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All errors are our own.

Statements and views expressed in this report are solely ours (the authors’) and our interview participants’, and do not imply endorsement by the University of Colorado or its affiliated research centers.

Authors are listed in alphabetical order. Each contributed equally to this report.
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Abbreviations

C&I - Commercial & Industrial
Co-op(s) - Cooperative(s)
DEC(s) - Distribution Electric Cooperative(s)
DERs - Distributed Energy Resources
EV(s) - Electric vehicle(s)
FERC - Federal Energy Regulatory Commission
FPA - Federal Power Act
FUA - Federal Powerplant and Industrial Fuel Use Act
G&T(s) - Generation and Transmission Cooperative(s)
GHG - Greenhouse gas
IOU - Investor Owned Utility
ITC - Investment Tax Credit
NGOs - Non-Governmental Organizations
PTC - Production Tax Credit
PUC - Public Utilities Commission
QF - Qualifying Facility (under PURPA)
REA - Rural Electrification Act
RPS - Renewable Portfolio Standard
RUS - Rural Utilities Service
TSO - Transmission System Operator
WPP - Wholesale Power Provider
However global may be the problem of climate change, it has no global solution ... When I think of the great problems of the present world, including of course climate change, I think of local economy.

- Wendell Berry, *The Art of Loading Brush*
Executive Summary

The electricity sector will require a systemwide approach to meet greenhouse gas (GHG) emission targets and avoid the worst possible consequences of climate change. According to the Intergovernmental Panel on Climate Change (IPCC), at least 80% of the world’s electricity must be generated from low-carbon sources by the year 2050. To meet this target, electric utilities across the world must make and meet aggressive decarbonization commitments.

Rural areas need to commit to decarbonization to mitigate the most severe impacts of climate change. Rural communities, and their economies, are heavily reliant on natural resources, and are particularly vulnerable to the volatile ecological impacts of intensified heat, drought, flood, and wildfire. Yet these communities have often been overlooked as major players in the battle against climate change, despite being positioned to make a significant impact.

The purpose of our research is to identify pathways to accelerate the clean energy transition in rural America. Rural residents typically have more costly and carbon intensive energy mixes compared to urban and suburban customers. This report identifies the challenges that are preventing cooperatives (co-ops) from joining the clean energy transition, as well as the opportunities that exist for co-ops to overcome those challenges and achieve a future of clean, affordable electricity.

This report describes a yearlong effort to understand the underpinnings of the co-op system and its relationship to the clean energy transition. The history and status of rural electric co-ops in the U.S. are covered in Sections I (“Introduction”) and II (“Background”) of this paper. Section III (“Methodology”) describes our research methods, including the systems theory that underpinned our approach. A literature review allowed us to explore existing research and gain a comprehensive understanding of the rural electric sector. We then conducted semi-structured interviews with 43 diverse co-op and industry leaders, advocates, and decision makers (Image 1). Finally, we completed qualitative coding and compiled and analyzed the interview results, which coalesced in Sections IV (“Results”) and V (“Discussion”).

Image 1: Location of Interviewees
Results

Our results are structured around three core research questions:

1. How does the current generation and transmission (G&T) model meet the needs of distribution electric cooperatives (DECs) and their member-owners? The primary needs of co-ops are affordable and reliable electricity. The low cost and distributed nature of clean energy are driving changes in co-ops’ primary needs; the emerging needs of DECs include more clean energy and/or distributed energy resources (DERs), and lower costs. The G&T model best meets the primary and emerging needs of member-owners by providing economies of scale (Image 2). But, the status quo also creates challenges in meeting member-owner needs by governance issues, contract issues, and ingrained coal culture (Image 3).

2. What are the challenges and opportunities of co-op exits? The foremost challenge revolves around higher risk for exiting DECs and a risk of stranded assets for G&Ts and their remaining DECs. Post exit, the dominant opportunities for newly independent DECs include cheaper energy and autonomy over their energy mix, which often go hand in hand with clean energy. The main opportunity for the G&T and remaining members is homogeneity amongst the membership base.

3. What role do co-op’s play in the clean energy transition? The factors that have driven co-ops to participate in the clean energy transition are primarily cost and member pressure. Factors that have prevented co-ops from participating in the clean energy transition include an ingrained coal culture, cost, and transmission constraints. Co-op exits could speed up the clean energy transition, but it may be too early to confirm. Interviewees’ visions for the future of the G&T model are focused on potential reforms (Image 4).
The Path Forward

The results of our research revealed two main findings:

Various governance and management reforms are necessary in many co-ops to restore the bottom-up flow of decision-making in the cooperative structure/G&T model. Cooperative leaders and experts raised concerns about a lack of diversity in leadership, low voter turnout, and the senate model voting structure. These challenges are preventing some co-ops from taking advantage of the economic benefits of clean energy. These issues may not be universal; nevertheless, all co-ops could benefit from taking a hard look at their governance practices, particularly in these areas, to see how they might be able to improve. In the absence of such reforms, co-ops may continue to seek exits from their G&T contract.

Exits are a faster route for some DECs to meet emerging needs; however, the G&T model is still likely the fastest vessel for co-ops as a whole to decarbonize. Given governance reform and aggressive decarbonization goals, the G&T model is likely the fastest route to co-op decarbonization.

As climate change becomes the defining challenge of the 21st century, various actors across the co-op sector must mobilize to stave off the worst possible consequences of climate change. This report develops the following calls to action for decision makers in the co-op sector:

**G&Ts** have a unique opportunity to adapt to become key participants in the clean energy transition. They should make aggressive decarbonization commitments to remain the fastest vessel for co-ops, as a whole, to decarbonize. Yet, simply adding clean energy will not be enough. Structural governance reform is required in many cooperatives to best serve the interests of member-owners.

**DECs** should work within the existing G&T model to adapt its structure to be more flexible and responsive to the array of needs expressed by its member-owners, including helping member DECs take advantage of the benefits of the clean energy transition. Not accommodating the emerging needs of their fellow member co-ops may lead to the collapse of the G&T model. DECs.

**Wholesale power providers** must also develop aggressive decarbonization commitments to prove their value as a pathway for a carbon-free co-op future. If wholesalers want to be competitive in the cooperative system, they should prove that they can be a positive force in rural economic development by advancing clean energy as fast or faster than a reformed G&T.

**Policymakers** intent on reaching aggressive decarbonization goals should consider how they might aid G&Ts in staying viable and meeting decarbonization goals, including aids to reforming their structure. They also should consider what steps may need to be taken to aid individual DECs in meeting such goals in the event that the G&T model drastically changes.
I. Introduction

In 2018, the Intergovernmental Panel on Climate Change (IPCC) published a special report warning policymakers around the world that to limit global warming to 1.5 degrees Celsius, at least 80% of the world’s electricity must be generated by low carbon sources by 2050. The IPCC determined that by limiting warming to 1.5 degrees Celsius, compared to pre-industrial levels, the globe could avoid the worst possible ecological and societal consequences of climate change. At present, the United States produces nearly 63% of its total electricity from fossil fuels, 20% from nuclear, and about 17% from renewable sources. Despite accounting for only two-thirds of electricity consumption, fossil fuels contribute to 99% of the GHG emissions released by the electricity sector. According to the U.S Environmental Protection Agency (EPA), the electricity sector contributes nearly one-third of the nation’s total GHG emissions, making it the second-largest contributor to U.S. GHG emissions, behind only the transportation sector. The electricity sector must employ an inclusive systems-wide approach to support a rapid transition to clean energy and meet the GHG emission reduction goals set by the IPCC.

The electricity sector comprises three major stages: generation, transmission, and distribution. In the United States, there are three main types of electricity utilities: investor owned utilities (IOUs), publicly owned utilities (POUs or “munis”), and cooperatives (co-ops). IOUs are for profit utilities that own generation, transmission, and/or distribution services and serve over three-quarters of electricity consumers. POUs, including municipal utilities, are local governments that control generation or procurement, transmission, and distribution within their governing region and serve over 24 million people. Cooperatives are member-owned organizations that serve about 42 million people, sell 13% of U.S. electric consumption, and produce roughly 5% of the nation’s total electricity. Distribution electric cooperatives (DECs) typically procure generation and transmission services from Generation & Transmission cooperatives (G&Ts) and distribute electricity to rural consumers for the “last mile” of the electricity system.

IOUs deliver power to about 35 customers per mile of transmission line, POUs serve roughly 47 customers per mile of transmission line, and co-ops serve about seven members per mile of transmission line. This disparity in density occurs because co-ops are by nature located in rural areas where customers are widely dispersed, whereas IOUs and POUs are more often responsible for serving urban and suburban customers. Co-ops cover about 56% of the country, a significant portion of the land mass.

For nearly sixty years, the partnership between G&Ts and DECs has adequately served rural Americans, largely due to the historically low cost of electricity generated at centrally-located, coal-fired power plants. In recent decades, the cost of low carbon resources has dropped substantially, pushing coal to the brink of financial viability. Coal-fired generation contributes to roughly 23.5% of the nation’s electricity mix, but cooperatives still acquire nearly 40% of their energy from coal. Rural residents also pay a higher percentage of their income to energy bills compared to their urban counterparts; the median energy burden for rural customers is 4.4% while the national median is 3.3%.

Due to cultural and economic ties to fossil fuels like coal, small-town America has been left out of the wider trend of clean energy adoption, causing rural residents to miss out on the economic and environmental benefits of carbon-free electricity generation. The impacts of climate change are expected to be especially devastating for rural communities, where livelihoods are more closely related to lands experiencing greater volatility at the
hands of climate change. Clean energy presents an opportunity to lower energy burdens and create local economic development opportunities while building climate change resiliency by replacing more-expensive coal generation assets. Through this pathway, rural communities are well-positioned to become significant players in the clean energy transition.

Cooperatives today stand at a crossroads – they can either continue business as usual or they can take up the opportunities that have been laid out before them and choose the path toward a carbon-free economy. This report focuses on a narrow, albeit impactful, role within the greater clean energy transition by investigating the challenges and opportunities for deploying clean energy in rural communities. Our analysis takes place through the lens of three central research questions: (1) How does the current G&T model meet DECs’ needs? (2) What are the challenges and opportunities of co-op exits? (3) What role do co-ops play in the clean energy transition?

Section II (‘Background’) offers an overview of the history of cooperatives to describe the reason for their inception and the relationship between G&Ts and DECs. This section also provides the context for their current status and governance structure, and their role in economic development throughout rural communities. Section III (‘Methodology’) explains how we sought to answer the three central research questions through a robust stakeholder interview process. Section IV (‘Results’) explains the results from the interview process. It identifies the reported needs of DECs, the challenges and opportunities of a cooperative exit for both the exiting DEC and the remaining G&T and DECs, and the impact of co-op exits on the clean energy transition. Section V (‘Discussion’) analyzes the results to describe how the G&T model is in need of governance reform to allow cooperatives to better participate in the clean energy transition. This section also explains how cooperative exits have disrupted the G&T model. It explains how co-op exits allow for some co-ops to meet their clean energy goals faster, although exits may not be the fastest vessel for sector wide cooperative decarbonization.
II. Background

A. History & Structure
At its advent in the late 19th and early 20th centuries, electrification spread rapidly in urban areas across the United States. This spread was facilitated by private companies that eventually evolved into the IOU that we know today. The IOU is characterized by the regulatory bargain it strikes with society: because electricity is a natural monopoly (geographically overlapping competitors create redundant, inefficient infrastructure), IOUs are granted a set territory in which they are the only firm selling electricity. In exchange they submit to government regulation of their rates to ensure that consumers are not harmed. However, due to a combination of the technological limitations of the early 20th century and the relative lack of density in rural areas, IOUs refused to extend their services to rural America, declaring it impossible to deliver electricity to rural customers at a profit.

1. The Rise of the Rural Electric Cooperative
The state of electrification in America by the mid 1920s stood in sharp contrast to the rest of the developed world. While the rural U.S. was only about 10% electrified, countries such as France, Germany, and Japan had reached 90% electrification of their rural areas. Not only was the U.S. falling behind on the world stage but living conditions and quality of life in urban and rural areas within the country were vastly unequal.

To rectify this inequality, and as a part of the larger New Deal effort to put Americans back to work during the Great Depression, President Franklin D. Roosevelt created the Rural Electrification Administration (REA) on May 11, 1935. Congress provided statutory authority for the agency with the passing of the Rural Electrification Act, which was signed into law on May 20th, 1936. The main service provided by the REA was furnishing federal loans for the construction of electricity distribution systems in rural areas and small towns of less than 1,500 residents.

Because IOUs were long unwilling to be a part of the electrification of rural America, the REA precluded them from eligibility for REA loans, even after a utility industry committee proposed that IOUs be the beneficiaries of the funds and the builders of the distribution systems. In their place, the REA was flooded with loan applications from farmer-owned cooperatives, and soon determined that DECs (commonly known as Rural Electric Cooperatives [RECs]) formed by groups of local consumers would be the best option for administering REA funds. Using REA loans, DECs hired crews and built their distribution systems, and by 1965, over 98% of American farms were electrified.

2. The Birth of the G&T Cooperative
As the REA originally only gave loans to DECs for the construction of distribution systems, DECs were forced to either find other funding for generation and transmission infrastructure or, most commonly, purchase their electricity at wholesale from another generator. Initially, these purchases came primarily from federal power projects, IOUs, and independent generators. However, in May 1961, the REA, under new Administrator Norman Clapp, issued REA Bulletin 20-6, which removed the distribution-only requirement for REA loans. Instead, it required only that the loan be “necessary to protect the security and effectiveness of REA-financed systems.”

With this new source of funding, DECs began banding together to secure financing for constructing their own infrastructure for power generation and transmission. They did so by forming Generation & Transmission Cooperatives (G&Ts), essentially cooperatives with
all-DEC memberships. For many DECs, joining a G&T was preferable to purchasing power at wholesale from an IOU because each member DEC is involved in the G&T’s decision making and has voting power on its board. Other DECs simply did not have the option to purchase power at wholesale due to geographic constraints: they were simply too far away from an IOU or had no transmission infrastructure to connect them with existing wholesale generators.

