

Powering Cooperatives

A PRIMER ON COLORADO'S LOCAL COOPERATIVE UTILITIES AND
TRI-STATE GENERATION & TRANSMISSION ASSOCIATION



Powering Cooperatives

A POLICY PRIMER

This primer is designed to give state legislators an understanding of some of the issues that Colorado's cooperative distribution utilities face in 2019. The purpose is to identify the source of, provide context for, and point out conflicts that have arisen around these issues.

Of Colorado's 56 utilities, 22 are rural cooperatives. This primer focuses on the 18 rural cooperative utilities that are served by and which are under contract with Tri-State Generation and Transmission Association (Tri-State G&T).

While this policy primer does not suggest specific legislation, the intent is to identify and explain some of the issues that have arisen in the Tri-State/ cooperative distribution utility relationship that are driving much of the current dissatisfaction from some local cooperatives and their customers, in Colorado.

The contents of this report are based on research conducted by the Center for the New Energy Economy.

In Colorado there are underlying conditions have led to dissatisfaction by some distribution cooperatives and their members:

1. Technologies have been developed to help utilities better manage their energy usage and costs, yet contractual restrictions between

Tri-State and cooperatives limit their availability to local cooperative utilities.

2. The cost of energy resources such as solar, wind, natural gas, and energy storage have dropped dramatically in price, and are now lower than the wholesale costs of Tri-State generated and delivered power.

3. Tri-State has continued to impose increasingly restrictive policies and control on their member cooperatives.

4. Tri-State's member cooperatives are bound to contractual relationships with Tri-State out to 2050.¹

These issues came to a head most recently when Delta Montrose Electric Association (DMEA) began separation negotiations with Tri-State. This followed the successful separation of the Kit Carson Electric Cooperative in New Mexico from Tri-State in 2016.

A recent letter from United Power to other Tri-State member cooperatives stated:

...we have discovered that Xcel Energy's wholesale combined demand charge and energy charge, for the amount of energy that United Power currently uses on an annual basis is 28.5% lower than Tri-State's wholesale combined demand charge and energy charge.

**Colorado Legislators
may be able to help
local distribution
cooperatives achieve
their cooperative
principles and benefit
their customers.**

While representatives of Tri-State's member cooperatives make up the board of directors of Tri-State, United Power goes on to say that:

United Power and several other members have tried to have discussions with Tri-State, to no avail.... Thus far, in our experience, the management of Tri-State and a majority of the members of the Tri-State Board have tried to thwart the discussions and solutions that are driven by the members' needs and the marketplace.

Tri-State would counter that they follow the direction of their board, which represents the will of the majority of their member cooperatives.

This primer is targeted towards Colorado's state legislators who are in a unique position to clarify, establish, and codify elements of the legal relationship between Colorado's local cooperative distribution utilities and Tri-State G&T.

Colorado's legislators represent the constituents of the state's rural cooperatives and ultimately manage the statutes that oversee consumer protections, provide for regulatory oversight, and represent the resource objectives of the state. Furthermore, the cooperative structure is a creation of state statutes and as such, legislators are in a position to ensure the state's electric cooperatives have the legal authority and tools to achieve the principles to which they aspire.

The current relationship between Tri-State G&T and the local cooperatives forces some cooperatives to make a choice between: giving up independence, limiting energy management options, foregoing options for local economic development, achieving community priorities, and rate stability; or leaving Tri-State.

This is a losing proposition and one that serves neither Tri-State's interests nor the local cooperatives' interests. Ultimately, customers would be better served with a structure that allows local distribution cooperatives the opportunity to both pursue their energy priorities and maintain a working relationship with Tri-State.

It should be noted that this imperative is not shared by all Tri-State cooperatives. There are many, particularly many of the smaller cooperatives with more limited resources, who appreciate the basic reliable service provided by the Tri-State system and have no desire to address any issues beyond reliable electric service to their rural service territories.

Ideally, our cooperative system would allow the priorities of both of these camps to achieve their goals and meet the objectives of their cooperative customers.

THE CENTER FOR THE NEW ENERGY ECONOMY

The Center for the New Energy Economy is a group of [energy policy experts](#) led by Colorado's 41st Governor, Bill Ritter, Jr.

Founded in 2011, the purpose of the Center for the New Energy Economy is to educate, convene, and inspire decision-makers to create policies that facilitate America's equitable transition to a clean energy economy.

WEBSITE: WWW.CNEE.COLOSTATE.EDU

Powering Cooperatives

TABLE OF CONTENTS

INTRODUCTION & SUMMARY OF POLICY ISSUES	
HISTORY AND BACKGROUND	1
TRI-STATE COOPERATIVE	2
COLORADO STATE POLICES AND REGULATIONS APPLICABLE TO TRI-STATE	5
COLORADO'S LOCAL DISTRIBUTION COOPERATIVES..	5
POLICY CHALLENGES OF THE CURRENT TRI-STATE RELATIONSHIP	7
OTHER POLICY ISSUES.....	11
ENDNOTES	14
APPENDIX - LIST OF TERMS	15

SUMMARY OF POLICY ISSUES IDENTIFIED IN THIS REPORT

ISSUE #1: The economic options of local distribution cooperatives are limited through existing contracts.....	7
ISSUE #2: FERC has determined that the fees charged by Tri-State interfere with a utility's requirement to comply with federal law; yet those fees remain.....	9
ISSUE #3: Distribution cooperative owner/members do not have access to important information impacting and affecting their cooperative.	10
ISSUE #4: There may be an inherent conflict of interest regarding the fiduciary responsibility of board members within the Tri-State cooperative structure.....	10
ISSUE #5: Renewable Energy Certificates used for compliance with Colorado's Renewable Energy Standard do not require that electricity is delivered to either the Tri-State System or the cooperative customer.	11
ISSUE #6: Colorado's RES does not distinguish between renewables on the distribution system and renewables on the transmission system.....	11
ISSUE #7: Some local cooperatives include high fees for customers wishing to net-meter renewable energy systems.	12
ISSUE #8: Some local distribution cooperatives deny net metering for customers based on engineering limitations	13
ISSUE #9: Tri-State has "self-bonded" cleanup responsibilities for coal assets.....	13

HISTORY AND BACKGROUND

In 1882, Thomas Edison opened the first central power plant in the United States - [the Pearl Street Station](#). Subsequently, cities were electrified quite rapidly; by the 1930s, 90% of urban populations were connected to the grid. However, at the same time, only 10% of rural populations had electricity. Most investor-owned utilities (IOUs) [neglected](#) to serve these areas as it would have required substantial investments in infrastructure to connect to the relatively small population base.

