UNC
CENTER FOR CLIMATE, ENERGY, ENVIRONMENT AND ECONOMICS

North Carolina's Electric Cooperatives

Lily Faulconer,* Madeline Labovitz,* and Ethan Blumenthal**

* Student Research Assistant, University of North Carolina School of Law
** Fellow, Center for Climate, Energy, Environment, & Economics (CE3), University of North Carolina School of Law

The United States has over 900 electric cooperatives, supporting more than 600,000 American jobs annually and generating over $440 billion in gross domestic product and $112 billion in tax revenues between 2013 and 2017, mostly in rural areas.[1] Electric cooperatives are non-profits, owned and controlled by the people who use their services.[2] The story of the rise of electric cooperatives as we currently know them is grounded in the pursuit of universal American electrification and the ingenuity of collective American enterprise.

As late as the mid-1930s, many rural homes in America did not have access to electricity.[3] Areas that had electricity industrialized, requiring more electricity for new factories and businesses. This encouraged power companies to concentrate their focus on industrial areas rather than expanding access.[4] To address this disparity, President Roosevelt established the Rural Electrification Administration (REA).[5]

Established utilities, owned by investors, did not utilize the federal loans to electrify rural areas. Instead the loan applications came from farmer-based cooperatives, making it clear to the REA that electric cooperatives, rather than the established utilities, would electrify rural areas.[6] This led Congress to enact the Electric Cooperative Corporation Act, which set the framework for states to "enable the formation and operation of not-for-profit, consumer-owned electric cooperatives."[7]

As a result, electric cooperatives grew rapidly, providing 90% of U.S. farms with electricity by the early 1950s.[8] Today, there are more than 900 electric cooperatives providing electric services to 56% of the nation's landmass over 47 states.[9] Electric cooperatives are member owned and operated and the central concept of community has remained consistent throughout their significant growth. Customers are considered member-owners and are intended to have a strong, central voice in the operation of the cooperative,[10] though actual participation rates vary considerably.[11] Through a democratic process, members vote in board elections to select the body that runs the cooperative.[12]

Members abide by seven core principles: (1) voluntary and open membership, (2) democratic member control, (3) member economic participation, (4) autonomy and independence, (5) education, training, and information, (6) cooperative among cooperatives, (7) concern for

---

[1] FTI CONSULTING, THE ECONOMIC IMPACT OF AMERICA'S ELECTRIC COOPERATIVES 1 (Mar. 2019), *available at* https://www.fticonsulting.com/~/media/Files/us-files/insights/reports/economic-impact-americas-electric-cooperatives.pdf.

[2] *What is a Cooperative?*, MJM ELECTRIC COOPERATIVE, https://www.mjmec.coop/content/what-cooperative.

[3] *The Electric Cooperative Story*, AMERICA'S ELECTRIC COOPERATIVES, https://www.electric.coop/our-organization/history/.

[4] *Id.*

[5] *Id.*

[6] *Id.*

[7] *Id.*

[8] *Id.*

[9] *America's Electric Cooperatives: 2017 Fact Sheet*, AMERICA'S ELECTRIC COOPERATIVES, https://www.electric.coop/electric-cooperative-fact-sheet/.

[10] *The Changing Nature of Rural Electric Cooperatives in the 21st Century*, APPALACHIAN VOICES (June 14, 2016) http://appvoices.org/2016/06/14/electric-cooperatives/.

[11] Matt Grimely, *Just How Democratic are Rural Electric Cooperatives?*, INST. FOR LOCAL SELF-RELIANCE (Jan. 13, 2016), https://ilsr.org/just-how-democratic-are-rural-electric-cooperatives/.