This new DEC and G&T relationship was codified with contracts known variably as wholesale electricity supply contracts, all-power requirements contracts, or all requirements contracts (contracts). To secure long-term revenue to finance the substantial investments G&Ts made in central station, coal-fired power generators during the middle of the 20th century, these contracts nearly always had a term of 40-75 years. At the time of signing, they were financially prudent. Larger coal-fired generators financed by these contracts granted economies of scale to G&Ts, ensuring that, even though the initial expenditure was significant, reliable electricity could be provided at a low cost to DECs and their member-owners.¹⁸

B. Current Status
The G&T cooperative model as originally constructed has endured for nearly six decades, but in recent years changes in the electricity sector have put unprecedented stresses on the system. Recent scrutiny of the system falls broadly into three categories: governance issues, local economic development, and ties to coal generation. This subsection will discuss each of these in turn.

1. Governance Structure
The formation and structure of electric cooperatives was designed to prioritize member-owner needs by following seven cooperative principles: (1) open and voluntary membership (2) democratic member control (3) members’ economic participation (4) autonomy and independence (5) education, training, and information (6) cooperation among cooperatives and (7) concern for community.¹⁹ These principles founded the cooperative model that succeeded in electrifying rural America; today, 834 DECs and 62 G&Ts serve rural customers across 47 states.²⁰

Despite these well-intentioned mores, certain regions and co-ops have shown instances of low member participation, a lack of gender and racial diversity in leadership, and weak accountability and managerial entrenchment. Across the co-op system, directors and member-owners seldom obtain the educational resources to fully understand the mechanics of the electric utility system. Across 70% of co-op boards, less than 10% of members vote in board elections; these low turnout rates suggest that member-owners are unaware of or apathetic to their voting power, which surrenders accountability for board behavior.²¹

Cooperative boards in many areas also notoriously lack diversity and elections often go uncontested, which exacerbates representation issues. The Labor Neighbor Research and Training Center and Acorn International conducted an analysis of 313 co-ops in the South and discovered that 95% of the Board members were white and 90% were male.²² An example of this is Jackson Energy Cooperative (KY), which in 2009 held its first ever contested election in 71 years, though the incumbent won by a landslide.²³

There are also numerous examples of self-dealing within cooperative management as they take advantage of their lack of accountability. A recent article in Missouri Law Review discusses scandals within multiple co-ops. In Pedernales Electric Cooperative (TX), the co-op leadership spent $700,000 on five-star accommodations, paid the Board President $190,000 a year, and gave the general manager $2 million in deferred compensation along with a $375,000 signing bonus. These funds were spent unbeknownst to the member-owners.²⁴ Since then, the Pedernales board has been replaced and has committed itself to increased transparency in its governance structure.²⁵ In Tri-County Electric Cooperative (SC), the Board of Directors received an average annual salary of $52,000, but it was later discovered that it was not uncommon for them to hold 15 minute meetings to collect a $450 per diem.²⁶ There have also been instances of co-ops venturing into profit-seeking industries, including real estate, resulting in mismanaged funds that were ultimately paid for by member-owners through losses in patronage capital.²⁷

2. Cooperatives as an Economic Engine
Cooperatives in some regions have struggled with mismanagement, but they have also acted as an important economic engine for rural communities. The services provided by electric cooperatives do not stop at power supply, as co-ops play a supporting role in stimulating economic development throughout rural America.²⁸ Empowerment of small communities is a founding principle of the cooperative structure. When
they were formed. DECs went to great lengths to keep their spending and hiring as local as possible. A recent report, funded by NRECA, found that co-ops provided jobs to roughly 612,000 people and contributed $440 billion to the national gross domestic product (GDP) from 2013 - 2017. Some co-ops have also acted as entrepreneur incubators to attract small businesses and accompanying employment opportunities to their communities. More recently, cooperatives have helped to expand broadband internet access and improve telecommunications in rural America.

Co-ops serve an important role in the financial system of rural communities, which are typically less affluent populations compared to the service areas of IOUs and POUs, making co-op member-owners more sensitive to rate escalations. Rural areas in the U.S. experience unemployment at a rate of 4.2%, compared to urban areas with a 3.9% unemployment rate. Over 90% of “persistent poverty counties” receive their electricity from co-ops. However, cooperative rates are typically 9% more expensive than adjacent IOUs.

3. Ties to Coal
Traditionally, co-ops have had a greater dependence on and investment in coal, the most carbon intensive energy source, and have been slower to partake in the clean energy transition compared to other profit seeking utilities. Cooperatives account for six of the top ten most carbon-intensive electricity providers. Between 2009 to 2017, GHG emissions dropped by 23% for the entire electricity sector, although GHG emissions fell by only 9% within cooperatives during that same time period. Co-ops’ carbon intensity can be attributed to their coal generation, which produces over 50% more CO2 than natural gas. The reason for their extensive coal generation can be traced back to the origin of much of the plant construction.

About two-thirds of the coal assets that generate power for cooperatives today were built in the 1980s through the Federal Powerplant and Industrial Fuel Use Act (FUA). Following the Arab oil embargo, in 1978 the 95th U.S. Congress passed FUA, which prohibited “the use of natural gas or petroleum as a [sic] energy source in any new electric powerplant and construction of any new electric powerplant without the capability to use coal or any alternate fuel as a primary energy source.” This legislation intensified the nation’s buildout of coal infrastructure and contributed to the co-ops modern-day commitment to carbon intensive energy mix. At the time of the initial buildout, coal was the cheapest form of energy, however G&Ts still accrued massive amounts of debt. This outstanding debt on aging infrastructure kept cooperatives tethered to coal.

There are also instances of co-ops owning both coal plants and mines, which tightens co-op integration with coal and makes it more difficult for them to transition to less carbon intensive energy sources. Historically, centralized coal fired power plants were economically sound and reliable; however, with improving technology and the decreasing price of renewables, coal powered electricity is no longer the cheapest source of generation. With the emergence of clean technology, the changing structure of the electricity sector poses challenges for co-ops in this long-term model. Coal is becoming less and less cost-competitive than new low carbon sources.

Additionally, consumers and state and local policymakers are growing increasingly wary of climate change, which has resulted in aggressive GHG reduction legislation in state and local governments across the country. The future of GHG legislation in the United States is unclear; however, GHG reduction policies or consumer demand could force G&T cooperatives to ramp down fossil fuel generation, and shift to cleaner sources before fully repaying existing debt on coal assets. These stranded coal assets would be financially detrimental for rural communities, as the cost to continue paying for a facility that is no longer in use would be borne by the members of rural co-ops.

A growing number of studies have shown that early retirement of coal plants and replacement with utility-scale renewable generation would save G&Ts and their customers millions of dollars. Some G&Ts are reluctant to do so, however, because they still have billions of dollars of outstanding debt on their coal assets. An ILSR report describes how one coal plant is associated with 75% Seminole Electric’s debt and the early retirement of this plant would result in member-owners being “burdened with paying off the debt but with no revenues to support the payments.”

The power supply contracts between co-ops and G&Ts were created to secure financing for the capital costs for coal generation infrastructure with a long lifespan. When these contracts were put in place, the technology and opportunity for co-ops to produce their own electricity was not nearly as prevalent as it is today. These agreements often have strict and limiting terms, including restrictions on how much self-generation a
distribution co-op can contribute to their energy load and can also ban the use of utility-scale renewable generation in DECs. The restrictions on self-generation prohibit co-ops from gaining alternative power sources that competed with the G&T model.

4. Cooperative Exits
In recent years, a handful of DECs have begun to pursue or consider the early termination of their lengthy and restrictive G&T contracts, known as a “cooperative exit (co-op exit or exit)”, with hopes of taking advantage of the evolving energy landscape, increasing autonomy over their generation sources, and lowering member rates. Prior to 2016, this process was relatively uncharted territory and regulations surrounding cooperative exits along with their environmental, social, and economic impacts are still evolving (Appendix A). As the initial exiting co-ops begin to prove that exits can be an effective means of meeting their emerging needs (Appendix B), more co-ops are considering following in their path. Appendix A also discusses several of the ongoing exit cases unfolding in states and co-ops across the country today. Our background research suggests that the drivers of co-op exits are closely intertwined with the clean energy transition, and we believe that our research can contribute to the
The purpose of our research is to investigate the challenges and opportunities of clean energy in rural communities. We began this endeavor by conducting thorough literature and policy reviews to familiarize ourselves with the history and makeup of the G&T cooperative model as well as current trends, internal drivers, and outside forces influencing how the system has behaved in recent years. From this understanding, our research questions were formed. Using these questions, we built out a series of interview scripts (Appendix C), with which we contacted and interviewed 43 cooperative leaders, academics, lawyers, and other industry experts. We transcribed our interviews, and then analyzed the interviews for emerging trends through qualitative coding. Finally, we synthesized our findings into a discussion of the takeaways and calls to action for policy and decision makers. The following subsections describe these processes in greater detail.

A. Literature Review
We began with a comprehensive literature review to set the foundations of our research and shape the framework of our results. This review included academic articles, white papers, state and federal statutes, and Federal Energy Regulatory Commission (FERC) and state Public Utilities Commission (PUC) dockets. The ‘Introduction’ and ‘Background’ sections above comprise the results of this review, and include discussion of topics as broad as global climate change and as narrow as DEC-G&T contract structures. By expanding our review to encompass not only the actors and components internal to the G&T model (e.g., history, physical infrastructure and cooperative bodies) but also the external drivers (e.g., economics, climate change, and policy), we can more fully comprehend the actors and relationships within the rural electric system and accurately describe their behavior.

B. Systems Theory
To understand as fully as possible the complex adaptive system that is the G&T cooperative model, we have deployed systems theory to ground our research. This aids us in avoiding surface-level analyses, and instead develops rich results that are borne from and display the true complexity of the system.

The modern electric utility is swiftly moving away from its static past. With the onset of affordable clean energy, distributed energy resources (DERs), electric vehicles (EVs), electrified transportation, demand response, and more, today’s utilities are evolving into increasingly complex adaptive systems. The G&T cooperative model is one such system: it is formed by interrelated and interdependent parts and actors, and the system as a whole is more than the sum of its parts. Complex adaptive systems do not respond to change in a linear fashion, nor do they always submit to change in a smooth way; often, complex adaptive systems self-organize along one of several distinct pathways, and shift suddenly from one pathway to another.

Upon completion of the literature review, we engaged in a systems mapping exercise. We compiled the varied actors, institutions, and other components that comprise the G&T model, and then mapped the relationships that tie them all together. Doing so tangibly re-created the model whose various parts we had studied in our literature review, allowing us to formulate research questions reflecting the complex relationships that underpin the G&T model.

C. Formation of Research Questions
We are most interested in identifying pathways for cooperatives to build, produce, and sell greater quantities of clean energy; therefore, we are interested in both how clean energy changes the system and how
it can be deployed to improve, rather than degrade, the system. These three interests form the cornerstones of our inquiry. Following the literature review and systems mapping, and using the understanding of the system these processes accorded us, we developed three framing questions to guide our qualitative research:

*How does the current G&T model meet the needs of DECs and their member-owners?*

In asking this first question, we sought to establish a bottom-up understanding of the G&T model. To do so, we had to understand the most basic component of the model: needs of DEC member-owners. From there, we could begin to understand the ways in which the G&T model meets, and the ways in which it fails to meet, those needs.

*What are the challenges and opportunities of cooperative exits?*

Our literature and policy reviews exposed to us the emerging trend of cooperative exits. Because discussions of co-op exits are so often interwoven with discussions of clean energy, we asked this second question to delve deeper into the challenges and opportunities of exits and understand how exits both influence and are influenced by clean energy.

*What role do cooperatives play in the clean energy transition?*

Finally, with the results of the first two questions providing a framework of understanding, we wanted to know where clean energy fits into the cooperative paradigm. What barriers does it face in the cooperative arena, and what opportunities exist for its future development? Where do these barriers and opportunities spring from, how do they shape the system today, and how might they positively shape the system in the future?

**D. Research Interviews**

To answer these questions, we interviewed a set of 43 expert actors within and surrounding the G&T model (Figure 1). We spoke to four main interviewee groups: G&Ts, DECs, non-governmental organizations (NGOs), and other experts (Figure 2). In choosing interviewees, we sought a set that was as representative as possible of the full spectrum of perspectives in the national cooperative space (Figures 3 and 4). Though our existing academic and professional connections led us to conduct a majority of our interviews with actors in the Mountain West region, by seeking a representative set of perspectives, combined with a smaller sample of interviewees from other regions, we believe our results have a nation-wide relevance and applicability.
Our research questions formed the framework for the interview scripts we developed, an example of which can be found in Appendix C. Interviews were semi-structured; all scripted questions were asked of every interviewee, but interviews were free-flowing and adaptive to each interviewee’s unique perspective and industry experience. Questions were structured with two parts: an initial question framed for answers that could be coded and quantified, and follow-up questions framed to garner rich answers. For these follow-up questions, conversations were also allowed to wander from the script to discuss any tangential ideas that either the interviewer or interviewee found interesting and relevant.
E. Interview Coding & Analysis
Following transcription, we coded the interviews through a robust process that saw both team members code all interviews. Parent codes were established for each scripted question, with child codes developed within each parent code to represent the range of answers given to each question. In the first iteration, child codes were numerous and detailed; after each team member had coded each interview, child codes were examined for similarities and patterns, and were consolidated when these emerged.

