetings and open records to apply to all co-ops across the State. We need all of our co-ops to submit third-party, independent audits to the Public Utility Commission annually.... We also need minimum standards of governance so that good people can run for the board and have a fair shot at being elected.").

^{101.} JOHN FARRELL, MATT GRIMLEY & NICK STUMO-LANGER, INST. FOR LOC. SELF-RELIANCE'S ENERGY DEMOCRACY INITIATIVE, RE-MEMBER-ING THE COOPERATIVE WAY 7–8 (2016).

^{102.} See, e.g., infra notes 132–57, 161–76 and accompanying text (discussing concerns associated with Pedernales Electric Cooperative and Basin Electric Cooperative).

that many unique governance challenges arise in cooperatives but are managed internally as a result of successfully implemented strategy, effective leadership and management, or innovative decision-making structures.¹⁰³ But in these cases of internally managed change, decision-making is not tracked in a public record, unlike with public utilities, whose decisions are recorded in a regulatory docket.

24

In highlighting the governance challenges of some cooperatives, we do not seek to imply that the cooperative form itself is incompatible with the goals of the clean energy transition. In fact, we believe the opposite: there are many virtues to the cooperative form that position cooperatives in an important and capable position to support the clean energy transition, particularly a transition that prioritizes community wellbeing and energy democracy.¹⁰⁴ And importantly, the internal governance challenges facing some cooperatives must be assessed relative to the governance challenges other utility business models face in meeting societal and community goals for energy transition. These include the obstacles governmental entities face in raising large amounts of capital,¹⁰⁵ the administrative costs of regulating investor-owned utilities in the presence of high information asymmetries,¹⁰⁶ the potential misalignment of incentives of a for-profit utility's investors and its customers,¹⁰⁷ the possibilities of market manipulation in competitive electricity markets,¹⁰⁸ and the imperfections and possibilities for corruption in providing governmental oversight of utilities.¹⁰⁹

^{103.} See, e.g., KEITH TAYLOR & SARAH OUTCAULT, U.C. DAVIS ENERGY & EFFICIENCY INST., HOW SOUTH CAROLINA'S ELECTRIC COOPERATIVES BUILD CAPACITY THROUGH MULTI-LEVEL GOVERNANCE (2019), https://energy.ucdavis.edu/wp-content/uploads/Report-How-SCs-Electric-Coops-Govern-at-Scale.pdf [https://perma.cc/CL9A-XPSA] (presenting a case study of multilevel governance in the Central Electric Power Cooperative in South Carolina).

^{104.} Concern for community and democratic member control are two of the Cooperative Principles. See Understanding the Seven Cooperative Principles, supra note 25.

^{105.} While the economics of municipal bonds that are regularly used by municipal utilities are changing, the median municipal bond remains much smaller than the median corporate bond, limiting the means that governmental utilities have to raise capital. AM. PUB. POWER ASS'N, *supra* note 48, at 22.

^{106.} See DAN AAS & MICHAEL O'BOYLE, YOU GET WHAT YOU PAY FOR: MOVING TOWARD VALUE IN UTILITY COMPENSATION pt. 2, at 12 (2016) (explaining the information asymmetries regulators face vis-à-vis utilities and the limited means regulators have to overcome information asymmetries).

^{107.} See, e.g., Andrew Satchwell, Andrew Mills & Galen Barbose, Regulatory and Ratemaking Approaches To Mitigate Financial Impacts of Net-Metered PV on Utilities and Ratepayers, 85 ENERGY POL'Y 115, 115 (2015) ("[F]inancial interests of U.S. utilities are poorly aligned with customer-sited solar photovoltaics under traditional regulation.").

^{108.} See GIULIA GALLO, NAT'L RENEWABLE ENERGY LAB'Y, ELECTRICITY MARKET MANIPULATION: HOW BEHAVIORAL MODELING CAN HELP MARKET DESIGN 9–11 (2015) (detailing examples of greed and market manipulation in several wholesale markets).

^{109.} See LEAH CARDAMORE STOKES, SHORT CIRCUITING POLICY: INTEREST GROUPS AND THE BATTLE OVER CLEAN ENERGY AND CLIMATE POLICY IN THE AMERICAN STATES 164– 93 (2020) (detailing the case of regulatory capture by the investor-owned utility Arizona Public Service); see also Dan Gearino, Illinois and Ohio Bribery Scandals Show the Perils of Mixing Utilities

2021]

COOPERATIVE CLEAN ENERGY

1. Governance of Distribution Cooperatives

Democratic member control sets rural electric cooperatives apart from investor-owned utilities and can closely align the norms of cooperatives with the goals of energy democracy, just as other non-electric cooperatives have been linked with promoting democracy.¹¹⁰ However, governance challenges in cooperatives can arise when cooperative members do not actively participate in the governance of the cooperative, either by choice—a form of free-riding¹¹¹— or due to structural disenfranchisement.

The governance of a rural electric cooperative is generally structured around a board of directors that is elected from the membership it serves.¹¹² But concern surrounding democratic member control in some cooperatives began at the outset of rural electrification and continues today because of challenges associated with members actively holding the cooperative's board of directors to account.¹¹³ For instance, a practice that creates board accountability problems is the reliance on an annual meeting as the primary vehicle for outreach and board elections.¹¹⁴ Historically, voter turnout at these meetings is generally low—lower than for other local elections, such as for school boards.¹¹⁵ For cooperatives without bylaws permitting mail-in votes, a member's attendance at the annual meeting is often the only way to be counted.¹¹⁶ Even for some cooperatives that permit absentee voting, in some cases, absentee ballots may not be used to establish the quorum necessary to have the vote in the first

and Politics, INSIDE CLIMATE NEWS (July 26, 2020), https://insideclimatenews.org/news/26072020/ ohio-illinois-bribery-scandals-utilities-climate-change-commonwealth-edison-firstenergy-

householder/[https://perma.cc/J55V-KZMD] (detailing bribery scandals in Illinois and Ohio involving the investor-owned utilities FirstEnergy and Commonwealth Edison).

^{110.} See Mark J. Kaswan, Developing Democracy: Cooperatives and Democratic Theory, 6 INT'L J. URB. SUSTAINABLE DEV. 190, 193–94 (2014); see also Joyce Rothschild, Workers' Cooperatives and Social Enterprise: A Forgotten Route to Social Equity and Democracy, 52 AM. BEHAV. SCIENTIST 1023, 1031–32 (2009) (providing an example of workers' cooperatives and improved democratic decision-making).

^{111.} See Arend Lijphart, Unequal Participation: Democracy's Unresolved Dilemma: Presidential Address, American Political Science Association, 1996, 91 AM. POL. SCI. REV. 1, 11 (1997) ("[N]onvoting is a form of free riding—and... free riding of any kind may be rational but is also selfish and immoral.").

^{112.} Jeter et al., supra note 23, at 396.

^{113.} Id. at 386-87; FARRELL ET AL., supra note 101, at 15-16.

^{114.} Jeter et al., *supra* note 23, at 388–89 (explaining that cooperative annual meetings provide the primary opportunity for the manager and board to connect with and inform members, and for members to connect with one another).

^{115.} *Id.* at 391 (showing that during the 1930s and 1940s, attendance figures came in at about 20–30% or lower); Grimley, *supra* note 79 (stating that, in 2016, 72% of rural electric cooperatives had less than 10% voter turnout for board elections).

^{116.} See ELEC. COOP. GOVERNANCE TASK FORCE, ELECTRIC COOPERATIVE GOVERNANCE TASK FORCE REPORT 36–37 (2018), https://assets.documentcloud.org/documents/6561940/Electric-Cooperative-Governance-Task-Force-Report.pdf [https://perma.cc/E9H7-5N6U] (discussing voting practices); Jeter et al., *supra* note 23, at 432 (discussing low turnout for meetings and member lack of information).

place.¹¹⁷ As for the board nomination process, if a nominating committee is established that consists of—or is appointed by—sitting board members, in some cooperatives, that committee can reject new candidates.¹¹⁸ Along similar lines, in some cooperatives, boards are free to appoint interim members if vacancies occur in the middle of a term,¹¹⁹ which in conjunction with member indifference, has the potential to kick off a cycle of undemocratic and unaccountable governance.¹²⁰

One way in which a lack of accountability can impact members of a cooperative is through the misuse of member capital, known alternatively as "capital credits" or "patronage capital."¹²¹ Member capital represents the revenues a cooperative collects in exceedance of its costs and margins; and, as a not-for-profit entity, such excess revenue should be returned to member-owners based on their economic participation or reinvested in a manner that benefits member-owners.¹²² The problem of rural electric cooperatives withholding capital credits is as old as cooperatives themselves—after early rural electric cooperatives failed to return capital credits to their members in the 1940s,¹²³ the REA established a program to track and return capital credits to members.¹²⁴ Despite the program's popularity, there have been notable instances of boards misappropriating member capital by giving themselves expensive perks or

119. See ELEC. COOP. GOVERNANCE TASK FORCE, supra note 116, at 44 (explaining that the practice can be good for saving the cooperative time and expense but should be done in a fair manner).

^{117.} Compare Restated Bylaws of Crow Wing Cooperative Power and Light Company art. II, § 5 (June 10, 2017), https://www.cwpower.com/files/CWP_Board/2018BoardBylaws.pdf [https://perma. cc/BHE4-94RZ] (permitting the use of mail-in ballots to establish a quorum only for a question submitted to vote by mail or electronically), with Pedernales Electric Cooperative, Inc. Bylaws art. II, § 5 (May 21, 2018), https://2bqwe7212tygr0q3a7b9e1bv-wpengine.netdna-ssl.com/wp-content/uploads/2018/06/PEC-Bylaws.pdf [https://perma.cc/N39Y-L44W] (showing no limits on the use of mail-in or electronic ballots to establish a quorum in new bylaws enacted after the governance scandal). For a discussion of the Pedernales scandal, see *infra* notes 132–57 and accompanying text.

^{118.} See Jeter et al., supra note 23, at 429–30.

^{120.} See Cooper, supra note 23, at 341-42.

^{121.} Jeter et al., *supra* note 23, at 396 (describing patronage equity and how it can be used); *id.* at 415 (explaining that a failure to distribute capital credits can be an indicator of other trouble); *see also* Cooper, *supra* note 23, at 338.

^{122.} AMERICA'S ELECTRIC COOPERATIVES, *supra* note 8, at 4 (showing co-ops returned more than \$1.3 billion in capital credits to members in 2019).

^{123.} Jeter et al., *supra* note 23, at 391–94 (describing how a failure to refund capital credits in the early days of cooperatives led to takeover attempts of cooperatives in the 1940s); Beecher, *supra* note 38, at 236–39 (describing the disproportionately faster growth in rural electric cooperative equity compared to retired capital credits, the overcapitalization of rural electric cooperatives, and the "lax oversight and minimal reporting requirements" for capital credit retirement).

^{124.} Jeter et al., *supra* note 23, at 393–94 (describing the program and its wide adoption by the industry); *see also* ELEC. COOP. GOVERNANCE TASK FORCE, *supra* note 116, at 57 (discussing the high regard for the program today).

padding their own salaries.¹²⁵ But flexibility to return capital credits also can allow cooperatives to support their members in times of distress. During the COVID-19 pandemic, several cooperatives returned significantly higher levels of capital credits to provide economic assistance to their members.¹²⁶

Complicating matters of managing excess revenues, cooperatives are allowed and encouraged to be engines for local economic development, including through investing member capital and directing federally financed loans and grants into local development projects.¹²⁷ Nearly all cooperatives invest in such enterprises, which can include community development projects, such as fire station retrofits and programs with local businesses.¹²⁸ Federal law allows cooperatives to maintain their tax-exempt status while investing in forprofit projects, businesses, or subsidiaries, as long as at least 85% of the cooperative's income is derived from core business activities serving members.¹²⁹ Some of these investments have been challenged for their failure to fulfill the legislative intent of stimulating development in rural areas.¹³⁰ Notably, however, many rural electric cooperatives have recently invested in broadband deployment in their communities, drawing analogies to their history of providing initial access to electricity in rural communities when for-profit

128. See generally, e.g., U.S. DEP'T OF AGRIC., RURAL ECONOMIC DEVELOPMENT LOAN & GRANT (REDLG) PROGRAM RECIPIENTS IN IOWA, https://www.rd.usda.gov/sites/ default/files/IA%20REDLG%20News%20Release%20CHART%20-%2010272020.pdf [https://perma. cc/8C3M-BD7B] (detailing investments made under the USDA's Rural Economic Development Loan and Grant program in Iowa).

^{125.} See infra notes 132-57 and accompanying text (discussing Pedernales); see also TAYLOR & OUTCAULT, supra note 103, at 25 (discussing a case involving Tri-County Electric Co-op in South Carolina).

^{126.} Erin Kelly, Co-op Voices: The Expanding Financial Toll of the COVID-19 Pandemic, NAT'L RURAL ELEC. COOP. ASS'N (May 18, 2020), https://www.electric.coop/covid-19-co-op-voices-expanding-financial-toll-of-pandemic [https://perma.cc/2BAZ-PE5F].

^{127.} See generally U.S. DEP'T OF AGRIC., USDA RURAL DEVELOPMENT SUMMARY OF MAJOR PROGRAMS, https://www.rd.usda.gov/files/RD_ProgramMatrix.pdf [https://perma.cc/5XHK-X27W] (describing the numerous programs available through the U.S. Department of Agriculture for cooperatives to implement local loans or grants).

^{129.} Beecher, *supra* note 38, at 233-34 (providing the additional nuance that "the scope of member income and permissible 'losses and expenses' has yet to be settled by the [Rural Utilities] Service and the courts" and noting that there are several categories of income that are excluded from the 85% requirement); *see also* Lydia O'Neal, *Rural Electric Co-ops See Need for Tax Fix as "Existential Issue,*" BLOOMBERG TAX (Aug. 29, 2019), https://news.bloombergtax.com/environment-and-energy/rural-electric-co-ops-see-need-for-tax-fix-as-essential-issue?context=search&index=0 [https://perma. cc/P8AY-KNH6] (describing one cooperative slowing a broadband development project to avoid exceeding the 15% limit on non-electricity revenue).

^{130.} The Rural Local Broadcast Signal Act: Hearing on H.R. 3615 Before the Subcomm. on Telecomm. Trade, & Consumer Prot. of the H. Comm. on Com., 106th Cong. 1, 66 (2000) (describing that, in 1997, only one-half of one percent of non-electric investments made by rural electric cooperatives "have been made in rural development projects" and instead "RUS borrowers have used discretionary funds to invest in businesses located in urban areas and a variety of securities").

companies that primarily served urban areas did not bring similar service to rural areas.¹³¹

One of the most notorious cases of rural electric cooperative governance scandal and reform involved Pedernales Electric Cooperative in Texas, the largest distribution cooperative in the United States.¹³² Then-Congressman Lyndon B. Johnson helped start Pedernales in Johnson City, Texas, in 1938,¹³³ and the cooperative now covers expansive rural areas in central Texas as well as suburban areas outside Austin and San Antonio.¹³⁴ A "member revolt" began in early 2006, when a few cooperative members explored available options to either install solar panels on their homes or, alternatively, partake in a green power program similar to that offered by the municipal utility in nearby Austin, Texas.¹³⁵ At that time, a member-owner of the cooperative called Pedernales and learned that the green power programs then offered were cumbersome, expensive, and designed to dissuade members from opting in.¹³⁶ After raising these and other issues at a scheduled cooperative member meeting, a small group of member-owners started to work together to bring about changes to the cooperative.¹³⁷

Initially, these members spoke with the nominating committee to challenge the uncontested board elections and expand the nomination process, but the committee again ran the elections with the sitting board members up for reelection unopposed.¹³⁸ This group of member-owners then attempted to

^{131.} See Marguerite Reardon, *Electric Cooperatives Could Be the Key to Solving the Rural Digital Divide*, CNET (Feb. 9, 2020), https://www.cnet.com/news/electric-cooperatives-could-be-the-key-to-solving-the-rural-digital-divide/ [https://perma.cc/ARW5-HT3E].

^{132.} See Pedernales Hearings, supra note 100, at 2 (statement of Henry A. Waxman, Chairman, H. Comm. on Oversight & Gov't Reform); see also Brief for Pedernales Electric Cooperative, Inc. as *Amicus Curiae* for Rejection and in Support of Petitioner at 6, West Virginia v. EPA, No. 15-1363 (D.C. Cir. Feb. 23, 2016).

^{133.} CARO, *supra* note 6, at 522–28 (discussing creation of Pedernales); Larry King, *Lyndon Slept Here*, L.A. TIMES, Jan. 7, 1968, at B6 ("[He] got the cooperative project by brashly marching into F.D.R.'s office one day, armed with charts and a pointer "); *About Us: The Cooperative Story*, PEC, https://www.pec.coop/about-us/cooperative-difference/cooperative-story/ [https://perma. cc/U6BJ-8YY4].

^{134.} Your Service: Business Development, PEC, https://www.pec.coop/your-service/ [https://perma.cc/2L92-CTSH].

^{135.} Ric Sternberg, *GreenDreams: Pedernales Electric Coop Revolution*, YOUTUBE (Feb. 10, 2011), https://youtu.be/KIJHRMCxbrM [https://perma.cc/J8X2-MARW]. For instance, Austin Energy's green power program, called GreenChoice, allows members to voluntarily opt in to pay an additional surcharge on some or all of their electricity consumption to pay for the utility's procurement of renewable power on behalf of the customer. *See FAQs*, AUSTIN ENERGY, https://austinenergy.com/ae/green-power/greenchoice/faqs [https://perma.cc/SQJX-9J4K].

^{136.} Sternberg, supra note 135.

^{137.} Id.

^{138.} Pedernales Hearings, supra note 100, at 84 (statement of John Watson, Member, Pedernales Electric Cooperative) ("Seven members attended and presented three candidates. All were highly qualified, but the committee re-nominated the directors whose terms were expiring so they were unopposed on the proxy ballots mailed to members.").

2021] COOPERATIVE CLEAN ENERGY

present a bylaw amendment to change the nominating process but were again denied.¹³⁹ Texas State Senator Troy Fraser, himself a cooperative memberowner, attempted to attend a board meeting in the capacity of a cooperative member-owner, but was barred from entering.¹⁴⁰ These efforts to exclude cooperative members from the democratic process ultimately led to Congressional hearings,¹⁴¹ civil litigation,¹⁴² and criminal convictions.¹⁴³

The resulting scandal was called "the Enron of the Hill Country."¹⁴⁴ The investigations exposed a governance breakdown resulting in self-perpetuation of directors¹⁴⁵ and excessive salaries,¹⁴⁶ alongside rampant spending.¹⁴⁷ In 2007, a small group of members initiated a class action on behalf of Pedernales members and sued the board of directors and the cooperative.¹⁴⁸ The General Manager and Board President resigned during the lawsuit.¹⁴⁹ Pedernales implemented a plan to restructure its bylaws and address member concerns over fair elections.¹⁵⁰ The parties reached a settlement agreement in 2008, under which Pedernales agreed to retire and return \$23 million in patronage capital to its members over a period of five years.¹⁵¹ The settlement also awarded \$4 million to the class representatives.¹⁵² The fallout continued with criminal charges filed. In 2010, a jury found the former General Manager guilty of theft,

146. Id. at 70 (statement of State Sen. Troy Fraser, Chair, Tex. S. Bus. & Com. Comm.). General Manager Bennie Fuelberg received \$390,000 annually, a five-year \$2 million bonus contract, and a \$375,000 signing bonus for agreeing to the \$2 million bonus. Id. Board President W.W. "Bud" Burnett earned \$190,000 per year and retirement benefits, but "had no real duties or also a severe lack of knowledge of what was going on in the co-op." Id.; see also Hall, 278 S.W.3d at 540 (discussing PEC's mishandling of funds).

^{139.} Id.

^{140.} Pedernales Hearings, supra note 100, at 70 (statement of State Sen. Troy Fraser, Chair, Tex. S. Bus. & Com. Comm.).

^{141.} See id. at 95 (statement of Juan Garza, General Manager, Pedernales Electric Cooperative).

^{142.} Id. at 69-70 (statement of State Sen. Troy Fraser, Chair, Tex. S. Bus. & Com. Comm.); see also Hall v. Pedernales Elec. Coop., Inc., 278 S.W.3d 536 (Tex. Ct. App. 2009).

^{143.} See infra notes 153-54 and accompanying text.

^{144.} Zeke MacCormack & Vianna Davila, *Ex-PEC Leader Is Convicted*, SAN ANTONIO EXPRESS-NEWS (Dec. 10, 2010, 11:35 PM), https://www.mysanantonio.com/news/local_news/article/Ex-PEC-leader-is-convicted-873703.php [https://perma.cc/ZDN3-AEYP].

^{145.} *Pedernales Hearings, supra* note 100, at 84 (statement of John Watson, Member, Pedernales Electric Cooperative). The board engaged in a closed nominating process, resulting in "a self-perpetuating board with an average tenure of 22 years." *Id.*

^{147.} *Pedernales Hearings, supra* note 100, at 2 (statement of Henry A. Waxman, Chairman, H. Comm. on Oversight & Gov't Reform) ("In just 5 years Mr. Fuelberg and the board spent \$700,000 to stay in five-star hotels like the Ritz Carlton and Four Seasons, dine at expensive restaurants, and buy themselves fancy chocolates and Celine Dion concert tickets.").

^{148.} Hall, 278 S.W.3d at 539.

^{149.} Id. at 540.

^{150.} Id.

^{151.} Id. at 540-41.

^{152.} Id. at 541.

money laundering, and misapplication of fiduciary property.¹⁵³ The cooperative's attorney was also convicted on those three charges, receiving jail time and probation for his involvement.¹⁵⁴

The scandal resulted in positive changes for the cooperative. All board meetings are now open to members, recorded, and posted on the website.¹⁵⁵ Pedernales created an expense and audit committee as well as a board compensation committee.¹⁵⁶ Pedernales also embraced renewable energy by adopting plans to build thirty megawatts ("MW") of solar installations near its biggest members and a program to provide low-interest loans to help members build on-site renewable generation.¹⁵⁷ In summary, the Pedernales case can be interpreted as a cooperative successfully leveraging its tools of self-governance to restructure its internal practices to better align its performance with the interests of the members it serves. While external parties to the cooperative drew attention to the problems within Pedernales, it was the cooperative members themselves who set the course of action for the reforms that ultimately redirected Pedernales to better serve their members.

2. Governance of G&T Cooperatives

Applying the Cooperative Principles to rural electric cooperatives today is made complex by the multilevel, federated structure of G&T and distribution cooperatives. In this multilevel structure, cooperative governance is encountering intersections of multiple principles, particularly open and voluntary membership, democratic member control, autonomy, and cooperation among cooperatives.¹⁵⁸ In situations where these principles have come into conflict, many distribution utilities have reexamined the governance of their G&T. In some cases, they have pushed for improved governance practices to the benefit of all G&T members, while in others, they have brought attention to difficult tensions between the competing interests of individual distribution utilities and the G&T collective.¹⁵⁹ Managing these tensions can be interpreted not necessarily as a failure of governance, but rather as an expected "transaction cost" of any multitiered governance system that seeks mutually

^{153.} MacCormack & Davila, supra note 144.

^{154.} Zeke MacCormack, *PEC Attorney's Probation Includes 500 Days in Jail*, SAN ANTONIO EXPRESS-NEWS (June 1, 2011, 12:27 AM), https://www.mysanantonio.com/news/local/article/PEC-attorney-s-probation-includes-500-days-in-jail-1403091.php [https://perma.cc/59SZ-WWJX].

^{155.} Pedernales Hearings, supra note 100, at 95–96 (statement of Juan Garza, General Manager, Pedernales Electric Cooperative).

^{156.} Id.

^{157.} Kaiba White, *Pedernales Electric Co-op Expands Affordable Solar Energy Programs*, PUB. CITIZEN (Mar. 25, 2015), https://www.texasvox.org/pedernales-electric-co-op-expands-affordable-solar-energy-programs/ [https://perma.cc/66NM-QVCC].

^{158.} See supra note 25 and accompanying text.

^{159.} See infra Part III.

beneficial, non-zero-sum outcomes from collective action among diverse parties.¹⁶⁰

From a legal perspective, many of the governance challenges in G&T cooperatives are tensions between the G&T and one or more of its members. But from a governance perspective, these tensions are often more accurately understood as tensions between distribution utility members of the same G&T cooperative. Because a G&T is governed by a board of directors comprised of directors of its distribution utility members, a conflict of a G&T with a member is a conflict between a member and the other member utilities.

One recent example that illustrates this type of contention involves Basin Electric Power Cooperative, a multistate "super G&T," and McKenzie Electric Cooperative, a distribution cooperative.¹⁶¹ McKenzie serves electricity consumers in Montana and North Dakota and is a member of Upper Missouri Power Cooperative, which is a "paper G&T," meaning that it does not own any generation assets or significant transmission infrastructure.¹⁶² Upper Missouri, in turn, is a member cooperative of Basin, along with ten other G&T cooperatives across nine states from the U.S. border with Canada to the U.S. border with Mexico.¹⁶³ According to McKenzie, it has long expressed concerns about Basin's funding of for-profit subsidiaries, such as a gasification and fertilizer facility.¹⁶⁴ However, McKenzie has no direct representation on Basin's board that would allow it to meaningfully participate in Basin's investment

162. Motion to Intervene, *supra* note 161, at 5–6.

163. See id. at 6-7 (discussing the relationship between Basin, Upper Missouri, and McKenzie); supra note 161 (discussing Basin).

2021]

^{160.} See, e.g., Jered B. Carr & Christopher V. Hawkins, The Costs of Cooperation: What the Research Tells Us About Managing the Risks of Service Collaborations in the U.S., 45 ST. & LOC. GOV'T REV. 224, 225–30 (2013).

^{161.} A "super G&T" is a G&T cooperative that services other G&T cooperatives. See STAN STELTER, GENERATION FOR GENERATIONS: A VISION FOR GIANT POWER 14 (Kathleen Ellisen Risch ed., 2011), https://www.basinelectric.com/_files/pdf/Basin-Electric-50th-History-Book.pdf [https://perma.cc/PA2E-CU53]. Basin provides power to eleven G&T cooperatives across nine states in the Missouri River Basin. See Members, BASIN ELEC. POWER COOP., https://www.basinelectric.com/about-us/members [https://perma.cc/B8GT-DYMB]; STELTER, supra, at 14, 18 (referring to Basin as a "super G&T" in its implementation of a "vision for Giant Power" that would create a "glorified G&T approach" and put cooperatives "in a position as a group to deal from strength rather than, as a large number of separate entities, from weakness"); see also Motion to Intervene and Protest of McKenzie Electric Cooperative, Inc. at 5–7, Basin Elec. Power Coop., Nos. ER19-2909-000 and ER20-2-000 (FERC Oct. 21, 2019) [hereinafter Motion to Intervene] (discussing the relationship between Basin, Upper Missouri, and McKenzie).