[12] *Advantages of an Electric Cooperative*, BARRY ELECTRIC COOPERATIVE, http://barryelectric.com/advantages-of-an-electric-cooperative/.

community.[13] Many electric cooperatives also provide a bill of rights for their members, which may include the right to vote by secret ballot, to propose bylaws and resolutions, to call a special meeting, to remove directors, to attend board meetings, to inspect records, and to vote without intimidation.[14]

The following is a discussion of the oversight of cooperatives on the federal and state level, specifically in North Carolina where cooperatives are experimenting with projects that impact the energy landscape. Multiple agencies and departments are involved with the federal oversight of electric cooperatives. In addition, states play an important role in the oversight of cooperatives, though in many states, including North Carolina, this role is beginning to shift. Electric cooperatives in North Carolina are also gaining experience with microgrid technologies, community solar gardens, and expanded service offerings to try and better serve their members' needs.

Modern Federal Oversight

Though limited in scope, federal oversight in the sector now involves numerous organizations. The most involved federal regulator in the United States is the Federal Energy Regulatory Commission (FERC), an independent agency under the Department of Energy (DOE).[15] FERC regulates the rates, terms, and conditions of wholesale energy sales – and the transmission of power in interstate commerce – in order to ensure that the rates charged are "just and reasonable."[16] Other organizations with regulatory authority include the Environmental Protection Agency (EPA),[17] Commodity Futures Trading Commission (CFTC),[18] Nuclear Regulatory Commission (NRC),[19] and the North American Electric Reliability Corporation (NERC).[20] NERC is a not-for-profit international regulatory authority with jurisdiction over users, owners, and operators of the bulk power system in the US, Canada, and certain parts of Mexico.[21] It monitors the bulk electric system and assesses performance, risk management, and entity capabilities to create Reliability Standards.[22] In the United States, compliance with NERC Reliability Standards is a legal

[13] NAT'L RURAL ELECTRIC COOPERATIVE ASS'N, GUIDES FOR ELECTRIC COOPERATIVE DEVELOPMENT AND RURAL ELECTRIFICATION: MODULE 1, 1-25 (2016), *available at* http://www.nrecainternational.coop/wp-content/uploads/2016/11/GuidesforDevelopment.pdf.

[14] *See, e.g.,* COBB ELECTRIC MEMBERSHIP CORP., AMENDED AND RESTATED BYLAWS OF COBB ELECTRIC MEMBERSHIP CORP. (2016), *available at* https://cobbemc.com/sites/cobbemc/files/Current%20Site%20PDFs/Bylaws%20and%20Service%20Rules/2016/Master-Bylaws%20Amended%20May%2026%202016.pdf.

[15] The DOE does not regulate the sale or transmission of electric energy, but it is responsible for advancing the national, economic and energy security of the US by implementing policies regarding nuclear power, fossil fuels and alternative energy resources. Kenneth L Wiseman, et al, *Oil and gas regulation in the United States: overview*, THOMSON REUTERS (2018), https://uk.practicallaw.thomsonreuters.com/w-013-2478?transitionType=Default&contextData=(sc.Default).

[16] *Id.*

[17] The EPA regulates greenhouse gas emissions from power plants, among other things. *Id.*

[18] The CFTC regulates derivatives markets for potential abuses and certain commodity trades like electricity hedges and trade options but does not have jurisdiction over physical sales of electricity. *Id.*

[19] NRC regulates transportation, storage, and disposal of nuclear material and waste as well as the decommissioning of nuclear facilities but does not regulate sales of electricity generated by nuclear reactors. *Id.*

[20] *Id.*

[21] *About NERC*, NERC, https://www.nerc.com/AboutNERC/Pages/default.aspx.

[22] *Id.*

requirement for all owners and operators of the bulk electric system, including many electric cooperatives.[23]

Another federal agency with influence on the structure and operation of electric cooperatives is the Internal Revenue Service (IRS). As 501(c)(12) organizations, electric cooperatives must comply with certain organizational, structural, and reporting requirements in order to be granted federal tax-exempt status.[24] The hallmark principles of these requirements are democratic control, operation at cost, and subordination of capital - already pillars of the overall cooperative structure.[25] Additionally, to be tax-exempt under IRC 501(c)(12), a cooperative must receive 85% or more of its income from members and must use the money for services laid out in Section 501(c)(12) of the Internal Revenue code, which includes basic services to members as well as proper record keeping and reporting activities.[26] The 85% member income test is conducted each tax year, and if in any year member income falls below the 85% required, the cooperative is no longer exempt and must file a corporate tax return for that year.[27] Given cooperative's history in providing electricity to the nations' hardest-to-reach places, any additional burden - such as a corporate tax return - is a significant one.