All coded answers were then compiled and presented as quantitative data in the ‘Results’ section below, with further detail given to describe the breadth of answers that comprise each code. Finally, we analyzed the results for emerging trends within each question and across all interviewees. These trends formed the basis for our primary takeaways, and are expanded on further in the ‘Discussion’ section.
IV. Results

Our results are presented within two frameworks: our three research questions and our scripted interview questions. The three research questions form the primary framework, and are presented as subsections. Within each subsection, results are presented as answers to the scripted interview questions that were developed to answer the corresponding research question. Note that respondents were not restricted to just one answer for each question, nor were they required to give more than one answer. Additionally, due to the semi-structured nature of the interviews, not all respondents gave discrete answers to each question.

To more accurately represent respondents’ viewpoints, we hosted a public webinar one month prior to publication of the paper, in which we invited feedback from interview participants and other interested parties on our findings. Their feedback has been taken into consideration and has strengthened the validity of the following results.

A. Question 1 - How does the current G&T model meet the needs of DECs and their member-owners?

We sought to answer the first research question by asking the following questions: (1) what are the primary needs of DECs’ member-owners?; (2) what tools do co-ops employ in gauging their members’ needs?; (3) do member needs differ among and within co-ops?; (4) how do member needs differ within and among co-ops?; (5) are member needs changing?; (6) how are member needs changing?; (7) what aspects of the G&T model are serving member-owners well?; and (8) what aspects of the G&T model are not serving model owners well?

1. What are the primary needs of DECs’ member-owners?

Responses indicate that affordability (77% of interviewees) and reliability (65%) are ubiquitous needs of member-owners across all cooperatives. A smaller proportion of interviewees indicated that clean energy (28%) and local economic development (26%) are also significant needs for member-owners, with only a few indicating that local energy generation (9%) is an important need. Respondents also reported a series of other (30%) needs that did not fit into any one category. (Figure 5)

**Figure 5: What are the primary needs of DECs’ member-owners?**

**Affordability**

77% of respondents listed affordability as a primary need for co-op member-owners. The definition of affordability here has some variability; we included responses for “stable rates” and “steady rates” as well. But for the most part, affordable meant “lowest cost possible,” “cheap,” “cost effective,” and “reasonable price.” We heard from some respondents that the exact definition of affordability depends on the financial situation of a given member-owner; higher prices may be considered more affordable by a resident of an...
affluent suburb than a relatively less affluent rural area. Some respondents shared that some member-owners are frustrated with rates that they see as too high, especially when compared with rates that residents of urban areas are paying for similar service. We heard a fairly pervasive viewpoint that these higher prices were due primarily to the higher percentage of electricity generated from coal in cooperatives compared to IOUs. We also found a repeated concern that these higher prices prevent cooperatives from attracting new businesses to their service territory, depriving co-op-served communities of the associated economic benefits.

Reliability
Reliability tracked very closely behind affordability, with 65% of respondents listing it as a primary need of member-owners. Many respondents also listed safety as a primary need that goes hand-in-hand with reliability. Though it seems like a fairly obvious answer, as one of our interviewees stated, “Having reliable electricity is nothing to shrug at. The amount of things that have to go right for people to be able to flip a switch and have [supply] match their need in real time is really incredible.” A couple of co-op managers shared a recent trend they had noticed in their co-ops: member-owners moving to rural communities and expecting the same level of reliable service they had become accustomed to in the urban area they moved from.

Other
We received several noteworthy responses to this question that did not neatly fall into other categories. For co-ops in certain areas of the country, particularly the Southeast, governance issues supersede other needs; anti-democratic practices at co-ops had to be overcome before members could focus on demanding their other needs be met. We also heard about a few emerging needs in co-operatives; needs that are not foremost in member-owners’ minds, but that may see higher demand in the near future: broadband service, energy efficiency programs, dynamic pricing, and demand-side management programs. At the DEC level, some other needs include access to secure capital, stable or growing loads, access to human capital, and access to secondary services (e.g. billing, transmission).

Clean Energy
While not in the top tier of member-owner needs, it was clear that the need for energy from clean sources is a growing need in some, but not all, co-ops. This growing demand is coming from multiple levels: cities and counties that have set clean energy targets, corporations and businesses with clean energy goals, and individual member-owners that have concerns about climate change and rising costs. Reasons for this shift will be discussed in question #4 below.

Local Economic Development
A pervasive viewpoint across interviewees was that cooperatives are fundamental to their local economies, and serve as pillars in their communities. While not always listed as a primary need, local economic development is clearly seen as an important function of cooperatives, one that its member-owners need to sustain the health of rural economies. Respondents reported that co-ops “help members prosper in today’s markets,” “are vehicles for a lot of local investment channels and financing into local communities,” and are “interested in things like revitalizing their economy.”

2. What tools do co-ops employ in gauging their members’ needs?
This was a question we only asked of the co-op leaders we interviewed. Overall, co-ops have a wide array of tools at their disposal to gauge the needs of their member-owners, and most of them employed a set of tools rather than relying on just one. Surveys (23% of interviewees) led the way, followed by member groups (12%), word-of-mouth (12%), other tools (12%), annual meetings (9%) and monthly board meetings (7%).

Figure 6: What tools do co-ops employ in gauging their members’ needs?
Surveys
Surveys were the most common, especially with larger co-ops. Some of the largest co-op leaders we spoke with were able to employ multiple types of surveys: annual, quarterly, and service-based (surveys after service work/repairs were done for members) were the most common types. Some co-ops expressed that they did not want to totally rely on surveys alone because they were not sure that they always got a truly representative sample of their membership.

Member Groups
The second most common outreach method was member groups. These took various shapes depending on the co-op, but they usually manifest as small groups of members that are active in the co-op, and are usually selected to be a fairly representative set. Some co-ops with very diverse member-owners have specific groups set up to meet with each constituency, and some go so far as to have district councils. They go by various names, including “consumer advisory committee,” “membership advisory council,” “district council,” and “focus group.” Some larger co-ops that have a significant number of commercial & industrial members have teams set up for direct communication with these, their largest customers.

Word-of-Mouth
Especially prevalent in smaller communities, many co-op leaders reported that members often approach co-op leaders in public to address their concerns directly. Some also show up in person to co-op offices to share feedback, ask questions, and pay bills.

Other
Non-categorical responses included town-hall meetings, websites, social media, media interviews, communications with other local leaders, newsletters, magazines, and bill insert communications.

Annual Meetings
Annual meetings were also listed by a few interviewees as being important for member outreach, with some co-ops stating that the event was fairly modest and not the most important method, and others stating that it was their biggest event of the year and their best opportunity to reach as many members as possible.

Monthly Board Meetings
Monthly board meetings were listed by only two interviewees as a primary means of hearing from members about their needs.

3. Do member needs differ within and among cooperatives?
This question was phrased differently for co-op leaders than for other interviewees. For co-op leaders, we asked if member-owner needs differed within their co-op’s territory. For other interviewees, we asked if member-owner needs differed from one co-op to the next. A significant majority of responses (87% of responses) said that member-owner needs do differ within/among co-ops. On the contrary, about 13% of responses reported that members’ needs do not differ within/among co-ops. (Figure 7)

![Figure 7: Do member needs differ within and among cooperatives?](image)

4. How do member needs differ within and among cooperatives?
There was only one clear standout on the way in which needs differ within/among co-ops: member demographics (35% of interviewees). The next three answers were similarly common: commercial and industrial (C&I) vs. agricultural vs. residential members (16%), urban vs. rural (16%), and size of cooperative (14%). 3% of answers fell into the other category. (Figure 8)

![Figure 8: How do member needs differ within and among co-ops?](image)
**Figure 8.** How do member needs differ within and among cooperatives?

**Member Demographics**
The changing demographics and, commonly, politics of co-op member-owners was the most commonly cited reason for needs differing within and among co-ops. On a larger scale, people living in different geographic locations were identified as having different needs: member-owners living in the mountains vs. those living on the prairie, for example. One co-op leader we spoke to expressed that as a multi-state entity, the G&T experienced the phenomenon of member-owners in different states having different priorities, especially with regard to environmental issues. Changing demographics was also cited as a driver, particularly younger, more liberal member-owners moving to rural areas from urban areas. Finally, the economic performance of the area in question was a significant determining factor in what the needs of that given area’s member-owners might be.

**C&I vs. Agricultural vs. Residential**
The major types of member-owners present in a given co-op are also determinative of the major needs in that co-op. Respondents reported that co-ops with more commercial & industrial member-owners have a higher demand for clean energy due to corporate clean energy goals, and they also contribute to some other drivers of differing needs: growth and urbanization. C&I customers driving growth is particularly dramatic in areas with a high prevalence of oil & gas development. Predominantly agricultural districts are some of the most sensitive to higher prices and price fluctuations, as electricity used for irrigation purposes can be a significant portion of load and also set demand charges for a co-op. Member-owners in residential areas are more sensitive to some of the other drivers, particularly demographics.

**Urban vs. Rural**
The urban-rural divide has reached formerly all-rural co-ops largely due to expanding suburban and exurban areas that are now flowing into cooperative territories. These co-ops tend to be some of the larger co-ops in their regions (and within their G&Ts) based on member-owner numbers and total load served. And these urban (or suburban, or exurban) member-owners tend to have different needs than their rural counterparts. Respondents shared that urban members tend to accept climate change as fact and have a wider variety of needs than just low cost. Urbanizing co-ops are also seeing growing budgets, whereas more rural co-ops tend to be seeing their budgets shrinking as the populations in their territories shrink.

**Size**
At the DEC level, size can be a significant driver of the needs within a co-op. Our respondents reported that bigger co-ops tend to want more clean energy, and they have more money to spend on it - the opposite being true for smaller co-ops. We heard that a small number of larger co-ops have also seemed to outgrow the need for the additional services and securities that come with being part of a G&T, where smaller co-ops do not have the human capital to take on the functions that a G&T performs for them.

**Other**
Other reasons for needs differing within/among co-ops include: learning happening between co-ops - needs being met in one co-op can lead to those same needs emerging in others; differing load shape based on geography; and highly specific place-based needs that occur in individual co-ops.

5. Are member needs changing?
A significant majority of responses indicated that the needs of co-op member-owners are changing (nearly 89% of respondents), indicating that most of the needs we discussed above are not static. However, about 11% of responses reported that member needs are not changing. (Figure 9)

6. How are member needs changing?
Interviewees reported that member needs are changing due to pushes for: clean energy (53% of interviewees),
DERs/EVs (33%), affordable energy (28%), local economic development (21%), local energy production (21%), other (21%), and broadband internet service (12%). (Figure 10)

Figure 10: How are member needs changing?

Clean Energy
By far the need that seems to be changing the fastest is the push for more clean energy in co-op energy mixes. The reasons we heard for this seem to be two-fold: a desire to combat climate change by reducing carbon emissions, and a desire to take advantage of the falling costs of clean energy. Interviewees report that this need has grown significantly over time, but that it is not growing as swiftly in all co-ops. That said, nearly all co-op leaders we spoke to reported at least some level of interest in adding more clean energy among its member-owners. This split has caused issues in meeting all members’ needs, especially for one co-op leader we spoke with; they stated, “There’s a certain segment of the population that says you can’t move fast enough on green energy. And there’s another segment that’s like, well, I want you to be careful.”

DERs/EVs
The majority of answers in this category focused on the growing demand from member-owners for DERs and EVs, along with other emerging energy technologies. As these technologies mature in the marketplace and become more affordable, our interviewees report that demand for co-ops to accommodate them within their systems is growing. The technologies we heard about most frequently were distributed generation and net metering systems (e.g. rooftop solar), EVs, demand management, energy efficiency programs, peak reduction, energy storage, community solar, smart grids, smart meters, time of use rates, and landfill gas. We heard concerns that these new technologies will require increasing human capital and general capacity at the DEC level. We also heard that these technologies are transforming the co-op system in an even bigger way, by making it possible for electricity generation to become more decentralized and to provide more resilience to the communities it serves.

Affordable Energy
This emerging demand seems to be driven by lower electricity prices in other areas, whether it is co-ops in other parts of the country or IOU territory in adjacent areas. By and large, member-owners are becoming aware of the cheaper nature of clean energy, especially when renewable resources are abundant in their area. Respondents stated that the economics of the electricity sector have fundamentally changed, and there now exist cheaper options available for most co-ops. This is especially true for co-ops located in an organized market, which have increased access to clean energy while also creating opportunities for lower costs.

Local Economic Development
Respondents stated that many member-owners wish to see more support for local economic development coming from the provision of energy within their DEC. There is a prevailing sentiment that local clean energy jobs can help communities, and that DECs should not have to send money out of state when that money could just as easily purchase energy locally. We also heard that the G&T model was not built for small scale and/or distributed energy development.

Local Energy Generation
What separates this need from "local economic development" is the desire from DECs and their member-owners to have more control and self determination in their energy choices. Clean energy seems to have unlocked this as a possibility, particularly with the falling cost of distributed energy resources. Some respondents reported that certain co-op members are willing to pay more money to have their energy produced locally. There is also an emerging emphasis on local energy production as a means to greater community resiliency, especially in rural areas that are prone to experiencing the effects of climate change.

Other
Other drivers of changing needs that we heard about include: organized power markets eliminating the need for centralized power generation; larger co-ops no longer needing the benefits to be had from joining a
G&T; a need for more transparency in G&T governance; and more availability to members from a customer service standpoint. Another co-op leader discussed how their load needs are changing due to an increase in demand.

**Broadband**
Though it does not directly intersect with clean energy, many respondents reported that co-ops are increasingly seeing a desire from members for co-op-provided broadband internet service. We heard that the reasons for this are similar to the reasons why co-ops built electricity systems decades ago: private companies feel that rural areas are too sparsely populated for serving them to be profitable, and co-ops have access to the low-cost capital necessary to build rural broadband systems.