^{164.} See id. at 9, 22 (describing the arrangement and detailing McKenzie's concerns since 1988 about the Great Plains Synfuels Plant, currently owned and operated by Basin's for-profit subsidiary, Dakota Gasification Co.). The Great Plains Synfuels Plant is the only operating coal gasification plant in the country. 7.5.1 Great Plains Synfuels Plant, NAT'L ENERGY TECH. LAB'Y, https://www.netl.doe.gov/research/Coal/energy-systems/gasification/gasifipedia/great-plains [https:// perma.cc/7EC3-RBQ6]. It was constructed in the 1980s with the support of the federal government but declines in natural gas prices jeopardized the early profitability of the plant, precipitating investments to modify the design of the plant for additional efficiencies and output streams. See id.

decisions. Instead, McKenzie has a representative on Upper Missouri's Board, and in turn, Upper Missouri has a representative on Basin's board—a representative who was chosen in an election in which McKenzie was one of eleven voting distribution cooperatives.¹⁶⁵ According to McKenzie, because McKenzie's board member on the Upper Missouri board was not chosen to represent Upper Missouri on Basin's board, Basin's three-tiered governance structure rendered McKenzie virtually unrepresented on Basin's board.¹⁶⁶ Instead, the board member from Upper Missouri on Basin's board has been required to serve competing interests of three different tiers of cooperatives.¹⁶⁷

McKenzie had seen rapid load growth in the past decade¹⁶⁸ due to significant economic development spurred by the fracking industry.¹⁶⁹ This growth necessitated significant generation and transmission infrastructure investments by Basin Electric.¹⁷⁰ But from McKenzie's perspective, rapid load growth also created a potential for McKenzie to economically self-supply its energy needs. Under its existing power supply contract, McKenzie was subject to a 22% rate increase, which it claimed was in part due to Basin's \$600 million

^{165.} See Amended and Restated Bylaws of Basin Electric Power Cooperative art. I, § 2(a), art. III, § 1 (Nov. 4, 2020) [hereinafter Basin Bylaws], https://www.basinelectric.com/_files/pdf/Bylaws-and-Resolutions/20201104-ORG-BEPCBylaws-Amended-at-2020-Annual-Meeting_v1_0.

pdf [https://perma.cc/4V7Q-Z6QE] (describing the composition of Basin's board as generally one representative from each of its Class A members with Class A members entitled to one vote per member and Class B members entitled to one vote per district); Bylaws of Upper Missouri G&T Electric Cooperative, Inc. art. IV (1980) (describing elections of its Board of Trustees, with one Trustee coming from each distribution member).

^{166.} Motion to Intervene, *supra* note 161, at 8 (describing McKenzie's lack of representation despite purchasing 40% of Upper Missouri's power and Upper Missouri purchasing 30% of Basin's power).

^{167.} See Basin Bylaws, supra note 165, at art. IV, § 7 (showing that issues related to the "dual director" position are not explicitly addressed within the bylaws).

^{168.} From 2009–2018, McKenzie's revenue grew by a factor of twelve and its energy consumption grew by a factor of ten. *Compare Annual Electric Power Industry Report, Form ELA-861 Detailed Data Files*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/data/eia861/ [https://perma.cc/3QT4-6E34] (Oct. 6, 2020) (choose "2009 Reformatted ZIP" on right sidebar), *with id.* (choose "2018 ZIP" on right sidebar).

^{169.} For county-level oil production, see *Public Finance in the Booming Bakken*, DUKE ENERGY INITIATIVE, https://energy.duke.edu/content/public-finance-booming-bakken [https://perma.cc/ 954Q-B5KZ]. For the location of North Dakota oil and gas wells, see N.D. GEOLOGICAL SURV., OVERVIEW OF THE PETROLEUM GEOLOGY OF THE NORTH DAKOTA WILLISTON BASIN 4, https://www.dmr.nd.gov/ndgs/Resources/ [https://perma.cc/QQ3P-THHR]. For North Dakota electric cooperative service areas, see N.D. ASS'N OF RURAL ELEC. COOPS., MEMBER DIRECTORY 12 (2019), https://www.ndarec.com/sites/ndarec/files/2019%20NDAREC%20Directory(online).pdf [https://perma.cc/4ECV-9SR6].

^{170.} Basin reported investing \$1 billion in generation and transmission facilities over seven years to meet the fast growth in McKenzie Electric's service area. Jill Schramm, *McKenzie Electric Files Protest Under New FERC Jurisdiction*, MINOT DAILY NEWS (Oct. 15, 2019), https://www.minotdailynews.com/news/local-news/2019/10/mckenzie-electric-files-protest-under-new-ferc-jurisdiction/ [https://perma.cc/53GF-7PEA].

2021] COOPERATIVE CLEAN ENERGY

loss from investing in a gasification company.¹⁷¹ McKenzie and other member distribution cooperatives inquired about exiting their power supply relationship with Basin, but Basin refused to provide the requested exit information or buyout terms, arguing that doing so would violate the terms and conditions of the power supply contract signed by McKenzie in 2015.¹⁷² This prompted McKenzie to intervene in Basin's first-ever rate filing with FERC in 2019¹⁷³ and to request that FERC reject Basin's rate schedule as unjust and unreasonable.¹⁷⁴ In 2020 and 2021, FERC issued orders setting the dispute for a hearing and settlement procedures regarding whether the contract terms, including exit provisions, were just and reasonable under the FPA.¹⁷⁵

Ultimately, while McKenzie has raised concerns about the perceived lack of open and voluntary membership, democratic member control in its relationship with Basin, and McKenzie's resulting lack of autonomy, the merits of these concerns depend in part on the historical context that established Basin's contemporary rates and contracts with McKenzie. Notably, the rapid changes in McKenzie's own economic conditions parallel the destabilizing effect that clean energy is causing throughout the energy system. As the clean energy transition accelerates, the energy system is likely to see rapid capital turnover and policy developments that significantly change the value of historic contracts that bind together G&Ts and their members. Consequently, it is likely that the fundamental drivers of the McKenzie case will proliferate—namely, a perception by distribution utilities that they can procure wholesale power more affordably on their own than with their G&T and its associated sunk costs. In

^{171.} Motion to Intervene, supra note 161, at 17–19; Amy R. Sisk, Power Cooperatives Embroiled in Dispute Stemming from Money Woes at Synfuels Plant, BISMARCK TRIB. (Feb. 9, 2020), https://bismarcktribune.com/news/state-and-regional/power-cooperatives-embroiled-in-dispute-stemming-from-money-woes-at-synfuels-plant/article_0f73ff07-9b005c97-9f84-3e16227c3c9f.html [https://perma.cc/8GFC-N6FJ]. In August 2021, Basin Electric announced that it had reached an agreement to sell the Great Plains Synfuels Plant by 2023. Basin Electric, Bakken Energy Reach Next Step in Potential Sale of Synfuels Plant, DAKOTA GASIFICATION CO. (Aug. 16, 2021), https://dakotagas.com/ News-Center/news-releases/Basin-Electric,-Bakken-Energy-reach-next-step-in-potential-sale-of-Synfuels-Plant [https://perma.cc/US52-3V4M].

^{172.} See Letter from Clayton Monsen, President, McKenzie Elec. Coop. Bd. of Dirs., to Upper Missouri Power Coop. Bd. of Dirs. (Jan. 30, 2019) (on file with the North Carolina Law Review); Letter from Travis Thompson, President, Upper Missouri Power Coop., to Basin Elec. Power Coop. (Feb. 6, 2019) (on file with the North Carolina Law Review); Letter from Paul M. Sukut, CEO & Gen. Manager, Basin Elec. Power Coop., to Class A Members, Basin Elec. Power Coop. (Feb. 15, 2019) (on file with the North Carolina Law Review).

^{173.} See supra Section I.B (noting that FERC generally does not regulate cooperative rates under the FPA). In 2019, Basin sought FERC regulation for similar reasons as the Tri-State G&T cooperative, discussed in more detail *infra* Section III.A.2. See BASIN ELEC. POWER COOP., 2020 ANNUAL REPORT 55 (2020), https://www.basinelectric.com/_files/pdf/financials/Annual-Report-2020-WEB.pdf [https://perma.cc/L8TA-MMQX].

^{174.} Motion to Intervene, supra note 161, at 4, 8, 13-15 (describing the history of the dispute).

^{175.} See Basin Elec. Power Coop., 174 FERC ¶ 61,094 (Feb. 18, 2021); Basin Elec. Power Coop., 172 FERC ¶ 61,221 (Sept. 14, 2020).

NORTH CAROLINA LAW REVIEW [Vol. 100

this context, distribution utilities are likely to continue challenging their power supply contracts and disputing the legitimacy of their agency in their G&T's collective agreements. For cooperative managers with an interest in maintaining the G&T structure, this will likely require developing governance procedures that cultivate buy-in and new approaches to creating value for their members in a rapidly evolving grid not solely reliant on capturing economies of scale in power generation.

The examples of Pedernales and McKenzie-Basin show that as the energy system has become embedded in everyday life and has grown in scale and complexity, both distribution cooperatives and G&T cooperatives are facing new challenges in adapting the Cooperative Principles to modern governance practice. The example of Pedernales illustrates how a cooperative can run astray of the desires of its members—but that the members can ultimately be effective in regaining control.¹⁷⁶ And the McKenzie-Basin example illustrates how the multitiered governance structure of distribution cooperatives and their G&T cooperatives that has been effective in realizing economies of scale can create difficulties for a minority of cooperatives in maintaining collective action as conditions change.

While the governance issues described in this section are not unique and partially extrapolate to other cooperatives, the remainder of this Article focuses on leveraging the ability of cooperatives to act as self-regulating and self-governing entities to drive the clean energy transition and realize the goals of "energy democracy."¹⁷⁷ And although there are known limitations of self-governance, it is nevertheless unlikely that the already-limited state and federal regulation of cooperatives will increase in stringency in the near term. Thus, the structural form of cooperatives and their ability to self-govern has the greatest potential to deliver collective benefits associated with a clean energy transition.

II. THE CLEAN ENERGY TRANSITION

Part II details the dramatic decline in the cost of clean energy technologies as well as the increasing deployment of renewable energy and "distributed energy resources."¹⁷⁸ It describes how the new economic potential of clean energy across the country is the result of dramatic price reductions, increasing consumer interest, technological innovation, state clean energy policies, federal

^{176.} *Pedernales Hearings, supra* note 100, at 60 (statement of Rep. Tom Davis, Member, H. Comm. on Oversight & Gov't Reform) ("Pedernales customers regained control of their company and co-op democracy remains the most potent safeguard against mismanagement and waste.").

^{177.} See generally Welton, Energy Democracy, supra note 4 (discussing energy democracy and proposals for reform).

^{178.} For a definition of "distributed energy resources," see *supra* note 28.

2021] COOPERATIVE CLEAN ENERGY

tax incentives, globalization of clean energy production,¹⁷⁹ and the creation of regional wholesale electricity markets. These developments have created the potential for a rapid increase in the deployment of clean energy, and together with the rapid expansion of natural gas production, have led to an even more rapid decline in the use of coal-fired power.¹⁸⁰ However, the regulatory and economic frameworks that underlie this transition do not create the same incentives and requirements for rural electric cooperatives as they do for investor-owned utilities.

Renewable energy technologies, particularly wind and solar, have seen dramatic cost reductions in recent years. From 2009 to 2020, the levelized cost of wind energy declined by 71% and the levelized cost of solar energy declined by 90% due to supply- and demand-side innovation and policy.¹⁸¹ Utility-scale wind and solar are now cost competitive with all other forms of new electricity generation on an unsubsidized, levelized-cost basis.¹⁸² Even compared to the marginal operating cost of continuing to generate power from conventional coal and nuclear plants, wind and solar are also now cost competitive.¹⁸³ Reflecting these economics, wind and solar energy provided 45% and 31%, respectively, of new electric generating capacity in 2020.¹⁸⁴ In addition, distributed energy resources—particularly energy efficiency,¹⁸⁵ demand response,¹⁸⁶ energy

^{179.} See, e.g., GREGORY F. NEMET, HOW SOLAR ENERGY BECAME CHEAP 65–158 (2019) (detailing the history of how solar energy has declined in cost through fundamental research in the United States, Japanese niche markets, expanded market-share through the German feed-in-tariff policy, and improved manufacturing processes in China).

^{180.} U.S. Renewable Energy Consumption Surpasses Coal for the First Time in over 130 Years, U.S. ENERGY INFO. ADMIN. (May 28, 2020), https://www.eia.gov/todayinenergy/detail.php?id=43895 [https://perma.cc/GH3Y-U3UA] (presenting data showing U.S. coal generation and renewable generation from 1776-2019 with renewable energy consumption passing that of coal in 2019).

^{181.} LAZARD, LAZARD'S LEVELIZED COST OF ENERGY ANALYSIS—VERSION 14.0, at 9 (Oct. 2020), https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf [https://perma.cc/95XK-RVN4].

^{182.} See id. at 2.

^{183.} See id. at 4.

^{184.} Preliminary Monthly Electric Generator Inventory (Based on Form EIA-860M as a Supplement to Form EIA-860), U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/data/eia860m/ [https://perma.cc/GE8D-47F8] (choose "March 2021" on right sidebar).

^{185.} See IAN HOFFMAN, CHARLES A. GOLDMAN, SEAN MURPHY, NATALIE MIMS, GREG LEVENTIS & LISA SCHWARTZ, LAWRENCE BERKELEY NAT'L LAB'Y, THE COST OF SAVING ELECTRICITY THROUGH ENERGY EFFICIENCY PROGRAMS FUNDED BY UTILITY CUSTOMERS: 2009–2015, at 42–43, 50 (2018), https://eta-publications.lbl.gov/sites/default/files/cose_final_report_ 20200429.pdf [https://perma.cc/DW3J-RGSE] (documenting that while the cost of administering energy efficiency programs has increased over time, the total cost of saved electricity through efficiency measures remains well below prevailing retail electricity rates).

^{186.} See FED. ENERGY REG. COMM'N, 2019 ASSESSMENT OF DEMAND RESPONSE AND ADVANCED METERING 19–21 (2019), https://www.ferc.gov/sites/default/files/2020-04/DR-AM-Report2019_2.pdf [https://perma.cc/P88C-9QA7] (describing the actions taken by grid operators and utilities in 2019 to deploy demand response to ensure reliability as the system transitions to one of increased asynchronous renewables).

storage,¹⁸⁷ and electric vehicles¹⁸⁸—have also seen increasingly favorable economics. These resources are either cost competitive with conventional resources now or are forecasted to be economic in more applications in the near future, particularly if deployed in tandem to provide greater firm capacity, such as combining solar with storage.¹⁸⁹

The challenges of integrating renewable energy and distributed energy resources into the electricity system are well documented.¹⁹⁰ These challenges are compounded by the difficulties associated with addressing climate change, which will require unprecedented rapid deployment of clean energy in parallel with increased demand for electricity in sectors that have been historically powered by fossil fuels—particularly transportation and building heating and cooling.¹⁹¹ To accomplish this level and pace of clean energy deployment,

188. See Björn Nykvist & Måns Nilsson, Rapidly Falling Costs of Battery Packs for Electric Vehicles, 5 NATURE CLIMATE CHANGE 329, 329 (2015) (documenting an industry-wide 14% annual decline in the cost of electric vehicle battery packs from 2007–2014).

189. See, e.g., RYAN WISER, MARK BOLINGER, WILL GORMAN, JOE RAND, SEONGEUN JEONG, JOACHIM SEEL, CODY WARNER & BAN PAULOS, LAWRENCE BERKELEY NAT'L LAB'Y, HYBRID POWER PLANTS: STATUS OF INSTALLED AND PROPOSED PROJECTS 15 (2020), https://eta-publications.lbl.gov/sites/default/files/hybrid_plant_development_2020.pdf [https://perma.cc/JT3P-EMGH] (noting that many utilities and developers are combining storage with solar projects, with over 102 GW—over one-quarter of all solar projects—in proposed solar-plus-storage projects in interconnection queues as of the end of 2019); Brenna Goth & Tripp Baltz, Solar Projects, Batteries, To Replace New Mexico Coal Plant Power, BLOOMBERG L. (July 29, 2020, 5:26 PM), https://www.bloomberglaw.com/bloomberglawnews/environment-and-energy/X2V7Q05C0000 00?bna_news_filter=environment-and-energy#jcite [https://perma.cc/4FFF-JB2N (dark archive)] (discussing New Mexico Public Regulation Commission approval of investor-owned utility PNM's proposal to replace a retiring coal plant with 650 MW of solar projects and 300 MW of battery storage to comply with New Mexico's clean energy mandate in the 2019 Energy Transition Act).

190. For a discussion of the challenges and solutions associated with integrating intermittent wind and solar resources into the electric grid, see INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, RENEWABLE ENERGY SOURCES AND CLIMATE CHANGE MITIGATION 369, 562–64 (Ottmar Edenhofer, Ramón Pichs Madruga, Youba Sokona, Kristin Seyboth, Patrick Matschoss, Susanne Kadner, Timm Zwickel, Patrick Eickemeier, Gerrit Hansen, Steffen Schlömer & Christopher von Stechow eds., 2012), https://www.ipcc.ch/site/assets/uploads/2018/03/SRREN_Full_Report-1.pdf [https://perma.cc/E49K-X4PR]; L. BIRD, M. MILLIGAN & D. LEW, NAT'L RENEWABLE ENERGY LAB'Y, INTEGRATING VARIABLE RENEWABLE ENERGY: CHALLENGES AND SOLUTIONS 4–9 (2013), https://www.nrel.gov/docs/fy13osti/60451.pdf [https://perma.cc/YLB4-V8E6]; JACQUELIN COCHRAN, PAUL DENHOLM, BETHANY SPEER & MACKAY MILLER, NAT'L RENEWABLE ENERGY LAB'Y, GRID INTEGRATION AND THE CARRYING CAPACITY OF THE U.S. GRID TO INCORPORATE VARIABLE RENEWABLE ENERGY 7–8 (2015), https://www.nrel.gov/fy15osti/62607.pdf [https:// perma.cc/JJ9X-D9UH].

191. See, e.g., U.S. ENERGY INFO. ADMIN., INTERNATIONAL ENERGY OUTLOOK 2019 WITH PROJECTIONS TO 2050 (2019), https://www.eia.gov/outlooks/ieo/pdf/ieo2019.pdf [https://perma.cc/ V5GN-SYTM] (discussing expected growth of wind and solar energy); see also Simon Evans, 'Profound Shifts' Underway in Energy System, Says IEA World Energy Outlook, CARBON BRIEF (Nov. 13, 2019,

^{187.} See generally WESLEY COLE & A. WILL FRAZIER, NAT'L RENEWABLE ENERGY LAB'Y, COST PROJECTIONS FOR UTILITY-SCALE BATTERY STORAGE (2019), https://www.nrel.gov/docs/fy19osti/73222.pdf [https://perma.cc/U9EA-2DGY] (showing a synthesis of twenty-five publications forecasting four-hour lithium-ion energy storage systems with mid-point estimates forecasting that costs will decline by 45% from 2020–2030 and by 59% by 2050).
expenditures on electric-grid infrastructure are projected to grow significantly to relieve grid congestion, reduce location-specific impacts of intermittent generation, and transport energy from rural areas with more available clean energy resources to urban load centers.¹⁹²

37

FERC-regulated regional transmission organizations ("RTOs") and independent system operators ("ISOs") have allowed retail power providers across much of the country to obtain low-cost—and increasingly, renewable electricity from multistate regional transmission grids without the need to build new large-scale "baseload" power plants that dominated the rapid expansion of energy generation from the 1950s to the 1980s.¹⁹³ The legal and institutional context for building out the high-voltage electric grid is rooted in multijurisdictional decision-making, with states largely responsible for siting issues and RTOs/ISOs largely responsible for planning processes and operations of

^{8:20} AM), https://www.carbonbrief.org/profound-shifts-underway-in-energy-system-says-iea-worldenergy-outlook [https://perma.cc/V8GC-RYHL] (comparing historical outlooks from the World Energy Outlook to historical data and noting that the World Energy Outlook generally underestimates growth in renewable energy).

^{192.} See, e.g., U.S. ENERGY INFO. ADMIN., OUTLOOK 2021, supra note 12 (discussing projected increases in energy expenditures through 2050 in all sectors); JOHANNES PFEIFENBERGER & JUDY W. CHANG, THE BRATTLE GRP., WELL-PLANNED ELECTRIC TRANSMISSION SAVES CUSTOMER COSTS: IMPROVED TRANSMISSION PLANNING IS KEY TO THE TRANSITION TO A CARBON-CONSTRAINED FUTURE (2016), https://www.eesi.org/files/WIRES-Report-Well-Planned-Electric-Transmission-Saves-Customer-Costs.pdf [https://perma.cc/3YVX-R5V2] (discussing significant, regional electric transmission needs required to support a low-carbon electricity future); see also James W. Coleman, Pipelines & Power-lines: Building the Energy Transport Future, 80 OHIO ST. L.J. 263, 268–72 (2019) (explaining why renewable energy is particularly dependent on transmission grid infrastructure).

^{193.} Over this period, coal provided the majority of "baseload" or "firm" capacity as electricity demand often grew by more than 5% per year. See Demand Trends, Prices, and Policies Drive Recent Electric Generation Capacity Additions, U.S. ENERGY INFO. ADMIN. (Mar. 18, 2016), https://www. eia.gov/todayinenergy/detail.php?id=25432 [https://perma.cc/GD2B-WGML] [hereinafter Demand Trends]; U.S. Economy and Electricity Demand Growth Are Linked, but Relationship Is Changing, U.S. ENERGY INFO. ADMIN. (Mar. 22, 2013), https://www.eia.gov/todayinenergy/detail.php?id=10491 [https://perma.cc/NG67-BXF4] [hereinafter Electricity Demand]. To a slightly lesser extent, growing electricity demand over this period was provided from other firm sources, namely nuclear and natural gas (natural gas also provides "peaking" capacity that enables load balancing over short time intervals). See Demand Trends, supra. Beginning in the early 2000s, electricity demand continued to grow, but at a slower pace, and natural gas capacity dominated new additions. See Demand Trends, supra; Electricity Demand, supra. Only since the mid to late 2000s have wind and solar provided a meaningful level of new capacity. See Demand Trends, supra. In 2019, wind and solar comprised 64% of all new capacity additions in the United States. See New Electric Generating Capacity in 2019 Will Come from Renewables and Natural Gas, U.S. ENERGY INFO. ADMIN. (Jan. 10, 2019), https://www.eia.gov/todayinenergy/ detail.php?id=37952 [https://perma.cc/D8CN-U474]. For a discussion of "baseload," see Joseph Daniel, Even Cycling Coal Is Losing Money. Only "Summer" Coal Makes Sense in Texas, Louisiana, ENERGYPOST.EU (Feb. 20, 2020), https://energypost.eu/even-cycling-coal-is-losing-money-onlysummer-coal-makes-sense-in-texas-louisiana/ [https://perma.cc/SP6Z-BDHM].

NORTH CAROLINA LAW REVIEW [Vol. 100

multistate power markets.¹⁹⁴ RTOs/ISOs play an important role in facilitating renewable energy by allowing renewable energy developers to site projects in locations with higher quality renewable resources and affordable land and sell to customers far away across the transmission grid.¹⁹⁵ In fact, the majority of new renewable electricity added to the grid for reasons other than compliance with state requirements has occurred in regions with robust RTO/ISO markets, particularly the three markets in the wind-rich areas of the Midwest and Texas.¹⁹⁶

The economics of wind, solar, and distributed energy resources and the reduction of interconnection barriers for renewables by RTOs/ISOs is leading to greater clean energy deployment by utilities and energy consumers for reasons other than state policy compliance.¹⁹⁷ However, the institutional structure of utilities and their consumers can make such support for clean energy more or less feasible.¹⁹⁸ As of early 2021, forty-two investor-owned utilities or their holding companies in the United States have made commitments to lower their greenhouse gas emissions, thirty of which have made commitments to either generate 100% clean energy, reduce carbon-dioxide emissions by 100%, or be carbon neutral.¹⁹⁹ Notably, these pledges have

196. See id. at 3–6. RTOs/ISOs serve two-thirds of U.S. electricity consumers in California, Texas, much of the Midwest, some parts of the South, and the Northeast, as well as over half of Canadian consumers. See Coming Together To Create a Smarter & Stronger North American Power Grid, ISO/RTO COUNCIL, https://isorto.org/#about-section [https://perma.cc/49ZQ-WLUK].

197. In 2018, 28% of all non-hydro renewable energy in the United States was generated under voluntary programs or actions by 6.3 million customers who took actions such as participating in utility green pricing programs, entering into direct renewable contracts through power purchase agreements, or purchasing renewable energy certificates. *See* JENNY HEETER, NAT'L RENEWABLE ENERGY LAB'Y, & ERIC O'SHAUGNESSY, CLEAN KILOWATTS LLC, STATUS AND TRENDS IN THE VOLUNTARY MARKET (2018 DATA) 2–3 (2019), https://www.nrel.gov/docs/fy20osti/74862.pdf [https://perma. cc/7QZR-5X6G].

199. For a complete list, see Utilities' Path to a Carbon-Free Energy System by 2050, SMART ELEC. POWER ALL., https://sepapower.org/utility-transformation-challenge/utility-carbon-reduction-

^{194.} For an overview of the electric transmission and distribution grid, see Alexandra B. Klass, *Expanding the U.S. Electric Transmission and Distribution Grid To Meet Deep Decarbonization Goals*, 47 ENV'T L. REP. 10749, 10749–51 (2017).

^{195.} See JOHANNES PFEIFENBERGER, JUDY CHANG, ONUR AYDIN & DAVID LUKE OATES, THE BRATTLE GRP., THE ROLE OF RTO/ISO MARKETS IN FACILITATING RENEWABLE GENERATION DEVELOPMENT 1 (2016), http://files.brattle.com/files/5733_the_role_of_rto_iso_markets_in_facili tating_renewable_generation_development.pdf [https://perma.cc/988D-R7UW] (discussing the benefits of RTO/ISO markets for offering a "[r]eady-made market for real-time energy," "[l]ower-cost integration, balancing, and congestion management," and "[i]mproved regional transmission access and generation interconnection processes").