In 1935, President Roosevelt signed an executive order establishing the Rural Electrification Administration (REA) and, in 1936, Congress enacted the Rural Electrification Act. This Act established a lending agency to finance rural electrification and to improve electric service in rural areas. IOUs did not take advantage of the loans, but farmer-based cooperatives jumped at the opportunity.

In 1937, the REA drafted the Electric Cooperative Corporation Act, a model law that states could adopt to enable the formation and operation of rural electric cooperatives. The REA managed loan programs and provided technical and educational assistance to electric cooperatives. By 1940, 567 cooperatives across the nation were providing electricity to more than 1.5 million consumers in 46

states, and by 1953, more than 90% of farms in the United States had electricity.

Congress [replaced the REA](#) with the [Rural Utilities Service \(RUS\)](#) in 1994. The RUS's [Electric Programs](#) continue to work with electric cooperatives to build infrastructure and improve electric services by providing funding and other forms of support.

Of the 900 electric cooperatives in America, 93% are local distribution cooperatives and seven percent are generation and transmission (G&T) cooperatives. Local distribution cooperatives own and maintain their own distribution networks and deliver electricity to end-users.

G&T cooperatives generate and transmit wholesale power to distribution cooperatives from their own generation or by purchasing power on behalf of the distribution members.

On [average](#), local distribution cooperatives serve seven

customers per mile of line, IOUs serve 35 customers per mile of line, and municipal utility districts (MUDs) serve 47 customer per mile of line. Cooperatives generate approximately \$10,500 in revenue per mile, while IOUs and MUDs earn approximately \$62,500 and \$86,500, respectively. This disparity reflects the rural nature of the electric cooperatives' primary service areas.²

Electric Co-ops in the US

- 900 electric cooperatives in 47 States
- Serve 42 million people (13% of US population) and 19 million businesses
- Own and maintain 42% of the nation's distribution lines
- Service territory covers 75% of US land area
- Distribution and G&T cooperatives own assets worth \$175 Billion
- Employ 71,000 people

Powering Cooperatives

While this disparity contributes to the higher cost of power for cooperative customers, differences in electricity prices have not always been so pronounced Colorado.

In 1998, the legislature created the Electricity Advisory Panel (EAP) to conduct an evaluation of the potential impact of restructuring the electricity market in Colorado. As a part of that study, the EAP and CH2M Hill conducted a rate survey that showed comparatively similar rates across utility types.³

For example, CH2M Hill showed that in 1998, residential costs were: \$0.0756/kilowatt-hour (kWh) for IOUs, \$0.0635/kWh for municipal utilities, and \$0.078/kWh for cooperative utilities. While costs are slightly higher to serve customers of cooperative utilities – with fewer customers per mile of infrastructure – the not-for-profit structure of the cooperative and low cost federal allocations of hydropower, among other factors, helps to offset those costs.

Most of the current disparity in costs can be traced back to the much higher wholesale cost of power from Tri-State and the contractual limitations placed on the distribution cooperatives to manage those costs (see Policy Issue #1).

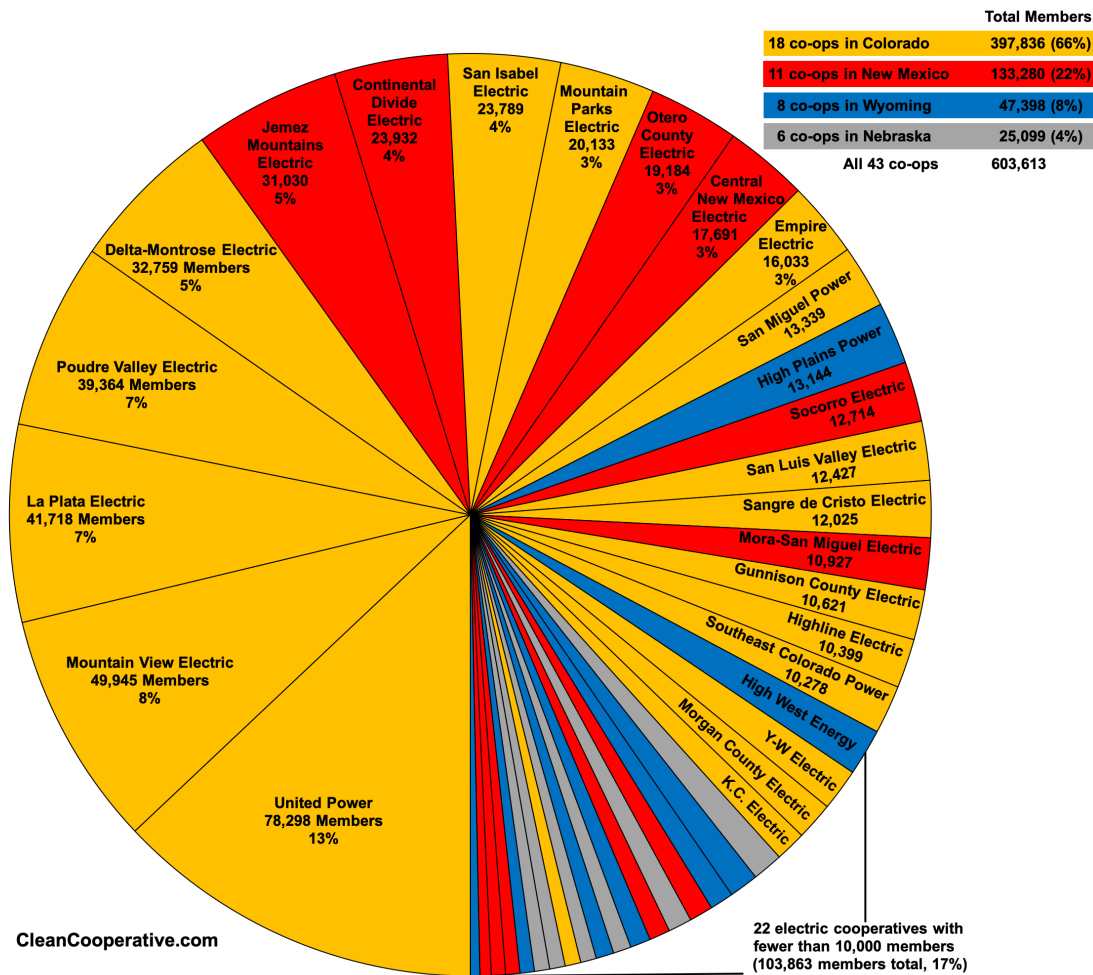
TRI-STATE COOPERATIVE

Tri-State is a Colorado G&T cooperative that was established on May 19, 1952. Today, Tri-State has 43 member local distribution cooperatives that serve more than 1.5 million customers across the West. The G&T cooperative operates and maintains 5,562 miles of transmission lines.