7. **What aspects of the G&T model are serving member-owners well?**
The economies of scale that G&Ts supply - what they were originally created to provide - was the most-cited answer (56% of interviewees) when we asked interviewees what is working well about the G&T model. Trailing this was the provision of secondary services (33%) and reliability (30%), with democratic control (16%) and other factors (7%) coming in as only a small portion of responses. (Figure 11)

![Figure 11: What aspects of the G&T model are serving member-owners well?](image)

**Economies of Scale**
This category refers to the primary benefit that G&Ts were created to provide: aggregating members and their load to more cost-effectively provide electric services for DECs. While, as has been discussed, some DECs have outgrown the need for a G&T, many DECs are still heavily reliant on G&Ts to provide an array of services that involve too much overhead cost for a DEC to acquire alone. This is also true for the distribution of risk, and risk mitigation: G&Ts can hedge against disruptions in individual G&Ts, such as dramatically declining load. In terms of the actual provision of electricity, G&Ts can contract for and build larger quantities of electricity at a time, allowing them to attain lower per-unit costs for their members.

**Secondary Services**
Going somewhat hand-in-hand with economies of scale is the provision of secondary services. These services are provided by G&Ts to DECs because of the aggregation of needs that a G&T provides. Secondary services, as listed by our interviewees, include the provision of: transmission capacity, operation, and maintenance; aggregated billing services; energy market analysis; power origination; personnel and human capital; legislative affairs; reliability metrics; secondary services; energy efficiency rebates; economic development rebates; website hosting; communications services; human resources; accounting; land purchases; DER aggregation; and other small touches, such as reaching out to DECs to ensure that members have access to supplies during disasters and, notably, during the COVID-19 pandemic. As we mentioned above, we heard that not all DECs require a G&T to provide these services, but many smaller DECs do not have the money or human capital to provide these services for themselves - the economies of scale granted by a G&T make it possible.

**Reliability**
Some interviewees suggested that while reliability is often a luxury modern electricity consumers take for granted, G&Ts have excelled at providing it to their members. Many co-op leaders contrasted G&T reliability against the rolling blackouts seen in the summer of 2020 (occurring during the bulk of our interviews) in California. As one of our interviewees said, “There is a larger societal benefit when even a kid growing up in the middle of Kansas, you can at least have light so you can read, and your school has electricity.”

**Democratic Control**
Though democratic control was brought up by relatively few interviewees, it was an emphatic point by those who made it. Those respondents talked about the deep history of the democratic model used by G&Ts and the success it has seen over the years. They also pointed out that because it is a democratic model, when things start to “go astray” for the G&T, democracy is there
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to “steer it straight,” if the member-owners organize and push for the changes they want. One last point that we heard multiple times was that even though the G&T model is not democratically perfect, DECs (and, by extension, their member-owners) get a voice in their energy fate with a G&T, which (according to interviewees) would not be the case if a DEC were to purchase electricity from an IOU or other provider.

Other
One interviewee shared a sentiment that G&Ts have the power to join and expand the clean energy transition, even if they are not using it yet. In their words, “That is potentially the future, and the G&Ts are well positioned to get on top of things like transmission upgrades, things like larger scale, but still community beneficial, microgrids and battery storage … G&Ts have the potential, and I think they just need to start.” One other item that seems to be working well for G&Ts include the “T” portion (transmission), that no matter what form G&Ts take in the future, the transmission assets they own and services they provide will be vital to the ability of co-ops to participate in the clean energy transition.

8. What aspects of the G&T model are not serving member-owners well?

Issues with governance (63% of interviewees) and G&T-DEC contracts (60%) were far and away the largest answers that interviewees gave to this question. An ingrained coal culture (37%) was not far behind, with lack of regulation (19%), other (14%), and differing needs among co-ops (12%) rounding out the bulk of answers. Notably, only one respondent (2%) stated that the G&T model does not create challenges for meeting member-owners’ needs. (Figure 12)

Governance Issues
The governance issues that we heard about from our respondents center around the flow of decision-making in the G&T model. At its outset, decisions in the G&T model flowed upward from member-owners to DECs to G&Ts. But, according to one interviewee, “There’s been sort of a shift of power and the distribution co-ops are dictating less of what’s happening at the G&T level, and the G&T is dictating more to the distribution co-ops.” We heard that this fundamental reversal of decision-making flows from several related issues that our respondents pointed out. They reported a lack of electric utility expertise on DEC boards and, by extension, on G&T boards, which, according to interviewees, leaves decision-making to the experts on staff at the G&T; this effectively creates a situation where G&T board members are not making decisions but simply “rubber-stamping” the decisions made by G&T staff. Two other systemic issues that respondents mentioned about the G&T model include the senate model of DEC representation on the G&T board (one vote per co-op rather than votes allocated by co-op size) and the dual fiduciary responsibility of G&T board members (members are responsible for the financial well-being of both the DEC and the G&T at the same time, which may put their roles in conflict).

Other reported issues manifest themselves at the DEC level and exacerbate issues at the G&T level: low participation from member-owners, low election accountability, low voter information, poor representation on boards (which skew toward older, whiter men), overpayment of board members, anti-democratic practices, and systemic racism and sexism on co-op boards at all levels. One interviewee shared, “We had a co-op (...) that mailed their ballots with just the male’s name on them. So, if you had two lists of ratepayers to the household, the guy’s name was on the ballot.”

Contract Issues
Contract issues refers to the wholesale electric supply contracts/all-requirements contracts that bind DECs to their G&Ts. Respondents cited two main issues with these contracts: their length (anywhere from 40-75 years) and their rigidity (DECs generally required to purchase 95% or more of their electricity from the G&T). Interviewees’ issues with the contract length generally centered around the lack of forecasting ability; per one interviewee, “We can’t know what the market is going to look like 12 years from now, much less 55 years.” We also heard that these lengths restrict both the
DECs’ and the G&Ts’ ability to transition to clean energy and adapt to new and emerging technologies; that the contracts made sense when they were developed but that they have not held up in the long term. With regard to the restrictive nature of the contracts, respondents said that this creates a lack of flexibility for co-ops with visions or needs that differ from the rest of the G&T’s members, that it restricts the autonomy of individual DECs, and it restricts the ability of DECs to adapt to the dynamic nature of the modern energy market.

Tangentially, we heard from numerous interviewees that these contracts create deeper issues for the G&Ts. By using these contracts as a means of securing capital, it locks G&Ts into what our interviewees described as an unsustainable debt to equity ratio. This, in turn, locks co-ops into higher energy costs for the long-term, restricting them from being able to seek the lowest available costs for their members, and essentially “failing their mandate as a utility” as one respondent put it.

**Ingrained Coal Culture**

This is one of our broader answer categories, with answers that center around the ways in which G&Ts have somewhat inextricably tied themselves to the coal industry. This connection, according to one interviewee, stems from a Carter-era law that was intended to prevent the import of fuels (particularly natural gas), and so effectively required utilities to build out coal generation from the early ’70s to the mid-’80s. This is right when many G&Ts were building generation capacity, tying them to the coal industry for the foreseeable future. Some G&Ts, in pursuit of lower prices and economies of scale, went even further and took steps toward vertical integration in the coal supply chain, acquiring coal mines and transportation facilities to supply their coal fleets. With G&Ts tied so closely to coal, our respondents report that a “die-hard” dedication to coal-fired electricity has carried G&Ts into the 2020s and left them slow to react to market forces, particularly from natural gas and renewable energy. This has left G&Ts “unsuccessful in prudently investing for decarbonization,” “moving too slowly,” and making changes that are “too little, too late, too costly” in terms of the clean energy transition. Beyond the borders of G&T territory, this ingrained culture has led to large expenditures by G&Ts on lobbying on behalf of the coal industry at both the state and federal government levels. Several interviewees pointed to the pivotal role that cooperatives played in shutting down the Obama administration’s Clean Power Plan, which would have had a drastic impact on coal-fired power generation in the U.S.

**Lack of Regulation**

Because of their democratic governance structure, cooperatives have been largely unregulated at both the state and federal levels, with G&Ts generally facing slightly more regulation than their smaller counterparts. However, when the democratic governance structure faces issues, then the lack of regulation can lead to compounding problems - in particular, the other challenges that our respondents listed above.

Interviewees indicated that this weak oversight has been a direct driver of G&Ts lagging behind the curve of the clean energy transition. Regulations are emerging in some places, such as Colorado, that require more PUC oversight of G&Ts, including mandatory resource planning. But these changes are few and far between, with most cooperatives still left to their own devices when it comes to regulation. Some interviewees commented that recent increases in state regulation, particularly with regard to cooperative exit policies, have led some larger G&Ts that deliver wholesale, interstate power to seek regulation at FERC, a move that is somewhat unprecedented for co-ops that have historically been “allergic to regulation.” One interviewee, however, mentioned that even though co-ops are fairly unregulated, they are still affected by policy, giving the Rural Utilities Service (RUS) as an example.

**Other**

Other answers given by respondents include: the G&T model is no longer necessary given the evolution of electricity markets; high costs and low clean energy penetration show the downside of a lack of competition in cooperatives; and it can be difficult to deal with tensions that arise from differing needs among co-ops inside the G&T “families.”

**Differing Needs**

Our interviewees also identified differing needs among co-ops as a pain point in the G&T model today. In the words of one co-op manager, “Every co-op wants what is best for their members, but members [of different co-ops] want different things at different times.” The diverse territory covered by many of the largest G&Ts can exacerbate this problem by bringing many different opinions into the same G&T “family.” Large G&Ts also fall under the jurisdiction of different states, which may have different desires or priorities for electric utilities, causing friction for the G&T in navigating the policy.
pressures across states.

Nothing
Only one respondent reported that the G&T model is not facing any challenges. While some co-op leaders initially answered this question by saying that their co-ops are happy with the G&T model as it is currently functioning, they nevertheless came back to this question later in the interview to give examples of some issues they are facing, which are listed in the categories above.

B. Question 2: What are the challenges and opportunities of co-op exits?
To approach the second research question, the results were divided into four areas: (1) what challenges are created by co-op exits for the exiting DEC?; (2) what challenges are created by co-op exits for the G&T and their remaining DECs?; (3) what opportunities are created by co-op exit for the exiting DEC?; and (4) what opportunities are created by co-op exits for the G&T and their remaining DECs?

1. What challenges are created by co-op exits for the exiting DEC?
The responses to the challenges created by co-op exits for the exiting DEC were categorized as higher risk (35% of interviewees), other (28%), provision of services (19%), and loss of democratic control (14%). (Figure 13)

Higher Risk
Interviewees reported higher risk as the most prevalent challenges for an exiting DEC. Within the existing model, a DEC’s risk is aggregated by the G&T, however when a DEC severs that relationship and pursues a contractual relationship with a wholesale power provider (WPP), that DEC bears the risk independently and loses the risk mitigation benefits that were provided by the G&T. Responses classified in this category referred to risks related to power reliability (i.e., is there a diverse and resilient power supply? Can the DEC purchase or generate enough power to meet their demands? Can the co-op acquire enough clean energy to meet current or future Renewable Portfolio Standard (RPS) mandates?), market uncertainty (i.e., can the DEC afford to participate in a market with volatile power prices), long-term liability (i.e., will the IPP be able to deliver on the type and cost of power they promised?), and resource sufficiency (i.e., does the DEC have staff with the necessary skills to manage and negotiate risk in power markets?). As one interviewee stated, “You can manage that contractual risk, just like you manage any type of investment portfolio, you just have to have the size of co-op that can have those resources to be able to do that.”

Other
There were a handful of responses that did not align well with the other categories. We heard concerns about larger DECs leaving their G&T and leaving smaller DECs behind because there is no longer a forward thinking voice at the table. The idea is that their activist energy may be better spent continuing to pressure the G&T as opposed to exiting. Climate change is a global issue, so all DECs need to be a part of the transition. Other reported issues surrounded the lack of policies around co-op exits, pushback that exiting DECs receive from the remaining DECs, and issues around federal (FERC) vs. state (PUC) jurisdiction. Federal processes are more expensive and slower than state decisions. The last issue we heard was around the tumultuous exit process. Other participants discussed the exit methodology and board leadership that “fights dirty.” They described, “I’ve never seen a situation where a utility, like a G&T was holding on to their members at all costs...[the role of the G&T is] to help the co-ops meet the needs of our members...then why is [G&T] at all costs trying to keep [DECs that want to leave]? There’s a disconnect.” We also heard, “[G&Ts] are using the distribution co-ops money against them” in exit cases because G&T revenue is completely earned through DEC rates.

Provision of Services
Provision of services encompasses the time and resource cost of selecting a contract that serves the goals of the DEC. G&Ts provide an array of resources, including transmission infrastructure, power supply, load...
following, secondary services, etc. for their member DECs. When a DEC exits, they become responsible for procuring these services on their own, which can be an arduous and complicated task. An expert interviewee shared, “One of the things that [an exiting DEC] is finding right now is that they don’t have the flexibility they need on transmission to be able to have all the choices they might like on the generation side.”

**Loss of Democratic Control**

Loss of democratic control refers to the shift from a public power model to a private company. Private companies are beholden to stakeholders, motivated by a profit, and are subject to market forces as opposed to the best interests of member owners. Additionally, private companies typically do not have to show a resource plan at the PUC. However, some interviewees questioned whether cooperatives are currently utilizing democratic control to serve the best interest of their member owners.

2. **What challenges are created by co-op exits for G&Ts and their remaining DECs?**

Interviewees reported that a majority of the challenges for the defected cooperatives revolve around risk management. The aggregated responses include risk of: stranded assets (63% of interviewees), rising costs (23%), bankruptcy (19%), other (14%), and further exits (12%). (Figure 14)

**Stranded Assets**

In this case, risk of stranded assets refers to potential shifts in the financial structure of the G&T model and impacts to the creditworthiness of the G&T. When a DEC exits, the G&T will likely experience a decline in their overall energy demand and thus a reduction in operating costs because they will need to produce or procure less electricity to serve their members. However, G&Ts will remain responsible for the fixed cost of infrastructure investment. As one interviewee stated, “[G&Ts] built the entire financial model on a certain level of membership. And so, as people exit you change the cost structure significantly.” If a member exits without a fair and reasonable exit fee, they consequently leave the remaining DECs “left holding the bag” and responsible for an inequitable proportion of the debt for early retired fossil fuel assets. Additionally, exits impact the creditworthiness of a G&T as one interviewee discussed, “There are harms to [a G&T’s] credit rating every time someone wants out…they have very serious credit rating issues and that impacts their ability to borrow more money.”