^{198.} See REBA Deal Tracker, RENEWABLE ENERGY BUYERS ALL., https://rebuyers.org/dealtracker/ [https://perma.cc/W3S2-PS9V]. For example, corporate sponsors of voluntary renewable deals are disproportionately represented by technology companies like Facebook, Google, and Apple. See RE100 Members, RE100, https://www.there100.org/companies [https://perma.cc/9W7D-X57G]. Local governments that have made 100% clean energy commitments are located throughout the country. See Check Out Where We Are Ready for 100%, SIERRA CLUB, https://www.sierraclub.org/readyfor-100/map?show=committed [https://perma.cc/YMG2-2FXG].

come under scrutiny by environmental groups for setting nonbinding aspirational targets that are not matched with consistent investment plans.²⁰⁰ Still, investor-owned utilities primarily derive profits from earning a regulated rate of return on approved capital expenditures but generally earn no returns on fuel and operating costs, which are passed through to customers.²⁰¹ Generally, renewable energy projects are primarily capital expenditures with significantly lower operating costs, allowing investor-owned utilities to earn increased relative profits.²⁰² Further, as more affordable clean energy has challenged the operating economics of historically justified capital investments with remaining debt obligations, investor-owned utilities have sought strategies through their regulators to protect their financial position as their assets become increasingly at risk of being "stranded."²⁰³

Thus, many of the largest investor-owned utilities have begun to embrace the clean energy transition by finding new alignment between their profitseeking fiduciary responsibility, policy and market rules, and strategies that allow them to own—and therefore profit from—the capital-intensive investment associated with building out renewables and the supporting electric grid.²⁰⁴ Additionally, state legislatures and regulators often impose clean energy

201. See Can American Utilities Profit from the Energy Transition?, ECONOMIST (July 27, 2019), https://www.economist.com/business/2019/07/27/can-american-utilities-profit-from-the-energy-transition [https://perma.cc/QBB9-QS3D (dark archive)] (describing Xcel Energy's "steel for fuel" strategy which prioritizes "invest[ing] more in wind farms, on which it can earn a regulated return, and spend less on fossil fuels, on which it cannot. In the long term, consumers save money and the utilities make more of it").

202. Id.

204. See Utilities' Path to a Carbon-Free Energy System by 2050, supra note 199 (noting that sixteen of the twenty largest investor-owned utilities, by market cap, are among the thirty-eight utilities to have announced carbon reduction goals); see also Brian R. Murphy, Renewable Energy Ownership: A Game

tracker/ [https://perma.cc/AWP7-GT9B] (including a complete list of utilities that have announced carbon reduction goals). Recently, three G&T cooperatives have also made net-zero carbon pledges: Platte River Power Authority in Colorado pledged to reach 100% non-carbon energy by 2030; North Carolina Electric Membership Corporation pledged to reach net-zero carbon emissions by 2050; and Old Dominion Electric Cooperative in Virginia pledged to reach net-zero carbon dioxide emissions by 2050. *See id.*

^{200.} JOHN ROMANKIEWICZ, CARA BOTTORFF & LEAH C. STOKES, SIERRA CLUB, THE DIRTY TRUTH ABOUT UTILITY CLIMATE PLEDGES 10–11 (2021), https://www.sierraclub.org/sites/ www.sierraclub.org/files/blog/Final%20Greenwashing%20Report%20(1.22.2021).pdf [https://perma. cc/FV3W-W95W].

^{203.} Emily Hammond & Jim Rossi, *Stranded Costs and Grid Decarbonization*, 82 BROOK. L. REV. 645, 659 (2017) ("[S]tranded cost recovery and the tools used by regulators to address them ... contributed to a blinkered regulatory perspective, distorting the cost of capital to consistently favor old energy infrastructure over new entrants and new projects. Importantly, they were not driven by judicial mandate so much as by political and regulatory processes that invited utilities (and their investors) to invest resources in lobbying for compensation for the stranded costs associated with industry changes, typically in the form of additional charges that customers would pay in their future bills. While this approach to stranded cost compensation was designed to ensure that the firm would be able to continue to attract capital at a low cost to consumers, it also served to lock in the status quo, resulting in delays in industry transitions, including slowing the onset of new technologies.").

mandates on investor-owned utilities,²⁰⁵ and regulated utilities can also seek advantages within political systems by offering clean energy commitments in exchange for other concessions.²⁰⁶ Investor-owned utilities may experience particularly strong incentives to volunteer renewable energy commitments if they operate in a regulatory environment that minimizes the downside risk to the utility's shareholders of incurring the full cost associated with stranded assets.²⁰⁷

Rural electric cooperatives face a very different set of internal and external institutional incentives to adopt clean energy. While G&T cooperatives sell a larger share of their power from coal-fired power than other electricity providers, their power mixes are rapidly changing. For instance, while the U.S. electricity sector as a whole has reduced its dependence on coal-fired power to 23% of total electric generation in 2019 (down from 39% in 2014), cooperatives continued to sell electricity of which 32% was generated from coal in 2019

205. See supra Section I.B.

206. See Thomas P. Lyon & John W. Maxwell, "Voluntary" Approaches to Environmental Regulation: A Survey, in ECONOMIC INSTITUTIONS AND ENVIRONMENTAL POLICY 75, 86 (Maurizio Franzini & Antonio Nicita eds., 2002) (stating that private firms may take environmental action above the level of regulation in part to act "strategically in the political and regulatory arenas to influence the actions of regulators," including by preempting or weakening forthcoming regulations, reducing the extent of regulatory monitoring, or raising the costs of rivals).

207. ANDY BILLICH, MICHAEL COLVIN & TIMOTHY O'CONNOR, ENV'T DEF. FUND, MANAGING THE TRANSITION: PROACTIVE SOLUTIONS FOR STRANDED GAS ASSET RISK IN CALIFORNIA 23 (2019), https://www.edf.org/sites/default/files/documents/Managing%20the%20 Transition_1.pdf [https://perma.cc/4UCJ-ZRJZ] (explaining the general trade-offs regulators make in addressing who bears responsibility for stranded assets along several dimensions, including between current versus future customers and between shareholders versus ratepayers). For a discussion of how debt versus equity splits are informing the feasibility of utilities to swap debt obligations tied to assets at risk of being stranded, such as coal plants, for equity in new clean energy technology, see RON LEHR & MIKE O'BOYLE, ENERGY INNOVATION, DEBT FOR EQUITY UTILITY REFINANCE (Dec. 2018), https://energyinnovation.org/wp-content/uploads/2018/11/Debt-for-Equity-Issue-Brief_12.3. 18.pdf [https://perma.cc/XD6M-HXN2]. See also Stranded Asset Risk Is Low for US Regulated Utilities Sector as It Shifts Toward Renewable Energy, MOODY'S INVS. SERV. (Nov. 5, 2018), https://www.moodys.com/research/Moodys-Stranded-asset-risk-is-low-for-US-regulated-utilities--PBC_1148481 [https://perma.cc/4P7B-D8A2] (stating with regard to investor-owned utilities, "[w]hile exposure to stranded assets could increase during the industry's transition to renewables from natural gas and coal, Moody's expects regulators will allow utilities to recover costs from customers" which, based on historical precedent, would not impact the credit quality of these utilities); Douglas N. Jones & Richard A. Tybout, Environmental Regulation and Electric Utility Regulation: Compatibility and Conflict, 14 B.C. ENV'T AFFS. L. REV. 31, 44 (1986) ("Other things being equal, and with a rate of return at least as high as utility stockholders could otherwise earn, the utility has an interest in adding to property, as long as regulators include that property in the rate base").

Plan for Utilities, UTIL. DIVE (May 22, 2019), https://www.utilitydive.com/news/renewable-energyownership-a-game-plan-for-utilities/555268/ [https://perma.cc/5A3U-HXRS] (describing the historic regulatory hurdles preventing utilities from owning renewable assets and the emerging opportunity for investor-owned utilities to own renewables if tax incentives phase down).

(down from 54% in 2014).²⁰⁸ Facing increasing regulatory risk and other pressure to reduce carbon dioxide emissions from their coal fleet, rural electric cooperatives are making significant investments in carbon capture and sequestration technology demonstration projects.²⁰⁹ However, cooperatives are not as invested in gas as other utilities: in 2019, while the U.S. electric system relied on natural gas for 38% of delivered energy, cooperatives sold 32% of their energy from natural gas.²¹⁰ Rural electric cooperatives also have a slightly higher share of power sales derived from renewables at 19% compared to 18% for the United States overall, in part due to significant generation from federally owned hydroelectric resources.²¹¹ In the context of rapidly changing generation sources, the ownership structure of energy generation is also changing. As rural electric cooperatives are not-for-profit entities, they generally tend to contract for renewable energy generation rather than owning renewable generation. But in terms of the power plant assets that cooperatives own and operate, many of the largest G&T cooperatives have an ownership portfolio that exceeds 85% coalfired power.²¹²

While renewable energy technologies continue to see dramatic capital cost declines, cooperatives still face several factors that weaken this underlying economic signal for renewable energy. Because cooperatives are not-for-profit entities whose owners are also its consumers, they neither experience the same internal incentives that create a capital bias in investor-owned utilities nor enjoy the regulatory protections from stranded-asset risk that underlie some investor-owned utilities' embrace of capital-intensive clean energy.²¹³ Instead, cooperatives face long-term obligations to manage debt, a significant fraction of which was originally tied to federally financed coal-fired power plants, although

^{208.} See AMERICA'S ELECTRIC COOPERATIVES, supra note 8; Electric Power Monthly: Table 1.1. Net Generation by Energy Source, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_1_01 [https://perma.cc/K7N8-6UEG].

^{209.} Benjamin Storrow, Carbon Capture Test Facility Opens in Wyoming, SCI. AM. (May 17, 2018), https://www.scientificamerican.com/article/carbon-capture-test-facility-opens-in-wyoming/ [https:// perma.cc/9JFQ-5QP2]; Frank Jossi, Can This North Dakota Co-op Prove the Potential of Carbon Capture and Storage?, ENERGY NEWS NETWORK (Mar. 30, 2020), https://energynews.us/2020/03/ 30/midwest/can-this-north-dakota-co-op-prove-the-potential-of-carbon-capture-and-storage/ [https:// perma.cc/X547-VSPF].

^{210.} AMERICA'S ELECTRIC COOPERATIVES, supra note 8; Electric Power Monthly: Table 1.1. Net Generation by Energy Source, supra note 208.

^{211.} AMERICA'S ELECTRIC COOPERATIVES, supra note 8; Electric Power Monthly: Table 1.1. Net Generation by Energy Source, supra note 208.

^{212.} See VAN ATTEN ET AL., supra note 8, at 36-40.

^{213.} The capital bias of firms subject to rate-of-return regulation was first proposed by Harvey Averch and Leland L. Johnson. See Harvey Averch & Leland L. Johnson, Behavior of the Firm Under Regulatory Constraint, 52 AM. ECON. REV. 1052, 1052 (1962). Robert Spann empirically demonstrated Averch and Johnson's proposition in regulated electric utilities. See Robert M. Spann, Rate of Return Regulation and Efficiency in Production: An Empirical Test of the Averch-Johnson Thesis, 5 BELL J. ECON. & MGMT. SCI. 38, 50-51 (1974).

many G&T cooperatives refinanced their coal-plant debt in recent years.²¹⁴ The federal debt held by rural electric cooperatives can have restrictions that are not equally applied to private loans. While federal loans from the RUS, the lead federal agency that provides public financing for cooperatives, were initially set at rates lower than most contemporary private rates, federal debt is more difficult to refinance than private debt.²¹⁵ And as market interest rates have declined, cooperatives have not been able to fully take advantage of the economic opportunity of lower debt-servicing costs.²¹⁶ Cooperatives also cannot easily take advantage of tax incentives for renewable energy which have created significant incentives for for-profit independent power providers and some investor-owned utilities to invest in renewable energy projects that they will

^{214.} The National Rural Electric Cooperative Association ("NRECA") estimates that, in 2020, five hundred co-ops held \$42 billion in direct and guaranteed RUS loans. Erin Kelly, *NRECA Will Press New Congress To Approve Repricing of RUS Loans*, NAT'L RURAL ELEC. COOP. ASS'N (Jan. 7, 2021), https://www.electric.coop/nreca-will-press-new-congress-to-approve-repricing-of-rus-loans [https:// perma.cc/KX24-CTB9]. Co-ops also hold debt from private financiers, notably the cooperatively owned CoBank (part of the Farm Credit System) and the National Rural Utilities Cooperative Finance Corporation ("CFC"). *See Electric Distribution*, COBANK, https://www.cobank.com/corporate/industry/electric-distribution [https://perma.cc/599W-P8LM]; FITCHRATINGS, NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION: FULL RATING REPORT 2–3 (2019), https://www.nrucfc.coop/content/dam/nrucfc/public-tier/documents/investors/rating-reports/Fitch_Rating_Full_Report_May_2019.pdf [https://perma.cc/4HL2-SAS3].

^{215.} In 2017, the RUS opened a pilot program for cooperatives to apply for loan refinancing. 82 Fed. Reg. 48,476, 48,476–77 (Oct. 18, 2017). A bill proposed in the 116th Congress would allow all coops to refinance their RUS debt based on prevailing rates and received sixty-four Republican cosponsors and sixty-two Democratic cosponsors in the U.S. House of Representatives. Flexible Financing for Rural America Act of 2020, H.R. 7483, 116th Cong. (2020); *see H.R. 7483 Cosponsors*, CONGRESS.GOV, https://www.congress.gov/bill/116th-congress/house-bill/7483/cosponsors [https://perma.cc/R76J-8RH9].

^{216.} While cooperatives do also hold private debt, they face significant restrictions in refinancing their federal debt. NRECA estimates that allowing co-ops to refinance their RUS loans to prevalent rates in 2020 would save cooperatives \$10.1 billion in aggregate, equivalent to nearly 25% of the total value of RUS debt held by co-ops. See Kelly, supra note 214. Investor-owned utilities can more flexibly borrow and refinance debt through bond issuances, and utility bond issuances from primarily investorowned utilities have been at record levels in the past few years due to a low interest-rate environment and new capital investments in clean energy and natural gas. America's Utilities Are on a Record Borrowing Spree This Year, T&D WORLD (Jan. 2, 2020), https://www.tdworld.com/utility-business/article/ 21119598/americas-utilities-are-on-a-record-borrowing-spree-this-year [https://perma.cc/2RP6-LD8B (staff-uploaded archive)]. Utilities with existing coal assets, which includes many electric cooperatives, may also face financing restrictions from banks and insurers who have set internal policies to restrict support for coal. TIM BUCKLEY, INST. FOR ENERGY ECON. & FIN. ANALYSIS, OVER 100 GLOBAL FINANCIAL INSTITUTIONS ARE EXITING COAL, WITH MORE TO COME 4-5 (Feb. 27, 2019), http://ieefa.org/wp-content/uploads/2019/02/IEEFA-Report_100-and-counting_Coal-Exit_Feb-2019.pdf [https://perma.cc/927F-6DEZ]. For example, in February 2020, JP Morgan announced that it would phase out its "credit exposure" to coal by 2024, in part by no longer providing project finance to develop or refinance coal-fired power plants unless the plant adopts carbon capture technology. Hugh Son, JPMorgan Announces Big Moves To Support Environment, Including Ending Loans to Coal Industry, CNBC (Feb. 25, 2020, 10:43 AM), https://www.cnbc.com/2020/02/25/jpmorgan-says-it-willfund-200-billion-in-sustainable-deals-this-year.html [https://perma.cc/YNP2-G5H3].

own.²¹⁷ Finally, because cooperatives are self-regulated entities with reduced oversight from legislative and regulatory authorities, general political influence and advocacy campaigns have limited formal channels to influence cooperatives compared to the highly structured regulatory environments in which investor-owned utilities operate. As a result, new approaches to clean energy transition are required for cooperatives, as discussed in the remainder of this Article.

III. LEVERS OF CHANGE: COOPERATIVE CASE STUDIES

This part evaluates in more detail the unique challenges and opportunities associated with the clean energy transition for rural electric cooperatives. We explore these challenges through three case studies, each of which evaluates a different, but not mutually exclusive, pathway to shift these challenges and opportunities within the rural electric cooperative landscape. The first case study illustrates an "exit" approach, focusing on the member distribution cooperatives seeking to leave the Tri-State G&T cooperative in the Intermountain West. The second case study shows a "collaboration" pathway through developments at the Great River Energy G&T cooperative in Minnesota. The final case study illustrates a "grassroots" pathway, focusing on the rise of social movements and nonprofit organizations in the southeastern United States and their mission to promote participation, equity, and racial diversity in cooperative governance to advocate-both internally and externally-for clean energy transition and member accountability. Together, these case studies provide valuable context for the range of clean energy solutions proposed in Part IV for rural electric cooperatives around the country.

^{217.} Co-op-owned facilities produce only 5% of the renewable power sold by cooperatives, compared to 64.2% ownership for coal generation and 22.9% ownership for natural gas generation (based on 2017 data). See GOODENBERY ET AL., supra note 9, at 3. These ownership ratios reflect the financing and incentive structures for these different resources, and it is likely that cooperatives will come to own a higher fraction of the current renewables projects from which they currently purchase power once federal tax credits have been monetized by a third party. However, while investor-owned utilities in some states are moving toward owning a higher fraction of renewables under state policies that would allow investor-owned utilities to more effectively monetize federal tax credits, similar attention has not been given to aligning the federal tax credit structure to the business model of electric cooperatives. COHNREZNICK, 2019 TRENDS IN UTILITY RENEWABLE ENERGY FINANCING 5 (2019), https://2kqvnn450c7y4cnom33e1vx8-wpengine.netdna-ssl.com/wp-content/uploads/2019/04/2019_ Trends_In_Utility_Renewable_Energy_Financing.pdf [https://perma.cc/P55T-LHAG]; see also, e.g., NAT'L RURAL ELEC. COOP. ASS'N, supra note 29, at 25-26 (discussing electric cooperatives' taxexempt status). A grant-in-lieu-of-tax-credit program, like the 1603 Program under the 2009 stimulus package, could be beneficial to cooperatives, although the 1603 Program excluded non-taxpaying entities, including rural electric cooperatives. SAMUEL V. BROWN, DAVID G. NDERITU, PAUL V. PRECKEL, DOUGLAS J. GOTHAM & BENJAMIN W. ALLEN, U.S. DEP'T OF AGRIC., RENEWABLE POWER OPPORTUNITIES FOR RURAL COMMUNITIES 126 (2011), https://www.purdue. edu/discoverypark/sufg/docs/publications/RenewablePowerOpportunities-Final.pdf [https://perma. cc/C3W2-2XPQ].

NORTH CAROLINA LAW REVIEW

A. Change Through Exit

Tri-State Generation and Transmission Association is a G&T cooperative formed in 1952 by rural electric distribution cooperatives to provide wholesale power for its member-owners.²¹⁸ By 2020, Tri-State had grown to supply fortythree member distribution cooperatives providing service in parts of Colorado, New Mexico, Wyoming, and Nebraska, and serving 1.3 million residential, commercial, and industrial electricity consumers.²¹⁹ A few, primarily Coloradobased, distribution cooperatives constitute the bulk of Tri-State's total electricity sales. United Power, serving the rapidly growing suburbs surrounding the Denver airport, constitutes nearly 17% of Tri-State's total member revenue, and only ten members represent a full 60% of Tri-State's total member electricity sales.²²⁰

Each distribution utility member's relationship with Tri-State is regulated by two key documents—Tri-State's bylaws ("Bylaws") and each individual member's "all-requirements contract" with Tri-State (also known as an "ARC," or more generally, a "wholesale electric services contract," "WESC," or "power supply contract").²²¹ The Bylaws require that each member purchase "electric power and energy" from Tri-State at rates to be determined by the Tri-State Board (comprised of representatives from its member distribution cooperatives).²²² The Bylaws also establish broad expectations for the member cooperatives, which are then enforced through the all-requirements contracts.²²³ Each of the current all-requirements contracts between Tri-State and its member distribution utilities were executed around 2007 and run through 2050.²²⁴ The contracts allow each member distribution cooperative to obtain up

^{218.} CTR. FOR THE NEW ENERGY ECON., supra note 25, at 2.

^{219.} *Id.*; TRI-STATE GENERATION & TRANSMISSION ASS'N, 2019 ELECTRIC RESOURCE PLAN ANNUAL PROGRESS REPORT 12–13 (2019) [hereinafter TRI-STATE ELECTRIC 2019 RESOURCE PLAN].

^{220.} CTR. FOR THE NEW ENERGY ECON., *supra* note 25, at 2–3; TRI-STATE GENERATION & TRANSMISSION ASS'N, BETTER TOGETHER: 2019 INVESTOR PRESENTATION 5 (2019), https://tristate.coop/sites/tristate/files/PDF/2019%20SEC%20filings/InvestorPresentation-070919.pdf [https://perma.cc/9CRB-Z675].

^{221.} Consistent with industry practice, this Article uses the term "all-requirements contract" to refer to a contract between a G&T cooperative and a member-owner distribution cooperative that requires the member-owner to purchase 95% or more of the energy it sells to its members from the G&T cooperative. See, e.g., Recommended Decision of Administrative Law Judge Robert I. Garvey Granting Relief Requested and Setting Exit Charge Methodology at 9–13, La Plata Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, Nos. 19F-0620E & 19F-00621E (Colo. Pub. Utils. Comm'n Nov. 6, 2019) [hereinafter ALJ Opinion on Exit Charge Methodology] (referring to the contracts between Tri-State and its members capping self-supply at 5% as all-requirements contracts); see also supra note 65 and accompanying text; infra note 414.

^{222.} Amended and Restated Bylaws of Tri-State Generation and Transmission Association, Inc. art. I, § 3(a) (Apr. 3, 2019) [hereinafter Tri-State Bylaws]; *see supra* note 165 and accompanying text. 223. *See id.*

^{224.} Tri-State Generation & Transmission Ass'n, 2019 Annual Report (Form 10-K) 4 (Mar. 12, 2020) [hereinafter Tri-State 2019 10-K].

2021] COOPERATIVE CLEAN ENERGY

to 5% of their power requirements through self-supplied power—which can include self-generated distributed solar and other local sources or wholesale energy purchased from third parties, with all remaining power purchased from Tri-State.²²⁵ These contracts provide Tri-State with predictable revenue to plan the development of its generation and transmission system and provide assurance to Tri-State's creditors that Tri-State will be able to meet its debt repayment commitments.²²⁶ The Bylaws state that a member cooperative may leave Tri-State only once it fulfills "equitable terms and conditions" determined by Tri-State's Board and "it has met all its contractual obligations" to Tri-State.²²⁷

Historically, Tri-State generated most of its energy from five coal-fired plants built between 1959 and 2006.²²⁸ At the start of 2020, Tri-State had the capacity to provide 4,317 MW to its member cooperatives.²²⁹ Tri-State distributes this power to its member-owners over 5,665 miles of self-owned transmission lines.²³⁰ The economics of Tri-State's coal plants have caused an increasing number of Tri-State's members and outside groups to criticize the continued use of these plants.²³¹ Additionally, Tri-State was "ranked first in the

228. MARK DYSON & ALEX ENGEL, ROCKY MTN. INST., A LOW-COST ENERGY FUTURE FOR WESTERN COOPERATIVES 5 (2018), https://rmi.org/wp-content/uploads/2018/08/RMI_Low_Cost_Energy_Future_for_Western_Cooperatives_2018.pdf [https://perma.cc/4UNY-KSMJ].

229. Tri-State 2019 10-K, *supra* note 224, at 2. Of this generation, at the start of 2020, Tri-State owned 1,782 MW of coal generating capacity (41% of total) and 903 MW of natural gas/oil generating capacity (21% of total). *Id.* It contracted for 1,059 MW of renewable energy and 573 MW of "other" power. *Id.* Of its renewable generation, approximately 550 MW came from large-scale federal hydropower purchases, while the remainder came from wholesale contracts for solar, wind, and small-scale hydropower, in addition to 123 MW of local renewable power provided by the distribution cooperatives themselves. *Id.* at 2, 12–13.

^{225.} Id. at 4-6.

^{226.} Tri-State Generation and Transmission Association Wholesale Electric Service Contract with La Plata Electric Association, Inc. 2 (July 1, 2007) (on file with the North Carolina Law Review); see supra note 65 and accompanying text; *infra* note 414.

^{227.} Tri-State Bylaws, *supra* note 222, at art. I, § 4(a). Free entry and exit is a core cooperative tenant underlying the Cooperative Principles of open and voluntary membership and autonomy and independence. See Understanding the Seven Cooperative Principles, *supra* note 25; *infra* note 287.

^{230.} Id. at 13; TRI-STATE ELECTRIC 2019 RESOURCE PLAN, supra note 219, at 14.

^{231.} See, e.g., DYSON & ENGEL, supra note 228, at 4–7 (discussing economics of Tri-State's plants as compared to a transition to renewable energy). Market participants evaluating Tri-State's energy mix found that Tri-State's delivered cost of power of 7.5¢ per kilowatt-hour was 53% more than the average wholesale delivered cost of power at 4.9¢ per kilowatt-hour. CTR. FOR THE NEW ENERGY ECON., supra note 25, at 5. Tri-State publicly disputed the Rocky Mountain Institute study at the time of its publication, stating that it did "not have the detailed inputs, complex models and technical expertise necessary to forecast the association's future costs" and "does not equate to the thorough resource modeling in . . . integrated resource planning." *High-Level Report by Rocky Mountain Institute Cannot Accurately Forecast Tri-State's Future Costs*, TRI-STATE GENERATION & TRANSMISSION ASS'N (Aug. 23, 2018), https://tristate.coop/tri-state-responds-rocky-mountain-institute-report-resource-planning [https://perma.cc/3AL6-MS43].

country in pounds of CO_2 emitted per megawatt-hour of electricity produced" in 2017.²³²

In 2017, the Bylaws required Tri-State to review the terms of its allrequirements contracts with its member distribution cooperatives.²³³ By this time, several Tri-State distribution cooperatives wished to add more low-cost distributed solar in their service areas but were prevented from doing so by the 5% limit on non-Tri-State power in their all-requirements contracts.²³⁴ During the contract review proceedings, the Tri-State board rejected a request from one of its member cooperatives, La Plata Electric, to raise the 5% limit on selfsupplied generation to 10%, and instead, the board adopted a new policy which lowered the price paid to member cooperatives for self-generated solar energy.²³⁵ Tri-State justified this policy on grounds that it needed to ensure a return on investment for its fossil fuel plants.²³⁶ This prompted a number of member cooperatives to seek to exit their relationship with Tri-State before their scheduled contract expiration dates.²³⁷ However, the determination of fair terms for an early exit from the all-requirements contract was, and continues to be, contentious.

If G&T cooperatives were able to perfectly offset the loss of an exiting member's revenue with a reduction in operating costs, then the issue of exit fees would be of minimal importance. However, the sunk costs associated with large power plants cannot be recovered with reductions in variable costs, and in contrast to investor-owned utilities, G&T cooperatives can traditionally only finance their large fixed costs with debt.²³⁸ As a result, if a member cooperative exits its G&T cooperative, then the G&T cooperative's reduction in revenue is not offset by a reduction in costs, and to preserve the economic position of remaining members, the departing member must pay an exit fee.²³⁹

^{232.} CTR. FOR THE NEW ENERGY ECON., supra note 25, at 3.