Local distribution cooperatives manage the infrastructure that delivers electricity to the end customer (e.g., a homeowner or business). Transmission cooperatives utilize

large capacity transmission lines to transmit generation long distances to the local distribution cooperatives.

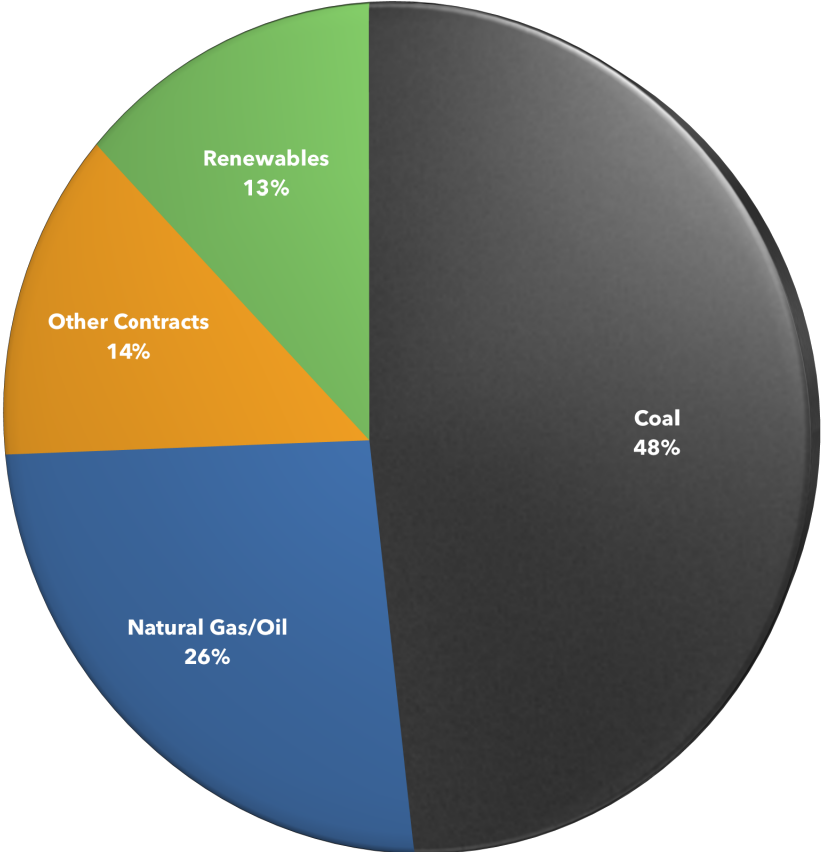
Tri-State is owned by its 43 cooperative members and governed by a board of directors. The board is made up of one director representing each member cooperative. Each cooperative has one vote on the board regardless of the size of the cooperative. For instance, 18 of the 43 members (41% of the voting membership) of Tri-State are located



in Colorado, yet they represent 66% of the electric load served by the company.

According to the Electric Resource Plan report submitted to the Colorado Public Utilities Commission (PUC) in 2018⁴, Tri-State contracts for 367 megawatts (MW) of wind, 85 MW of solar and 27 MW of small hydro projects for a total of 479 MW of renewables (12.6%). Tri-State also controls 1,835MW of coal (48.2%), 973 MW of natural gas and oil resources (25.6%) and contracts for 518 MW of other resources (13.6%).⁵

TRI-STATE GENERATION MIX
(ENERGY OWNED AND PURCHASED BY TRI-STATE)



In January 2019, Tri-State announced that they would be developing a 100 MW solar project to come online in 2023 and another 100MW wind project to come online in 2020. Tri-State is scheduled to retire the 100 MW Nucla coal generating station at the end of 2022.

Additionally, their member cooperatives have developed over 111 MW of renewables and receive their historic federal allocation of hydropower (~600 MW).

The 30% renewable number often stated by Tri-State includes the renewables generated by local cooperatives, cooperative customers, and the federal hydropower allocations to the local cooperatives. These historic federal hydropower projects do not count toward Colorado’s renewable energy standard.

The June 2017 ‘Benchmarking Air Emissions’ report⁶, a collaborative effort by Bank of America, Calpine, Entergy, Exelon, Tenaska, Ceres, and the Natural Resources Defense Council, found that Tri-State was the 64th largest electric power producer in the US in 2015, yet, ranked first in the country in pounds of CO₂ emitted per megawatt-hour (MWh) of electricity produced.

ELECTRIC COOPERATIVE GOVERNANCE

Electric cooperatives are incorporated under state statutes. In 30 states, electric cooperatives operate under an electric cooperative act; in 11 states they operate under a general cooperative act; in 3 states they operate under a non-profit corporation act; and in 3 other states they operate under a business corporation act. Tri-State is organized as a Colorado cooperative under the Colorado Revised Statutes (C.R.S.). Their headquarters are located in Westminster, Colorado.

For tax purposes, if at least 85% of an electric cooperative’s annual income is collected from its members for the sole purpose of covering losses and expenses, it is considered a not-for-profit corporation.

Electric cooperatives are granted Federal tax-exempt status under Internal Revenue Code (I.R.C.) § 501(c)(12).

Electric cooperatives are owned by their members and membership is generally required of all customers. Members elect a board of directors for the cooperative from their ranks.