**Rising Costs**

Rising costs pertain to the concern that a smaller co-op membership will cause a decrease in economies of scale and result in cost shifting. After a DEC exits, there may be fewer members responsible for the costs of the same amount of secondary services that the G&T was providing prior to the member’s departure, which could result in rate increases. An interview participant explained, “G&Ts provide more ancillary services to the smaller co-ops because they cannot do it themselves. The larger co-ops are essentially subsidizing those because they do not need [the ancillary services since they have the resources to provide them for themselves]. [After a large DEC exits,] the subsidizing goes away and those services are going to potentially cost more for the smaller members.” A reduction in membership may also create challenges for the G&T ability to acquire and pay off loans, especially if the loans are called in early. As one cooperative leader states, “Members all have signed long-term contracts saying they will buy all their power from [the G&T], or virtually all their power. And that allows [the G&T] to go to the banks and the lenders [to show] a guaranteed revenue stream.” If the G&T is unable to show a guaranteed revenue stream, they may be unable to borrow money to build necessary infrastructure and provide power services.

**Bankruptcy**

Responses that were coded as threats of bankruptcy referred to the potential dissolution of the G&T. Participants expressed that if enough large members exit a G&T, the G&T may face bankruptcy. The threat of bankruptcy creates feelings of uncertainty amongst the co-ops as there is a fear that small DECs will be unable to secure affordable and reliable power without a G&T.
There were some responses to this question that did not fit into the major recurring themes and thus have been categorized as Other. Respondents posed the question that when large DEC s with forward-looking drive and resources depart a G&T, what happens to the few DECs that are left behind? When large G&Ts leave, it may make it more difficult for other, smaller DECs to create change from within the G&T. An additional challenge was the lack of policies that clearly state an exit fee.

Further Exits
Interview participants repeatedly reported risk of further exits as a challenge for G&Ts and the remaining DECs. Some interview participants discussed that as DECs grow in size, they will be incentivized to leave their G&T. If a DEC is able to leave the G&T without paying a fair and equitable fee, they may trigger a cycle that spurs the departure, or attempt of a departure, from additional DECs because the benefits of staying are outweighed by the benefits of leaving. An interviewee explained, “If somebody leaves, they have to pay their share of that debt. If somebody leaves and doesn’t have to pay their share of that debt, then the next person leaves and doesn’t pay their share of that debt. Suddenly the people who are left can’t pay off that debt.”

3. What opportunities are created by co-op exits for the exiting DEC?
According to the interviewees, the main opportunities created by co-op exits for exiting DECs are the ability to procure cheaper energy (53% of interviewees), freedom of choice (53%), clean energy (35%), local generation (26%), and other (9%). (Figure 15)

Cheaper Energy
Economics were reported as one of the leading factors of co-op exits. Interview participants discussed the potential for immediate bill savings through lower wholesale power costs that result in reduced rates and less long-term costs. However, some interviewees questioned the ability for exiting co-ops to immediately achieve cost savings after leaving their G&T and switching to a wholesale power provider. The discussions of cheaper energy were often linked to the low cost of renewable generation.

Freedom of Choice
Freedom of choice refers to a DEC’s autonomy and ability to “chart their own course” and obtain local control over their power supply and energy future. As one interviewee stated, “It’s local people making the decisions, not somebody else.” Respondents discussed how freedom of choice can lead to community building benefits that are not quantifiable such as a feeling of closeness and connection to their electricity supply. When discussing co-op exits, a participant described, “The opportunity for [DECs] to be able to control [their] future, control [their] costs, and make those decisions that affect [their] members directly.” DECs can create partnerships within their own community and determine what is most important to them, whether that is lower costs, flexible price structures, more flexibility, more renewable energy, more distributed energy, local generation, demand management, energy efficiency, or a mix of all of the above.

Clean Energy
Multiple interviewees explained that when a co-op exits, the DEC will gain more control over their local fuel mix, which will allow them to procure or produce energy from a greater percentage of clean sources. Large commercial and industrial customers are increasingly committing to GHG emissions reduction targets, so their ability to buy clean energy impacts where they locate their facilities, and thus where job opportunities are. Furthermore, local elected leaders are becoming increasingly motivated to reduce carbon emissions and can sometimes feel stymied by their G&T contract. We heard that exits may allow DECs to harness their local resources and develop wind and solar in their community.

Local Generation
Participants that discussed local generation described
how an exit would free DECs from the generation cap of G&T contracts. When power is generated locally, community members may feel more of a connection to their electricity and understand where it is coming from. It also opens up opportunities to partner with local school systems or universities and act as an educational resource for the community. Local generation can enhance the resilience of a community and result in economic development and local jobs and generate a tax base for community resources. Additionally, distributed generation is attractive for large commercial and industrial customers. However, we heard that the amount of jobs that are created by renewables will most likely not be parallel to the amount of fossil fuel jobs in some coal dependent communities, although it is progress towards a just transition. A few respondents also pointed out that some communities may not have the workforce to develop and maintain local generation.

Other
There were other responses that did not fit in with the above categories. We heard that exiting DECs may be able to utilize a financial model similar to IOUs to lower their power costs and that there may be more ability for co-ops to take advantage of federal incentives, such as the investment tax credit (that are only available to entities with a tax liability). Participants also discussed how exiting cooperatives can access low cost capital and borrow funds at a lower rate than a private entity. Additionally, when a DEC is responsible for their own energy procurement, they have access to more data and can use that information to improve their internal decision making. Another response was that DECs that exit may open up opportunities to build their broadband network and improve their smart grid as broadband is critical for rural economic development, especially in the age of increased telecommuting.

4. What opportunities are created by co-op exits for a G&T and their remaining DECs?
A handful of research participants identified two primary opportunities created by co-op exits for the G&T and the remaining DECs: homogeneity (9% of interviewees) and easier pathway towards meeting clean energy goals (2%). (Figure 16)

Homogeneity
Responses that were categorized in this area referred to the makeup of the remaining G&T membership after a DEC exit. If unsatisfied DECs terminate their relationship with their G&T, there will likely be more alignment amongst the co-ops’ vision for the future of their power supply. When there is homogeneity between the values of the DECs, G&Ts may have an easier time meeting the needs of their member-owners.

Easier to Meet Clean Energy Goals
Some respondents reported that after a co-op exits, a G&T may have an easier time meeting their clean energy goals. When a DEC exits, the G&T may be able to meet their renewable energy goals more rapidly because their load would shrink, and they would require less renewable energy to hit their percentage goals.

C. Question 3 – What role do co-op exits play in the clean energy transition?
The final research question was investigated through four areas: (1) what effect do co-op exits on the clean energy transition?; (2) what factors have driven co-ops to participate in the clean energy transition?; (3) what factors have prevented co-ops from participating in the clean energy transition?; and (4) what is your vision for the future of the G&T model?

1. What effect do co-op exits have on the clean energy transition?
Interview participants were asked about the effect of co-op exits on the clean energy transition. Their responses were categorized into three categories: co-op exits will speed up the clean energy transition (53% of interviewees), time will tell the effect of co-op exits on the clean energy transition (28%), and co-op exits will slow down the energy transition (9%). (Figure 17)
Numerous respondents reported that the threat of additional exits is more impactful than an exit itself in speeding up the clean energy transition. Some interviewees explained how exits have acted as a wakeup call for G&Ts to shift away from fossil fuels and add more renewable sources to their energy mix. Co-op exits have sparked internal discussions that reexamine the traditional cooperative model to expect more flexibility and technological adaptation from G&Ts. When speaking about co-op exits, a participant stated, “It creates a bigger bargaining chip. Even if the exit doesn’t actually happen or even if it’s not a near term possibility, the fact that it can happen and has happened in some places, I think makes the [G&T and DEC] relationship more accountable.” We also heard that if the G&Ts take the exit fees and use it to drive down their debt, they will have more ability to procure cheaper sources of renewable energy as opposed to expensive coal resources. Additionally, if a co-op is directly responsible for their energy services, they may become more aware of their generation mix (i.e., buy or generate more renewable electricity) and how to minimize transmission capacity costs. Interviewees discussed how exits increase the amount of local distributed generation, local partnerships, and economic benefits to local communities.

**Time will Tell**
About a third of interviewees explained that there are circumstances where cooperative exits may accelerate the transition, and there are circumstances where they could slow the transition down – however, it is too soon to tell the overall impact; each instance is highly dependent on the situation at hand. One interviewee summed it up by stating, “It’s too early to tell. I think it’s not clear whether distribution cooperatives leaving and doing their own thing with distributed energy is going to result in more or less clean energy transition than if the G&T stays together and embraces on a much broader level, clean energy transition if the entire G&T actually decarbonizes significantly. That’s going to do a lot more for clean energy transition than just a few distribution cooperatives putting on some rooftop, solar and storage. So, I don’t think we know that, yet.”

We further heard that the impact of a co-op exit depends on the goal of the exit. If the objective is to procure cheaper energy through renewables, then that action may set an example for other DECs to follow. Interviewees pointed out that a cooperative’s ability to carry out their exit goals is highly dependent on the emissions profile of their new power provider. A participant reported, “It’s a balance of risk, you’re essentially rolling the dice and hoping that what you think is going to happen is really going to happen because nobody knows.” Some interviewees expressed concern about the ability for the exiting co-op to meet their clean energy goals. Participants explained how cooperative exits may result in more renewable energy on the grid; however, it may not necessarily mean an immediate transition off of fossil fuels. Building out clean energy infrastructure takes time, and in the meantime, an newly independent cooperative may continue to procure power from fossil fuels. Additionally, it may be cheaper for an exiting cooperative to immediately procure power directly from fossil fuels rather than build their own infrastructure, and that coal power may be more expensive than renewables, but it is still cheaper than their current G&T contract. There is also a thought that if co-ops pay their fair exit fee, there will not be much of an impact on the overall transition at all.

**Slow it Down**
A few interview participants suggested that cooperative exits will slow down the clean energy transition. In the past, renewables were more expensive, which prevented co-ops from transitioning to cleaner sources of energy. However, the costs of renewables have come down and the economics have shifted in favor of renewables. One interviewee stated, “[Cooperatives] saved customers a lot of money in the long run by pushing back on renewable energy as long as we did.” People explained how exiting DECs can build small scale renewables, although it will most likely not be as fast or as cost effective as a G&T building large scale renewable generation. Moreover, if G&Ts lose a portion of their load, it may make it more difficult for PUCs to require the G&T to replace their fossil fuel assets with...
new, carbon free resources because the costs will be spread across less members and be more expensive; which could ultimately cause additional members to exit. If DECs can exit with a fee that is too low and fails to leave the remaining members whole, it may impede the G&T’s ability to develop renewables. A handful of interviewees suggested that if profit seeking companies, that are beholden to shareholder interests, are in charge of power procurement, as opposed to member-owned entities, it may be more difficult for private companies to pursue carbon reduction goals for the public good.

2. What factors have driven co-ops to participate in the clean energy transition?

The leading factors that have driven co-ops to participate in the clean energy transition are cost (70% of interviewees), member pressure (63%), state renewable portfolio standards (RPSs) (37%), high resource accessibility (19%), other (12%), and co-op exits (5%). (Figure 18)

Cost
Cost was reported as a driving factor for co-ops to participate in the clean energy transition. As one interviewee explained, “It’s not just a green energy movement, it’s an economic movement.” In the past, renewables were more expensive, which prevented co-ops from transitioning to cleaner sources of energy. However, the costs of renewables have come down and the economics have shifted in favor of renewables. One interviewee stated, “[Cooperatives] saved customers a lot of money in the long run by pushing back on renewable energy as long as we did.” Member-owners have witnessed IOUs transition to renewables and experience rate decreases and now, co-ops want the same level of affordability as their neighboring utilities. Market forces have caused the price of renewables, utility scale generation, and smaller scale distributed energy resources to decrease. Some cooperatives realize that member rates can be lowered through carbon free energy. Another co-op leader explained, “[A co-op can] virtually eliminate their dependence on coal, replace it with renewables and not raise rates.”

Member Pressure
It is progressively common for member-owners to request clean energy and DERs, specifically rooftop solar and electric vehicle charging infrastructure. The intensity of member pressure is dependent on the level of member engagement and grassroot action; the member pressure may come directly from a member-owner or a board member. People are realizing that clean energy costs are decreasing and additional benefits exist, alongside economic incentives, to clean energy including community resilience and a reduction in GHG emissions. Furthermore, a growing proportion of people are feeling an urgency to act on climate change by developing cleaner energy mixes. An increasing number of local communities have local climate plans that spur member pressure on the co-op to develop cleaner energy mixes. Member pressure can also come from an increased interest in community building and economic development through local energy generation. Some rural areas experience demographic and political shifts towards viewpoints that place a higher value on the environment. C&I customers may also demand renewable energy (e.g., data centers); it is important to keep these members happy because large companies are integral to small, local economies.

State RPSs
Interview participants discussed that state carbon reduction goals and RPSs are becoming more popular. More and more state governments are employing aggressive policies pertaining to energy targets and GHG emissions reduction goals. State legislation may also require responsible energy plans from utilities, including cooperatives.

Resource Accessibility
A cooperative’s location may impact their ability to transition to renewables through their generation resource potential within their service territory’s natural resources and proximity to transmission infrastructure. The ability to add renewables also depends on their annual load factor and capacity of transmission.
The makeup and ideology of the board can impact the leadership decisions within a cooperative. If individuals that hold positional power realize the benefits of clean energy and seek to mitigate climate change, they can push the cooperatives in a direction that supports a low carbon energy future. There is an idea that profit relationships and public relations may influence cooperatives to adopt clean resources. We also heard, “I think you also see more and more DECs talking to one another. And so I do think that there’s been a lot of kind of information sharing and there may be people who didn’t realize they wanted something until they saw that some other cooperative asked for it or was able to get it or really saw it as a priority. So I think there is a lot of kind of learning happening amongst the different DECs, where they’re learning from each other’s experience and kind of building upon what previous DECs have done.” Additionally, clean energy opens up the opportunity for load shifting.