^{233.} Tri-State 2019 10-K, supra note 224, at 6.

^{234.} Joe Smyth, Clean Cooperative, Uncooperative: Tri-State Policies Are Limiting Colorado Communities from Developing Local Renewable Energy Projects, CLEAN COOP. (2018), https://www.cleancooperative.com/uncooperative.html [https://perma.cc/384T-9DEB].

^{235.} Id.

^{236.} See id.

^{237.} See infra Section III.A.1.

^{238.} Public Answer Testimony and Attachments of Tri-State Generation and Transmission Association, Inc. Witness Patrick L. Bridges at 15–16, 18, La Plata Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, No. 19F-0620E (Colo. Pub. Utils. Comm'n Feb. 12, 2019) ("Utilizing debt allows Tri-State to spread the capital cost of these resources over their useful lives instead of funding them all up-front.").

^{239.} See Tri-State Generation and Transmission Association's Post-Hearing Statement of Position at 31, La Plata Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, Nos. 19F-0620E & 19F-0621E (Colo. Pub. Utils. Comm'n May 28, 2020). In 2019, Tri-State had an operating revenue of \$1.3 billion and operating expenses of \$1.2 billion. Id. at 18; Tri-State 2019 10-K, supra note 224, at 44. Much of the difference between the two values was made up of interest expenses, which totaled \$151 million. Tri-State 2019 10-K, supra note 224, at 64.

2021] COOPERATIVE CLEAN ENERGY

Determining a fair exit fee is difficult to accomplish because it requires a philosophical decision regarding the extent to which the fair allocation of sunk costs should be based on the originally intended utilization of the investments,²⁴⁰ the most recent utilization of the investments,²⁴¹ or the prospective costs of utilizing the investments as currently imagined, leading to proposed allocations that can be highly divergent.²⁴²

1. Member Exit Requests

Since 2017, Tri-State member cooperatives representing more than 25% of Tri-State's total membership have made requests to exit their contracts, but the consideration of exiting began earlier with Kit Carson Electric Cooperative, a small distribution cooperative near Taos, New Mexico.²⁴³ Since 2008, Kit Carson has sought to invest in increased distributed solar energy to meet member preferences for clean energy. By the early 2010s, Kit Carson's managers and executives were unhappy with Tri-State's wholesale prices for electricity (which had increased over 100% between 2000 and 2016²⁴⁴), the unpredictability

^{240.} See Direct Testimony and Attachments of Susan F. Tierney, Ph.D. at 22, La Plata Elec. Ass'n v. Tri-State Generation and Transmission Ass'n, No. 19F-0620E & 19F-0621E (Colo. Pub. Utils. Comm'n Jan. 10, 2020) (noting that, in the context of the contested exit fee of the La Plata distribution utility from its G&T, Tri-State, "[a] cost-incurrence principle would encourage the Commission to determine a just, reasonable, and non-discriminatory exit charge that takes two core economic concepts into account: first, only those costs that are unavoidable and which have already been incurred by Tri-State in anticipation of serving La Plata over the life of the WESC contract; and second, the financial benefits and burdens of La Plata's role as an owner of Tri-State").

^{241.} See JIM LAZAR, PAUL CHERNICK & WILLIAM MARCUS, REGUL. ASSISTANCE PROJECT, ELECTRIC COST ALLOCATION FOR A NEW ERA 98 (Mark LeBel ed., 2020).

^{242.} See generally Michael T. Morley, Avoiding Adversarial Adjudication, 41 FLA. ST. UNIV. L. REV. 291, 327 (2014) (explaining that each party to a dispute is "entitled to shape their lawsuit" and "determine the issues" they want the court to adjudicate).

^{243.} Kit Carson was not the first member-owner to try to leave Tri-State. In the 1980s, Tri-State member-owner Shoshone River Power sought to terminate its all-requirements contract with Tri-State through dissolution and sale of its assets to an investor-owned utility. *See* Tri-State Generation & Transmission Ass'n v. Shoshone River Power, 874 F.2d 1346, 1350 (10th Cir. 1989). On appeal to the U.S. Court of Appeals for the Tenth Circuit, the court held in 1989 that the contract between Shoshone and Tri-State was a "unique" requirements contract based on the length of the contract, the ownership relationship between the parties, the presence of REA funding, and the substantial debt held by Tri-State. *Id.* at 1355–56. As a result, the court concluded that Shoshone could not absolve itself of its contractual obligations through dissolution but that appropriate damages could be determined as a remedy. *Id.* at 1364. Notably, the REA intervened in the proceedings on behalf of Tri-State claiming irreparable damage if the assets were sold. *Id.* at 1350.

^{244.} Over the same time period, average retail electricity prices in New Mexico and Colorado overall had seen 39% and 67% increases, respectively. *Compare Annual Electric Power Industry Report, Form ELA-861 Detailed Data Files*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/data/eia861/ [https://perma.cc/3QT4-6E34] (choose "2000 Reformatted ZIP" on right sidebar), with id. (choose "2016 ZIP" on right sidebar).

NORTH CAROLINA LAW REVIEW [Vol. 100

of rate increases, and the contract's 5% cap on self-supplied generation.²⁴⁵ Kit Carson initially made a request to exit its contract with Tri-State in 2015. In response to Kit Carson's exit request, Tri-State "initially demanded \$137 million as an exit charge (or nearly seven times the amount of Kit Carson's annual power purchase from Tri-State).²⁴⁶ In 2016, Kit Carson and Tri-State reached an exit agreement without litigation.²⁴⁷ The final exit charge was negotiated down to \$49.5 million, made up of \$37 million in cash and \$12.5 million "for the retirement of Kit Carson's patronage capital.²⁴⁸ At the time of its exit, Kit Carson represented only 1.8% of Tri-State's total energy sales.²⁴⁹

The cash for Kit Carson's exit was provided by Guzman Energy, a private wholesale energy provider based in Florida and Colorado that describes itself as "designed specifically to help transition an outdated energy economy into the renewable age."²⁵⁰ In return for providing the exit fee, Kit Carson signed a tenyear, fixed-price contract with Guzman for wholesale energy at a price 15% lower than what it had paid Tri-State the year before, inclusive of repayment of the exit fee in the first five years of the contract.²⁵¹ In sharp contrast to the restrictions under its contract with Tri-State, the Kit Carson-Guzman contract allowed Kit Carson unlimited self-generation,²⁵² and Guzman also committed

248. J.R. Logan, *Kit Carson CEO Reyes Says Tri-State Break Has Two Big Advantages*, TAOS NEWS (June 30, 2016), https://www.taosnews.com/news/kit-carson-ceo-reyes-says-tri-state-break-has-two-big-advantages/article_7ac805ff-4a5c-5ef2-9899-58b6a5f21236.html [https://perma.cc/QA52-C5C7]. For a discussion of patronage capital, see *supra* note 121 and accompanying text.

251. IEEFA REPORT, *supra* note 245, at 3–5.

252. While Kit Carson's members now contribute 9% of total capacity during peak daylight hours through member-owned rooftop solar, Kit Carson's policy to support rooftop solar through net metering has recently raised concerns of unfair cross-subsidization. See Doug Cantwell, Kit Carson Electric CEO: Rooftop Solar Not Paying Its Fair Share, TAOS NEWS (Jan. 15, 2020), https://www.

^{245.} KARL CATES & SETH FEASTER, INST. FOR ENERGY ECON. & FIN. ANALYSIS, CASE STUDY: HOW KIT CARSON ELECTRIC ENGINEERED A COST-EFFECTIVE COAL EXIT 3 (2019) [hereinafter IEEFA REPORT].

^{246.} Formal Complaint at 18, United Power, Inc. v. Tri-State Generation & Transmission Ass'n, No. 19F-0621E (Colo. Pub. Utils. Comm'n Nov. 6, 2019). Kit Carson's CEO stated that "Tri-State calculated its exit formula by multiplying the annual revenue it collects from Kit Carson and multiplying it by the number of years remaining in the contract, then subtracting Tri-State's costs." *Id.* at 18 n.34. This demand is consistent with the formula the Tenth Circuit found valid in *Shoshone River Power*, 874 F.2d at 1348–49.

^{247.} Peter Maloney, Seeking More Renewables, Kit Carson Co-op Exits Relationship with Tri-State G&T, UTIL. DIVE (June 29, 2016), https://www.utilitydive.com/news/seeking-more-renewables-kit-carson-co-op-exits-relationship-with-tri-state/421719/ [https://perma.cc/2EA8-CTNS].

^{249.} Logan, *supra* note 248; KIT CARSON ELEC. COOP., 2016 ANNUAL REPORT 10 (2018), https://kitcarson.com/wp-content/uploads/2018/05/2016-Annual-Report-Book.pdf [https://perma.cc/D22E-MTEU].

^{250.} IEEFA REPORT, *supra* note 245, at 3. The Guzman offer has been characterized as an example of a "solar for coal swap" in which a third party—in this case Guzman—effectively purchases and retires coal assets in conjunction with a contract for new solar that includes repayment for purchasing and decommissioning coal—in this case paying for the calculated stranded asset costs associated with exit. *See* LEHR & O'BOYLE, SWAPS, *supra* note 10, at 2, 6–9.

to assist Kit Carson in developing 35 MW of solar power by 2022.²⁵³ Skeptics of Kit Carson's exit have pointed to the additional risk associated with purchasing energy from Guzman, an unregulated private energy service provider that may have greater exposure to price volatility and bankruptcy.²⁵⁴ Kit Carson also signed two separate transmission agreements to replace its previous bundled "all-in" rate from Tri-State, with costs that can vary from month to month and contribute to significant fluctuations in Kit Carson's total power costs.²⁵⁵ A direct comparison of the impact of Kit Carson's exit on residential costs is difficult because of the different ways in which components of electricity costs are incorporated in rates. Nevertheless, Kit Carson's average all-in price for residential electricity service has continued to increase above inflation from 2013–2019.²⁵⁶

254. See Mary Shin, Kit Carson Electric Setting National Example for Renewable Energy, DURANGO HERALD (Apr. 14, 2018), https://www.durangoherald.com/articles/kit-carson-electric-setting-national-example-for-renewable-energy/#:~:text=Carson%20Electric%20Cooperative-,Kit%20Carson %20Electric%20setting%20national%20example%20for%20renewable%20energy,co%2Dop's%20total% 20energy%20consumption [https://perma.cc/4HJQ-7V4A] (quoting the concerns of a manager at La Plata Electric Association, a distribution member of Tri-State that has since requested information about exiting its relationship with Tri-State). Kit Carson's reason for breaking their contract with Tri-State can be understood as grounded in Kit Carson's dissatisfaction with the rigidity of their power supply contract that blocked them from both the upside and downside of market risk. Guzman's contract offer opens Kit Carson to the upside benefits of clean energy available in wholesale markets and shields Kit Carson from some market downside risk by fixing energy prices for the ten-year duration of the contract. But at a market-fundamentals level, Guzman is hedging wholesale price risk according to private business practices that Kit Carson does not have control over. In contrast, the power prices Kit Carson was paying to Tri-State were hedged under a collective investment structure built up over many decades and grounded in long-lived physical assets.

256. Compare Annual Electric Power Industry Report, Form ELA-861 Detailed Data Files, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/data/eia861/ [https://perma.cc/3QT4-6E34] (Oct. 6, 2020) (choose "2013 ZIP" through "2019 ZIP" on right sidebar), with Consumer Price Index for All Urban Consumers: All Items in U.S. City Average, FRED ECON. DATA, https://fred.stlouisfed.org/series/ CPIAUCNS [https://perma.cc/KY9R-N9MZ] (June 10, 2021). In addition to rising faster than inflation, Kit Carson's average residential retail electricity prices grew faster than prices in New Mexico overall and among New Mexico cooperatives. EIA Electric Sales, Revenue, and Average Price, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/electricity/sales_revenue_price/ [https://perma.cc/ 5ACH-LUUR] (showing that Kit Carson's average residential retail electricity price was 22% greater

taosnews.com/news/business/kit-carson-electric-ceo-rooftop-solar-not-paying-its-fair-share/article_73b1bb63-1f99-5543-a9ba-2f28c85de2ea.html [https://perma.cc/3WCX-TAEP].

^{253.} KIT CARSON ELEC. COOP., *supra* note 249, at 3; *see* IEEFA REPORT, *supra* note 245, at 5 ("[Kit Carson] executives estimate that the local direct economic benefits of its solar buildout will total \$10 million annually by 2020 and say it will support about 50 full-time equivalent jobs per year. They estimate further that the deal with Guzman will save the co-op \$50-\$70 million over the full 10-year life of the agreement."). By 2019, Kit Carson was already meeting 48% of its energy needs with renewables and was on track to meet a 70-80% renewable goal quickly with investments in wind energy and battery storage. Allen Best, *Solar Plus Storage Will Put Kit Carson Electric at 48% Renewables*, MOUNTAIN TOWN NEWS (Nov. 11, 2019), https://mountainnews.net/2019/11/11/solar-plus-storage-will-puts-kit-carson-electric-at-48-renewables/ [https://perma.cc/Z4R2-RAKQ].

^{255.} Application of Kit Carson Electric Cooperative, Inc. for Continuation of Its Fuel and Purchased Power Cost Adjustment Clause at 5–12, *In re* Kit Carson Elec. Coop., Inc. (N.M. Pub. Regul. Comm'n Apr. 17, 2020) (on file with the North Carolina Law Review).

Five months after Kit Carson's exit from Tri-State, another Tri-State member cooperative with approximately twice the revenue of Kit Carson— Delta-Montrose—requested that Tri-State provide it with its own cost to exit.²⁵⁷ In response to that request, Tri-State purportedly demanded an exit charge of over \$320 million.²⁵⁸ Delta-Montrose participated in an internal Tri-State dispute and appeal process but did not reach an agreement with Tri-State.²⁵⁹ During the process, Tri-State refused to give Delta-Montrose information that would let it meaningfully evaluate either the Delta-Montrose or Kit Carson exit calculations, and also asserted it could set an exit charge "in its sole discretion," regardless of whether it was "just or reasonable" under state law.²⁶⁰

In December 2018, Delta-Montrose filed an action with the Colorado Public Utilities Commission requesting that the Commission establish a just, reasonable, and nondiscriminatory exit fee under its statutory authority.²⁶¹ Tri-State filed a motion to dismiss, and the motion was opposed by Delta-Montrose, the Sierra Club, and a majority of Colorado state legislators.²⁶² In 2019, the Colorado Commission denied the motion to dismiss, ordered discovery, and scheduled an evidentiary hearing on the matter.²⁶³ Days prior to the hearing, however, Delta-Montrose and Tri-State reached an agreement on an exit fee of \$136.5 million, consisting of a cash payment of \$88.5 million and

than the New Mexico average and 9% greater than New Mexico cooperatives in 2013 and 48% greater than the New Mexico average and 27% greater than New Mexico cooperatives in 2019).

^{257.} See Response of Amici Curiae United Power, Inc. & La Plata Electric Ass'n, Inc. to Tri-State Generation & Transmission Ass'n's Motion to Dismiss at 1, Delta-Montrose Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, No. 18F-0866E (Colo. Pub. Utils. Comm'n Feb. 4, 2019). Delta-Montrose covers 28,000 members in Western Colorado. Mark Jaffe, *Western Slope Utility Serving Delta, Montrose Settles on \$136.5 Million Fee To Break Up with Tri-State*, COLO. SUN (Apr. 13, 2020, 4:54 PM), https://coloradosun.com/2020/04/13/tri-state-delta-montrose-energy-breakup-fee/ [https://perma.cc/V3XL-T22L] [hereinafter Jaffe, *Western Slope Utility*]. Like Kit Carson, Delta-Montrose's contract with Tri-State ran through 2040 and was limited to 5% self-generation. Tri-State 2019 10-K, *supra* note 224, at 4.

^{258.} Robert Walton, Colorado ALJ Clears Way for Tri-State Exit Fee Determination, UTIL. DIVE (May 20, 2020), https://www.utilitydive.com/news/colorado-alj-clears-way-for-tri-state-exit-fee-determinations-despite-grow/578260/#:~:text=A%20Colorado%20Administrative%20Law%20 Judge,State%20Generation%20and%20Transmission's%20service [https://perma.cc/E6PY-WMP7].

^{259.} Formal Complaint at 5, Delta-Montrose Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, No. 18F-0866E (Colo. Pub. Utils. Comm'n Dec. 6, 2018).

^{260.} Id.

^{261.} Id. at 6.

^{262.} See Letter from Colorado Legislators to Jeffery P. Ackermann, Chairman, Colorado Pub. Util. Comm'n, & Frances A. Koncilja, Comm'r, Colorado Pub. Util. Comm'n (Jan. 14, 2019) (on file with the North Carolina Law Review).

^{263.} See Interim Decision Denying Motion to Dismiss Formal Complaint at 14, Delta-Montrose Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, No. 18F-0866E (Colo. Pub. Utils. Comm'n Feb. 14, 2019); Commissioners' Decision Closing Proceeding at 1–2, Delta-Montrose Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, No. 18F-0866E (Colo. Pub. Utils. Comm'n Aug. 14, 2019).

approximately \$48 million in forfeiture of patronage capital.²⁶⁴ Delta-Montrose also signed a contract with Guzman Energy for the purchase of wholesale power that was similar to Guzman's contract with Kit Carson.²⁶⁵

In 2019, La Plata Electric and United Power sought exit-fee determinations from Tri-State, and, concerned that Tri-State would not offer them fair exit fees, La Plata Electric and United Power filed actions with the Colorado Commission to either force Tri-State to provide exit numbers or for the Commission to determine those numbers itself.²⁶⁶ It remains to be seen whether Tri-State can take additional actions to retain these members through legal actions or by adding clean energy to its generation mix, expanding member cooperative self-generation limits, or other measures.

In January 2020, Tri-State's CEO announced its "Responsible Energy Plan."²⁶⁷ This announcement marked a substantial shift from Tri-State's long-term reliance on coal and was designed to comply with aggressive clean energy mandates imposed on all electric utilities, including G&T cooperatives, under New Mexico and Colorado state law.²⁶⁸ The plan was forecasted to save Tri-State hundreds of millions of dollars from 2018 to 2030.²⁶⁹ It also proposed 904 MW of coal retirements by 2030 and 1,019 MW of "planned renewable capacity additions."²⁷⁰ Tri-State would also allow for member utilities to take a "partial

266. See Complaint at 20–23, United Power v. Tri-State Generation & Transmission Ass'n, No. 2020-CV-30649 (Colo. Dist. May 4, 2020); Formal Complaint at 19–20, La Plata Elec. Ass'n v. Tri-State Generation & Transmission Ass'n, No. 19F-0620E (Colo. Pub. Utils. Comm'n Nov. 5, 2019).

^{264.} See Robert Walton, Colorado Cooperative Reaches \$136.5M Agreement To Exit Tri-State, UTIL. DIVE (Apr. 14, 2020), https://www.utilitydive.com/news/colorado-cooperative-reaches-1365magreement-to-exit-tri-state-service/575971/ [https://perma.cc/R8US-5WGJ].

^{265.} Of the \$88.5 million payment, \$62.5 million was provided by Guzman Energy to compensate Tri-State for the loss of Delta-Montrose's load from the Tri-State network, and the remaining \$26 million was provided by Delta-Montrose itself to purchase a variety of transmission assets previously owned by Tri-State. Judith Kohler, *Tri-State, Delta-Montrose Cooperative Agree To End Contract in \$62.5 Million Deal*, DENVER POST, https://www.denverpost.com/2020/04/17/tri-state-to-end-contract-with-cooperative/ [https://perma.cc/ES5M-PAR2] (Apr. 17, 2020, 2:09 PM). In contrast to the Kit-Carson/Guzman contract, the Delta-Montrose/Guzman contract limits Delta-Montrose to a maximum of only 20% self-generation of energy. *Id.*

^{267.} Tri-State Announces Retirement of All Coal Generation in Colorado and New Mexico, TRI-ST. (Jan. 9, 2020), https://tristate.coop/tri-state-announces-retirement-all-coal-generation-colorado-and-new-mexico [https://perma.cc/7ZUF-QGT5] ("Serving our members' clean energy and affordability needs, supporting state requirements and goals, and leading the fundamental changes in our industry require the retirement of our coal facilities in Colorado and New Mexico...").

^{268.} *Id.*; TRI-STATE GENERATION & TRANSMISSION ASS'N, RESPONSIBLE ENERGY PLAN 2–3 (2020) [hereinafter TRI-STATE GENERATION, RESPONSIBLE ENERGY PLAN], https://tristate.coop/sites/tristategt/files/PDF/Responsible-Energy-Plan/Tri-State-Responsible-Energy-Plan.pdf [https://perma.cc/X9U2-G8E4].

^{269.} ROCKY MOUNTAIN INST., TRI-STATE'S RESPONSIBLE ENERGY PLAN 9 (2020).

^{270.} *Id.* at 1. The Responsible Energy Plan also finalized the cancellation of the proposed Holcomb Station coal plant. TRI-STATE GENERATION, RESPONSIBLE ENERGY PLAN, *supra* note 268, at 3. The proposed plant, a collaboration with Kansas-based G&T cooperative Sunflower Energy, was subject to litigation for over a decade which delayed its construction. Tri-State 2019 10-K, *supra* note 224, at 17.

requirements" option that would allocate an aggregate 300 MW of self-supply capacity among Tri-State's member cooperatives.²⁷¹ However, with the limited capacity made available, the program establishes a race among members to develop self-supplied generation before the cap is met.

2. G&T Requests for Federal Regulation To Displace State Regulation

Before the Colorado Commission could act on the 2019 distribution cooperatives' exit-fee determination requests, Tri-State filed an action with FERC seeking exclusive FERC regulation of its rates, charges, contracts, and exit fees under the FPA.²⁷² Prior to 2019, Tri-State was entirely owned by distribution cooperatives and thus was a non-jurisdictional utility exempt from FPA regulation.²⁷³ However, in 2019, Tri-State amended its Bylaws to allow the admission of members that were for-profit entities.²⁷⁴ The Tri-State board then voted to add three private, for-profit members-a ranch and a greenhouse in Colorado and a California-based natural gas supplier.²⁷⁵ With these three new non-utility members, Tri-State was no longer statutorily exempt from federal regulation, and thus it submitted a rate filing with FERC seeking exclusive federal regulation of its rates, charges, and contracts under the FPA.²⁷⁶ Tri-State also requested that FERC preempt the La Plata Electric and United Power action pending before the Colorado Commission.²⁷⁷ The Colorado Commission, La Plata, United, and the Sierra Club opposed the request, with United stating that the additions of non-utility members to Tri-State were illegal sham whose only purpose was to avoid Colorado Commission transactions regulation.278

Tri-State estimated that it lost \$93.5 million on the endeavor; Tri-State also estimated a \$37.1 million loss from the 2019 closing of the Nucla coal plant. *Id.* at 69.

^{271.} Press Release, Tri-State Generation & Transmission Ass'n, Tri-State Takes Significant Step To Increase Member Flexibility, Sets Contract Termination Payment Methodology (Apr. 9, 2020), https://tristate.coop/tri-state-takes-significant-step-increase-member-flexibility-sets-contracttermination-payment [https://perma.cc/S2NG-VEWN].

^{272.} See Petition of Tri-State Generation & Transmission Ass'n, Inc. for Declaratory Order on Jurisdiction Under Part II of Federal Power Act at 1, Tri-State Generation & Transmission Ass'n, No. EL20-16-000 (FERC Dec. 23, 2019) [hereinafter Petition on Jurisdiction].

^{273.} See supra notes 72–73 and accompanying text (discussing the general exemption of rural electric cooperative rates from FERC regulation under the FPA); Tri-State Generation & Transmission Ass'n, 170 FERC ¶ 61,224 para. 1 (Mar. 20, 2020) (granting in part and denying in part Tri-State's petition).

^{274.} See Mark Jaffe, Tri-State's Clean Energy Battles with Two Colorado Electric Co-ops Now Threaten the Utility's Finances, COLO. SUN (May 18, 2020, 3:45 AM), https://coloradosun.com/2020/05/18/tri-state-generation-finances-united-power-la-plata/ [https://perma.cc/BMK4-3JVJ].

^{275.} Tri-State 2019 10-K, *supra* note 224, at 3. The ranch and the greenhouse in Colorado both purchase energy from Tri-State facilities and the natural gas company, MIECO, supplies gas to Tri-State's gas-powered plants. *Id.*

^{276.} Petition on Jurisdiction, supra note 272, at 1-3.

^{277.} Id.

^{278.} Tri-State Generation & Transmission Ass'n, 170 FERC ¶ 61,224 paras. 37-39.

2021] COOPERATIVE CLEAN ENERGY

The potential exit of members of the size of United and La Plata posed an existential threat to Tri-State. As of 2020, United Power and La Plata were Tri-State's first- and third-largest members, respectively, and represented a combined 24% of Tri-State's revenue from members.²⁷⁹ In its 2019 10-K filing, Tri-State warned that low exit-fee determinations in the pending proceedings could result in "increased rates to our Members, a materially adverse effect on our financial condition" and potentially a contractually required prepayment of long-term debt.²⁸⁰

In May 2020, United Power filed a complaint against Tri-State and the three newly added, non-utility members in a Colorado district court alleging that during Tri-State's efforts to seek FERC regulation of its rates, Tri-State engaged in a civil conspiracy with the non-utility members and committed fraud against United Power.²⁸¹ The lawsuit seeks hundreds of millions of dollars in compensatory and punitive damages as well as a finding that Tri-State materially breached its contract with United Power.²⁸²

While FERC initially determined that it held concurrent jurisdiction with the Colorado Commission over the exit-fee determinations, it later determined that it held exclusive jurisdiction over that issue, with the Colorado state court holding jurisdiction over the civil conspiracy and fraud claims.²⁸³ After the FERC decision, the Colorado Commission dismissed the exit-fee proceedings pending before it.²⁸⁴ In 2021, FERC issued a preliminary finding that Tri-State's contracts with its members were unjust and unreasonable under the FPA "based on the barriers it imposes on utility members considering whether to terminate their membership in Tri-State."²⁸⁵ FERC focused specifically on the "lack of clear and transparent exit conditions" and ordered Tri-State within

^{279.} CTR. FOR THE NEW ENERGY ECON., supra note 25, at 2; Tri-State 2019 10-K, supra note 224, at 5.

^{280.} Tri-State 2019 10-K, supra note 224, at 27; see also Jaffe, Western Slope Utility, supra note 257; Selene Balasta, S&P Downgrades Tri-State on Potential Exit of 2 Cooperative Members, S&P GLOB. (Nov. 20, 2019), https://www.spglobal.com/marketintelligence/en/news-insights/trending/7qLvsVbquwQh OOh_AGeeiQ2 [https://perma.cc/34YH-3LLW].