When an electric cooperative makes a profit (i.e., when the income of the cooperative exceeds its expenses), this profit is, for the most part, allocated among the members. The amount of profit, or excess income, allocated to the members of an electric cooperative is called "capital credit." The value of this credit is retained by the cooperative for a specific period of time and the value is gradually returned to members' accounts through a capital credit retirement program. Usually members receive the value of their capital credits as a deduction on their electric bill.

G&T cooperatives such as Tri-State also generate excess revenues. For the G&T, this excess revenue is treated as "patronage capital" and returned without interest to the member cooperatives at the discretion of the Tri-State board of directors.⁷ What is not returned to the member cooperatives is held by the G&T and recorded as equity, however, the equity still belongs to the member cooperatives.

According to the [2018 10-K filing with the Securities and Exchange Commission](#), Tri-State held over \$1 billion of patronage capital (\$1.16B in 2018). Tri-State's Master Indenture (the agreement with bond holders) requires that they maintain an 18% equity to capital ratio (ECR). The equity in this equation is primarily the patronage capital equity of their members as held by Tri-State. This ratio was 25.3% in 2018 - nearly \$300M more than what is required by the Master Indenture.

UNDERSTANDING DEMAND CHARGES

There are two primary categories of charges from Tri-State to the distribution utility: energy charges and demand charges. Energy charges are a price per kWh for the number of kWh a customer uses in a month.

The second type of charge is a demand charge. A demand charge takes the highest 15 minutes of energy use in a month and charges a rate/kilowatt (kW) (as opposed to kWh) for that energy demand. This demand charge is in addition to the energy charge.

For manufacturing or irrigation, this can amount to a large portion of a customer's bill. The same is true for a utility purchasing power from a wholesale supplier.

The supplier measures the utility's highest 15 minutes of demand and charges a rate per kW to the utility. The justification of this type of demand charge is that the supplier never knows when that spike in demand will come, so they need to have sufficient capacity available at all times to meet that period of high demand.

By reducing this peak, utilities and customers can save a great deal of money. Technologies that provide energy storage or aggregated demand response capabilities can significantly reduce these peaks for the utility and the customer.

TRI-STATE RATE STRUCTURES

The Tri-State [rate structure](#)⁸, effective January 1, 2016, is based on a 45% demand charge to a 55% energy charge split (see text box above). Tri-State's average member blended wholesale rate was [7.5¢/kWh](#) in 2017.⁹

Utilities may be able to lower their overall energy costs either through self-generating power, installing energy storage, or both. However, Tri-State's rate policies inhibit the exercise of this option by distribution utilities (see policy issues #1 & 2).

Energy wholesaler Guzman Energy [reports](#)¹⁰ that the average Western wholesale price of power is 3.1¢/KWh. Adding an additional average transmission service cost of 1.8¢/KWh brings the average cost of wholesale delivered power to 4.9¢/KWh. Tri-State's rate of 7.5¢/kWh is 53% more than the average wholesale delivered cost of power.

COLORADO STATE POLICIES AND REGULATIONS APPLICABLE TO TRI-STATE

In Colorado statute, the issue of autonomy and regulation is not well defined. There are provisions of Colorado law that suggest the cooperatives can establish their own policies, and other areas of the statutes that suggest that their rates and policies are subject to oversight by PUC.

As stated above, Tri-State is a cooperative registered in Colorado and subject to the provisions of Colorado's laws regarding cooperative corporations.

One key attribute of the law of Colorado cooperatives is that despite statutory prescription of governing characteristics, which is likewise the case under the Colorado Business Corporations Act, most such governing characteristics can be superseded by the cooperative's bylaws. Said another way, while creatures of statute, Colorado cooperatives are granted flexible and broad rights to self-determination under the law. The members of the cooperative are given the opportunity to create an entity that fits their needs.

- Jason Wiener and Linda Phillips, Co-opLaw.org

Generally, cooperatives in Colorado are governed by C.R.S. Title 7, Articles 55, 56, 58 and Article 101, Part 5. Tri-State is registered under Article 55. Section 101 of this article defines a "cooperative association" as "any cooperative organization, association, company, or corporation formed under this article" and requires the following:

1. That distribution of earnings is made in proportion to the value of labor, services, or contributions (patronage, as described above), rendered to or purchased from the cooperative;
2. That dividends on equity capital be limited;
3. That voting rights be limited to members;
4. That the business not be carried on for profit, but rather for the mutual benefit of all members. (Membership eligibility and the transfer or assignment of membership interests may be prescribed by the cooperative); and,
5. Cooperatives can be members of other cooperatives.

Statutory default provisions are prescribed for governing documents, directors, officers, votes of cooperative members, and rights and process for mergers, acquisitions, and dissolutions.

Some sections of Article 55 provide minimum requirements for cooperatives, but while the bylaws must be "consistent" with the provisions in the statute, cooperatives are granted expansive flexibility to craft bylaws that address specific needs.

COLORADO'S LOCAL DISTRIBUTION COOPERATIVES

In many ways, Colorado's distribution cooperatives have been utility innovators. For example, United Power was the first utility in the country to implement a "solar garden", which was the impetus for Colorado's first in the nation legislation establishing solar gardens in statute. In 2017, United Power announced a 4 MW/16 megawatt-hour

(MWh) utility-scale battery project that is “one of the largest systems owned and operated by an electric cooperative anywhere in the country”.¹¹

Most of Colorado’s cooperative utilities have implemented advanced metering infrastructure (AMI) meters which allow greater tracking of energy usage information for both the consumer (online or through a phone application) and the utility.

Sangre de Cristo Energy Association, a distribution cooperative based in Buena Vista, has implemented zero interest on-bill financing to enable their customers to finance energy efficiency improvements and pay for the investment through bill savings over time.

Delta-Montrose Electric Association is in the process of extending fiber optic cable to its customers to facilitate energy management, and at the same time offer their rural customers access to high-speed internet.