Co-op Exits
Co-op exits were stated as factors that drive co-ops to participate in the clean energy transition. A respondent reported, “The exiting DECs have certainly lit a fire under [G&T] where they’re like oh, they see a threat from not transitioning to clean energy.” The idea is that co-op exits have pushed G&Ts to pursue clean energy to avoid additional cooperative exits.

3. What factors have prevented co-ops from participating in the clean energy transition?
Factors that have prevented co-ops from participating in the clean energy transition are ingrained coal culture (53% of interviewees), cost (35%), transmission (26%), co-op model impediments (21%), low resource accessibility (14%), other (14%), contract restrictions (12%), and lack of regulation (9%). (Figure 19)

![Figure 19: What factors have prevented co-ops from participating in the clean energy transition?](image)

Ingrained Coal Culture
Ingrained coal culture describes the central role that coal plays in rural communities. Extractive industries have brought jobs and economic development to the countryside thus cultivating strong ties between rural communities and fossil fuels. An interview participant explained, “When people say they’re pro coal, they’re basically saying that I’m pro my community.” This economic dependence on fossil fuels spurs feelings of suspicion and disdain for clean and renewable energy because it challenges an area’s way of life as they know it. Additionally, the pro coal dogma has been politicized. One co-op leader commented, “[In] this community of agriculture and oil, when people think of renewable energy, they think of putting people out of work.” In the past, cooperatives invested a significant amount of money into coal-fired power plants and now, many G&Ts still have outstanding debt. There are further concerns about cooperative’s vertical integration with the coal industry as G&Ts may own and/or invest in coal mines, coal plants, and coal transportation systems, including railways.

Interviewees discussed the refusal of many rural communities to accept climate change as fact; climate change denial has also permeated co-op leadership. A few interview participants discussed how cooperatives have funded anti-climate change groups in the past. Along with dismissal of science, we heard that there may be a lack of understanding and awareness about the economic benefits and technological advancements of clean energy amongst communities and cooperative leadership, including executive staff and board members. There exist concerns that board members are overcompensated and therefore do not have an incentive to challenge the status quo (i.e., fossil fuel dependence). A few interviewees reported that a lack of demographic diversity (e.g., age, race, gender, ethnicity, geography, thought, culture, etc.) on cooperative boards reinforces the ingrained coal culture and prevents new ideas (i.e., support for renewable energy) from permeating decisions. We also heard about apathy from members. Many cooperatives have low turnouts for elections, which suggest that members may not necessarily understand what they are voting on, so their board may not reflect the demographics and true needs and desires of their members.

Cost
Historically, renewable energy was more expensive than coal, which prevented co-ops from transitioning off of carbon intensive generation. Recently, the costs...
of renewables have dropped and the economics have shifted in favor of renewables. Cooperatives pride themselves on making market based decisions to best serve their member-owners; a co-op representative declared, “[Cooperatives] saved customers a lot of money in the long run by pushing back on renewable energy as long as we did.” Renewables are intermittent energy sources and they are not dispatchable, so some participants expressed worry around the costs needed to maintain a reliable supply of power. A handful of co-ops have discrepancies in their electricity demand depending on the season; when a cooperative has a variable load factor, it can be difficult to secure a project that is large enough to make it reasonably priced, but also fit the demand. Another co-op leader discussed how they lacked the funds and personnel expertise to procure renewable energy and deal with a balancing authority and/or transmission operator in house.

**Transmission**

The transmission category consisted of issues with access and capacity limits. Transmission capacity impacts the amount of intermittent renewable energy that can infiltrate the grid. It is not uncommon for the region with the greatest resource potential to be located in locations with insufficient transmission infrastructure or access. When cooperatives have sharp fluctuations in demand throughout the year, it can be difficult to maintain balance on the grid. In some areas, market restrictions limit cooperatives ability to export excess renewable power. Moreover, there may be pushback from communities near load centers for the installation of high voltage transmission lines on or near their property or blocking their viewshed.

**Co-op Model Impediments**

In recent years, federal tax incentives have spurred the buildout of renewable energy including the investment tax credit (ITC) for solar construction and the production tax credit (PTC) for wind generation. Many co-ops are non-profit entities, without a tax liability, and are ineligible to directly take advantage of federal tax incentives for renewable infrastructure. For co-ops, an increase in expenses for renewable buildout is directly reflected in a rise in rates due to their business model. An interview participant explained, “If [co-ops] were to propose the same buildout of building a ton of wind and retiring at the same time their existing [coal] assets, that debt doesn’t just magically disappear, it stays on the balance sheet of their ratepayers...[an IOU has to] recover that from the ratepayers too, but they’re able to swap that out for return on equity... [co-ops] don’t have that opportunity to just say we can guarantee value out of new builds. The business model is different.” We also heard, “[G&Ts are often] not subject to rigorous oversight by sophisticated boards...or by government regulators.” The nature of cooperative boards’ lack of term limits and creates a culture of path dependency, where decisions are dictated by past actions. In the case of co-ops, path dependency refers to the resistance to break-free from coal assets.

**Low Resource Accessibility**

Low resource accessibility refers to poor renewable resource potential. Geography, topography, and existing transmission networks impact a co-ops’ ability to generate clean energy, specifically wind and solar, within their service territory.

**Other**

There were a handful of responses that did not fit into any of the other categories. One interview explained, “[G&Ts have tremendous political power in our political system, at both the state and the federal level...Rural cooperatives at the federal level have long been very well established and wealthy lobbying force and the same thing at the state level. And so there’s been a sense that renewable portfolio standards get put in place and they can lobby their way out of it. They don’t have to worry about it. They can just say, we’ve got poor member-owners and we can’t do it. And that’s it. End of story. And that’s changing, but that for a long time was the case.” Smaller co-ops explained that their load is not large enough to require additional energy or their load factor varies so much that it makes it unnecessary or difficult to generate surplus energy; this is especially true in areas without an organized wholesale power market.

**Contract Restrictions**

A few responses were categorized as contract restrictions, which refers to G&T’s all requirements contract and partial requirements contract. DECs are limited to the G&T’s energy mix.

**Lack of Regulation**

Lack of regulation was the least reported response. Cooperatives are often insulated from much of the state legislation and political processes, so they lack policy driven disciplinary forces or incentives to engage in clean energy deployment.

4. **What is your vision for the future of the G&T model?**

Interviewees shared their vision for the future of the G&T
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model. Their perceptions included: G&Ts become more flexible (40% of interviewees), G&T becomes a system operator (26%), G&T commits to decarbonization (23%), G&T ceases to exist (14%), other (12%), and G&T remains the same (7%). (Figure 20)

G&T Becomes More Flexible
Interviewees discussed the need for more DECs to push their G&Ts to better adapt to member-owners’ emerging needs. A co-op leader stated, “[Cooperatives] are all just fighting for [their] own people.” Meeting the needs of all members becomes difficult when members within the G&T have vastly different needs. G&Ts have to work with their existing membership to create a flexible model that meets the needs of everyone, which will require compromise from all parties. We also heard that G&Ts should allow the DECs that want to break their contact to exit with a fair price, so the remaining members can use a member centric approach and work together to reimagine the G&T model and create a system that works for all. Additional exits may force G&Ts to create more flexible options for their member-owners as they work to hold onto their membership and their revenue stream.

Federal support and oversight may be necessary to ensure that prudent planning occurs within the G&T model to allow DECs to explore new models and protect lower income rural residents from becoming burdened with the costs of stranded assets. We heard that G&Ts may also undergo governance reform. The discussed governance reform included “open meetings”, “better conducted elections”, “minimum election standards”, and “term limits” for G&T boards.

We also heard that the G&T model should work more like a business and/or have short-term contractual relationships with DECs as opposed to a long-term member-based relationship to keep costs more closely aligned with IOU rates. An interviewee discussed the possibility of including an exit provision within G&T contracts to clearly define the defection process. Interviewees also discussed the possibility of G&Ts adopting various models including energy as a service, pay as you go/pay as you save, and bulk purchasing of DERs and advanced metering to lower member costs, advanced metering. An interviewee states, “[G&Ts] have to be able to be flexible as the marketplace changes.” The transmission system is changing to a two way system instead of a one way system; it will be a challenge, but transmission operators will have to adapt to the changing resources to maintain reliability on the grid.

G&T Becomes a System Operator
The second most common response included the possibility of G&Ts downsizing their role by ceasing power generation and focusing on transmission and secondary services. One interviewee suggested, “[G&Ts are] going to act more like an RTO and manage transactions between the members and the co-ops like a balancing authority. [G&Ts] can provide energy solutions, reliability, technology, and information...A responsive G&T should act like a liaison to provide the necessary market based services that [DECs] need.” We heard that all or most G&Ts may eventually evolve into a wholesale market provider or “paper G&T.” However, small-scale, local DERs will continue to become more popular due to their low cost and energy resilience compared to centralized power plants. Although the G&T may lose their “G” (generation), they may continue aggregating resources and services including rate services, energy efficiency offerings, power brokerage, and transmission operation.

G&T Commits to Decarbonization
Interview participants discussed the possibility of G&Ts transiting away from fossil fuels and transitioning to lower cost, carbon free energy resources in the future. A DEC leader stated, “[G&Ts] need to make the switch [to clean energy] so we don’t run the risk of more exits.” Another respondee explained, “No doubt that [co-ops] are evolving. The clean energy transition is clearly going on. Co-ops are well positioned to take advantage of that and figure out how they need to corporate and keep the lights on while making that transition.” Some interviewees mentioned the need for legislative support and regional markets to help co-ops transition away from carbon intensive assets and achieve lower electricity rates for their member-owners.
G&T Ceases to Exist
A majority of our interviewees believed that G&Ts have an ongoing role to play in the electric cooperative system, although a few responses envisioned a future model with the absence of a G&T. We heard that rural areas may no longer need a G&T for their energy procurement needs as they could form relationships with transmission system operators (TSOs), IOUs or independent power suppliers to obtain the services they currently receive from their G&T. An interviewee explained, “There could be either internal or external forces that drive a massive transition [within the G&T] or there could be total and complete collapse [of the G&T]. There’s going to be members fleeing and they’re done [with the G&T] and they’re ready to be served by other people. I don’t see that as a catastrophic result. G&Ts have gone bankrupt and customers continue to get power. So, it’s not the end of the world. Regardless, there need to be transitions for those rural communities to not be left behind.”

Other
The other responses we heard included discussions of G&Ts splitting up into microgrids along with a shift towards economic development. One interviewee stated, “Wouldn’t it be great if we woke up and [G&Ts] were engines of innovation and it wasn’t their job to just keep selling power [through] the most status quo way possible, but it was, they woke up in the morning and said, how can we be an engine for rural economic development?”

G&T Remains the Same
The least common response was the G&Ts will remain unchanged going forward. Small co-ops may not have the resources to participate in the power supply industry and may need G&Ts for risk mitigation. There were also concerns about the impact on economically challenged member-owners if the G&T ceases to exist as it is today. We heard, “[Co-ops] are serving where other people don’t want to and can’t make any money doing it. The reason co-ops were created will continue to be true for a long time. The basic structure of co-ops will continue because they can continue to provide affordable power to various parts of the population for a long time.”
V. Discussion

There were two primary findings from the research: G&Ts have an opportunity to repair their governance structures to be more responsive to member needs and shift their economies of scale to take advantage of low-cost, clean energy generation. If cooperatives decline to reform their governance structure, more DECs may continue to seek exits in the future.

Exits are a faster route for some DECs to meet emerging needs; however, the G&T model is still likely the fastest vessel for co-ops as a whole to decarbonize. This section will further expand on each of these findings and present calls to action for various stakeholder groups including DECs, G&Ts, and policymakers.

A. Main Findings

1. Governance reform is necessary to take advantage of economies of scale for clean energy

Our research reveals that without governance reform within the G&T model, there is a significant risk of burgeoning member-owner dissatisfaction and eventual model destabilization. G&Ts have been slow to adapt to the clean energy transition due to various factors including ingrained coal culture, cost, transmission constraints, and co-op model impediments (Figure 19). Their reluctance and/or inability to undergo a swift transition away from fossil fuels has sparked friction within the cooperative model as some DECs feel they are stymied by their G&T contract and are missing out on the economic benefits of clean energy along with autonomy over their energy supply (Figure 15). Strife within the cooperative model has led to completed and ongoing co-op exits. However, some G&Ts have realized the financial and reputational benefits of clean energy and are taking strides towards carbon reduction goals. Nevertheless, the results from our research suggest that insufficient clean energy adoption is not the sole factor preventing G&Ts from meeting the needs of their DECs - governance issues must also be addressed to mitigate ongoing disruption.

These governance issues stem from discrepancies in the meaning of the seven cooperative principles. Interviewees commonly cited the seven principles, the foundation of the cooperative model, as reasons for contradicting standpoints. Some respondents claimed that G&Ts were failing to adhere to the seven principles, specifically the first, voluntary and open membership, by contesting cooperative exits. On the contrary, other participants suggested that exiting DECs were going against these core principles, especially cooperation among cooperatives. The discrepancy between these sentiments suggests that there are clear divides and structural flaws that permeate the G&T-DEC relationship.

Out of the 43 interview participants, 42, or 98%, identified challenges within the G&T model and governance issues were reported as the most prevalent challenge that prevents some cooperatives from best serving their member-owners. The cooperative governance model was designed to be bottom up - member-owners telling DECs what their needs are, and DEC working collaboratively with their G&T to deliver on those needs. Today, however, G&Ts are working in more of a top down fashion - in many instances, G&Ts hold the decision-making power, opposed to their member-owners. Breaking with the intent of the G&T model, we heard that the best interest of cooperative decision makers may not always align with the best interest of their member-owners; the current governance structure prevents co-ops from fully embracing clean energy and hinders member-owners from reaping the benefits of the lowest cost energy
generation.