^{281.} See Complaint, supra note 266, at 1-3; Robert Walton, United Power Sues Tri-State Claiming "Civil Conspiracy" To Block Colorado Jurisdiction over Exit Fees, UTIL. DIVE (May 6, 2020), https:// www.utilitydive.com/news/united-power-sues-tri-state-claiming-civil-conspiracy-to-block-coloradoj/577456/#:~:text=United%20Power%20on%20Monday%20filed,charged%20by%20the%20G%26T%2 Outility [https://perma.cc/LYX7-D37F].

^{282.} Complaint, supra note 266, at 31-40; Walton, supra note 281.

^{283.} Tri-State Generation & Transmission Ass'n, 172 FERC ¶ 61,173 paras. 7–9, 35 (Aug. 28, 2020); see supra note 175 and accompanying text (discussing FERC orders in 2020 and 2021 on exit fees related to another contract between a G&T and distribution cooperative).

^{284.} See Emma Penrod, Colorado PUC Dismisses Exit Fee Complaints Against Tri-State, Says FERC and District Courts Have Jurisdiction, UTIL. DIVE (Oct. 26, 2020), https://www.utilitydive.com/news/colorado-puc-dismisses-exit-fee-complaints-against-tri-state-says-ferc-and/587706/ [https://perma.cc/LZ3H-Q667].

^{285.} Tri-State Generation & Transmission Ass'n, 175 FERC ¶ 61,229 para. 1 (June 17, 2021).

thirty days to either "show cause" why its contracts were in fact just and reasonable or, in the alternative, explain the changes it believed would remedy FERC's concerns.²⁸⁶

54

Putting to the side the legal issues raised in the various FERC and district court filings and orders, the disputes over exit fees also invoke several of the Cooperative Principles. Most directly, the Cooperative Principle of open and voluntary membership implies that members can freely enter and exit.²⁸⁷ According to one cooperative governance scholar, "the right to exit can be perceived as an essential instrument of minority protection."288 While it is accepted that an exiting member must still fulfill its financial commitments to the cooperative, any fees imposed in meeting that commitment must not "imprison" it in the larger cooperative.²⁸⁹ If exit fees are found to imprison a member, this undermines other Cooperative Principles like the autonomy and independence of members and democratic control of the cooperative. However, the proposition of free entry and exit in the context of rural electric cooperatives, compared to other types of cooperatives, is fundamentally in tension with the scale economies in electricity that incentivize infrastructure investments with high fixed costs and debt obligations that extend for multiple decades.

Conversely, while leaving the G&T cooperative might be in the best interest of a particular member cooperative, the Cooperative Principles require that an individual cooperative look beyond its own best interests in making the decision to exit. Another Cooperative Principle requires cooperation among cooperatives.²⁹⁰ In many ways, the aggregation of individual distribution cooperatives into a G&T cooperative is a pure expression of this principle.²⁹¹ And more formally, in order to lower the perceived risks of not being able to pay back loans, long-term power supply contracts that guarantee a stable demand for the generation owned by the G&T cooperative were deemed in the interest of the full membership in decades past to lower the overall cost of financing assets. Moving forward, while some distribution utilities may be able

^{286.} Id.; see also Catherine Morehouse, Tri-State Asks FERC To Approve 'Transparent and Simpler' Contract Termination Approach for Members, UTIL. DIVE, https://www.utilitydive.com/news/ferc-finds-it-basically-impossible-for-members-to-determine-cost-of-exiti/602024/ [https://perma.cc/7UAZ-Z]PR] (Sept. 3, 2021).

^{287.} INT'L COOP. ALL., GUIDANCE NOTES TO THE CO-OPERATIVE PRINCIPLES 5 (2015).

^{288.} Ville Pönkä, The Legal Nature of Cooperative Membership, 7 J. ENTREPRENEURIAL & ORG. DIVERSITY 39, 47 (2018).

^{289.} Id. Notably, in some European nations, member-owners may withdraw from cooperatives "only in certain, limited circumstances." Id. at 47 n.29.

^{290.} INT'L COOP. ALL., supra note 287, at 71.

^{291.} Id. ("While some larger co-operatives have been created through mergers and acquisitions, the normative approach . . . is for co-operatives to co-operate with each other in competitive markets through forming co-operative groups, secondary co-operatives and federations to realise the co-operative advantage and create common wealth for mutual benefit.").

2021] COOPERATIVE CLEAN ENERGY

to take advantage of opportunities for lower-cost power offered by power marketers with limited fixed costs of their own, it is important to consider historic responsibilities to other cooperative members as well as the ancillary benefits of G&T membership derived from other forms of resource pooling (such as larger hedging ability against volatile market prices or more ready access to transmission rights in wholesale markets). By leaving the association of cooperatives that make up a G&T cooperative, a distribution cooperative is leaving the cooperative association in favor of contractual relationships with non-cooperatives like Guzman Energy that are not self-governed as in a cooperative.²⁹²

B. Change Through Collaboration

In sharp contrast to the contentious litigation involving Tri-State and its members, Great River Energy ("GRE") in Minnesota has addressed member concerns in part by renegotiating contracts with at least one member to allow for greater flexibility, diversifying its energy resources, and collaborating with its distribution utility members to support their efforts to invest in distributed energy resources. GRE is a relatively young G&T cooperative, created in 1999 from the merger of two other G&T cooperatives.²⁹³ It currently serves twenty-eight member distribution cooperatives and approximately 1.7 million people in Minnesota and Wisconsin.²⁹⁴

As of 2018, 95% of the energy produced at GRE-owned energy generation assets was generated at coal-fired power plants.²⁹⁵ However, like most cooperatives, GRE relies on a more diverse mix of generation resources including many resources it does not directly own—to provide power to its member cooperatives. In 2016, the energy supply GRE provided to its members was 66% coal, 3% natural gas, 11% market purchases, 12% renewables, and 8%

^{292.} See, e.g., GUZMAN ENERGY, https://www.guzmanenergy.com/ [https://perma.cc/TX4P-4RGA] (explaining that Guzman Energy, a non-cooperative wholesale power provider, contracts with cooperatives interested in energy access).

^{293.} Resolutions of the Board of Directors of Great River Energy 2 (Dec. 11, 1998) [hereinafter Resolutions] (on file with the North Carolina Law Review).

^{294.} GREAT RIVER ENERGY, 2018-2032 INTEGRATED RESOURCE PLAN 2 (2017) [hereinafter GRE INTEGRATED RESOURCE PLAN], https://greatriverener.wpengine.com/wp-content/uploads/2017/04/GRE-2017-IRP-Final.pdf [https://perma.cc/D9F9-6BA8]; 20 Years On, Still United and Still Cooperative, GREAT RIVER ENERGY (Jan. 16, 2019), https://greatriverenergy.com/20-years-on-still-united-and-cooperative/ [https://perma.cc/S462-QYYL]; GREAT RIVER ENERGY, 2019 ANNUAL REPORT 1 (2020) [hereinafter GRE 2019 ANNUAL REPORT], https://greatriverenergy.com/wp-content/uploads/2020/03/Final_2019_Annual_Report_1_CMP.pdf [https://perma.cc/J9G2-LAJ7].

^{295.} VAN ATTEN ET AL., *supra* note 8, at 36 (showing GRE fuel mix of owned power plant assets in 2018); *Form EIA-923 Detailed Data with Previous Form Data (EIA-906/920), supra* note 8 (choose "2018:EIA-923 ZIP" on right sidebar) (showing annual generation in 2018 for GRE-owned assets at 9,833 gigawatt-hours, of which 9,310 gigawatt-hours were from coal).

hydropower.²⁹⁶ GRE has decreased its reliance on fossil fuels since then and, in 2020, its energy supply portfolio included 55% coal, 1% natural gas, 18% market purchases, 25% renewables, and 1% hydropower.²⁹⁷

When GRE was created in 1999, it established new articles of incorporation and bylaws.²⁹⁸ As part of the merger, all of the existing wholesale power contracts of GRE's predecessor G&T cooperatives (Cooperative Power Association and United Power Association) were terminated and replaced with new agreements with GRE.²⁹⁹ Within the unique window of opportunity created by the merger, GRE's member cooperatives gained greater autonomy and flexibility in determining the sources of their power generation. The agreements provided the distribution cooperatives with the opportunity to elect to fix their purchases from GRE. Over time, eight of GRE's twenty-eight member distribution cooperatives elected the fixed option.³⁰⁰ If a distribution cooperative chose the fixed-purchase option, the amount of power and energy purchased from GRE was fixed based on historic consumption at the time of the member's election of the fixed option.³⁰¹ Fixed-purchase member rates are determined based on the cost of the resource pool that reflected GRE's existing resources at the time the member fixed its power and energy purchase obligations.³⁰² Members' fixed-purchase obligations decrease over time as the resources that were present in GRE's portfolio at the time of a fixing decision are retired, thereby gradually decreasing the members' power supply purchases from GRE and increasing their power supply purchases from alternative

^{296.} GRE INTEGRATED RESOURCE PLAN, *supra* note 294, at 7 (showing Capacity Mix by Fuel Type in Figure 1 and Portfolio Energy Generation Mix by Fuel Type in Figure 2).

^{297.} Power Supply Interim Update at 3, *In re* Great River Energy's 2018-2032 Integrated Resources Plan, No. ET2/RP-17-286 (Minn. Pub. Utils. Comm'n Apr. 1, 2021).

^{298.} See Resolutions, supra note 293, at 2-3.

^{299.} Id. at 6. The merging G&T cooperatives carried REA debt, and in order to obtain REA/RUS consent to the restructuring transactions and allow the cooperatives to obtain additional financing, GRE, Cooperative Power Association, and United Power Association effectively linked all of their assets as security for their debt obligations, making the REA/RUS a third-party beneficiary to the new power purchase agreements. Power Purchase Contract Between Great River Energy and Redwood Electric Cooperative 1, 18 (Jan. 1, 1999) [hereinafter Power Purchase Contract] (on file with the North Carolina Law Review) (showing RUS as third-party beneficiary of contracts).

^{300.} See GRE INTEGRATED RESOURCE PLAN, supra note 294, at 4 ("GRE provides services to two types of members: All Requirements (AR) members and Fixed Obligation (Fixed) members. The 20 AR members purchase all of their power and energy requirements from us, subject to limited exceptions. For instance, the AR members have the option to self-supply up to 5% of their power and energy requirements from renewable resources. The eight Fixed members purchase a fixed portion of their power and energy requirements from us, and purchase all supplemental requirements from an alternate power supplier.").

^{301.} See Power Purchase Contract, supra note 299, at 2–3.

^{302.} Second Amended Complaint at 8–9, Crow Wing Coop. Power & Light Co. v. Great River Energy, No. 18-CV-17-1291 (Minn. Dist. Ct. Mar. 21, 2019).

sources.³⁰³ One fixed-purchase distribution cooperative in particular, Wright-Hennepin, has used this flexibility to add more renewable energy and wholesale market purchases into its energy mix,³⁰⁴ while others have supplemented their energy needs by purchasing from other G&Ts.³⁰⁵

57

More recently, GRE and Wright-Hennepin Cooperative Electric Association, a fixed member of GRE, renegotiated their existing power supply contract. With the new contract, upon the retirement of GRE's resources, Wright-Hennepin will have greater flexibility to select replacement resources, including through GRE.³⁰⁶

GRE joined the Midcontinent Independent System Operator ("MISO") in 2004.³⁰⁷ MISO is a not-for-profit RTO covering Manitoba in Canada, and portions of fifteen states from Minnesota and North Dakota in the northern United States to Louisiana and Arkansas in the southern United States.³⁰⁸ MISO manages the transmission of power across the bulk power grid and runs wholesale energy, capacity, and ancillary service markets for its members to provide cost-effective energy, transmission, and related services.³⁰⁹

Twenty of GRE's twenty-eight member distribution cooperatives maintain all-requirements contracts with GRE.³¹⁰ The contracts include a number of exceptions to the all-requirements purchase obligation, including the right of distribution cooperatives to self-supply up to 5% of power and energy, which more than half of GRE's all-requirements members have used to build

^{303.} Power Purchase Contract, *supra* note 299, at 6. The member may reduce their obligation by the percentage of the energy supplied by that resource from the Fixed Resource pool. *Id.*

^{304.} WRIGHT-HENNEPIN COOP. ELEC. ASS'N, ANNUAL REPORT 2020, at 2 (2020), https://www.whe.org/assets/documents/news-releases/gre-wh-solar-nr-2-16.pdf [https://perma.cc/V3 W3-FH7T] (describing how Wright-Hennepin worked with GRE to construct a 2.25 MW solar array in Wright-Hennepin's service area that GRE owns and uses to supply power to Wright-Hennepin).

^{305.} Wholesale Power Contract by and Between Basin Electric Power Cooperative and Crow Wing Cooperative Power & Light Company 1–2 (May 30, 2007) (on file with the North Carolina Law Review); Supplement and Amendment to Wholesale Power Contract by and Between Basin Electric Cooperative and East River Electric Power Cooperative, Inc. 1 (Mar. 17, 2008) (on file with the North Carolina Law Review).

^{306.} Member Moment: Wright-Hennepin Cooperative Electronic Association, GREAT RIVER ENERGY (Dec. 16, 2020), https://greatriverenergy.com/member-moment-wright-hennepin-cooperative-electric-association/ [https://perma.cc/V587-CVTU].

^{307. 15} Years of Regional Transmission Services, MISO MATTERS, http://timeline.misomatters.org/ [https://perma.cc/RZH5-3JKD] (showing the Great River Energy joined MISO as a transmissionowning member in October 2004).

^{308.} *Electric Power Markets*, FERC, https://www.ferc.gov/industries-data/market-assessments/ overview/electric-power-markets [https://perma.cc/58VC-KSCW].

^{309.} See About MISO, MISO, https://www.misoenergy.org/about/ [https://perma.cc/2RB4-DE9G]. Like all MISO members, GRE sells all of its generation output onto the market, and all of GRE's members are supplied with energy directly from the market rather than from GRE. GRE INTEGRATED RESOURCE PLAN, *supra* note 294, at 63.

^{310.} See GRE INTEGRATED RESOURCE PLAN, supra note 294, at 4.

NORTH CAROLINA LAW REVIEW [Vol. 100

renewable resources.³¹¹ GRE has partnered with its all-requirements distribution cooperatives to support them as they add solar and other distributed energy resources under their 5% self-supply allocation.³¹² Some GRE members have capitalized on the flexibility afforded by self-supply provisions to build innovative clean energy projects. In 2018, GRE's largest all-requirements distribution cooperative, Connexus Energy, completed two solar-plus-storage projects with solar arrays interconnected to lithium-ion batteries.³¹³ Together, the arrays have 10 MW of production capacity and 15 MW of storage, with the storage primarily used to align the delivery of solar energy to reduce Connexus's demand during GRE's system peaks.³¹⁴ Connexus dispatches power from the batteries into the system at peak demand times, reducing its peak demand charges from GRE.³¹⁵

One of the most publicized components of GRE's clean energy transition has been its reduction in coal-fired power. In 2014, GRE negotiated a contract termination with the owner of the Genoa 3 coal facility in Wisconsin, with whom it had previously contracted to purchase 50% of the plant's output.³¹⁶ GRE retired its Stanton Station, a 189 MW coal facility, in 2017.³¹⁷ GRE has

^{311.} Id. at 4–5; Clean Energy Organizations' Information Request No(s). 21-44 to Great River Energy at 9, In re Great River Energy's 2018-2032 Integrated Resource Plan, No. ET2/RP-17-286 (Minn. Pub. Utils. Comm'n July 21, 2017).

^{312.} See Clean Energy Organizations' Information Request No(s). 21-44 to Great River Energy, supra note 311, at 9.

Connexus Energy Celebrates Innovative Solar-Plus-Storage Project, GREAT RIVER ENERGY (Nov. 15, 2018), https://greatriverenergy.com/connexus-energy-celebrates-innovative-solar-plus-storageproject/ [https://perma.cc/YMA6-53HK].

^{314.} Id. This installation is the second-largest energy storage project in a cooperative nationwide and the eighth-largest of any utility in the country. See 2019 Top 10 Winners, SMART ELEC. POWER ALL., https://sepapower.org/2019-top-10-winners/ [https://perma.cc/L4ZM-YGE4]; NAT'L RURAL UTIL. COOP. FIN. CO., COBANK & NRTC, BATTERY ENERGY STORAGE OVERVIEW 35 (2019), https://www.cooperative.com/programs-services/bts/documents/reports/battery-energy-storageoverview-report-update-april-2019.pdf [https://perma.cc/KRV7-A633].

^{315.} See Connexus Energy Celebrates Innovative Solar-Plus-Storage Project, supra note 313. In August 2021, GRE's largest member cooperative, Connexus Energy, announced its desire to exit its all-requirements power-supply contract with GRE that otherwise runs through 2045. Mike Hughlett, Connexus Electricity Co-op Wants a New Power Deal with Great River Energy, STARTRIBUNE (Aug. 30, 2021, 12:01 AM), https://www.startribune.com/connexus-electricity-co-op-wants-a-new-power-deal-with-great-river-energy/600092131/ [https://perma.cc/RF8W-TZGY]. But because GRE's contracts do not include termination clauses, *id.*, the terms of Connexus's potential exit remain to be seen. Unlike with other examples of distribution cooperatives exiting their relationship with their G&T, Connexus and GRE have each expressed a desire to negotiate in good faith to find a solution. See *id.*

^{316.} See GRE INTEGRATED RESOURCE PLAN, supra note 294, at 32.

^{317.} Id.; Stanton Station Celebrates 50 Years of Generation, GREAT RIVER ENERGY (Nov. 17, 2016), https://greatriverenergy.com/stanton-station-celebrates-50-years-of-generation/ [https://perma.cc/5UQF-CDEG].

announced that its Spiritwood Station,³¹⁸ which is capable of running on either coal or natural gas, will be modified to run exclusively on natural gas.³¹⁹

59

More recently, after declaring in its 2018 Integrated Resource Plan that it had no plans to retire the 1,151 MW Coal Creek Station coal facility in North Dakota,³²⁰ GRE changed course in May 2020, announcing that it would shut down the plant in the second half of 2022 or sell the plant.³²¹ GRE estimated that Coal Creek Station has lost money every year since 2008, including a \$170 million loss in 2019, in comparison to replacement energy options.³²² To meet its electricity demand and reliability needs, GRE plans to add at least 900 MW of wind energy purchases and a 1-MW long-duration battery by the end of 2023.³²³

But Coal Creek Station has faced unique political tensions due to geography: Coal Creek Station is the largest power plant in North Dakota and receives its coal from the adjoining Falkirk Mine, but almost all of GRE's members served by the power plant reside in Minnesota.³²⁴ After announcing its intention to close Coal Creek Station, GRE attempted to negotiate with officials in McLean County, North Dakota, to amend the county's zoning ordinances so that GRE could connect new wind projects with the high voltage direct current ("HVDC") transmission line connected to the plant.³²⁵ GRE's HVDC transmission line was built to connect Coal Creek Station with the Twin Cities metro area in Minnesota—one of only a small number of HVDC

^{318.} GRE INTEGRATED RESOURCE PLAN, supra note 294, at 137.

^{319.} See Press Release, Great River Energy, Major Power Supply Changes To Reduce Costs to Member-Owner Cooperatives (May 7, 2020) [hereinafter Press Release, Major Power Supply], https://greatriverenergy.com/major-power-supply-changes-to-reduce-costs-to-member-owner-cooperatives/ [https://perma.cc/QZ2A-UGR5].

^{320.} See GRE INTEGRATED RESOURCE PLAN, supra note 294, at 135 ("[I]t is more cost effective to continue to operate the plant than to retire it."); *id.* at 71 ("We have no plans to retire Coal Creek Station.").

^{321.} Press Release, Major Power Supply, *supra* note 319; *see also* Extension Request at 1, *In re* Great River Energy's 2022-2036 Resource Plan, No. ET2/RP-17-286 (Minn. Pub. Utils. Comm'n June 26, 2020); Press Release, Great River Energy, Long-Duration Battery Project in the Works (June 17, 2020) [hereinafter Press Release, Long-Duration Battery Project], https://greatriverenergy.com/long-duration-battery-project-in-the-works/ [https://perma.cc/8DVV-J8D3].

^{322.} Dan Gearino, Plan To Save North Dakota Coal Plant Faces Intense Backlash from Minnesotans Who Would Help Pay for It, INSIDE CLIMATE NEWS (July 23, 2021), https://insideclimatenews. org/news/23072021/north-dakota-coal-minnesota-clean-energy-coal-creek/ [https://perma.cc/6BK2-M4MQ] [hereinafter Gearino, North Dakota Coal Plant]; Amy R. Sisk, Coal Creek Power Plant Looking for Solutions to Financial Woes, BISMARCK TRIB. (Feb. 7, 2020), https://bismarcktribune.com/news/ state-and-regional/coal-creek-power-plant-looking-for-solutions-to-financial-woes/article_5eabc71f-98ea-5708-a2b6-ca855aebaff2.%e2%80%a6 [https://perma.cc/8PRF-UQ6V].

^{323.} Press Release, Major Power Supply, supra note 319; see also Extension Request, supra note 321, at 1; Press Release, Long-Duration Battery Project, supra note 321.

^{324.} See GRE INTEGRATED RESOURCE PLAN, supra note 294, at 2, 6; see also About Us, E. CENT. ENERGY, https://www.eastcentralenergy.com/about-us [https://perma.cc/38MS-7SLG].

^{325.} Jeffrey Tomich, *How a Coal Plant Closure Created Wind Bans and Grid Limbo*, E&E NEWS (July 24, 2020), https://www.eenews.net/stories/1063617469/ [https://perma.cc/JD88-ZZ36].

60

lines in the country.³²⁶ GRE also offered to make voluntary annual payments to the local government equivalent to the amount Coal Creek Station would have generated in local taxes for the five years following its closure.³²⁷ However, the county board refused GRE's request to help facilitate new wind generation and instead enacted ordinances that limited the potential for wind resources in the area surrounding Coal Creek Station that would utilize the existing HVDC line if the plant were to be retired.³²⁸ To avoid the uncertainty and risks created by the ordinances, GRE decided it would instead purchase new wind generation interconnected to MISO via its existing peaking generation capacity in Minnesota.³²⁹

Unable to utilize its HVDC line to transport wind energy from North Dakota and facing increased concerns about market volatility after the 2021 polar vortex that saw market prices of electricity spike,³³⁰ GRE announced in June 2021 that it had agreed to sell Coal Creek Station and the HVDC transmission line to a private North Dakota-based power marketer.³³¹ The buyer intended to install carbon capture technology and incremental wind generation near the plant, in part to meet the North Dakota governor's goal of making the

327. Press Release, Major Power Supply, supra note 319.

^{326.} Letter from David Saggau, President & Chief Exec. Officer of Great River Energy, to McLean Cnty. Planning and Zoning Comm'n & Cnty. Bd. of Comm'rs. (Mar. 25, 2020); Tomich, supra note 325 (discussing the value of GRE's HVDC line for transporting wind energy in the MISO region and North Dakota's effort to limit the use of wind energy in an effort to support the state's coal mines and coal-fired power plants); see also FED. ENERGY REG. COMM'N, REPORT ON BARRIERS AND OPPORTUNITIES FOR HIGH VOLTAGE TRANSMISSION 3 (2020) (stating that high voltage transmission can "improve the reliability and resilience of the transmission system by allowing utilities to share generating resources, enhance the stability of the existing transmission system, aid with restoration and recovery after an event, and improve frequency response and ancillary services throughout the existing system" as well as provide "greater access to location-constrained resources in support of renewable resource goals"); U.S. ENERGY INFO. ADMIN., ASSESSING HVDC TRANSMISSION FOR IMPACTS OF NON-DISPATCHABLE GENERATION 9-16 (2018) (discussing the role of HVDC lines in integrating more renewable energy into the electric grid); Press Release, Great River Energy, Great River Energy Analyzes Future of Unique Transmission System (June 17, 2020), https://greatriverenergy.com/great-river-energy-analyzes-future-of-unique-transmission-system/ [https://perma.cc/GBP4-777A] (noting that GRE was also open to selling Coal Creek Station bundled with the interconnection rights to the HVDC line).

^{328.} Amy R. Sisk, As Co-op Considers Closing Coal Creek, Concerns Play Out in Zoning Spat, BISMARCK TRIB. (Apr. 19, 2020), https://bismarcktribune.com/news/state-and-regional/as-co-opconsiders-closing-coal-creek-concerns-play-out-in-zoning-spat/article_e38f60d4-d05d-51c5-abec-0a341af10c44.html [https://perma.cc/52A9-YP7J].

^{329.} GREAT RIVER ENERGY, 2021 INTEGRATED RESOURCE PLAN 1–2 (2021), https://greatriverenergy.com/wp-content/uploads/2021/04/2021-Integrated-Resource-Plan-040121. pdf [https://perma.cc/6V4F-RT9K].

^{330.} GREAT RIVER ENERGY, JULY 1, 2021 GRE MEMBER BRIEFING 12 (2021) [hereinafter GRE MEMBER BRIEFING], https://www.dakotaelectric.com/wp-content/uploads/2021/07/Redacted-PowerPoint-07-01-2021.pdf [https://perma.cc/CE6F-TMKZ].

^{331.} Press Release, Great River Energy, Rainbow Energy Center To Purchase Coal Creek Station (June 30, 2021) [hereinafter Press Release, Rainbow Energy Center], https://greatriverenergy.com/rainbow-energy-center-to-purchase-coal-creek-station/ [https://perma.cc/4J8Y-DFVB].

2021] COOPERATIVE CLEAN ENERGY

state carbon neutral by 2030.³³² Under the proposed sale, GRE would continue to purchase the full output of Coal Creek Station for two years and then less than one-third of the plant's current rated output for eight additional years.³³³ GRE estimates that moving from a plan to retire Coal Creek Station to a plan to sell the plant and the HVDC line will delay GRE's need to build new peaking capacity or expand market purchases through the length of its agreed ten-year contract with the new owner of Coal Creek Station.³³⁴ However, as of September 2021, the sale was undergoing additional public comment ordered by the Minnesota Public Utilities Commission specifically related to the sale of the HVDC transmission line that serves Minnesota.³³⁵

Collectively, GRE's actions will dramatically alter its energy supply, increasing its renewable energy capacity, primarily through power purchase agreements, from 650 MW in 2020 to more than 1,500 MW by 2025, which will bring its energy mix to 61% renewable.³³⁶ In doing so, GRE will increase its reliance on bilateral or market purchases of energy while pursuing additional contracts for capacity, upgrading existing peaking plants, and potentially expanding demand response programs.³³⁷ At the same time GRE has attempted to scale back its coal investments, it has also accelerated its electric transmission investments. GRE was a founding member and participant in CapX2020, a transmission-development initiative which includes eleven municipal utilities, investor-owned utilities, and cooperatives.³³⁸ The final result of the CapX2020 initiative included the installation of eight hundred miles of new transmission

^{332.} See Gearino, North Dakota Coal Plant, supra note 322. According to unofficial reports, GRE will sell Coal Creek Station for just \$1, with the associated high-voltage power line commanding \$225 million. *Id.*; see also Press Release, Rainbow Energy Center, supra note 331; Press Release, Sen. John Hoeven, Hoeven: Carbon Capture Is Coal Creek's Next Chapter (June 30, 2021), https://www.hoeven. senate.gov/news/news-releases/hoeven-carbon-capture-is-coal-creeks-next-chapter [https://perma.cc/GP9G-7PVN].