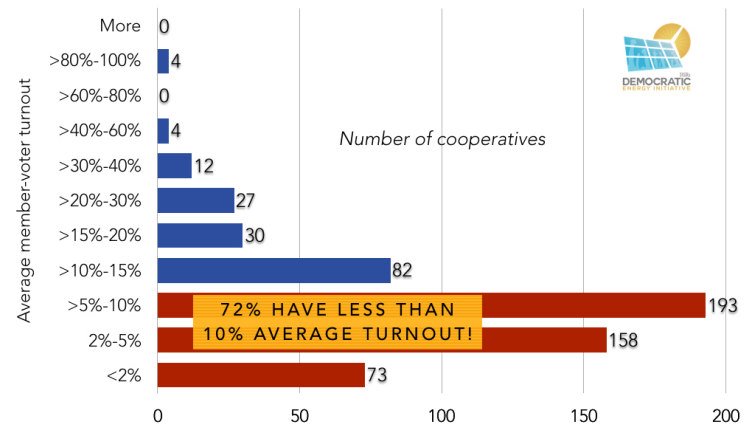
In many ways, cooperatives and municipal utilities are much more inclined to innovate in the service of their customers than an investor-owned utility (IOU). Because they serve a local population, they can customize their programmatic offerings to meet their customers’ priorities. This is in contrast to the IOUs, which are required to offer standardized programs across their entire service territory, usually spanning large distances and including many disparate communities.

It is quite possible that with more contract flexibility, Colorado’s cooperative utilities would use this innovative spirit to benefit their consumers through implementation of the latest advancements in micro-grids, energy storage, and renewable energy resources, passing the savings on to their members.

Yet, use of these technologies is greatly limited by the contracts local distribution cooperatives have with Tri-State G&T. We will expand upon these issues in the next section.

While the member model represents a great advantage of the cooperative utility, maximizing the benefit of such an advantage requires engagement of the customer base. Unfortunately, cooperative utilities have historically had very low participation levels. In fact, the Institute for Local Self-Reliance conducted a nationwide study of cooperative utility election participation and found participation in elections at endemically low levels: 72% of cooperatives in their study had less than a 10% voter turn-out.

LOW TURNOUT FOR ELECTRIC COOPERATIVE BOARDS



Source: Institute for Local Self Reliance (ILSR.org)

In Colorado, one exception is La Plata Electric Association where participation in the last election was greater than 27%. Much of this success is driven by a local non-profit, the San Juan Citizens Alliance, which reports on the activities of the cooperative and maintains a focus on energy issues in the local media.

POLICY CHALLENGES OF THE CURRENT TRI-STATE RELATIONSHIP

Cooperatives attempt to adhere to a set of voluntary core principles, adopted by the International Cooperative Alliance (ICA).¹² The first version of the principles was adopted at ICA's inception in 1895. The current revised set of principles was adopted in 1995. These principles are:

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.

However, in Colorado, many of these principles are challenged by the contractual relationship with, oversight by, and obligations cooperatives have to Tri-State. The following policy issues seek to identify the source of some of these conflicts.

POLICY ISSUE #1

THE ECONOMIC OPTIONS OF LOCAL DISTRIBUTION COOPERATIVES ARE LIMITED THROUGH EXISTING CONTRACTS.

Issue: Cooperative principle #4 refers to autonomy and independence:

Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control as well as their unique identity.¹³

Yet, Tri-State implements several policies in their contractual agreement with their member cooperatives that limit what local distribution cooperatives can do on their own systems.

Tri-State provides power at a cost that is above market rates. In many cases, cooperative utilities have found they can generate and manage power themselves for significant savings. However, the provisions of Tri-State's contracts with the distribution cooperatives stymie their ability to invest in less-expensive local generation. Tri-State's contractual limitations apply even if that locally generated power is used within the distribution network and never reaches the Tri-State system.

For example, Policy 115 is a component of the contractual agreement local distribution cooperatives have with Tri-State. The cooperative utility must purchase 95% of their generation from Tri-State - allowing up to 5% to be under the control of the distribution utility.

The 5% limitation applies to any generation that the cooperative may choose to develop or manage within their service territory, and Policy 115 establishes the fees Tri-State charges the utility for energy they produce themselves within the limit.

Policy 115 specifies the following:

1. The amount of production may not exceed 5% of the utility's gross energy requirement which includes power purchased from Tri-State as well as any locally produced utility controlled generation, any net metered customer sited power, and any power purchased

from a qualified facility under the Public Utilities Regulatory Policies Act of 1978 (PURPA).

2. Any excess net metered electricity from cooperative customers will count toward the 5% limitation. For example net excess generation from a solar system on someone's house delivered to the system is only counted after subtracting their consumption against the net meter. *(State statute requires that cooperative utilities allow customers to net meter solar systems that are less than 10kW for residential customers and 25kW for commercial customers without limitation - the 5% limitation is in direct conflict with this statutory provision).*
3. Projects must be approved by Tri-State.
4. Tri-State allows the utility one of two ways of being charged for self-generation:
 1. **Net Metering option:** The cooperative will be charged a backup charge (\$/kW) based on the nameplate capacity of the project. The utility will be charged whether or not the facility produces power. There will also be an ancillary services charge (\$/kWh of the project) every month. The cooperative will also be billed a transmission charge based on the amount of power the project is producing at the time of Tri-State's monthly peak. The charge differs for different project types and is not fixed for the life of the project, which means it can be changed at the discretion of Tri-State's board of directors.
 2. **Bill Credit option:** The local utility will be charged for the energy it doesn't buy from Tri-State because of the project's generation, but then credited back different amounts based on the month and the year. The average net charge for 2018 according to the schedule was approximately \$37/MWh (based on Tri-State's blended wholesale electric rate of \$75/MWh minus an average credit of \$38/MWh).

This charge is added to the cost of the utility's generation project (i.e., if a solar project is developed at \$45/MWh, it would cost the utility \$82/MWh with the additional charge from TriState). The credit varies by month and by year, but the schedule of credits is set for 20 years. As the cost of power rises on the Tri-State system, the credit stays the same - so the net cost to the local distribution utility rises.

Since 2015 there have been three different versions of Policy 115, each increasing the costs to local distribution utilities that choose to generate their own power.

As an example, using the solar credit schedule for 2018 as a marker, the first version of the policy had an average credit of \$64.42 (adding only \$11/MWh to the cost of a solar project). The 2016 policy dropped the credit by 26% to \$49 (adding \$26/MWh to the solar cost). As noted above, the latest version drops the credit by another 22% adding \$38/MWh to the cost of a solar project) - a full 41% drop in the credit from the 2015 version.

In past years, the fees established in Tri-State Policy 115 did allow projects to save cooperatives some money. Under the current policy, projects are no longer economic – even with dramatic decreases in the cost of solar.