North Carolina Electric Cooperatives

There are 26 North Carolina electric cooperatives that cover one million homes and businesses in 93 counties.[28] Three state-wide umbrella organizations support the 26 regional cooperatives: The North Carolina Electric Membership Corporation (NCEMC), The North Carolina Association of Electric Cooperatives (NCAEC) and The Tarheel Electric Membership Association (TEMA).[29] "NCEMC owns power generation assets, purchases electricity through contracts, identifies innovative energy projects and coordinates transmission resources for its members."[30] NCAEC, a trade association owned by the state's local electric cooperatives, provides legislative assistance, training, and other services to the cooperatives.[31] Finally, TEMA provides materials for the operation and maintenance of the cooperatives' electric system.[32]

The North Carolina Utilities Commission (NCUC) is responsible for regulating electric utilities in North Carolina and is comprised of seven members who are appointed by the governor and subject to confirmation by the North Carolina General Assembly.[33] In the electricity sector, the NCUC regulates the state's three investor-owned utilities: Dominion Energy North Carolina, Duke Energy,

---

[23] Unless otherwise specified within NERC regulations, the "Bulk Electric System" consists of "all Transmission Elements operated at 100 kilovolts (kV) or higher and Real Power and Reactive Power resources connected at 100 kV or higher." NERC, BULK ELECTRIC SYSTEM DEFINITION REFERENCE DOCUMENT (2018), *available at* https://www.nerc.com/pa/Stand/2018%20Bulk%20Electric%20System%20Definition%20Reference/BES_Reference_Doc_08_08_2018_Redline_for_Posting.pdf.

[24] *Energy Cooperatives*, CO-OPLAW.ORG, http://www.co-oplaw.org/co-op-basics/types/energy-cooperatives/#IRS_Requirements_for_Cooperative_Electric_Companies.

[25] *Id.*

[26] *Id.*

[27] *Id.*

[28] *Who We Are*, NC ELECTRIC COOPERATIVES, https://www.ncelectriccooperatives.com/who-we-are/.

[29] *Id.*

[30] *Id.*

[31] *Id.*

[32] *Id.*

[33] NORTH CAROLINA UTILITIES COMMISSION, NORTH CAROLINA'S PUBLIC UTILITY INFRASTRUCTURE & REGULATORY CLIMATE (2018) https://www.ncuc.net/documents/overview.pdf.

and Duke Energy Progress.[34] However, the NCUC has limited jurisdiction over electric cooperatives and municipalities.[35]

As entities owned by the same customers they serve, some regard electric cooperatives as having a heightened degree of accountability to their consumers – particularly regarding service quality and rate regulation. As a result, in some states electric cooperatives are subject to little state oversight. For instance, some states exempt electric cooperatives from public records laws, allow them to raise rates without approval from the state's utility governance, and/or do not required electric cooperatives to produce service quality reports.[36]

In 2013, the North Carolina General Assembly passed a law reducing the NCUC's oversight of electric cooperatives, reflecting the prevailing trend among many states. The 2013 legislation served two purposes: first, it exempted electric membership cooperatives from the Commission's integrated resource planning and service requirements; second, it authorized the North Carolina Rural Electrification Authority (NCREA) to receive and investigate complaints from members of electric membership corporations.[37] Integrated resource planning and service quality requirements exist to ensure companies are developing capacity for future needs while simultaneously providing for the current needs of consumers and the utility service itself.[38] Generally speaking, this legislative change is important because it reduces the transparency required by cooperatives at the state level and expands the role of the NCREA.