Today, G&Ts have an opportunity to reform their governance structure, which will open up pathways for them to more efficiently diversify their energy mix. To engage in governance structure reform and better serve their member-owners, co-ops should work to:

- Diversify co-op leadership;
- Increase voter turnout; and
- Change the senate model voting structure.

Not all of these reforms will apply to all co-ops; nevertheless, all co-ops could benefit from taking a hard look at their governance practices, particularly in these areas, to see how they might be able to improve.

Diversifying board representation will help to bring in new ideas and better represent the demographics of all member-owners. However, successful diversification will require member outreach and education efforts to attract qualified candidates to run for board seats. Our research uncovered that board members often lack electric utility expertise and members are frequently disengaged from leadership decision-making. Co-ops should work to promote awareness of their elections and commit to open, accessible, and transparent decision making. Members must also be made aware of the economic benefits of clean energy, so communities with an economic dependence or cultural commitment to coal can equitably prepare for the inevitable clean energy transition. A cooperative member’s bill of rights could help to increase transparency in decision making and ease participation by member-owners. Rethinking the senate model will help to give larger co-ops, which support a greater number of people, a proportional voice in the system. However, it is important that reform does not silence smaller members.

Under the existing G&T model, co-ops are unable to address emerging challenges, which has led to some member dissatisfaction and the drive towards structural change throughout some co-ops. The primary reasons for dissenting co-ops stem from their dependence on “dirty” energy which results in high rates, inhibitory and long-term binding contracts, and issues with a one-member, one-vote governance structure. The foundation of the G&T model was to meet member electricity needs through economies of scale. The G&T model is still providing economies of scale through aggregating load, but many are not providing the lowest cost energy because cooperatives are tethered to coal assets. Governance reform could allow cooperatives to use economies of scale to take advantage of low-cost, low-carbon energy generation. This will result in lower rates for members.

If the existing governance system is properly ameliorated, member needs will be placed at the forefront of the clean energy transition. The cooperative model is an interconnected system, so the idea behind this targeted strategy is that governance reform will lead to solutions for the other identified problems within cooperatives. Governance reform will allow cooperatives to better work towards internally and inclusively solving issues related to contract restrictions, ingrained coal culture, lack of regulation, and disparity of needs.

Without reform, there cannot be lasting change in the electric cooperative system. If cooperatives can address the governance issues, they can better prepare themselves for a smoother transition to a carbon free future. This will allow co-ops to take advantage of economies of scale and secure the lowest possible rates for their members. However, coal debt is a serious impediment to the energy transition. Legislative action is required to assist cooperatives in paying off stranded assets and building out new, cleaner and cheaper energy sources. The most equitable and efficient approach is beyond the scope of this study. However, this paper should serve as a call to action for policymakers to work with G&Ts to assist them in paying off debt. A potential pathway for this may include securitization along with just transition legislation. Although, G&Ts must be open to working with legislators and accepting that the transition is inevitable to serve the best interests of their member-owners. Renewing the governance model and adapting to new reality is an opportunity for G&Ts to secure their role in the 21st century energy system.

2. G&Ts have the potential to be the fastest vessel to co-op decarbonization

Our results indicate that co-op exits are a faster route for some DECs to meet emerging needs; however, the G&T model is still likely the fastest vessel for co-ops as a whole to decarbonize. Interview responses reveal that clean energy has been the underlying driver behind the changes taking place in the G&T model in recent years. Two key factors make clean energy a disruptive force: it is now undercutting coal and natural gas prices, and it can be built at any scale, from residential to utility.
These attributes mean that DECs can deploy clean energy to reap benefits for the local community that centralized, fossil-fuel generation cannot match:

- Lower energy costs;
- Local jobs (e.g., construction, operations & maintenance);
- Local tax revenue;
- Attracting businesses with renewable energy goals (e.g., further increasing jobs and tax revenue);
- Local control over energy choices;
- Resilience against natural disasters & climate change effects.

While fossil-based generation did provide jobs and tax revenue, it was concentrated in one locale. Often, these locales did not even sit inside a G&T’s territory, which meant that money flowing from member-owners to DECs to G&Ts to generating stations not only left a DEC’s community, but it left the G&T’s territory altogether. Because clean energy generation can be built at scales small enough to serve individual DECs, this flow of money can stay within a DEC and its local economy - something that was formerly out of reach for many DECs. Without clean energy, we would not see DECs disrupting the G&T model the way we have.

Given the current structure of DEC-G&T contracts, securing these benefits in any significant way is largely out of reach for most DECs. With only a 5% carveout (at the high end) for self-generation, the benefits of local clean energy generation for spurring local economic development are marginal. Co-op exits have emerged as one method for DECs to free themselves of these constraints to take advantage of the benefits of clean energy.

Yet, co-op exits are not a panacea. While they may be an easier and faster route for DECs to increase local economic development, build resilience, and add local jobs compared to working within the G&T model, they may slow the overall movement of cooperatives joining the clean energy transition. This is due to two primary takeaways from our results:

When co-ops leave their G&T, they surrender the economies of scale necessary to build the most affordable clean energy generation, slowing their own ability to increase their clean energy penetration. Co-op exits, when not executed fairly, place additional cost burdens on the G&T and its remaining members, slowing their ability to continue to increase their clean energy penetration.

The first point, of course, assumes that the G&T in question is committed to significant decarbonization goals. If the G&T has made no efforts to join the clean energy transition, then a co-op exit is undoubtedly a quicker path to a carbon-free DEC. And, even if the G&T is on a decarbonization path, methods exist for DECs to jump out ahead, including power purchase agreements and other origination/procurement strategies - but these face their own challenges, and our results were unable to prove whether or not exits allow DECs to exceed their G&Ts’ clean energy penetration.

The second point is one that we heard most often from smaller co-ops that have no intention of leaving their G&T, either because they are committed to the model or because they do not believe they have the human capital to execute an exit. They had major concerns about the G&T being saddled with higher levels of debt, leading to higher costs for their members, and potentially fueling further exits - a phenomenon that might be called the “G&T Death Spiral.” Not only would accelerating exits leave remaining members (who are likely to be those seen as too small to exit) “holding the bag” as many of our interviewees put it, driving upward rate pressures for their largely rural, lower-income member-owners, they would also have a detrimental effect on the G&T’s credit rating. Because G&Ts’ debt is secured by their contracts, the breaking of these contracts imperils their ability to secure affordable capital. Without this access, G&Ts are stripped of their ability to make the infrastructure modernization investments necessary to move themselves down a path toward decarbonization.

Other pathways exist for cooperatives to join the clean energy transition while helping DECs take full advantage of the unique benefits of clean energy. Even a co-op without contractual constraints and with a significant penetration of clean energy still needs access to some form of dispatchable generation and/or transmission capacity to offset the variable nature of that clean energy generation. G&Ts have an opportunity to help their DECs meet local economic development goals while also speeding the clean energy transition by allowing DECs to increase their percentage of self-generation through partial requirements contracts.

These contracts allow DECs to continue receiving the
benefits of transmission and dispatchability from the G&T while also growing their local generation capacity. But they also have to be financially viable for both the DEC and the G&T, and early attempts and writing these contracts have not been met with much enthusiasm with DECs seeking an exit. It may be necessary for G&Ts to receive some form of outside help in retiring their stranded coal assets. This would aid them in offering terms for partial requirements contracts that are more agreeable to DECs that would use them.

One additional pathway that co-ops could take to decarbonization would be to keep G&Ts intact as they are today, without modifying any contracts to partial requirements. This would require aggressive moves by the G&T to retire stranded coal assets early and make major investments in clean energy generation infrastructure - a shift that has been seen in very few G&Ts, and to varying degrees of commitment. However, this pathway would leave some of the emerging needs of DECs unaddressed - particularly the desire of some DECs to harness clean energy to drive local economic development and resilience.

Many pathways exist for co-ops to contemplate as they stand at a crossroads today. On one end of the spectrum, there is a path that leads to decarbonization through a G&T model that is largely unchanged except by the shift from fossil fuels to clean energy. On the other end is a path that leads to a G&T model that is completely transformed - a transformation that was driven by co-op exits and was therefore largely out of the G&Ts control. But there remain pathways in between that have the potential to address concerns from both DECs and G&Ts, and that ultimately lead to the same decarbonized future as the more extreme routes.

Co-op exits may be a faster route for some DECs to meet their emerging needs, such as lower cost, greater local control, and local economic development. Yet the G&T model is likely the fastest vessel for co-ops as a whole to decarbonize (given a G&T that has committed to aggressive decarbonization). The most ideal vision for the future sees DECs committing to the G&T model to secure economies of scale in renewable generation for themselves and their G&T “family” members, with G&Ts meeting them in the middle and providing opportunities for DECs to better meet their emerging needs.

3. Further Research
Our research supports that governance reform is necessary within the G&T model, especially with regard to ensuring co-ops have access to the fastest pathway to decarbonization. Future research is required to determine which pathway is the most equitable and efficient. The findings of this report lead to other research questions including: What strategies are most effective in engaging and educating a diverse set of members? Is there a one-size-fits-all replacement for the senate model? What policy tools can be developed to relieve the pressures of stranded coal assets? How can G&Ts better accommodate larger portions of local generation in their DECs?
B. Takeaways

1. DECs
DECs will survive the upheaval of the moment. They are the fundamental governing unit of the rural electric system, and their structure allows them to be highly adaptable when they want or need to be. The primary question facing DECs is this: how much appetite do they have for disruption? It is a question that every DEC should be asking itself today. If DECs prefer a smoother future, they may need to work within the existing G&T model to adapt its structure to be more democratic and more responsive to the diverse array of needs expressed by its member-owners, including helping their fellow member DECs to take advantage of the benefits of the clean energy transition. If DECs decide this is not something they want to do, then they should expect a future with more volatility in the G&T model, including more attempted co-op exits, the possibility of eroding credit ratings for G&Ts, and possibly G&T bankruptcy. This would be a period of tremendous upheaval for DECs, and though they would come through it intact, it will not be an easy process.

2. G&Ts
The economywide clean energy transition is inevitable. Clean energy has the potential to bring indisputable benefits to rural communities that are increasingly becoming more pronounced. As these opportunities are realized in co-ops across the country, more and more DECs will demand a cleaner energy mix so their members can harness the benefits of modern generation. G&Ts have a unique opportunity to adapt to become key participants in the clean energy transition. Yet simply adding clean energy will not be enough. Structural governance reform is required to repair widespread flaws within the G&T model and serve the best interests of member-owners. If G&Ts decline to change their governance structure, they may face their demise through future co-op exits. To ensure a smooth transition, G&Ts must work with state and local governments to create and support policies that will assist in easing the burden of G&Ts’ coal debt. These policies could include supporting emerging mechanisms such as debt securitization and "coal for renewable swaps.”

3. Policymakers
Policymakers need to take a hard look at the consequences of accelerating co-op exits, and indeed at the climate change ramifications of any co-op policy or rulemaking. If their priority is to speed the clean energy transition, they may find it much more difficult to reach their goals outside the G&T model. If policymakers find the G&T model intractable and unwilling to make the adaptations necessary to joining the clean energy transition, they should then be prepared to offer the additional support that will be necessary to shepherd individual DECs along pathways to a decarbonized future. Regulation of a small number of G&T co-ops is more easily achieved than attempting to exert regulation over a large number of DECs, especially in states where DECs are almost entirely exempt from regulation.

4. Wholesale Power Providers
An increasing number of DECs will continue to demand clean energy, especially in areas with recent demographic shifts. Some co-ops realize the economic benefits of clean energy and want to bring those benefits to their member-owners. The role of WPPs in the cooperative system is dependent on G&T action, or inaction. If WPPs want to be competitive in the cooperative system, they need to prove their bonafide commitment to clean energy. WPPs have to prove that they can be a positive force in rural economic development by advancing clean energy as fast or faster than a reformed G&T.
VI. Conclusion

There is no longer one clear pathway for the future of cooperatives. Clean energy has opened up new opportunities and disrupted the G&T model as we know it. Our research shows that the current model prevents rural communities from fully taking advantage of the economic benefits of clean energy. Going forward, G&Ts have two options: they can stay the course or adapt their structure. But, if they continue business as usual, they may miss out on the increasing economic benefits of clean energy. This option could also result in accelerating the pace of cooperative exits. The alternative path for G&Ts is to reform their governance model. We found that an increasing number of distribution cooperatives are no longer content to have G&Ts hand down decisions to them - they want decision-making power to flow upward again, from member-owners to DECs to G&Ts. This type of governance reform would allow all cooperatives to better seize the advantages of clean energy through economies of scale. Either way, the clean energy transition, as a whole, is inevitable. But now, G&Ts have the opportunity to decide what their role in that transition will be. The future will tell if G&Ts will decide to adapt their business model to meet the emerging opportunities of clean energy and ensure a bright future for all electric cooperatives.

“Even though rural electricity cooperatives serve a relatively small portion of the population, they represent an important piece of the puzzle in finding policy solutions for climate change.”
-Gabriel Pacyniak, Greening the Old New Deal
Appendix A - Policy Review

Policy, and often the lack thereof, has shaped electric cooperatives from the beginning, and continues to do so today. Though cooperatives are self-governing, state and federal policies still apply in many cases. These policies can affect various parts of the cooperative business model, including the rates cooperatives charge their members, the resources that cooperatives build and retire, the contracts that cooperatives have to purchase power from each other, and more. This appendix lays out the basics of cooperative regulation and jurisdiction, the effect of state-level RPSs on cooperatives, cooperative advocacy in federal energy policy, and policies that govern cooperative exits.