Tri-State argues that the charge back is necessary to cover fixed infrastructure costs that are not collected when a member cooperative produces their own power. However, the reduction in credits follow declines in the cost of solar and seems specifically designed to make solar projects non-economic. If the infrastructure costs were indeed fixed, it does not follow that the credit should decline with each new iteration of the policy.

5. Energy storage projects implemented by cooperatives are subject to the same cost structures as generation, but not included in the 5% limitation.

These provisions limit the cooperative utility's ability to manage their load and invest in modern, cost-effective technologies that would save their customers money and reduce the risk associated with rising electricity rates.

As an example, because resources like solar energy generate during the day when demand is high (particularly tracking systems), they could reduce demand charges (see the demand charges explanation box on page 4) for the distribution utility. However, because Tri-State bills the utility for energy even when they aren't using it (and then credits back a portion), the utility is still billed demand charges at the full rate as if there were no solar system in place. A similar impact would be felt using energy storage, which can be used to specifically reduce demand when costs are highest.

Cooperatives own their distribution systems, maintain a relationship with their member-owners, and are required to defend their policies to their membership – yet much of their discretion is restricted by the provisions of the Tri-State agreement. This restriction keeps them from achieving the promise of cooperative principle #4 on autonomy and independence.

POLICY ISSUE #2

FERC HAS DETERMINED THAT THE FEES CHARGED BY TRI-STATE INTERFERE WITH A UTILITY'S REQUIREMENT TO COMPLY WITH FEDERAL LAW; YET THOSE FEES REMAIN.

In 2015, the Federal Energy Regulatory Commission (FERC) ruled in Docket No. EL15-43-000 that the Public Utility Regulatory Policies Act of 1978 (PURPA) required cooperatives to allow interconnection of

local renewable generation projects (Qualified Facilities, or "QFs") to the grid regardless of limitations set by Tri-State's wholesale electric services contract.

Tri-State filed with FERC to obtain a Declaratory Order that would allow them to add a cost recovery fee to any of these QFs. In 2016, in Docket No. EL16-39-000, FERC ruled against Tri-State because the proposed cost recovery fee would undermine previous FERC rulings, undermine the purpose of PURPA, and undermine the ability of a cooperative to independently negotiate rates with a QF.

In 2016, Tri-State filed a motion for a rehearing in this case stating that the FERC ruling was "arbitrary and capricious and violated the fundamental intent of PURPA" and that the "Commission did not engage in reasoned decision making" and finally, that FERC was in error on numerous points. FERC granted a rehearing, but thus far the hearing has not been held.

Meanwhile, contrary to federal law as ruled by FERC, Tri-State completed its Policy 101, which requires that cooperatives pay for and install a Tri-State meter at any QF project and that a cost recovery fee is included on the cooperative's monthly bill from Tri-State – in direct violation of the decision reached by FERC.

Although developers have approached many rural electric cooperatives with attractive energy generation projects, Policy 101 (as with Policy 115 discussed above) has effectively stopped these projects from being developed.

POLICY ISSUE #3

DISTRIBUTION COOPERATIVE OWNER/ MEMBERS DO NOT HAVE ACCESS TO IMPORTANT INFORMATION IMPACTING AND AFFECTING THEIR COOPERATIVE.

Issue: Cooperative principle #2 regarding democratic member control states that:

Cooperatives are democratic organizations controlled by their members, who actively participate in setting policies and making decisions. Elected representatives (directors/trustees) are elected from among the membership and are accountable to the membership.

However, Tri-State maintains that the contractual agreements that exist between Tri-State and its distribution members are confidential and only available to Tri-State, Tri-State's board members, and the board members of the local distribution cooperatives. Furthermore, open public meeting requirements that apply to distribution cooperatives in Colorado do not apply to Tri-State.

The members of local distribution cooperatives are, by definition, owners of the cooperative. They cannot be expected to make informed decisions regarding election of board members, the management of cooperative rates, and other cooperative policies if they do not have access to the agreements that fundamentally impact their cooperative.

Extending sunshine provisions and review processes that other forms of government have, including a period of notice and public review to provide member-owners of the cooperative information to weigh in on important issues facing the utility could help local distribution cooperatives better achieve the objectives of cooperative principle

#2. An open process is especially important because contractual provisions lock cooperatives into agreements and obligations that (currently) extend 31 years (to 2050).¹⁴

POLICY ISSUE #4

THERE MAY BE AN INHERENT CONFLICT OF INTEREST REGARDING THE FIDUCIARY RESPONSIBILITY OF BOARD MEMBERS WITHIN THE TRI-STATE COOPERATIVE STRUCTURE.

Issue: Board members of Tri-State are drawn from the boards of their member distribution cooperatives.¹⁵ As a result, they may have inherent conflict of interest as they represent both the buyer and the seller of power.

A fiduciary is defined as a person with a duty, created by his/her own undertaking, to act primarily for the benefit of another in matters connected with the undertaking. "It is an elementary principle of corporate law that directors of corporations have three duties: obedience, loyalty, and care. Cooperative directors have the same duties."¹⁶

Defined by jurisprudence, the duty of loyalty encompasses a duty to refrain from having any conflicts of interests. Not all conflicts of interest automatically disqualify board members, but approval to participate in a decision where conflict of interest arises generally must be granted by disinterested directors who have exercised due care relative to the transaction at issue.

Most, if not all, directors of Tri-State have an interest in decisions being made that will benefit their local distribution cooperative and the duty of loyalty issues will arise in any decision that affects local distribution cooperative members.

Tri-State is the wholesale seller of power and the cooperatives buy the power on the system. This raises potential conflicts in terms of the financial benefit to a seller and the financial cost to a buyer. To hold financial responsibility for both puts board members in an untenable position.

OTHER POLICY ISSUES

While not directly related to the issue of the Tri-State/member relationship, there are other issues associated with Colorado's policies and the cooperatives that could be addressed through the statutes.

POLICY ISSUE #5

RENEWABLE ENERGY CERTIFICATES USED FOR COMPLIANCE WITH COLORADO'S RENEWABLE ENERGY STANDARD DO NOT REQUIRE THAT ELECTRICITY IS DELIVERED TO EITHER THE TRI-STATE SYSTEM OR THE COOPERATIVE CUSTOMER.