In addition to receiving complaints, the NCREA advises electric cooperatives regarding recommended changes in rules and regulations and serves as an agent in securing and approving loans and grants from the USDA.[39] These responsibilities work to promote the organization's overall mission of ensuring North Carolina's rural areas have access to "adequate, dependable, and affordable electric and telephone services."[40]

While the 2013 law reduced the information that electric cooperatives must produce and share with the NCUC, it did not eliminate reporting responsibilities entirely. Electric cooperatives are still responsible for providing the NCUC with audited financial statements and certain investment and transaction reports on an annual basis.[41] Additionally, electric cooperatives must share their cost allocation manual(s) and board-approved code of conduct, and, should either change, must provide

---

[34] *What does the NC Utilities Commission Regulate?*, NCUC, https://www.ncuc.net/Consumer/whatwedo.html.
[35] NORTH CAROLINA UTILITIES COMMISSION, NORTH CAROLINA'S PUBLIC UTILITY INFRASTRUCTURE & REGULATORY CLIMATE (2018) https://www.ncuc.net/documents/overview.pdf.
[36] *See* Order Adopting Amendments to §§ 25.71-25.74, 25.76, 25.81, 25.81, 25.89, (Pub. Util. Comm'n of Tex. June 7, 2000), *available at* https://www.puc.texas.gov/agency/rulesnlaws/subrules/electric/25.73/21232ad.pdf; 15 PA. CONS. STAT. §§ 73-79 (2019); Cindi Ross Scoppe, *Tri-County customers took back their utility. Now let the sun shine on other co-ops*, THE STATE (Aug. 20, 2018), https://www.thestate.com/opinion/opn-columns-blogs/cindi-ross-scoppe/article216953890.html.
[37] 2013 N.C. Sess. Laws 187, *available at* https://www.ncleg.gov/EnactedLegislation/SessionLaws/PDF/2013-2014/SL2013-187.pdf.
[38] *Integrated Resource Plans and Renewable Energy and Energy Efficiency Portfolio Standard Plans for Duke Energy Progress, Duke Energy Carolinas, and Dominion Energy North Carolina*, N.C. Utilities Commission, https://www.ncuc.net/Hearings/e100sub157hearing.html.
[39] *North Carolina Rural Electrification Authority*, NORTH CAROLINA RURAL ELECTRIFICATION AUTHORITY, http://www.ncrea.net/.
[40] *Id.*
[41] Electric Membership Corporation Reporting Requirements, N.C. Util. Comm'n Rule R19-1, *available at* https://www.ncuc.net/ncrules/Chapter19.pdf.

updated versions to the NCUC within 30 days.[42] Electric cooperatives and municipalities are also required to obtain certificates from the NCUC to construct electric generating facilities as well as transmission lines of 161 kilovolts or greater.[43] Finally, the NCUC "is empowered, upon complaint, to direct the [cooperative] to adjust charges" to comport with applicable regulations, as well as to inspect cooperative records as necessary for enforcement.[44]

Despite the national trend of decreasing state oversight, largely based on the ideal of democratic self-governance by member-owners, there are some common issues facing cooperatives around the country. Many cooperatives struggle with participation rates—with over 70% of cooperatives having less than 10% of their member-owner vote in elections.[45] Due to low voter turnout and structural biases that favor incumbent directors, such as allowing voting by proxy, it is common for cooperative elections to be uncontested.[46] These concerns, when combined with limited government oversight, can and have resulted in corruption scandals across the country.[47] However, each cooperative is unique and should be judged by its own operations and circumstances.

North Carolina Electric Cooperative Projects

Electric cooperatives around the nation are innovating and North Carolina's cooperatives are no exception. North Carolina cooperatives are experimenting with, among other things, community solar gardens, microgrid technologies, and expanded service offerings focusing on energy efficiency and access to internet.