A. Cooperative Regulation & Jurisdiction

Because of their democratic structure, cooperative utilities face far less regulation than their investor-owned counterparts. In 1937, the REA drafted the Model Electric Cooperative Corporation Act, a model law that was made available for individual states to adopt to enable the formation of DECs within their borders. Each state that adopted the Act modified its terms somewhat to suit its own needs and preferences. As adopted in the state of Colorado, for example, this act mostly exempts DECs from PUC jurisdiction.46 G&T cooperatives, however, are expressly made subject to PUC regulation.

As such, the level of regulation placed over cooperatives varies from state to state, creating different pressures and incentives for cooperatives depending on where they are located. This also creates operational complexity for some G&Ts that serve DECs across multiple states. For these G&Ts, who sell and transmit interstate, wholesale power, additional regulation from FERC is also a possibility.

Today, FERC operates under Sections II and III of the Federal Power Act (FPA), and it retains that same jurisdiction. It also has the ability to determine unjust rates and charges, hear complaints regarding unjust rates and charges, and is obligated to promulgate a remedy should a discrimination be found. § 201(f) of the FPA provides for a series of exemptions to FERC’s jurisdiction, stating:

“No provision in this Part 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, or any officer, agent, employee of any of the foregoing acting as such in the course of his official duty, unless such provision makes specific reference thereto.”

The statute essentially lays out three exemptions for cooperatives: those that receive RUS funding, those that sell less than 4,000,000 megawatt hours of electricity per year, or those that are wholly owned by cooperatives that fall under the first two exemptions. These three exemptions cover the vast majority of DECs and G&Ts across the country. Only a small number of large, multi-state G&Ts are currently regulated by FERC, and for most of their existence, cooperatives have resisted regulation, especially at the federal level. But this long-held sentiment has shifted in the last year, with two of the largest G&Ts in the country - Basin Electric and Tri-State G&T - filing for jurisdiction with FERC. The reasons behind this shift are varied and complex, and will be touched on later in this appendix.
2. Cooperatives and State RPS Laws
In the absence of federal action to combat climate change, cities and states have become the vanguard of clean energy policy. One manifestation of their undertaking has been state-level RPS laws. These laws mandate a certain level of electricity produced or sold in the state to come from renewable sources, such as wind, and solar. Currently, 30 states plus D.C. currently have mandatory RPS laws, and an additional seven states have voluntary RPS goals. Much like state jurisdiction, the applicability of RPS laws varies from state to state; of the 30 states with mandatory RPS laws, 11 apply those laws to cooperatives, four of which - Colorado, North Carolina, New Mexico, Oregon - hold cooperatives to a lower standard.

Even in the case of these lower standards, these laws are often opposed by cooperatives. Many co-ops view RPS laws as potential infringements on their independent governance, and as possible drivers of higher rates for members. In 2013, a Colorado law that increased the RPS for cooperatives, but still left their standard below standards for IOUs, was heavily opposed by co-ops across the state, including Tri-State, who cited major cost concerns as their primary reason for opposition. The law passed over co-ops' protests, and today most co-ops in the state have surpassed its goals for clean energy adoption.

3. Cooperative Advocacy in Federal Energy Policy
Through their national trade organization, the National Rural Electric Cooperative Association (NRECA), cooperatives have been active in advocating and lobbying for policies at the federal level. Most notably in recent years, NRECA led the fight to oppose the Obama Administration’s Clean Power Plan (CPP), which would have required states to meet carbon reduction targets that likely would have resulted in many cooperative-owned coal plant closures. NRECA has a large presence in the federal policy sphere, employing its own lobbyists alongside a Political Action Committee that aids in funding its efforts.

Though the CPP was put into action in 2015, NRECA (among others) sued the administration to halt the plan. The litigation effectively ended the CPP, as the Supreme Court ordered a stay of the regulation while the D.C. Circuit Court of Appeals made its ruling. The Trump Administration eventually moved to repeal the CPP in 2017, with the rulemaking to do so completed in 2019. Despite the opposition to the CPP from NRECA, not all cooperatives opposed it. Great River Energy, a G&T in Minnesota, was working to bring itself into compliance with the CPP before it was stayed and repealed, and made no effort to oppose it.

4. Cooperative Exit Policies
To date, no cooperative exit has been executed under a state or federal policy; they have all occurred through negotiated agreements between DECs and G&Ts. Nevertheless, potential policy pressures have played a role in past exits, and it is very likely that future exits will occur under the jurisdiction of either FERC or state PUCs.

One of the first exit proceedings to invoke cooperative policy was that of Delta-Montrose Electric Association (DMEA). DMEA is a Colorado electric distribution co-op that previously contracted with Tri-State for G&T services to serve its 28,000 members in rural western Colorado. DMEA comprised 5% of the total membership of Tri-State. DMEA was prevented from purchasing electricity from a small, local hydroelectric facility due to Tri-State’s contract stipulations. The contract required that DMEA acquire at least 95% of total energy consumption from Tri-State. DMEA challenged this requirement at FERC, asserting its ability to purchase this power via the Public Utilities Regulatory Act (PURPA), which mandates that utilities must interconnect small, renewable generators known as Qualifying Facilities (QFs) within their service territories. DMEA brought the case before FERC in 2015, which ruled in DMEA’s favor, saying that the contract terms do not affect DMEA’s requirement to purchase power from a QF. In 2016, Tri-State filed a petition for declaratory order requesting that FERC find their fixed-cost recovery proposal to have DMEA compensate Tri-State for the lost power sales was consistent with PURPA. FERC denied the petition for declaratory order, but in March 2020, they vacated that ruling following their classification of Tri-State as a non-exempt public utility, the practical effect of which was placing the parties “back at square one.”

Apart from its PURPA proceedings at FERC, and after affirming an increasing member-owner desire to reduce rates and transition to a cleaner generation mix, DMEA requested an exit charge from their contract with Tri-State, which runs until 2040. After Tri-State set an exit charge notably higher than Kit Carson’s exit charge, DMEA filed a formal complaint with the Colorado PUC that stated, “Tri-State calculated a dramatically high exit charge and has declined to meaningfully vary from that calculation in the intervening years. Tri-State also
refuses to share key information with DMEA or other Tri-State member cooperatives [...] that would let
them adequately understand how Tri-State derived its exit charge inputs.”

Eventually, DMEA and Tri-State reached a settlement for a “fair and reasonable” charge:
$62.5 million, plus $26 million to buy back transmission facilities from Tri-State and a forfeiture of $48 million
in patronage capital. The co-op exited its contract in July 2020, and now acquires wholesale power from
Guzman Energy.

Several other co-ops across the country are currently exploring or attempting exits from their G&T contracts. The circumstances of these pending exits vary widely, and depend upon each co-op’s specific geographic, demographic, economic, contractual, and jurisdictional circumstances. Up to present day, all co-op exits have been negotiated privately (e.g., DMEA) or settled out of court (e.g., Kit Carson Electric Cooperative), meaning there has been no precedent set by either the courts or by regulatory agencies; three ongoing cases have the potential to change that.

The first is Tipmont Rural Electric Membership Cooperative (Tipmont) v. Wabash Valley Power
Association (Wabash). Tipmont is a co-op in Indiana that has filed a complaint with FERC in an attempt
to terminate its contract with Wabash, a G&T that currently supplies Tipmont’s power. Wabash is fairly
unique among G&Ts in that it has no outstanding debt with the RUS, (formerly the REA), which means that it falls under FERC’s jurisdiction, not under the jurisdiction of a state PUC as most G&Ts do. Should FERC find in favor of Tipmont, it will likely set a methodology for
Wabash and Tipmont to determine the exit fee that Tipmont will pay to terminate its contract.

The second case is that of McKenzie Electric Cooperative (McKenzie), a DEC in North Dakota, and
the two G&Ts to which it belongs, Upper Missouri

Power Cooperative (Upper Missouri) and Basin
Electric Power Cooperative (Basin). McKenzie has filed a lawsuit in North Dakota state court against
both G&Ts, as well as a complaint with FERC against Upper Missouri. Their main allegation is that Basin and
Upper Missouri have grossly mismanaged their assets (primarily a $700 million coal gasification plant), leading
to high rates for its member co-ops. This essentially punishes the co-ops for mistakes made by Basin,
even though McKenzie and other co-ops have very little say in Basin’s decision-making, which McKenzie
believes violates the cooperative principle of democratic member control.

The final case is that of La Plata Electric Association (La Plata) and United Power (United) v. Tri-State
Generation & Transmission Association (Tri-State). As discussed, Tri-State has seen two member co-ops
leave via settlement in the last couple of years. Now, two more co-ops, La Plata of Durango, CO and United
of Brighton, CO, are seeking an exit. They filed separate complaints (that have now been joined into one) with
the Colorado Public Utilities Commission (CoPUC), alleging that: 1) In the case of United, Tri-State provided
an exit fee that is unjust and unreasonable (too expensive), and 2) in the case of La Plata, refused to provide
an exit fee at all. Simultaneously, Tri-State has filed with FERC seeking a declaratory order that Tri-
State is FERC-jurisdictional, and no longer has to abide by any CoPUC ruling.

In March 2020, FERC granted the declaratory order, exerts its jurisdiction over Tri-State, adding in a
later change that state jurisdiction over exit charges fell exclusively under FERC’s jurisdiction. With this
ruling in place, CoPUC dismissed United and LaPlata’s complaints without prejudice, stating that unless Tri-
State’s FERC jurisdiction was overturned in state courts, it did not have jurisdiction over the exit fees.
Appendix B - Kit Carson Co-op Exit Case Study

Kit Carson Electric Cooperative (Kit Carson), a distribution co-op in New Mexico, serves about 30,000 rural members in the northern region of the state and until 2016, they received generation and transmission services through an all requirements power supply contract with Tri-State. In 2016, Kit Carson successfully exited their G&T contract to gain autonomy over generation sources and ultimately reduce electricity rates for members. The impetus for Kit Carson’s exit started in 2008 when co-op members expressed a desire for clean energy through local solar; at that time, their contract with Tri-State, a heavy fossil fuel producer, was not set to expire until 2040. In addition, Tri-State was charging Kit Carson ~8 cents per kilowatt-hour, when actual wholesale power costs were ~3.6 cents per kilowatt-hour. Kit Carson reviewed their existing G&T agreement and produced three primary complaints (1) Tri-State continuously increased their wholesale price (or rate), (2) Tri-State allowed Kit Carson to produce just 5% of their own electricity (i.e., strictly limited the amount of solar they could locally produce, and (3) Tri-State was not transparent about the timing and extent of rate increases. After a failed attempt to revise its long-term contract with Tri-State, Kit Carson’s exit request was approved by a vote from the Tri-State board with the stipulation that Kit Carson pay a $37 million exit charge.

After Kit Carson’s successful exit, they entered into a short-term (10 year), customized, wholesale power contract with Guzman Energy, which included no cap on self-generation and rates that were over 10% lower than Tri-States. The co-op’s departure from their G&T contract would eventually prompt three additional co-ops in Colorado to initiate a similar exit process from Tri-State.72

At the beginning of 2020, Tri-State published a responsible energy plan (REP) that commits to generate 50% of electricity by renewable sources by 2024, retire all coal plants in Colorado and New Mexico by 2030, allow for more contract flexibility, join a regional transmission organization (RTO), grow electric vehicle infrastructure and beneficial electrification, and support communities and employees in the upcoming energy transition.73 Despite the REP, some DECs within Tri-State’s co-op are still dissatisfied with their partnership and are seeking to exit their contract.
Appendix C - Sample Interview Script

1. Customized background question based on interviewee
   a. e.g. How long have you been in this position? What are your primary job responsibilities? Can you describe your career path to this point?

2. What are the/could you please list the primary needs of [DEC's] member-owners?
   a. What tools does [DEC] employ in gauging its members’ needs? (surveys, forums, etc.)
   b. How do the needs of [DEC’s] members differ across the service territory?
      i. How does [DEC] handle meeting different needs?
   c. Have any [DEC] members expressed that their needs are changing?
      i. If yes, what has changed? What is causing these changes?
      ii. If no, how does [DEC] expect their needs to change in the future?

3. (With these needs in mind,) What aspects of the current G&T model are serving [DEC’s] member-owners well?
   a. Are there any challenges created by the G&T model that you are working to overcome to better serve your member-owners?
      i. Opportunity for “probing questions”
         1. e.g., “You mentioned X, could you please tell us more about that”

4. We have seen some DECs leave their G&T provider over issues of unmet needs. What opportunities are created by severing this relationship?

5. What challenges do cooperative exits create for all DECs and their member-owners?

6. Which current local/state/federal policies most impact co-op exit proceedings?
   a. How do those policies impact co-op exit proceedings?

7. For DECs that are not having their needs met by their G&T provider, what strategies outside of co-op exits does [DEC] see for satisfying those unmet needs?

8. (Lead in with [DEC’s] energy transition actions) What factors have driven [DEC’s] participation/non-participation in the clean energy transition?
   a. What challenges does [DEC] face in adding clean energy?
   b. What opportunities does [DEC] see for adding clean energy?
   c. Do/would co-op exits have an effect on [DEC’s] role within the clean energy transition?

9. What is [DEC’s] vision for the G&T model in the future?

10. Is there anything we should know that we have not asked?

11. Who else should we talk to?

12. Thank you!
Endnotes


9 Ross, Lauren, Drehobl, Ariel, and Brian Stickles.
15 80 Cong. Rec. 2823 (1936).
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42 U.S.C. 92 § 8311 (a)


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C.R.S. § 40-9.5-103 (2016)


52 C.R.S. § 40-9.5-118 (2016)


60 151 FERC ¶ 61,238

61 170 FERC ¶ 61,263


65 Tipmont Rural Electric Membership Cooperative v. Wabash Valley Power Association. 168 FERC ¶ 61,161


69 Tri-State G&T Association. 85 FR 503, FERC Docket No. EL20-16-000

70 Tri-State G&T Association. 85 FR 503, FERC Docket No. EL20-16-000