Issue: Historically, Renewable Energy Standard (RES) compliance has been verified through renewable energy certificates (RECs), which represent the environmental attributes of renewable generation (each REC equals 1MWh of renewable generation). After a REC is used by an entity for compliance it is "retired" so that it cannot be used again.

In the past, when renewable energy was more expensive than traditional energy, RECs were required to be sold as a commodity to make project finance of a renewable development solvent. The REC represented an additional value – the environmental value – that would be added to the price of the power because the project would not be financially viable otherwise. Today, however, renewable energy is often times the most economic option for a utility system. As a result, renewable energy development has been growing even when the

power generated is not being used for compliance with a renewable requirement. RECs have now flooded the market and the price of the commodity has dropped to very low levels.

Colorado's renewable energy statute refers to qualified renewable electricity used for compliance as either "generated or caused to be generated" – Tri-State and its member cooperatives have used this to describe any REC purchased on the market for compliance. However, if RECs are no longer necessary for project finance, those RECs are not causing additional renewable energy to be developed.

While RECs are valuable tools for verifying and measuring compliance with a renewable standard, qualifying RECs could be constrained to the cooperative system to ensure RECs are accomplishing the public policy goal of increasing renewable energy on the system.

POLICY ISSUE #6

COLORADO'S RES DOES NOT DISTINGUISH BETWEEN RENEWABLES ON THE DISTRIBUTION SYSTEM AND RENEWABLES ON THE TRANSMISSION SYSTEM.

Issue: As it currently stands, Colorado's RES places requirements for renewable development on both the G&T (Tri-State) and the local cooperative utilities. However, the local cooperatives have limited options regarding how they can comply with the RES. Each cooperative has a member who sits on Tri-State's board, but the cooperatives themselves typically purchase RECs from Tri-State to comply with the balance of their component of the RES (see policy issue #5).

As noted before, cooperatives are subject to both an economic penalty from Tri-State when developing renewables of their own and a contractual limitation at 5%. Establishing a separate distribution

standard for cooperatives would allow distribution cooperatives to manage compliance within their system. However, this could only be economically beneficial if the rate penalty imposed by Tri-State through Policy 115 was removed (see policy issue #1).

The current statute requires cooperatives to develop renewables on their system up to the current 5% allowable level in their all-source contract:

C.R.S. 40-2-124(c)(IV) To the extent that the ability of a qualifying retail utility to acquire eligible energy resources is limited by a requirements contract with a wholesale electric supplier, the qualifying retail utility shall acquire the maximum amount allowed by the contract.

This is problematic for a few reasons:

1. It is routinely ignored by nearly all of Colorado's cooperatives (only four of the eighteen Tri-State cooperatives in Colorado have reached their 5% limit).
2. The contract limitation includes all generation - not just renewables - so in many cases cooperatives cannot reach that level under the contractual agreement because they have other existing generation that is included in the limit.
3. Tri-State has imposed economic penalties even for generation that is developed up to the contractual limit (see policy issue #1). As a result, investments in renewables that could save the local distribution cooperatives money actually costs them more.

If there was a separate distribution system requirement within the RES (and Tri-State's restrictive policies were modified), distribution RECs (for tracking renewable development among cooperatives) could be used to measure and verify compliance with the standard. Such a system would allow those cooperatives that are better equipped, and have a stronger mandate from their members, to develop renewable

resources above required levels, and sell excess distribution RECs to cooperatives that are not in compliance.

POLICY ISSUE #7

SOME LOCAL COOPERATIVES INCLUDE HIGH FEES FOR CUSTOMERS WISHING TO NET-METER RENEWABLE ENERGY SYSTEMS.

Issue: Colorado's net metering statute C.R.S. 40-9.5-118 (2)(c) states: "Nondiscriminatory rates. A cooperative electric association shall provide net metering service at nondiscriminatory rates."

While "discriminatory rates" generally refers to the electric rate/kWh charged to customers, many cooperatives charge \$200-250 as an "application fee" for net metering - one Colorado cooperative charges \$900.

The cooperative argument for these fees is that solar customers shift the costs of infrastructure to non-solar customers. This is because utilities do not collect a portion of their infrastructure and operational costs that are contained in their energy rates, due to the net meter credit, and other customers are then required to cover those costs. These claims have been made by other utilities in the country and a robust debate over the costs and values of solar to the electric system have been argued extensively by both sides.

However, state law is clearly designed to empower customers to install solar and interconnect their systems with their utility through net metering. The statute reads, "A cooperative electric association shall not prevent or unreasonably burden the installation of a net metering system".¹⁷

There is no clear understanding of what constitutes a "discriminatory rate", an "unreasonable burden", or if application and permitting are included in the "net metering service".

POLICY ISSUE #8

SOME LOCAL DISTRIBUTION COOPERATIVES DENY NET METERING FOR CUSTOMERS BASED ON ENGINEERING LIMITATIONS.

Issue: Currently the statutes state that cooperatives must provide net metering up to 10kW for residential and 25kW for commercial customers. However, some cooperatives have applied a “15% rule” to say that systems won’t be approved if they reach 15% of peak power on the particular segment of the distribution system. This is derived from a PUC rule :

4 CCR 723-3-3667 (C) II (a) ii: For interconnection of a proposed small generating facility to a radial distribution circuit, the aggregated generation, including the proposed small generating facility, on the line section shall not exceed 15% of the line section’s annual peak load as most recently measured at the substation or calculated for the line section. For highly seasonal circuits only, the aggregate generation, including the proposed small generation facility, on the line section shall not exceed 15% of two times the minimum daytime loading.

Similarly, the cooperatives assert the ability to deny or downgrade systems based on their internal review. For example, Mountain View Electric has an engineering screening process that states: “Systems may be downsized or denied based on the determination of the engineering screens at any particular location.”

On the one hand, the statute clearly requires a utility to allow net metered systems up to the minimum amounts. On the other hand, utilities maintain their authority to deny net metered systems based on an engineering screen.

It would serve the state well to clarify this issue and whether engineering screens such as the 15% limit are justifiable barriers to net metered systems, or if such limitations are the responsibility of a utility to address in order to maintain their customers’ rights to interconnect under the law.

POLICY ISSUE #9

TRI-STATE HAS “SELF-BONDED” CLEANUP RESPONSIBILITIES FOR COAL ASSETS.