^{333.} GRE MEMBER BRIEFING, *supra* note 330, at 73 ("Purchase power agreement with Rainbow. 10-year purchase for capacity and energy[;] 1050 MW through February 2023[;] 300 MW thereafter.").

^{334.} *Id.* ("PPA [power purchase agreement] capacity purchase delays peaking fleet capacity investment until 2032... [and] [r]educes market capacity purchases by 100 MW until 2032.").

^{335.} Mike Hughlett, *PUC Delays Approval of Great River Power Line Sale*, STARTRIBUNE (Sept. 9, 2021, 6:42 PM), https://www.startribune.com/puc-delays-approval-of-great-river-power-line-sale/ 600095575/?refresh=true [https://perma.cc/EG2B-ME2Z].

^{336.} See Press Release, Major Power Supply, *supra* note 319; *see also* Power Supply Interim Update, *supra* note 297, at 1, 3.

^{337.} See Extension Request, supra note 321, at 4; GREAT RIVER ENERGY, REQUEST FOR PROPOSALS FOR LONG-TERM CAPACITY 3–4 (July 2, 2020), https://aces-wpengine.netdna-ssl.com/wp-content/uploads/2020/07/GRE-Capacity-RFP-2020.pdf [https://perma.cc/PRV9-46JF].

^{338.} CAPX2020, CAPX 2050 TRANSMISSION VISION REPORT 7 (Mar. 2020), http://www.capx2020.com/documents/CapX2050_TransmissionVisionReport_FINAL.pdf [https://perma.cc/8NP 6-XURM].

lines and twenty-two substations, enabling the interconnection of 3,600 MW of wind generation on the MISO grid.³³⁹

GRE's reduction in its owned generation capacity, coupled with significant access to transmission, may ultimately become a more significant factor in its clean energy transition than its stated commitment to reducing its use of coal-fired power. This is because it signals a greater emphasis on its role as a transmission entity with the flexibility to rely on the market and distributed energy resources to meet its energy and capacity needs. In this transition, GRE is reenvisioning its relationship with its member utilities as one that had been historically rooted in providing a vehicle for collective investment in centralized power plant assets. GRE has the opportunity to demonstrate a new model for G&T cooperatives—one that maintains the cooperative's position as an entity that facilitates collective action and captures economies of scale to benefit its members, while still supporting distributed energy resources, transmission of power over long distances, and flexibility to balance loads over short and long time scales. GRE's collaborative strategy with its member distribution utilities is aided in this transition by its history of relatively more flexible power supply contracts, geography in the wind-rich Upper Midwest, and status as an active member of MISO.

C. Change Through Grassroots Advocacy and Member Accountability

Another lever of change for cooperatives is increasing member representation, accountability to members, and member self-organizing. Here, we highlight several examples of cooperative members more actively participating in their cooperatives, thereby increasing democratic control. While some examples highlight the autonomy and independence of cooperative members organizing themselves, other examples illustrate cooperation among cooperatives and other not-for-profit organizations through national and regional grassroots organizations that have organized cooperative members to advocate for greater transparency and to more actively engage in the democratic channels of control.³⁴⁰

Increasing member accountability is occurring through contemporary efforts to engage cooperative members to actively participate in cooperative

^{339.} Id. at 8, 13, 32–34 (analyzing impacts of the electric industry's shift away from generation by large-scale fossil fuel plants ("dispatchable energy," like that offered by Coal Creek) to "non-dispatchable" resources like wind or solar and discussing the role that various technologies could play in avoiding intermittency and other concerns associated with non-dispatchable resources).

^{340.} There are also important examples of self-organization without external instigation in some cooperatives. See, e.g., Ivy Main, Customer-Owned Utilities Should Be Leaders on Clean Energy. Why Do Most of Them Fail To Deliver?, APPALACHIAN VOICES (July 9, 2019), https://appvoices.org/2019/07/09/customer-owned-utilities-should-be-leaders-on-clean-energy/ [https://perma.cc/8QKW-R VVU] (describing efforts of a group called Repower REC, led by members of the Rappahannock Electric Cooperative, to promote reform board candidates).

2021] COOPERATIVE CLEAN ENERGY

governance, to vote in favor of clean energy initiatives at the G&T and distribution cooperative levels, and to promote issues of equity—including gender and racial justice—within the cooperative structure.³⁴¹ Across the electric-utility sector, despite broad agreement that diversity improves reputation and financial performance,³⁴² gender and racial representation is less equal than in other sectors. In 2015, across all types of utilities (not just cooperatives), only 5% of boards included women and less than 15% of board members of the largest utilities were Black or Latino.³⁴³ Issues of equity across racial and gender differences should be viewed as legitimately falling within cooperatives' duties in line with the Cooperative Principle of open and voluntary membership. According to this principle, "[m]embership in a cooperative is open to all people who can reasonably use its services and stand willing to accept the responsibility of membership, regardless of race, religion, gender, or economic circumstances."³⁴⁴

The movement for racial equity in cooperatives is particularly prevalent in the southeastern United States, where cooperatives have historically served a large percentage of Black members who are not well represented on cooperative governing boards.³⁴⁵ Racial disparities between cooperative boards and cooperative members exist in many Southeastern rural electric cooperatives.³⁴⁶ In Georgia, for example, 96.5% of rural electric cooperative

^{341.} See, e.g., Derrick Johnson & Ashura Lewis, Organizing for Energy Democracy in Rural Electric Cooperatives, in ENERGY DEMOCRACY 93, 98–100 (Denise Fairchild & Al Weinrub eds., 2017).

^{342.} ALISON KAY, ERNST & YOUNG GLOB. LTD., TALENT AT THE TABLE: INDEX OF WOMEN IN POWER AND UTILITIES 14 (2014), https://esmap.org/sites/esmap.org/files/DocumentLibrary/EY-Women-in-P%26U-May2014.pdf [https://perma.cc/WUY8-8MR2].

^{343.} See QUADRENNIAL ENERGY REV., supra note 48, at 5-3.

^{344.} Understanding the Seven Cooperative Principles, supra note 25; see also ELEC. COOP. GOVERNANCE TASK FORCE, supra note 116, at 44 (highlighting the NRECA and CFC Electric Cooperative Governance Task Force's recommendation that an electric cooperative's board of directors should "reflect[] the diversity of the cooperative's membership" and that cooperatives and their boards should "solicit diverse individuals to seek [nomination and] election" to boards); Victoria A. Rocha, Diversity, Equity, Inclusion: "So Our Entire Community Can Flourish," RE MAG. (Jan. 1, 2021), https://www.cooperative.com/remagazine/articles/pages/co-ops-diversity-equity-inclusion-so-our-entire-community-can-flourish.aspx [https://perma.cc/SSKE-T7FX] (describing recent efforts in cooperatives to advance diversity, equity, and inclusion).

^{345.} See, e.g., Henry Leifermann & Pat Wehner, A Question of Power: Race and Democracy in Rural Electric Co-ops, 18 S. CHANGES 3, 15 (1996) (showing racial and gender demographic information for cooperative boards by state as compared to cooperative members by state).

^{346.} See, e.g., Racial Capitalism, Designs for Energy Transition and the Green New Deal, OPEN TRANSCRIPTS (Dec. 5, 2019), http://opentranscripts.org/transcript/racial-capitalism-energy-transition-green-new-deal/ [https://perma.cc/BSV9-AEAP] (transcribing a moderated conversation in which Jacqui Patterson, Director of the NAACP Environmental and Climate Justice Program, stated: "We worked a lot in the in the [sic] south in Mississippi and Alabama and so forth. And when we talk about kind of taxation without representation, we worked with the rural electric coops there, and were just struck by the fact that we have kind of a modern day Apartheid when it comes to rural electricity coops, which is how a lot of folks in those areas get their electricity, where for the most part these rural

board members are White and only 3.5% are Black despite the counties served by many cooperatives in the state having much higher percentages of Black residents.³⁴⁷ The board member racial statistics are similar in Mississippi and Louisiana, which have even higher percentages of Black cooperative members.³⁴⁸

64

When it comes to gender disparities, the inequality is also stark, with men constituting over 90% of cooperative board members across the country, as of 2012.³⁴⁹ This lack of diversity is also reflected in cooperative leadership on a national level. The National Rural Electric Cooperative Association ("NRECA"), the national trade group for cooperatives, has forty-eight board members—one for each state where rural electric cooperatives provide power— and as of 2020, only three board members are women and only two are non-White.³⁵⁰

A range of member-led organizations are working to bring about more racial, gender, and social equity in cooperative leadership along with a strong emphasis on clean energy transition.³⁵¹ Some of these organizations operate on a national level, while others, particularly in the southeastern United States, are regional in scope. For instance, the New Economy Coalition ("NEC") is a national organization founded in 2012 "to support a just transition from an extractive to a regenerative economy by building the scale and power of the solidarity economy movement in Black, Indigenous, and working class communities in every region of the United States."³⁵² NEC now includes two hundred and eight member organizations representing local and national groups from a large spectrum of movements.³⁵³ One of the NEC working groups is the

electric coops are in primarily African American jurisdictions where the entire boards of directors for the rural electric coops are white American").

^{347.} LAB. NEIGHBOR RSCH. & TRAINING CTR & ACORN INT'L, THE CRISIS IN RURAL ELECTRIC COOPERATIVES IN THE SOUTH 12 (2016); GA. WATCH, GEORGIA ELECTRIC MEMBERSHIP COOPERATIVES: IRC § 501(C)(12) COMPLIANCE AND TRANSPARENCY 7–8 (2015), https://www.georgiawatch.org/wp-content/uploads/2015/11/GEORGIA-EMCs_Report-on-IRS-Compliance-and-Transparency.pdf [https://perma.cc/TF8W-S9BU].

^{348.} LAB. NEIGHBOR RSCH. & TRAINING CTR & ACORN INT'L, *supra* note 347, at 15–18.

^{349.} See Phil Kenkel, The Need for Board Diversity in Agricultural Cooperatives, OKLA. ST. UNIV. EXTENSION AGEC-1069, AGEC-1069-2 (Jan. 2020), https://extension.okstate.edu/fact-sheets/the-need-for-board-diversity-in-agricultural-cooperatives.html [https://perma.cc/S3QD-YG6H] (citing a study conducted in 2012 finding that females represented 8.9% of rural electric cooperative boards).

^{350.} See Board of Directors 2021, NAT'L RURAL ELEC. COOP. ASS'N, https://www.electric.coop/ our-organization/board-of-directors/ [https://perma.cc/W7WQ-TYHZ].

^{351.} Telephone Interview with Shiva Patel, Energy Just. Trainer, Energy Democracy Leadership Inst. (July 24, 2020) [hereinafter Patel Interview].

^{352.} *About NEC: Our Mission*, NEW ECON. COAL., https://neweconomy.net/about [https://perma. cc/PRY2-ECF6]; *see also About NEC: Our History*, NEW ECON. COAL., https://neweconomy.net/ about/#history [https://perma.cc/23KS-GLF8].

^{353.} See Member Directory, NEW ECON. COAL., https://neweconomy.net/#our-members [https://perma.cc/4WKP-XJFJ]. These member organizations include representative groups for

2021] COOPERATIVE CLEAN ENERGY

Rural Electric Cooperative Working Group ("RECWG"),³⁵⁴ which strives to re-democratize the rural electric cooperative and push for renewable energy.³⁵⁵ To help facilitate the reorganization of hundreds of individual cooperatives across the country, RECWG created the Rural Electric Cooperative Toolkit as a resource for cooperative members engaging in the democratic process.³⁵⁶ This toolkit covers topics ranging from what a rural electric cooperative is to understanding bylaws, elections, and cooperative finance.³⁵⁷ Additionally, RECWG undertook a mapping project that allows NEC's member groups to map energy burden.³⁵⁸

We Own It is another national organization that seeks to organize members of rural electric cooperatives. The group's mission is to "[c]atalyz[e] citizen action for democracy, participation, and excellence in cooperatives, through member education and organizing."³⁵⁹ We Own It identifies a lack of transparency, information, and resources as major barriers to greater turnout in board elections, and therefore, to democratic control of cooperatives.³⁶⁰ Many members of rural electric cooperatives do not know they are member-owners who can vote for board of directors nominees.³⁶¹ We Own It recognizes the potential for rural electric cooperatives to be a major driving force of a shift to renewable energy.³⁶² For instance, its network director has stated that "[w]e need to make sure that rural communities are part of the Green New Deal

356. Rural Electric Cooperative Toolkit, ELEC. COOP. ORG., https://www.electriccooporganizing. org/toolkit [https://perma.cc/Y238-KPTP].

357. Id.

359. About Us, WE OWN IT, https://weown.it/about [https://perma.cc/W2JD-THS8].

worker's rights, climate action, community-based venture capital, cooperative democratization, racial equity, education, and more. *See id.*

^{354.} Our Work & Programs: Member Working Groups, NEW ECON. COAL., https://neweconomy.net/our-work/ [https://perma.cc/89CW-V9HG].

^{355.} The Rural Electric Cooperative working group is made up of member organizations including Clean Energy Works, We Own It, MACED, and CURE. (*Rural Electric) Power to the Peoplel*, NEW ECON. COAL. (Aug. 15, 2019), https://neweconomy.net/rural-electric-power-to-the-people/ [https:// perma.cc/J757-F68N]; see also Johanna Bozuwa, Nikita Perumal, Adam Simpson & Chris Woolery, *Democratizing Power in Rural America Through Electric Co-ops*, NEXT SYS. PROJECT (Oct. 7, 2019), https://thenextsystem.org/learn/stories/democratizing-power-rural-america-through-electric-co-ops [https://perma.cc/RY6E-NXC6].

^{358.} See Sam Zacher, Liz Veazey, Chris Woolery & Erik Hatlestad, Community Power: How Grassroots Organizing Coalitions Are Democratizing Rural Electricity, TROUBLE (Dec. 7, 2019), https://www.the-trouble.com/content/2019/12/7/community-power-how-three-grassroots-organizersare-democratizing-rural-energy [https://perma.cc/RG3Q-QUVV]. Energy burden is defined as the "percentage of gross household income spent on energy costs." State and Local Solutions Center: Low-Income Community Energy Solutions, OFF. ENERGY EFFICIENCY & RENEWABLE ENERGY, https:// www.energy.gov/eere/slsc/low-income-community-energy-solutions [https://perma.cc/T56K-B726].

^{360. 72%} of cooperatives have less than 10% average turnout for board elections. *See* Grimley, *supra* note 79; *see also* Spinak, *supra* note 51, at 241–46 (explaining the enduring low participation in rural electric cooperative elections).

^{361.} Zacher et al., *supra* note 358.

^{362.} See id.

conversation . . . [c]o-ops can really be this local democratic institution that can engage people to develop the local vision for a Green New Deal and then carry it out."³⁶³

In the Southeast, there are several grassroots organizations with similar goals focused on the specific needs of the region. For example, the Partnership for Southern Equity ("PSE") is an advocacy group based in Georgia with the mission of "advanc[ing] policies and institutional actions that promote racial equity and shared prosperity for all in the growth of metropolitan Atlanta and the American South."364 Started in 2008, the group's efforts encompass a broad set of goals and advocacy platforms.³⁶⁵ One of PSE's advocacy platforms is Just Energy.³⁶⁶ The Just Energy platform is designed to address racial inequity to create a "fair distribution of benefits and burdens from energy production and consumption."367 The coalition "organiz[es] and engag[es] marginalized communities and communities of color around the sourcing and commodification of power and generation in the south."368 This includes empowering marginalized residents to run for seats on cooperative boards.³⁶⁹ PSE also supports leadership development through the Just Energy Academy, designed to teach skills to advocates so that they may be leaders in their own communities, engage in community organizing, and convene technical experts with community members to advance clean energy.³⁷⁰

The Advancing Equity and Opportunity Collaborative ("AEO") was cofounded in 2014 by organizers from nearly twenty groups, including PSE, across eleven states with the goal of building more grassroots power around equity and justice in the South.³⁷¹ AEO has six core values that guide its work: Specificity of Place, Collaboration, Participatory Democracy, Frontline

^{363.} Id.

^{364.} Home, P'SHIP FOR S. EQUITY, https://psequity.org/ [https://perma.cc/E3NL-CQQ6].

^{365.} See id.

^{366.} Just Energy, P'SHIP FOR S. EQUITY, https://psequity.org/just-energy/ [https://perma.cc/K8VK-E6QP].

^{367.} Id.; see also Looking Forward to the Next Just Energy Summit, YOUTUBE (APR. 9, 2019), https://youtu.be/SvgS1cvfUv8?t=30 [https://perma.cc/66QU-9FMC] (statement of Nathaniel Smith, founder and Chief Equity Officer) ("Energy systems are disproportionately affecting in a negative way... communities of color.").

^{368.} Just Energy Circle, P'SHIP FOR S. EQUITY, https://sites.google.com/view/pse-just-energy-circle [https://perma.cc/G4PS-7BBL].

^{369.} Case Studies, WILD ENERGY, https://www.choosewildenergy.org/toolkit/case_studies.html [https://perma.cc/SSJ5-MKPB].

^{370.} See Home, JUST ENERGY ACAD., http://justenergyacademy.org/ [https://perma.cc/RV5K-3LNZ] ("Provide knowledge, leadership skills, and tools for participants to effectively engage stakeholders and community member[s] regarding energy equity, racial equity, climate justice and energy policies that impact their communities.").

^{371.} See Meet the AEO Collaborative, AEO COLLABORATIVE, https://sites.google.com/view/ aeocollaborative/meet-the-aeo-collaborative [https://perma.cc/6YF2-YVHT]; Patel Interview, supra note 351.

Leadership, Solidarity, and Compassion.³⁷² AEO is designed to be a "regional organizing platform" to encourage collaboration between the groups and ensure a base of support for each individual organization's campaigns.³⁷³ In 2015, AEO partnered with the Southeast Climate and Energy Network to address climate change as part of the focus on equity and opportunity.³⁷⁴ This led to the creation of the Democratizing Rural Electric Co-ops ("DREC") working group to focus on furthering these goals within rural electric cooperatives.³⁷⁵ Through strategic planning and implementation, DREC created a master plan for rural electric cooperative democratization that included drafting model state legislation, addressing coal debt, and pushing for solar investment and energy efficiency within cooperatives.³⁷⁶

These organizations are leveraging the structure of rural electric cooperatives to allow them to act as a democratic engine for both clean energy transition and greater racial and social equity. But change from the bottom up takes time. One example of this is the Roanoke Electric Cooperative, which serves a majority-Black area of North Carolina.³⁷⁷ In the 1960s, Black community leaders helped elect the first Black board member of a rural electric cooperative; today, two-thirds of Roanoke's board members are Black.³⁷⁸ Over this time, Roanoke has become a leader in the community for economic opportunity and clean energy. For example, Roanoke implemented a program to preserve forest land and support Black farmers with financial assistance.³⁷⁹ Roanoke was also one of the first utilities in the country to adopt innovative financing programs that increase the affordability of energy-efficient home upgrades to lower the bills of low-income members.³⁸⁰

In recent years, there has been evidence that the kind of grassroots, member-driven change exemplified by cooperatives like Roanoke and Pedernales³⁸¹ could be replicated. Curtis Wynn, the CEO of Roanoke, was elected to serve as NRECA's board president for 2020–2021, becoming the

375. Patel Interview, supra note 351.

^{372.} Meet the AEO Collaborative, supra note 371.

^{373.} See Just Energy Circle, supra note 368.

^{374.} Seandra Pope, Keya Chatterjee & Danielle Hilton, *An Inclusive Climate Movement Starts To Rise in the Southeast*, GRIST (Apr. 30, 2015), https://grist.org/article/an-inclusive-climate-movement-starts-to-rise-in-the-southeast/ [https://perma.c/Z8AQ-SP6D].

^{376.} Id.

^{377.} See Grant Williams, Community Power: Fighting To Remain in Rural America II, COLAB RADIO (Nov. 8, 2016, 7:29 AM), http://colabradio.mit.edu/community-power-fighting-to-remain-in-rural-america-ii/ [https://perma.cc/2AU3-LA6K].

^{378.} Id.

^{379.} See id.

^{380.} See id.; Nate Berg, With No Upfront Costs, This Innovative Financing Tool Makes Energy Efficiency Affordable to All, ENSIA (Feb. 26, 2019), https://ensia.com/articles/energy-efficiency/ [https://perma. cc/SKA7-8BGU].

^{381.} See supra notes 155–57.

group's first Black president.³⁸² Since assuming the NRECA board presidency, Wynn has been particularly welcoming to the grassroots advocacy groups discussed in this section—inviting some to the NRECA annual meeting, listening to their concerns, and engaging in outreach.³⁸³ Thus, strengthening member accountability creates another pathway, along with the cooperative board actions discussed earlier in this part, to spur a self-governed, clean energy transition in cooperatives.

IV. COOPERATIVE CLEAN ENERGY

In this part, we discuss how to implement "cooperative clean energy." While we have documented examples of cooperative self-governance challenges,³⁸⁴ we argue that a reinvigoration of the foundational Cooperative Principles is the most promising path forward for cooperatives to meet the challenges and seize the opportunities of the clean energy transition.³⁸⁵ Building on the case studies in Part III, we argue how this can be done through four areas of reform:

- 1. increasing the value of the clean energy transition by more closely integrating cooperatives in wholesale markets;
- 2. new approaches to cost allocation for clean energy investments;
- 3. new approaches for the retirement of existing fossil fuel infrastructure; and
- 4. bolstering support for internal governance that represents all cooperative members equitably.

These proposals come with a few caveats. First, we recognize that not all the proposals are appropriate for all cooperatives. Cooperatives vary significantly in terms of their history, contractual relationships, geography,

^{382.} See Shiva Patel & Wan Smith, It's Time To Democratize the Rural Energy System, MEDIUM (May 8, 2020), https://medium.com/center-for-biological-diversity/its-time-to-democratize-the-ruralenergy-system-2cd5740398e7 [https://perma.cc/E6PL-96ZP] ("Curtis Wynn, the first African American president of NRECA... gave a remarkable keynote speech that addressed the need to embrace innovation, transparency and diversity."); see also LAB. NEIGHBOR RSCH. & TRAINING CTR. & ACORN INT'L, supra note 347, at 32 (discussing Roanoke Electric Cooperative); FARRELL ET AL., supra note 101, at 11 (discussing Roanoke); Along Those Lines, Episode 9: NRECA's President Curtis Wynn Looks to Co-ops' Future, NAT'L RURAL ELEC. COOP. ASS'N (June 14, 2019), https://www.electric.coop/along-those-lines-episode-9-nreca-president-curtis-wynn [https://perma.cc/HQ8Z-R92R] (interviewing Curtis Wynn).

^{383.} Patel & Smith, *supra* note 382 ("Our group of 30 or so people [from groups associated with AEO] came to this year's [NRECA] annual meeting because there is finally a leader at the highest level of co-op governance who shares our principles, values and vision for cleaner, inclusive and transparent cooperatives across the country.").

^{384.} See supra Section I.C.

^{385.} See supra Part II.

existing and potentially available energy resources and infrastructure, state regulatory environments, and member preferences. Nevertheless, we believe there are many aspects of these proposals that are suitable for a broad range of cooperatives around the country that can no longer ignore the financial risks associated with continued reliance on the legacy system predominantly run on fossil fuels. Further, as democratic institutions, cooperatives are likely to see increased pressures from their members to transition to clean energy. As a result, cooperatives will continue to hold important agency in directing their membership's interest toward proven and innovative approaches to clean energy deployment that align with their members' preferences and needs.³⁸⁶

Moreover, in proposing nonregulatory solutions, we do not mean to downplay the role that state and federal policy can play in supporting clean energy transition generally and for rural electric cooperatives specifically. For example, in states that impose clean energy mandates on cooperatives, these laws can serve as a backstop or as an added incentive to meet environmental goals. As discussed in Part III, Tri-State announced in early 2020 that it was retiring its coal plants in New Mexico and Colorado (but not in other states) to meet those states' aggressive carbon-free energy mandates.³⁸⁷ Likewise, in Minnesota, GRE has cited federal policies and the state's renewable energy standard as reasons it is accelerating the closing of coal plants and drastically reducing its carbon footprint.³⁸⁸ While these state laws are important where they exist, many states, including those with a strong cooperative presence, do not impose meaningful clean energy mandates on *any* power providers and do

^{386.} See, e.g., Cary Funk & Meg Hefferon, U.S. Public Views on Climate and Energy, PEW RSCH. CTR. (Nov. 25, 2019), https://www.pewresearch.org/science/2019/11/25/u-s-public-views-on-climateand-energy/ [https://perma.cc/K2ZS-QMDQ] (finding that, in 2019, 77% of U.S. adults held the opinion that it was a more important priority to develop alternative energy than expand fossil fuels); Jennifer Marlon, Peter Howe, Matto Mildenberger, Anthony Leiserowitz & Xinran Wang, Yale Climate Opinion Maps 2020, YALE PROGRAM ON CLIMATE CHANGE COMMC'NS, https://climatecommunication.yale.edu/visualizations-data/ycom-us/ [https://perma.cc/ W3M2-XQJK] (finding that, in 2020, 68% of U.S. adults overall, and at least 50% of adults in every congressional district, supported setting strict carbon dioxide limits on existing coal-fired power plants); David Roberts, Utilities Have a Problem: The Public Wants 100% Renewable Energy, and Quick, VOX (Oct. 18, 2018, 9:19 AM), https://www.vox.com/energy-and-environment/2018/ 9/14/17853884/utilities-renewable-energy-100-percent-public-opinion [https://perma.cc/3WEE-F6L2 (staff-uploaded archive)] (according to a utility-industry-funded study, in 2018, 70% of the public agreed that "in the near future, we should produce 100% of our electricity from renewable energy sources such as solar and wind").

^{387.} See supra Section III.A.