A primary focus of electric cooperative experimentation is affordability and sustainability, which may be addressed through community solar projects.[48] Thus far community solar programs exist in 194 cooperatives in 31 states, 11 of which are in North Carolina.[49] These 11 North Carolina electric cooperatives have installed 18 community solar farms, collectively producing 2 megawatts of electricity.[50]

---

[42] *Id.*

[43] NORTH CAROLINA UTILITIES COMMISSION, OVERVIEW OF THE NORTH CAROLINA UTILITIES COMMISSION AND UTILITY REGULATION IN NORTH CAROLINA (2017), *available at* https://www.ncleg.gov/documentsites/committees/house2017-40/Meetings/3-1-2017/2016%20NCUC%20Introduction%20Presentation.pdf.

[44] Electric Membership Corporation Reporting Requirements, N.C. Util. Comm'n Rule R19-1, *available at* https://www.ncuc.net/ncrules/Chapter19.pdf.

[45] Matt Grimely, *Just How Democratic are Rural Electric Cooperatives?*, INST. FOR LOCAL SELF-RELIANCE (Jan. 13, 2016), https://ilsr.org/just-how-democratic-are-rural-electric-cooperatives/.

[46] *Id.*

[47] Baileu Shulz, *Valley Electric voting on new board member after scandal*, LAS VEGAS REVIEW-JOURNAL (Mar. 20, 2019), https://www.reviewjournal.com/business/valley-electric-voting-on-new-board-member-after-scandal-1622643/; Claudia Grisales, *After reforms, is electric co-op transformed?*, STATESMEN (Updated Sept. 25, 2018), https://www.statesman.com/business/20160923/after-reforms-is-electric-co-op-transformed (discussing fallout from the Pedernales Electric Cooperative scandal); Avery Wilks, *High pay and expensive perks: Has 'absolute power' corrupted SC electric co-ops?*, THE STATE (Aug. 9, 2018), https://www.thestate.com/news/politics-government/article216222990.html.

[48] *Community Solar*, AMERICA'S ELECTRIC COOPERATIVES, https://www.electric.coop/wp-content/Renewables/community-solar.html.

[49] *Id.*; *Electric Cooperatives: Driven by Service, Inspired by Innovation*, N.C. ELECTRIC COOPERATIVES, https://www.ncelectriccooperatives.com/who-we-are/spotlight/electric-cooperatives-driven-by-service-inspired-by-innovation/.

[50] *Electric Cooperatives: Driven by Service, Inspired by Innovation*, N.C. ELECTRIC COOPERATIVES, https://www.ncelectriccooperatives.com/who-we-are/spotlight/electric-cooperatives-driven-by-service-inspired-by-innovation/.

North Carolina electric cooperatives are also starting to implement microgrid technology. A microgrid is a smaller electric system that can operate independently of the main grid.[51] The controller of the microgrid controls generation and storage as well as activates demand and response components to balance the system's resources. A microgrid can incorporate alternative energy sources such as solar power, batteries, and/or biogas generation.[52] Not only are these microgrids effective during peak demand, but they can also be effective during and after storms by helping to avoid blackouts.[53]

Two cooperative-led microgrids are currently being piloted in North Carolina, one on Ocracoke Island and another on Butler Farms, with others under development. Butler Farms is a hog farm in Lillington, North Carolina that partnered with South River Electric Membership Corporation and NCEMC to develop a microgrid.[54] Within this partnership, Butler Farms owns solar panels, a diesel generator, and a biogas generator, NCEMC owns a battery system and a controller that integrates and manages all of the components, and South River owns the relevant distribution equipment.[55] Through this microgrid, NC electric cooperatives aim to learn how "agriculture and electric utilities – two of North Carolina's most important industries – can work together to promote sustainability and improve quality of life."[56]