When a coal company operates a coal mine, they are required to establish a bond to cover environmental remediation and clean-up of the mine when it closes.

During 2015-2016, there were a rash of bankruptcies in the coal industry. At this time, regulators were alarmed to learn that of the \$3.86 billion held in self-bonding, over \$2.4 billion was held by companies in bankruptcy. In the event the companies cannot cover the obligations of clean-up, the burden will fall to the taxpayers.

During the Obama administration, there was a crack down on self-bonding. However most of this oversight has stalled under the Trump Administration.

Tri-State has self-bonded their coal assets. Normally, a utility would be considered a safe holder of the bonds for these assets. However, with Tri-State’s higher-than-market prices, and increasing unrest among their member cooperatives, their economic health is far from certain.

A 2018 study by the Rocky Mountain Institute projects that bankruptcy for Tri-State is a likely scenario if there isn’t a substantial shift away from a reliance on coal by the utility. In the event that Tri-State goes bankrupt, there is a significant risk that a large portion of the cleanup costs for abandoned mines would fall to the taxpayers.¹⁸

Tri-State has indicated an intent to develop more renewable energy in the future with an announced 104 MW of wind coming online in 2020 and 100 MW of solar in 2023. In 2019, [legislation passed in New Mexico](#)¹⁹ requires Tri-State to provide their cooperative utilities with 40% renewable energy by 2025, 50% by 2030, then 80% renewable and 100% clean energy by 2050.

ENDNOTES

Introduction

1 - 17 of Colorado's 18 cooperatives are under contract until 2050. Delta Montrose Electric Association (DMEA) is under contract until 2040 and is currently in litigation regarding separation negotiations with Tri-State G&T.

Page 1

2- University of Wisconsin Center on Cooperatives, "Research on the Economic Impact of Cooperatives".

Page 2

3- Colorado Public Utility Commission, "Colorado Electricity Advisory Panel Final Report", 11/1/1999

Page 3

4- Tri-State Generation and Transmission, *Electric Resource Plan Annual Progress Report*, 10/31/2018
 5- Tri-State Generation and Transmission, *Annual Report 2017*
 6 - MJ Bradley, "Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States", June 2018

Page 4

7- Tri-State 10-K Report submitted to the US Securities and Exchange Commission for the fiscal year ending 12/31/2018
 8- Tri-State Investor Presentation: <https://www.tristategt.org/sites/ts/files/InvestorPresentation-110416.pdf>
 9- A blended rate includes both the standard energy rate and demand rates.

Page 5

10- Mark Jaffee, "Colorado Rural Electric Cooperatives Look at Cutting the Cord", *The Gazette*, 08/12/2018

Page 6

11- United Power announcement, 10/25/2017, <http://www.unitedpower.com/united-power-announces-construction-of-colorados-largest-battery-storage-system>

Page 7

12- The International Cooperative Alliance, "Cooperative Identity, Principles and Values"
 13- Ibid.

Page 10

14- Every cooperative utility in Colorado has a contract with Tri-State until 2050 with the exception of Delta Montrose Electric Association, which is contracted until 2040.
 15- Tri-State Board members selection: "Each member shall elect one (1) of its directors, trustees or its general manager to serve on the Board of Directors of [Tri-State]."
 16- Mathew Bender, *Agricultural Law, On Agricultural Cooperatives, Directors and Officers*, Vol. 14, § 131.01[1] (1999)

Page 12

17- C.R.S. § 40-9.5-118 (2016)

Page 13

18- Mark Olaide, "Mine Cleanup Funds at Risk as Coal Power Suppliers Lose Customers", *Energy News Network*, 08/20/2018

Page 14

19- New Mexico Senate Bill 489 - Energy Transition Act

APPENDIX - LIST OF TERMS

Ancillary Services - Services that ensure reliability and support the transmission of electricity from generation sites to customer loads. Such services may include load regulation, generation of reserve capacity, and voltage support.

Blended Rate - A rate that captures both the standard energy rate and demand charges. It can be calculated by dividing the bill total by total kilowatt-hours consumed.

Capital Credit - The amount of profit, or excess income, allocated to members of an electric cooperative, typically as a deduction on members' electric bills.

Demand - The rate at which energy is delivered to loads and scheduling points by generation, transmission, or distribution facilities.

Demand Charge - That portion of the consumer's bill for electric service based on the consumer's maximum electric capacity usage (or peak use) - see description on page 4.

Distribution - The delivery of electricity to the retail customer's home or business through low voltage distribution lines.

Distribution Cooperative - A cooperative utility that provides and operates the wires between the transmission system and the end-use customer. Can also perform other services such as aggregating customers, purchasing power supply and transmission services for customers, billing customers and reimbursing suppliers, and offering other energy services to retail customers. The "wires" and "customer service" functions provided by a distribution utility could be split so that two totally separate entities are used to supply these two types of distribution services.

Energy Charge - The portion of a utility bill that reflects electric energy consumed.

Generation and Transmission Cooperative - A cooperative utility that operates and maintains generating plants and which owns, and may construct and maintain, wires used to transmit wholesale power.

Interconnection - Linking two or more electric systems with a common transmission line to permit the flow of energy between them. Any connection (lines, cables, transformers, etc.) that can be used to convey electrical energy in either direction between networks, between power stations, or between power stations and networks.

Load - The power consumed by an electric utility customer over time (measured in terms of either demand or energy or both).

Net Metering - A metering and billing arrangement used compensate distributed generation system owners for any generation they export to the utility grid.

Patronage Capital - The amount of profit or excess income received and held by the generation and transmission company that is allocated to member electric cooperatives on a pro-rata basis.

Peak Demand - The highest electrical demand within a particular period of time.

Renewable Energy Credit - A market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. Issued when one megawatt-hour of electricity is generated and delivered to the electricity grid from a renewable energy resource.

Renewable Energy Standard - A policy that requires that at least a subset of a state's utilities or retail electric providers supply an increasing percentage of renewable energy to their customers within a set timeframe. (AKA: Renewable Portfolio Standard)

Solar Garden - A community shared solar array with grid-connected subscribers that receive a bill credit as if the panels were on their own roof using "virtual net metering".

Transmission - The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers or is delivered to other electric systems.