^{388.} See GREAT RIVER ENERGY, RESOLUTION GRE R13-8-1: GREAT RIVER ENERGY ("GRE") PLAN TO REDUCE EXPOSURE TO GREENHOUSE GAS REGULATION 1 (2013), http://cms.bepc. com/sites/CMS/files/files/pdf/Energy-Producing-States/05-2014-Great-River-Energy-resolution.pdf [https://perma.cc/RG2V-AAJE]; GREAT RIVER ENERGY, ENERGY EFFICIENCY AND CONSERVATION 1–2 (2019), https://greatriverener.wpengine.com/wp-content/uploads/2016/12/2019energy-efficiency-conservation-statement.pdf [https://perma.cc/F7NP-UP5F].

not appear poised to do so anytime soon.³⁸⁹ At the federal level, the Biden administration announced in 2021 a proposal for \$10 billion for federal partnerships with rural electric cooperatives to retire polluting power plants and fund clean-energy replacements.³⁹⁰ Thus, we acknowledge that state and federal policy—as well as external third-parties—can play important roles as backstops and complements to cooperative self-governance.

Due to their historical foundation as community-created self-help organizations, we argue that the most important levers for change in cooperatives are internal. However, the internal governance of cooperatives is not well understood by scholars and advocates because, unlike with regulated utilities, there is a minimal public record of the internal decision-making and "self-regulation" of cooperatives. As a result, there is a bias in the prior (limited) legal scholarship and in the agendas of advocates toward strengthening external regulation of cooperatives.³⁹¹ In formulating our recommendations, we build on the foundational norms that guide the self-governance of cooperatives—the seven Cooperative Principles. But we also recognize that our recommendations must be filtered through the contextual understanding of these norms within individual cooperatives.³⁹² And, as an overarching recommendation, we suggest the U.S. Department of Agriculture, NRECA, state rural electric cooperative associations, and other adjacent organizations build a stronger system of support for cooperative governance.

Finally, the clean energy transition is made more urgent by the imperative of addressing climate change.³⁹³ Approaches to the clean energy transition that require legislative policy change or significant restructuring of utilities as a precondition to deploying clean energy threaten to delay progress within the narrowing window of opportunity to protect public health and welfare from climate change. This is particularly true because the fundamental economics of clean energy on their own create a real potential for alignment between historically divergent parties (especially cooperatives and environmental advocates) in the near- to medium-term. And so clean energy deployment need not necessarily rely on restructuring and new legislation as a precondition for

^{389.} Sophia Ptacek & Amanda Levin, *Race to 100% Clean*, NAT. RES. DEF. COUNCIL (Dec. 2, 2020), https://www.nrdc.org/resources/race-100-clean [https://perma.cc/FU54-52NE] (providing dynamic maps showing states with renewable portfolio standards and clean energy mandates).

^{390.} THE WHITE HOUSE, HOW THE AMERICAN JOBS PLAN WILL CREATE JOBS IN RURAL AMERICA 3 (2021), https://www.whitehouse.gov/wp-content/uploads/2021/04/American-Jobs-Plan_Rural-Fact-Sheet.pdf [https://perma.cc/C2L4-AZAZ].

^{391.} See sources cited supra note 23.

^{392.} See Stephanie Lenhart, Gabriel Chan, Lindsey Forsberg, Matthew Grimley & Elizabeth Wilson, Municipal Utilities and Electric Cooperatives in the United States: Interpretative Frames, Strategic Actions, and Place-Specific Transitions, 36 ENV'T INNOVATION & SOCIETAL TRANSITIONS 17, 17 (2020).

^{393.} See, e.g., The Climate Crisis: A Race We Can Win, UNITED NATIONS, https://www.un.org/en/un75/climate-crisis-race-we-can-win [https://perma.cc/W8CV-5GFR].

action. It is in this narrowing window before us when some of the most important decisions need to be made to avoid the worst impacts of climate change.

A. Increasing the Value of the Clean Energy Transition for Cooperatives Through Wholesale Market Integration

The fundamental economics of clean energy have improved dramatically in the past few decades.³⁹⁴ However, continuing to grow the value of clean energy—particularly large-scale renewable energy and distributed energy resources—will depend on the ability to integrate clean energy into wholesale markets. Wholesale market integration increases clean energy's value generally by allowing intermittent renewable energy to be balanced over a more diversified pool of resources, both geographically and by resource type.³⁹⁵

Rural electric cooperatives could see particular benefit through the parallel expansion of wholesale markets with clean energy adoption. Increasing participation in wholesale markets could also be made consistent with the Cooperative Principle of autonomy and independence, which guides cooperatives to "enter into agreements with other organizations . . . on terms that ensure democratic control as well as their unique identity."396 On the one hand, increasing participation in wholesale markets could give rural electric cooperatives greater flexibility in accessing low-cost resources across regional transmission networks. This can be an important enabling factor for cooperatives seeking greater flexibility to meet their members' energy needs as they reduce obligations to legacy capital investments. However, in expanding their participation in wholesale markets, cooperatives would also lose some degree of autonomy, as they face greater exposure to changing wholesale prices.³⁹⁷ Overall, cooperatives need to consider their participation in wholesale markets as a balanced tradeoff between more flexible and affordable power supply options on the one hand and potentially reduced control over short-run power costs on the other hand. A long-term perspective suggests that the benefits of participation are likely to outweigh the costs in contexts where

^{394.} See supra Part II.

^{395.} ADVANCED ENERGY ECON., PUTTING DISTRIBUTED ENERGY RESOURCES TO WORK IN WHOLESALE ELECTRICITY MARKETS 2–3 (2019), https://info.aee.net/hubfs/Putting%20 Distributed%20Energy%20Resources%20to%20Work%20in%20Wholesale%20Electricity%20Markets. pdf [https://perma.cc/Z9CB-RQ72].

^{396.} Understanding the Seven Cooperative Principles, supra note 25.

^{397.} See, e.g., Jaclyn Diaz, Texas Energy Co-op Files for Bankruptcy After Storm, High Bill, NPR (Mar. 1, 2021, 6:00 AM), https://www.npr.org/2021/03/01/972408584/texas-energy-co-op-files-forbankruptcy-after-storm-high-bill [https://perma.cc/37PP-HCLZ] (describing how one G&T cooperative in Texas filed for bankruptcy to protect its members from rate increases after experiencing unprecedented wholesale market price volatility during the winter storms of February 2021).

markets can add value to cooperative members through lower energy costs and more feasible attainment of a reliable supply of clean energy.

72

As resource patterns change, the value of participation in wholesale markets will also change in proportion to the benefits that participants can realize in leveraging markets to reduce the costs of providing reliable electricity. Currently, areas with lower-cost wind, solar, and natural gas see the greatest benefit to wholesale market participation. Further, recent FERC orders to facilitate the integration of energy storage and distributed energy resources could help utilities, including cooperatives, create new opportunities to deploy resources at the distribution-scale that create value for the entire G&T through wholesale market participation with cooperative goals, particularly if the Cooperative Principle of autonomy and independence to deploy distributed energy resources by individual member-owners and distribution cooperatives is balanced with the principle of cooperation among cooperatives to grow value for all affected members and protect against cross-subsidization.

With regard to the growth and value of wholesale markets, in 2020, about two-thirds of electric load in the United States was delivered through electricity markets and coordinated transmission systems within RTOs/ISOs.³⁹⁹ Neither Congress nor FERC have mandated that power providers join RTOs/ISOs, with FERC instead choosing to provide financial incentives for joining them.⁴⁰⁰ Notably, parts of the country without RTOs/ISOs are also areas with many cooperatives—the Southeast and Intermountain West. However, this is beginning to change. In 2014, power providers in the West formed an "Energy Imbalance Market" designed to create a real-time market for low-cost energy

^{398.} See Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, 162 FERC ¶ 61,127 (Feb. 15, 2018); Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, 172 FERC ¶ 61,247 (Sept. 17, 2020).

^{399.} See Electric Power Markets, FED. ENERGY REGUL. COMM'N (OCT. 23, 2020), https://www.ferc.gov/industries-data/market-assessments/electric-power-markets [https://perma.cc/K 3AQ-BBPR].

^{400.} Electric Transmission Incentives Policy Under Section 219 of the Federal Power Act, 86 Fed. Reg. 21972 (proposed Apr. 26, 2021) (to be codified at 18 C.F.R. pt. 35).
throughout the region, better integrate renewable energy, reduce costs, and enhance grid reliability.⁴⁰¹ In 2020, similar efforts began in the Southeast.⁴⁰²

73

These regional collaborations, whether or not they become full-fledged FERC-regulated RTOs/ISOs, create significant opportunities for rural electric cooperatives. Cooperatives do not have the same profit incentives to build electricity infrastructure as investor-owned utilities, which receive a rate of return on most capital investments in electricity generation, transmission, and distribution but do not receive a rate of return from purchased power (either purchased bilaterally or in markets). Thus, cooperatives could choose to rely more heavily on obtaining energy and capacity from regional markets, which are better able to integrate large-scale renewable energy, without the financial disincentives of doing so that exist for investor-owned utilities. However, in relying on wholesale markets for reliability without sufficient self-owned firm capacity, cooperatives may also be vulnerable to large-scale shocks that destabilize wholesale markets.⁴⁰³

Arguably, investor-owned utilities' profit motives, insufficient regulation, and inadequate market rules have caused them to build (or attempt to build) unneeded natural gas capacity as they retire coal plants—imposing excess costs on captive ratepayers—rather than relying on the lower-cost options available to them in RTO/ISO markets.⁴⁰⁴ Cooperatives would not have these same

403. See Diaz, supra note 397.

^{401.} See About, W. ENERGY IMBALANCE MKT., https://www.westerneim.com/Pages/About/ default.aspx [https://perma.ccDF89-HGT3]; Stephanie Lenhart, Natalie Nelson-Marsh, Elizabeth J. Wilson & David Solan, Electricity Governance and the Western Energy Imbalance Market in the United States: The Necessity of Interorganizational Collaboration, 19 ENERGY RES. & SOC. SCI. 94, 95 (2016); Robert Walton, Avista Signs On to Western Energy Imbalance Market, Projecting More Renewables Integration, UTIL. DIVE (Apr. 30, 2019), https://www.utilitydive.com/news/avista-signson-to-western-energy-imbalance-market-projecting-more-renewab/553672/ [https://perma.cc/W7BP-P4AK].

^{402.} Iulia Gheorghiu, Duke, Southern, Plan Path for Energy Imbalance Market, UTIL. DIVE (July 14, 2020), https://www.utilitydive.com/news/duke-southern-plan-path-for-southeast-energy-imbalancemarket/581556/ [https://perma.cc/2JPY-2N85]; Iulia Gheorghiu, TVA Interested in Joining Southeast Energy Market, but Stakeholders Question Lack of Detail, UTIL. DIVE (July 22, 2020), https://www.utilitydive.com/news/tva-interested-in-joining-southeast-energy-market-but-

stakeholders-questio/582078/ [https://perma.cc/EH9Y-4Q7K]; Catherine Morehouse, Duke, Dominion, Southern File SEEM Proposal with State Regulators, Plan To File with FERC by End of Year, UTIL. DIVE (Dec. 11, 2020), https://www.utilitydive.com/news/duke-dominion-southern-file-seem-proposal-with-state-regulators-plan-to/592072/ [https://perma.cc/J2DU-D2CZ].

^{404.} See Stephanie Tsao & Richard Martin, Overpowered: PJM Market Rules Drive an Era of Oversupply, S&P GLOB. MKT. INTEL. (Dec. 3, 2019), https://www.spglobal.com/marketintelligence/en/news-insights/trending/8N3IBtYIeExmKGkF882AqQ2 [https://perma.cc/CN 8J-A3AQ] (discussing critics of the PJM RTO regional market who argue that PJM's market rules have led to a "power glut that serves mainly big utilities and power-plant developers, rather than ratepayers"); Richard Martin & Darren Sweeney, Overpowered: In Virginia, Dominion Faces Challenges to Its Reign, S&P GLOB. MKT. INTEL. (Dec. 4, 2019), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/overpowered-in-virginia-dominion-faces-challenges-to-its-reign_54171542 [https://arma.cvfa?TD.FE?2] (discussing complexed).

reign-54171542 [https://perma.cc/A2TD-FF29] (discussing Dominion Energy Virginia over-

NORTH CAROLINA LAW REVIEW [Vol. 100

misaligned incentives. Further, cooperatives also have a potential to lead in building out more robust wholesale markets that can better account for reliability. The original history of cooperatives in delivering reliable service to rural communities can still inform their perspective moving forward. Despite reliability requirements established by the North American Electric Reliability Corporation, the pursuit of profits by many market actors that puts downward pressure on prices may erode overall system reliability, and if they engage more fully, cooperatives could be key advocates for RTOs/ISOs to give higher priority to long-term reliability planning.⁴⁰⁵

Likewise, cooperatives control a significant amount of transmission over a large geographic area, including transmission assets associated with coal plants that are at or near the point of retirement and are associated with interconnection rights that could be valuable for clean energy. Further, additional investments in transmission capacity could bolster renewable energy capacity across rural areas and could be encouraged by the financing bodies that support cooperatives, such as the RUS. Repurposing existing transmission infrastructure to support clean energy and financing new transmission lines can allow G&T cooperatives to earn increased revenues for their member-owners. These earnings can be reinvested into clean energy and other projects within member service areas. Such an approach would position cooperatives to be key enablers for connecting clean energy resources from renewable-rich rural areas to regions without sufficient renewable resources.⁴⁰⁶ Importantly, transmission build-out is generally a "zero-sum game" between utilities competing to win the rights to build an approved transmission project. Cooperatives may have a

forecasting its peak energy demand in its integrated resource plan and proposing to build eight new natural gas plants between 2018–2033—the plans for these plants were subsequently cancelled).

^{405.} See, e.g., Clifford Krauss, Manny Fernandez, Ivan Penn & Rick Rojas, *How Texas' Drive for* Energy Independence Set It Up for Disaster, N.Y. TIMES (Feb. 21, 2021), https://www.nytimes.com/ 2021/02/21/us/texas-electricity-ercot-blackouts.html [https://perma.cc/754P-PAZU (dark archive)] (describing how the market structure in Texas, driven primarily by for-profit utilities, pursued lower average prices and incidentally enabled a shortfall in reliability during the February 2021 winter storm); see also Ari Peskoe, Is the Utility Transmission Syndicate Forever?, 42 ENERGY L.J. 1 (2021) (contending that investor-owned utilities "exploited nearby non-profit utilities and regionalized their dominance through collusive agreements with each other that obstructed competition and cartelized infrastructure development"); JIM PARDIKES, RON KENNEDY & CHRIS NAGLE, MCR PERFORMANCE SOLS., THE EIGHT DRIVERS OF INCREASED TENSION BETWEEN IOU/TRANSCO INCUMBENTS AND OTHER TOS IN A JOINT PRICING ZONE 1 (2020) (describing an industry perspective that, compared to investor-owned utilities and private transmission companies, "[p]ublic power and many cooperatives desire enhanced reliability and are increasingly questioning rising zonal rates; as a result, they are trying to increase their fair share of transmission investment in joint pricing zones").

^{406.} See, e.g., Valley Electric System To Sell Its Transmission System to GridLiance, VALLEY ELEC. ASS'N (Sept. 15, 2016), https://vea.coop/2016/10/valley-electric-association-to-sell-its-transmissionsystem-to-gridliance/ [https://perma.cc/KJ2J-SJK2]; Transmission Sale-230kv, VALLEY ELEC. ASS'N (Nov. 2016), https://vea.coop/2016/11/transmission-sale-230kv/ [https://perma.cc/YB5M-M2TL]. For an example of a G&T using existing interconnection rights to develop new clean energy, see supra note 329.

2021] COOPERATIVE CLEAN ENERGY

meaningful cost advantage over investor-owned utilities in building transmission, due to being exempt from federal and state income taxes, having a lower equity ratio, and having a lower cost of debt (through access to RUS loans).⁴⁰⁷ Thus, supporting cooperatives in capturing the opportunities to be the owners of new transmission projects can lower overall system costs, while providing a degree of economic benefit to the communities that will be impacted by the land-use changes imposed by transmission expansion.⁴⁰⁸

GRE in Minnesota provides a good example of how this could work in the rest of the country. GRE owns significant transmission assets within the MISO system.⁴⁰⁹ GRE's clean energy plan relies heavily on purchasing lower-cost wind energy throughout the Upper Midwest and obtaining capacity through MISO to balance renewables and replace lost coal generation.⁴¹⁰ However, recent experience in MISO also reinforces the importance of building transmission as part of the clean energy transition, as there is a significant backlog of renewable projects waiting for interconnection permission in MISO to accelerate the clean energy transition is not currently as readily available to cooperatives outside of RTOs/ISOs.

B. Allocating the Fixed Costs of Clean Energy Additions

Fixed costs are fundamental to the electricity system, and a central function of electric utilities and their regulators is to determine a just and reasonable rate structure that allocates fixed costs to users.⁴¹² In cooperatives,

409. As Renewable Energy Expands, Reliability Remains Paramount, GREAT RIVER ENERGY (Feb. 10, 2021), https://greatriverenergy.com/as-renewable-energy-expands-reliability-remains-paramount/ [https://perma.cc/W95H-8XWP] (discussing the role of Great River Energy in MISO).

^{407.} JIM PARDIKES, RON KENNEDY & CHRIS NAGLE, MCR PERFORMANCE SOLS., THE COOPERATIVE COST ADVANTAGE: ANOTHER REASON WHY COOPERATIVES SHOULD BE INVESTING IN TRANSMISSION 1 (2021) (estimating that in the Midcontinent Independent System Operator and the Southwest Power Pool, two regions likely to see significant transmission buildout and with a high fraction of cooperatives, investor-owned utilities and transmission companies have 24% higher costs than a typical cooperative when building a typical transmission project).

^{408.} A similar argument holds for siting land-intensive renewables. There are also prominent examples of electric cooperatives' early embrace of wind energy as a vehicle of community economic development through infrastructure projects based in their service area. *See* KEITH A. TAYLOR, GOVERNING THE WIND ENERGY COMMONS 118–19 (2019).

^{410.} See supra Section III.B.

^{411.} Rao Konidena, To Clear the Backlog of Network Upgrades, We Need Steel in the Ground, RENEWABLE ENERGY WORLD (Sept. 11, 2020), https://www.renewableenergyworld.com/solar/toclear-the-backlog-of-network-upgrades-we-need-steel-in-the-ground/#gref [https://perma.cc/GJK8-F WE8].

^{412.} LAZAR ET AL., *supra* note 241, at 25 (discussing that the primary purpose of economic regulation is to impose "just and reasonable" pricing discipline on monopolies as a substitute for the discipline that competition imposes in competitive industries in the context of fixed cost allocation for electric utilities); LISA WOOD, ROSS HEMPHILL, JOHN HOWAT, RALPH CAVANAGH, SEVERIN BORENSTEIN, JEFF DEASON & LISA SCHWARTZ, LAWRENCE BERKELEY NAT'L LAB'Y, RECOVERY

the allocation of fixed costs is institutionalized in the rate structure within the power supply contracts between G&T and distribution cooperatives and the rate structures of distribution cooperatives and their member-owners. The Cooperative Principle of members' economic participation guides cooperatives to consider a cooperative's capital as "common property" and to create benefits for "members in proportion to their transactions with the cooperative."⁴¹³ Cooperatives, compared to investor-owned utilities, also have a stronger institutional rationale to manage risks and pursue the long-term interests of the consumers they serve rather than the short-term interests of financiers. Thus, cooperatives may be well-positioned to develop consumer-focused strategies for spreading the fixed costs of the clean energy transition over longer time horizons, thereby lowering the short-term barriers to retiring legacy assets and investing in new assets.

Transitioning to clean energy raises two related issues with respect to fixed-cost allocation that challenge cooperative adoption of clean energy: (1) allocating the fixed costs associated with a cleaner, more flexible, and more distributed electricity system with a higher ratio of fixed-to-variable costs (addressed in this section); and (2) allocating the fixed costs that become "stranded costs" when clean energy makes fossil fuel legacy assets obsolete ahead of their depreciation schedule (addressed in the next section).

The fixed costs associated with energy generation and transmission are generally allocated by G&T cooperatives to their distribution members through the rates established in power supply contracts. For legacy centralized generation, the process of determining the rates in contracts relies on a determination of the required revenue to allow debt repayment on large capital investments. This contract structure worked well to give G&T cooperatives the ability to finance large, primarily fossil fuel generation assets in the legacy system and is likely suitable to support large, utility-scale renewable energy and transmission projects.⁴¹⁴ However, these contracts were not designed to

OF UTILITY FIXED COSTS: UTILITY, CONSUMER, ENVIRONMENTAL AND ECONOMIST PERSPECTIVES 7 (Lisa Schwartz ed., 2016), https://eta-publications.lbl.gov/sites/default/files/lbnl-1005742.pdf [https://perma.cc/5PB7-BJ93] (positing that the fundamental question for paying for the evolving grid is: "How do we change current ratemaking and rate design practices to accommodate the increasingly important role of the distribution grid and the grid services it provides?"); Citizens Action Coal. of Ind., Inc. v. N. Ind. Pub. Serv. Co., 485 N.E.2d 610, 614–15 (Ind. 1985) ("The statutes which govern the regulation of utilities and which grant the PSCI its authority and power provide a surrogate for competition . . . and insure that the responsibilities of utility investors and consumers are commensurate with the responsibilities of investors and consumers in a competitive market.").

^{413.} See Understanding the Seven Cooperative Principles, supra note 25.

^{414.} NAT'L RURAL ELEC. COOP. ASS'N, GUIDES FOR ELECTRIC COOPERATIVE DEVELOPMENT AND RURAL ELECTRIFICATION 16 (2016) ("'All-requirements' clauses grant the G&T the authority to provide 100% of the member distribution cooperatives' power supply needs. Put differently, a member distribution cooperative may obtain power supply only through its G&T. This gives the G&T the required legal and marketing strength to enter with confidence into power purchase

accommodate more dynamic and distributed clean energy technologies at the "grid edge."

As the economics of clean energy—including distributed energy resources—have dramatically shifted,⁴¹⁵ historic practices of cost allocation have become insufficient to reflect the new potential of distribution-utility-sited resources and consumer-sited resources to provide the same services as the centralized assets owned by G&Ts. This new potential is changing who in the cooperative system will incur the fixed costs of the future system—they may be on the distribution utility's system balance sheet⁴¹⁶ or in an individual member-owner's household or corporate budget.⁴¹⁷ This suggests the need to rethink cost allocation in cooperative ratemaking to rely less on passing through top-down rates from all-requirements contracts. Instead, approaches should be devised that value resources from the "bottom-up" (individual members receiving fair compensation for their energy resources) and the "middle-out" (distribution utilities being able to create new value streams for their members and being fairly compensated by their G&T cooperative).

Flexibility in layering additional value streams into the contractual arrangements that allocate fixed costs and incentivize distributed energy resource adoption is not unfamiliar to cooperatives. Cooperatives, primarily in the Midwest, have decades of experience installing electric water heaters and other devices in members' homes that they remotely control to reduce aggregate peak electricity demand.⁴¹⁸ Cooperatives, usually at the G&T level, operate these load-control devices to lower overall costs and then pass benefits back to members. Deployment of distributed energy resources under this type of arrangement taps into a cooperative's particular ability to lower system costs by creating new financial arrangements that align interests vertically across the cooperative structure. Such cooperative-led deployment of distributed energy

agreements with other power producers, with power plant investment financing agreements as direct investors/owners, and for other functional purposes."); *see supra* notes 65, 221 (discussing all-requirements contracts).

^{415.} See supra Part II.

^{416.} For example, nearly two hundred rural electric cooperatives, mostly distribution utilities, have installed community solar gardens. *See* NAT'L RURAL ELEC. COOP. ASS'N, A SOLAR REVOLUTION IN RURAL AMERICA 8 (2018). A typical cooperative community solar garden is connected at a distribution utility and sells subscription shares to members who opt into a contract that is functionally similar to a power purchase agreement. *See id.*

^{417.} See RON REBENITSCH, NAT'L RURAL ELEC. COOP. ASS'N, GUIDE TO COOPERATIVE RESIDENTIAL SOLAR PROGRAMS 39–50 (2017) (giving examples of cooperatives developing programs for member-sited solar, many of which include new costs to participating members).

^{418.} See MIGUEL YANEZ, LIZ VEAZEY, RIC EVANS & NATHAN SHEPHERD, EQUITABLE BENEFICIAL ELECTRIFICATION (EBE) FOR RURAL ELECTRIC COOPERATIVES 9 (2019) (referring to the over 250 cooperatives in thirty-four states that use their customers' electric water heaters to reduce peak demand by 500 MW); *id.* at 16 (providing examples of cooperatives offering benefits to their members to adopt controllable water heaters that the cooperative can use to reduce aggregate system costs).

resources could also be applied to more advanced portfolios of aggregated distributed energy resources, such as co-optimized solar, storage, and demand response.⁴¹⁹ This could be an important role for G&T cooperatives to take on in order to maximize the value and minimize the costs of distributed energy resources.⁴²⁰ Further, aggregation can build on cooperatives' unique "efficiencies of scope" in the communities in which they operate, with the ability to work with members more intensively to manage energy resources in front of and behind the meters.⁴²¹

But creating new contract and rate structures need not preclude some cooperatives, particularly smaller ones, from continuing to rely heavily on their G&T. For example, Tri-State's Wyoming and Nebraska members continue to rely on Tri-State for nearly all their power needs even while some Tri-State members pursue higher levels of distributed energy resources.⁴²² In fact, with a long-run perspective, building flexibility into power supply contracts can create greater financial security for the G&T cooperative, as aggregated distributed energy resources, fairly valued, contribute to overall system reliability and cost reductions. As clean energy is deployed at different scales, cost allocation practices should better reflect the incidence of costs so that the Cooperative Principle of autonomy and independence does not conflict with the foundational role of the G&T cooperative as a vehicle to deliver benefits best achieved through collaboration.

C. Allocating the Fixed Costs of Stranded Assets

The clean energy transition threatens to make large parts of the legacy system of fossil fuels obsolete before their associated financing costs can be repaid, raising the specter of stranded costs that threaten the financial viability of electric utilities and cause retrenchment and political opposition to deploying clean energy that would further increase stranded costs.⁴²³ Some stranded costs

^{419.} See NAT'L RURAL ELEC. COOP. ASS'N, THE ROLE OF THE CONSUMER-CENTRIC UTILITY 5 (2017) [hereinafter ROLE OF THE CONSUMER-CENTRIC UTILITY], https://www.cooperative.com/ value-of-membership/documents/51st-state-report-phase-iii.pdf [https://perma.cc/3MRV-ZSAT].