While electric cooperatives brought electricity to rural areas, many sparsely populated areas are still struggling with adequate access to the internet.[57] Though seeking to address this by expanding the services offered to members, electric cooperatives in North Carolina are currently barred from using USDA funds to provide telecommunications services.[58] Despite this, Roanoke Electric has initiated a $4 million project to develop broadband technology that (1) increases grid flexibility and efficiency and (2) provides broadband connection to underserved North Carolinians.[59] Additionally, several bills are currently before the General Assembly that aim to increase adequate access to the internet in rural areas through various approaches, including the utilization of electric cooperatives.[60]

Cooperatives are also working with the USDA's Rural Utility Service's Energy Efficiency and Conservation Loan Program to provide loans to members at low rates (30 years at 3.3%) to retrofit

---

[51] *Microgrids*, N.C. ELECTRIC COOPERATIVES, https://www.ncelectriccooperatives.com/energy-innovation/microgrids/.
[52] *Id.*
[53] *Id.*
[54] *Butler Microgrid*, SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION, http://www.sremc.com/content/butler-microgrid.
[55] *Id.*
[56] *Id.*
[57] "39 percent of rural Americans (23 million people) lack access to 25 Mbps/3 Mbps," the Federal benchmark for fixed (land-based) services—though perhaps more notably "20 percent lack access even to service at 4 Mbps/1 Mbps, down only 1 percent from 2011, and 31 percent lack access to 10 Mbps/1 Mbps, down only 4 percent from 2011." FED. COMM. COMM'N, 2016 BROADBAND PROGRESS REPORT (2016), *available at* https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2016-broadband-progress-report.
[58] *See* 2019 S.B. 310, *available at* https://www.ncleg.gov/BillLookUp/2019/S310.
[59] *North Carolina's Electric Cooperatives, Roanoke Electric Stress Critical Need for Rural Broadband at "Energizing Rural North Carolina" Event*, N.C. ELECTRIC COOPERATIVES (July 28, 2018), https://www.ncelectriccooperatives.com/who-we-are/spotlight/north-carolinas-electric-cooperatives-roanoke-electric-stress-critical-need-for-rural-broadband-at-energizing-rural-north-carolina-event/.
[60] 2019 S.B. 310, *available at* https://www.ncleg.gov/BillLookUp/2019/S310 (proposing to allow electric cooperatives to use federal grant funds for broadband and telecommunications purposes); 2019 HB 431, *available at* https://www.ncleg.gov/BillLookUp/2019/HB431 (aiming to foster broadband infrastructure expansion by cities and counties); 2019 HB 381, *available at* https://www.ncleg.gov/BillLookUp/2019/HB381 (appropriating funds to expand broadband infrastructure to public schools, community colleges, universities, and state agencies); 2019 SB 308, *available at* https://www.ncleg.gov/BillLookUp/2019/SB308 (establishing net neutrality in North Carolina).

their homes with energy efficient and renewable energy improvements.[61] The Rural Utility Service has provided billions in available loans, allowing many local cooperatives to develop energy efficiency programs for their member-owners.[62]

North Carolina cooperatives have taken advantage of this program. For example, Roanoke Electric used $6 million from the USDA to assist 1,000 members over five years, ultimately saving the cooperative up to $2 million in reduced energy demand.[63] Blue Ridge Electric Membership Corporation launched Energy SAVER, which provides cooperative members loans for energy efficient retrofits in their homes. The members pay these loans back through their monthly electric bills, thus benefiting both members and the cooperative.[64]

Through the decades since their creation, America's electric cooperatives continue to provide essential services for rural communities across the United States.

[61] INSTITUTE FOR LOCAL SELF-RELIANCE, RE-MEMBER-ING THE COOPERATIVE WAY (2016), https://ilsr.org/wp-content/uploads/2016/03/Report_Remembering-the-Electric-Cooperative.pdf.
[62] *Id.*
[63] *Id.*
[64] *As Part of Growing Trend, North Carolina Electric Co-op Launches On-Bill Efficiency Program*, ENVIRONMENTAL & ENERGY STUDY INSTITUTE (Oct. 13, 2016), https://www.eesi.org/articles/view/as-part-of-growing-trend-north-carolina-electric-co-op-launches-on-bill-eff.