^{420.} See JEFFREY J. COOK, KRISTEN ARDANI, ERIC O'SHAUGNESSY, BRITTANY SMITH & ROBERT MARGOLIS, EXPANDING PV VALUE: LESSONS LEARNED FROM UTILITY-LED DISTRIBUTED ENERGY RESOURCE AGGREGATION IN THE UNITED STATES 2 (2018), https://www.nrel.gov/docs/fy19osti/71984.pdf [https://perma.cc/ZQ9F-4F8Z] (describing the grid-related services that distributed energy resource aggregation can provide).

^{421.} See ROLE OF THE CONSUMER-CENTRIC UTILITY, supra note 419, at 2.

^{422.} See supra note 219 and accompanying text (discussing how Tri-State covers territory in New Mexico, Colorado, Wyoming, and Nebraska); supra Section III.A.1 (discussing how utilities in New Mexico and Colorado have sought to exit Tri-State).

^{423.} See INT'L RENEWABLE ENERGY AGENCY, STRANDED ASSETS AND RENEWABLES 6 (2017) (estimating that meeting international climate change targets would imply between \$10–20 trillion in stranded asset costs); *id.* at 9 ("In the case of asset stranding, these sunk costs could be a very significant barrier to companies that act in accordance with decarbonisation policies and goals. Companies could be wedded to previous strategies (their sunk costs), particularly when it may be economically irrational

2021] COOPERATIVE CLEAN ENERGY

are historically legitimate because they were incurred based on a sound analysis of available options and forecasts that were understood at the time an investment decision was made. But even if assumptions later prove incorrect, stranded costs may still be considered legitimate as long as it was reasonable to have relied on those assumptions ex-ante. However, once a resource no longer can be economically utilized as intended, allocating stranded costs is morally and legally complex.⁴²⁴ For cooperatives, the challenges of allocating the stranded costs associated with the obsolescence of assets of the legacy system are most clearly demonstrated by the contested exit-fee determination in Tri-State.⁴²⁵ However, even in cooperatives that are not experiencing the same level of internal contestation, the challenges of allocating responsibility for paying for stranded costs still apply.

At a principles level, the central tension in allocating stranded costs revolves around the dilemma of allocating the responsibility to pay back the debts a G&T cooperative incurred through the collective decision-making of its members balanced against market requirements for reliability and the opportunity of members and G&T cooperatives to pursue new opportunities to serve loads. Stranded costs are largely from coal plants that can no longer compete with new low-cost resources at many points throughout the year, although a wave of failed nuclear plants raised similar issues of stranded costs in the 1980s, as discussed in Section I.B.1. Over the next decade, it is likely that the debts associated with many more coal plants will not be economically recoverable from the utilization and sale of electricity generated from these plants. Thus, in the face of generation assets that can no longer cover their fixed costs and an imperative to address climate change, reliable grid operation will require either new forms of economic "firm" energy resources or additional socialized costs to support these uneconomic firm resources.⁴²⁶ In the case of Tri-State, when individual members-who were party to the past collective decision to invest in its now stranded assets⁴²⁷—sought to exit their contractual

to do so. This could exacerbate the stranded assets issue as companies 'throw good money after bad' and further delay action due to 'loss aversion,' despite the illogicality. There is also the potential that companies will actively lobby to reduce the scale and pace of the low carbon transition."); *see also* William J. Baumol & J. Gregory Sidak, *Stranded Costs*, 18 HARV. J.L. & PUB. POL'Y 835, 835 (1995) (arguing that "the most critical regulatory issue facing electric utilities will be stranded costs").

^{424.} See LAZAR ET AL., supra note 241, at 97–100.

^{425.} See supra notes 240-42.

^{426.} See, e.g., Nestor A. Sepulveda, Jesse D. Jenkins, Fernando J. de Sisternes & Richard K. Lester, The Role of Firm Low-Carbon Electricity Resources in Deep Decarbonization of Power Generation, 2 JOULE 2403, 2403 (2018) (finding deep decarbonization scenarios that utilize firm-dispatchable resources lower the costs of energy provision by 10–62% relative to scenarios that rely on renewables, energy storage, and demand response alone).

^{427.} The extent to which individual member distribution utilities of Tri-State were truly parties to Tri-State's investment decisions in now stranded assets has been challenged by members seeking to leave Tri-State. See, e.g., Herman K. Trabish, Colorado Tri-State Ruling Could Provide Co-op Exit

obligation to pay back debts, the guiding principle has been to identify the exit fee that would leave the remaining Tri-State members "whole"—in other words, in the same financial position they would have been in if not for the departing members.

The application of this principle focuses on the narrow considerations that would enable departing cooperatives to *individually act* to procure clean energy for their own members' energy demands without harming others. However, we argue that this principle should be reconsidered and balanced with the principle of accelerating the clean energy transition for the entire cooperative system, which requires cooperatives to *collectively act* toward the accelerated retirement of stranded assets. Towards collective action, we suggest that cooperatives focus on where their whole system needs to go to create shared benefits—balanced with accommodating the individual early movers who have the internal capacity to seize new clean energy opportunities for their own members.

How can stranded costs be addressed systemically for a G&T cooperative as a whole? One approach being utilized by G&T cooperatives and other owners of uneconomic coal plants is accelerated depreciation.⁴²⁸ Under accelerated depreciation, coal plant operating lifetime is reduced through increasing debt payments in the short-term in a way that results in higher short-term costs to create long-term benefits to ratepayers.⁴²⁹ The short-term costs of accelerated depreciation could also be timed to coincide with new investments in clean energy that could lower costs in the short and long run, mitigating the rate impact of retiring coal plants early.

Template amid Rising Tensions with G&T Providers, UTIL. DIVE (May 13, 2020), https://www.utilitydive.com/news/colorado-tri-state-ruling-could-provide-co-op-exit-template-amid-rising-ten/577624/ [https://perma.cc/6S38-9LP3] (quoting an attorney representing departing distribution cooperative members who stated "[s]ome G&Ts made investments over the disapproval of a part of their membership and the question is whether those investments should be part of the charge to co-ops exiting their contracts").

^{428.} See Ron Lehr, How Arcane Accounting Rules Could Help Save Coal Heavy Utilities, UTIL. DIVE (May 15, 2019), https://www.utilitydive.com/news/how-arcane-accounting-rules-could-helpsave-coal-heavy-utilities/554773/ [https://perma.cc/DXJ7-TRQL]; RON LEHR & MIKE O'BOYLE, ENERGY INNOVATION, DEPRECIATION AND EARLY PLANT RETIREMENTS 8–9 (Dec. 2018), https://energyinnovation.org/wp-content/uploads/2018/12/Depreciation-and-Early-Plant-Retirements-Brief_12.3.2018.pdf [https://perma.cc/H4Q2-ZGBJ]; Barry Cassell, Great River Energy Accelerates Depreciation of Two Coal Plants, TRANSMISSION HUB (Nov. 4, 2014), https://www.transmissionhub.com/articles/2014/11/great-river-energy-accelerates-depreciation-of-

two-coal-plants.html [https://perma.cc/KDQ7-SPT5]. 429. See, e.g., GREAT RIVER ENERGY, 2013 ANNUAL REPORT 22 (2013), http:// greatriverenergy.com/wp-content/uploads/2015/10/2013_annual_report.pdf [https://perma.cc/K7CC-TYDG] (approving accelerated depreciation of two coal plants). But see Comments of the National Rural Electric Cooperative Ass'n at 12, No. PL19-3-000 (FERC Aug. 26, 2019) (explaining that accelerated depreciation creates "unlawful intergenerational inequities in violation of a fundamental principle of ratemaking" because it creates benefits for future cooperative members at a cost to current members).

2021] COOPERATIVE CLEAN ENERGY

Utilities can manage the remaining debt after an accelerated depreciation analysis is completed by creating a new "regulatory asset" that allows the utility to recover a reduced, fixed level of remaining asset value through rates in a separate account without requiring that asset to be utilized.⁴³⁰ Such a scheme could allow near-term savings to cooperative members if the incremental cost of new clean energy is less than the marginal operating cost of continuing to operate a coal plant. For example, GRE has established regulatory assets associated with the remaining liability of undepreciated plant value, decommissioning, and demolition (net of sale value) for two of its coal plants.⁴³¹

Accelerated depreciation can also be complemented by coal plant securitization—which requires legislatively granted authority that only exists in some states—to issue new state bonds backed by a utility's ratepayers.⁴³² Third parties could also play a role in paying off stranded costs, as the exit-fee payment by the private firm, Guzman Energy, illustrates in the Kit Carson case.⁴³³ In that example, a third party worked with a distribution cooperative to pay down the fixed costs of legacy generation. In principle, the exit fee paid by Kit Carson would pay down the portion of remaining debt associated with Kit Carson's anticipated future utilization of the legacy assets continued to be held by Tri-State. However, whether the exit fee Kit Carson and Tri-State agreed to will be of sufficient scale to accelerate the depreciation and eventual retirement of Tri-State's legacy fossil fuel assets is yet to be seen.⁴³⁴ Such

^{430.} See Lehr, supra note 428 (providing a more detailed description of how the creation of a regulatory asset can support accelerated coal retirement while allowing debt to be repaid).

^{431.} See GRE 2019 ANNUAL REPORT, *supra* note 294, at 14, 40 (discussing regulatory accounting associated with GRE's retirement of the Stanton Station coal plant in 2017, the Elk River coal plant in 2019, and the one-time write off of the remaining regulatory asset costs of the Spirit Wood Station coal plant in 2019; GRE held \$95 million in regulatory asset liabilities associated with plant retirements in 2019).

^{432.} See, e.g., Herman K. Trabish, Securitization Fever: Renewables Advocates Seize Wall Street's Innovative Way To End Coal, UTIL. DIVE (May 28, 2019), https://www.utilitydive.com/news/ securitization-fever-renewables-advocates-seize-wall-streets-innovative-w/555089/ [https://perma.cc/ 73VG-7JNP]; ANNIE BENN, PAUL BODNAR, JAMES MITCHELL & JEFF WALLER, MANAGING THE COAL CAPITAL TRANSITION 49–50 (2018). The appeal of securitization to cooperatives may be limited given the relatively low costs of capital that cooperatives can attract with federally backed debt.

^{433.} See supra Section III.A; LEHR & O'BOYLE, SWAPS, supra note 10, at 2, 8–9 (discussing Guzman Energy's attempt at "negotiation by press release" to finance the early retirement of 50% of Tri-State's coal assets and replace the retired generation with a mix with more than 70% renewable energy).

^{434.} A similar dynamic occurs with investor-owned utilities, as seen in efforts by cities to "municipalize" their electricity supply and local governments forming Community Choice Aggregations that end the franchise agreement with a monopoly utility and instead procure power independently. A similar dynamic also can be seen in electric customers bilaterally contracting for energy from parties other than their monopoly utility provider. In these cases, local governments and large consumers are able to meet their clean energy goals and lower their energy costs, raising concerns that for-profit monopoly utilities are not minimizing costs through their unique ability to attract capital and realize economies of scale. See LEHR & O'BOYLE, SWAPS, supra note 10, at 4; Welton, Public Energy, supra note 4, at 285, 308.

arrangements also raise three uncertainties for cooperatives relevant for the long-run energy transition: (1) the long-run dynamics of costs and clean-energy utilization of an exiting cooperative that contracts for new clean energy relative to what their costs and clean-energy utilization would have been without exiting; (2) the potentially increased volatility of more limitedly hedged energy services that an exiting distribution cooperative now has exposure to;⁴³⁵ and (3) the management of the debt continuing to be held by the remaining members of a G&T cooperative as their assets are utilized less, thereby making debt potentially more difficult to repay than originally planned.

Finally, while we have focused our analysis in this Article on the possibilities for enacting cooperative clean energy without state or federal policy, we believe it also is important to consider the federal government's important historic role in enabling the deployment of a large fraction of cooperative-owned coal generation through loans from the RUS.⁴³⁶ Some advocates and policymakers have suggested that the federal government could forgive RUS-held debt associated with coal plants to facilitate cooperatives' transition to clean energy.⁴³⁷ Ultimately, cooperative debt tied to stranded assets will need to either be repaid by cooperative members or socialized by states or the federal government through debt forgiveness and repayment. Policymakers should consider the tradeoffs associated with asserting government responsibility for this debt conditioned on driving policy objectives while maintaining some degree of local control.

D. Reflecting the Needs of the Full Cooperative Membership

Rural electric cooperatives were founded as local democratic institutions, but the accountability of cooperative boards and managers to their memberowners does not always live up to cooperatives' democratic ideals. The concept of "energy democracy" offers a framework for how cooperatives can reform their internal governance practices to more closely live up to the Cooperative Principle of democratic member control.⁴³⁸ Energy democracy has developed

^{435.} See Shin, supra note 254.

^{436.} See supra Section I.A (describing the role of the Powerplant and Industrial Fuel Use Act of 1978 in limiting cooperative-owned fuel choices).

^{437.} See Esther Whieldon & Gaurang Dholakia, Forgiving Co-ops' Federal Coal Debt To Promote Renewables Faces Hurdles, S&P GLOB. MKT. INTEL. (Oct. 9, 2019), https://www.spglobal.com/ marketintelligence/en/news-insights/trending/TmCJLa6VEIt3_meORsYNyA2 [https://perma.cc/J3J 6-TLK4] (noting that while the RUS may have been the original lender to G&T cooperatives for coal plants, "several of the co-ops with the most coal-fired generation no longer owe the federal government money" due to refinancing agreements that have moved debt obligations to private lenders).

^{438.} See, e.g., Kacper Szulecki, Conceptualizing Energy Democracy, 27 ENV'T POL. 21 (2018); Matthew J. Burke & Jennie C. Stephens, Energy Democracy: Goals and Policy Instruments for Sociotechnical Transitions, ENERGY RSCH. & SOC. SCI. 33, 35–48 (2017); Welton, Energy Democracy, supra note 4, at 601; Bregie van Veelen & Dan van der Horst, What Is Energy Democracy? Connecting Social Science Energy Research and Political Theory, 46 ENERGY RSCH. & SOC. SCI. 19, 20 (2018).

2021] COOPERATIVE CLEAN ENERGY

outside the realm of rural electric cooperatives to include a broad range of sometimes conflicting goals.⁴³⁹ There are three dimensions of energy democracy to consider for areas of reform in the rural electric cooperative realm: (1) supporting cooperative utility staff in understanding new technologies and engaging community members in their own decision-making and utility decision-making; (2) increasing (horizontal) grassroots accountability and engagement of distribution cooperatives with their member-owners; and (3) reflecting the needs and desires of member-owners (vertically) through the cooperative, democratic control must balance responsiveness to the majority with protecting minority interests, just as with other democratic institutions.⁴⁴⁰ This balancing act is likely to become more complex as the democratically governed group becomes larger and more heterogenous.

The rapidly changing energy system is enabling greater autonomous decision-making through small-scale distributed energy resources and opportunities to participate more directly in energy markets. And the increasingly distributed decision-making potential has created alignment with proponents of energy democracy that also seek to bolster local control of the energy system. While much of the energy democracy movement in the United States has focused on investor-owned utilities, distribution cooperatives are the most well-established organizations in the energy sector that have adopted principles of democratic accountability in their foundation. Indeed, democratic member control is one of the Cooperative Principles, and as frustration with the democratic accountability of some investor-owned utilities has grown, customers and legislators have proposed replacing some investor-owned utilities with new cooperative models.⁴⁴¹

Rural electric cooperatives should enact practices to increase transparency so that members can participate more fully and be more knowledgeable in board elections. The example of Pedernales highlights how member-directed reforms can increase transparency in a cooperative.⁴⁴² Rural electric cooperatives are required to disclose significantly less financial and operational information to state and federal regulators than investor-owned utilities.⁴⁴³ But as largely selfregulated entities, transparency of cooperative operations to members is important. And here cooperatives face a unique challenge in balancing transparency to member-owners and protecting confidential information about

^{439.} Welton, Energy Democracy, supra note 4, at 585-87.

^{440.} Barbara S. Gamble, Putting Civil Rights to a Popular Vote, 41 AM. J. POL. SCI. 245, 245 (1997).
441. See Ivan Penn, California Mayors Back Plan To Make PG&E a Cooperative, N.Y. TIMES (Nov.
2010) https://www.club.com/actional/actionactional/actional/actionactional/acti

^{5, 2019),} https://www.nytimes.com/2019/11/05/business/energy-environment/pge-california-mayors. html [https://perma.cc/924G-JJ5T (dark archive)].

^{442.} See supra Section I.C.1.

^{443.} See supra Section I.B.

cooperative operations. While national cooperative organizations provide recommendations on a base level of information that cooperatives should disclose on their own websites,444 these standards have not been universally adopted.445 Cooperatives should embrace their principle of concern for community to not only provide a base level of information to their members but to work upwards through higher levels of participation, such that members can more fully control the direction of the cooperative in an informed manner.446 But more democratic energy governance must contend with the technical complexity of energy systems, raising the importance of representative democracy to be accountable to constituents, rather than simply bolstering direct democracy.447 To this end, cooperatives could lift up state and local organizations who, in turn, can help advance the Cooperative Principle of education, training, and information to support member participation in cooperative governance and develop best practices to build cooperative staff expertise. Building cooperative staff expertise is particularly important for smaller rural electric cooperatives. While over 20% of cooperative utility employees and 50% of cooperative CEOs are eligible to retire between 2017-2022,⁴⁴⁸ for smaller cooperatives, highly technical institutional memory of the cooperative can be lost with only a small number of retirements.⁴⁴⁹

Perhaps the most important way cooperatives could bolster representative democracy is to make board elections more inclusive. While the governing bodies of distribution cooperatives are elected by cooperative member-owners, empirically, they fall short of equally representing their constituents when it comes to gender and racial representation.⁴⁵⁰ Clean energy transition requires

446. See generally Sherry R. Arnstein, *A Ladder of Citizen Participation*, 85 J. AM. PLANNERS ASS'N 24 (2019) (articulating a seminal taxonomy of degrees of citizen participation).

^{444.} See ELEC. COOP. GOVERNANCE TASK FORCE, supra note 116, at 54.

^{445.} See The Full Report Card: What Each Co-op Posts on Its Website-or Doesn't, MINN. LOC. ENERGY PROJECT, https://mnlocalenergyproject.org/#reportcard [https://perma.cc/QQJ5-EKQQ] (providing one limited example from a survey of distribution cooperative websites in Minnesota in 2018, finding that 55% of co-ops did not post information on how to vote in co-op elections and 39% did not explain how to run for a co-op board seat); see also Cooperative Scorecard Data, ENERGY DEMOCRACY Y'ALL, https://energydemocracyyall.org/tn/scorecard/download-data/ [https://perma.cc/8LNH-ZRPX] (giving an example of another scorecard of cooperative utilities in Tennessee, including dimensions related to disclosing information to members regarding the cooperative's governance).

^{447.} See Szulecki, supra note 438, at 31.

^{448.} Compare NAT'L RURAL ELEC. COOP. ASS'N, 2017 NRECA ANNUAL REPORT 19 (2018), https://www.cooperative.com/nreca/governance-reporting/Documents/2017_NRECA_Annual_Report_4.27_2018.pdf [https://perma.cc/9U8A-4SST] ("500 electric cooperative CEOs and 15,000 co-op employees [are] eligible to retire within the next five years."), with AMERICA'S ELECTRIC COOPERATIVES, supra note 8 ("In 2017, electric cooperatives . . . [had] 68,200 electric co-op jobs.").

^{449.} See Victoria A. Rocha, Core Competencies: Detailed Professional Development Models, COOPERATIVE.COM (June 7, 2017), https://www.cooperative.com/news/Pages/Core-Competencies-Detailed-Professional-Development-Models.aspx [https://perma.cc/L35H-4VR2] (noting, for example, cases of staff turnover raising concerns of loss of skills and knowledge).

^{450.} See supra Section III.C.

local leaders who are knowledgeable about cooperative structures, bylaws, governance, and the demands for energy services in the region. To achieve this, cooperatives should consider adopting internal measures to increase the representativeness and capacity of their boards, following the Cooperative Principle of democratic member control that prioritizes the accountability of cooperative directors to their membership.451 One measure could be implementing board member term limits (sufficient as to not erode institutional knowledge) and contracting with independent third parties to verify board election votes.⁴⁵² Increasing turnout could be accomplished by creating positive incentives for voting (for example, the cooperative could offer a monetary or nonmonetary reward for voting), by lowering the cost of voting (for example, by encouraging absentee voting), or by creating structural incentives to increase turnout (for example, by creating an incentive for a cooperative manager to increase participation in board elections). Lessons from the reforms implemented by Pedernales following its governance scandal in the mid-2000s could also be instructive. Opening all board meetings to the public, recording and making accessible all board meetings, and providing oversight to the board can promote democratic accountability.⁴⁵³ Increasing democratic accountability in cooperatives is particularly important for realizing the goals of a just energy transition, as rural electric cooperatives serve 92% of the nation's persistentpoverty counties and serve consumers with median incomes 11% below the national average.454

While energy democracy suggests clear reforms relevant for governing smaller-scale institutions such as distribution cooperatives, there are distinct challenges for considering democratic accountability across the vertical scales of cooperatives from distribution cooperatives to G&T cooperatives. Challenges of vertical accountability and the limited effectiveness of bottom-up local control are not unique to cooperatives.⁴⁵⁵ Particularly because large-scale transmission networks and some amount of large-scale clean energy deployment may be the most cost-effective approach for cooperatives to adopt clean energy,

^{451.} See ELEC. COOP. GOVERNANCE TASK FORCE, supra note 116, at 38 ("The Task Force supports using every reasonably possible method to encourage and promote electric cooperative members to attend member meetings and participate in director elections The Task Force also supports using reasonable incentives").

^{452.} See James Bruggers, A Legacy of the New Deal, Electric Cooperatives Struggle To Democratize and Make a Green Transition, INSIDE CLIMATE NEWS (Feb. 28, 2021), https://insideclimatenews.org/news/28022021/electric-cooperatives-new-deal-fossil-fuels-renewables/ [https://perma.cc/JD62-L YAA] (describing the lack of term limits and third-party election verifiers in Tennessee co-ops).

^{453.} See supra Section I.C.1.

^{454.} See supra note 16 and accompanying text.

^{455.} See Welton, *Energy Democracy*, *supra* note 4, at 641 (stating in the context of investor-owned utilities that "energy localism may result in a sort of false empowerment, with residents believing they have substantially contributed to solving a problem that in fact cannot be addressed through their actions at the local level").

NORTH CAROLINA LAW REVIEW [Vol. 100

the G&T cooperative structure provides a critical framework to bolster vertical accountability. However, deficits remain in many G&T cooperatives' accountability to their distribution members, and ultimately, the memberowners. In many cases, internal technical capacity within a cooperative association is disproportionately held at the G&T level and distribution utilities show strong deference to their G&T cooperatives. Further, most G&Ts cooperatives generally follow the standard cooperative practice of having governing boards comprised of single representatives from each of the distribution utilities they serve. But the G&T cooperatives' board members do not represent equal numbers of constituents, and therefore contributions to total costs, within the G&T network-a problem exacerbated as economic growth and electricity demand have grown unevenly in the rural areas served by cooperatives.⁴⁵⁶ Today, some G&T cooperatives are governed by boards in which the largest member distribution cooperatives have equal representation to the smallest cooperatives, which can create governance challenges, particularly with regard to cost allocation of common G&T assets that are unequally utilized by the constituents of the G&T.457

To bolster vertical accountability, G&T cooperatives and distribution utilities should find new ways to work collaboratively. For instance, G&T cooperatives could support their distribution members through more robust stakeholder processes, peer exchanges, and technical capacity sharing. Critical to this support should be a balanced approach to not only protecting the smallest members from unfairly cross-subsidizing (or being cross-subsidized by) other members of the G&T cooperative but also actively creating opportunities for the smallest members to benefit from the clean energy transition. This could include efforts for the G&T cooperative to pilot new technologies—such as electric-vehicle fast chargers or investments in distributed energy resources with a broad diversity of their distribution members, not just the most politically well-represented and not just the largest and most technically

^{456.} See, e.g., supra Section I.C.2 (discussing McKenzie's representation on the board of Basin Electric, which has remained unchanged even as its electricity demand has grown rapidly).

^{457.} G&T board members generally hold a "dual director" status. See, e.g., Tri-State Generation & Transmission Ass'n, Presentation on Fiduciary Duties of Cooperative Directors 12 (Dec. 2013) (on file with author). As detailed in the by-laws of the Tri-State G&T, (1) "the Director's fiduciary duties are to the G&T [and] to the distribution cooperative"; (2) "[1]he Board of Directors of a G&T is not a representative democracy where each Director's responsibility is to represent the interests of her distribution cooperative"; and (3) "[1]he G&T Director must discharge his or her fiduciary duties in the best interests of the G&T; however, the Director still owes duties to his or her distribution cooperative." *Id.* In 2009, five Nebraska-based member-owners attempted to leave Tri-State, and in response, Tri-State personally sued the dual-board members of four member-owners for breach of fiduciary duty. Chimney Rock Pub. Power Dist. v. Tri-State Generation & Transmission Ass'n, No. 10-CV-02349-WJM-KMT, 2013 WL 4494284, at *1 (D. Colo. Aug. 21, 2013). The court dismissed the case, holding that cooperative board members were immune from personal liability under a Nebraska statute. *Id.* at *10–11.

capable. In this way, clean energy solutions can scale more rapidly throughout the whole G&T cooperative, providing value across a range of distribution members.

Tying together the roles distribution cooperatives play in engaging their members and the need for greater vertical coordination in the energy transition, the multilevel structure of cooperatives also calls for new modes of member engagement to understand and shape the decisions of their G&T. Distribution cooperatives and G&T cooperatives should help their member-owners actualize their rights to direct the full cooperative network in which G&T cooperatives operate. The multistate networks of G&Ts could become an important structure through which even isolated parts of rural America can enjoy "an authentic gateway to a national network of co-ops that imparts economic and political power, at scale."⁴⁵⁸ In this way, rural electric cooperative memberowners are already positioned to shape a more democratic, systemic clean energy transition.

CONCLUSION

In this Article, we draw on the structure and foundational principles underlying rural electric cooperatives to identify pathways forward through the clean energy transition for cooperatives. The proposals we develop in this Article do not rely on imposing new federal or state clean energy mandates on cooperatives, even though these policies can certainly be helpful where they exist. Because of the urgency of climate change, our proposals focus instead on actions cooperatives can take right now, even in the absence of new policies. We draw on the Cooperative Principles and clean energy economics to propose a range of reforms that include greater integration of cooperatives into regional wholesale energy and electric transmission markets, new approaches to allocating costs of old and new energy resource assets, and increasing democratic participation and accountability to members in cooperative governance. These approaches allow cooperatives to engage in the clean energy transition in a way that is consistent with their history and foundational principles. These approaches also incorporate the increasing movement to promote enhanced democratic engagement as well as racial, gender, and social equity in cooperative governance.

^{458.} TAYLOR, supra note 408, at 164.