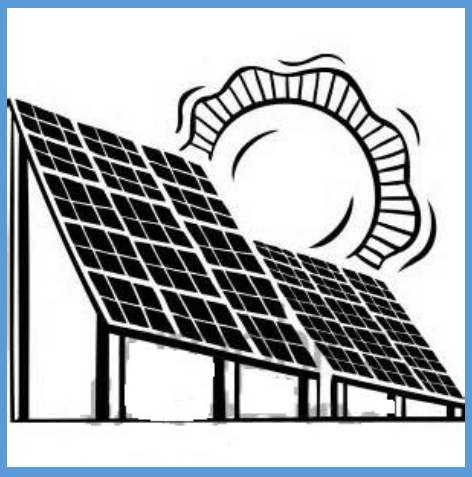
# 2021 RENEWABLE ENERGY TARGETS PROGRESS REPORT FOR ELECTRICAL CORPORATIONS



Utah Division of Public Utilities

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# RENEWABLE ENERGY TARGETS
# 2021 PROGRESS REPORT

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## PREPARED BY

## THE DIVISION OF PUBLIC UTILITIES

## EXECUTIVE SUMMARY

Utah Code Ann. Title 54, Chapter 17, Part 6, covering privately owned electric utilities and cooperative associations, established a target of 20 percent renewable energy generation by the year 2025 for electrical corporations. In pursuit of this target, Utah electrical corporations are required to submit renewable energy progress reports every few years until 2025. The electric companies are to report actual and projected renewable energy, qualifying energy, cost or cost-effectiveness information, as well as describe issues and conditions, and make recommendations. These reports are submitted to the governing bodies of the various corporations. The statute also requires the Division of Public Utilities (Division) to provide the Legislature with a summary report on the progress made by these electrical corporations. The Division submits this report in response to that requirement.

Rocky Mountain Power, a subsidiary of PacifiCorp, filed its Utah Carbon Reduction Progress Report with the Utah Public Service Commission (Commission) on December 31, 2019. Its progress report is included here as Appendix A. To develop the Utah Carbon Reduction Progress Report for cooperative associations, the Division worked with the Utah Rural Electric Association (UREA). UREA consulted with its members to develop its progress report, which is included here as Appendix B. From Rocky Mountain Power's progress report, it appears that Rocky Mountain Power is well positioned to meet or exceed the 20 percent target by the year 2025. UREA suggests that the transition to renewable energy will be long with many challenges. UREA identified issues affecting its progress in meeting the 20 percent target, including cost, technology, and transmission. UREA made a number of recommendations to address the issues it faces including, ensuring that policy makers continue to consider the cost-effectiveness of meeting future renewable energy targets. UREA also suggested no mandates for renewable energy.

## INTRODUCTION

Utah Code Ann. § 54-17-602 specifies a target amount of renewable energy beginning in the year 2025. To the extent that it is cost effective to do so, annual retail electric sales of each electrical corporation shall consist of qualifying electricity or renewable energy certificates to at least 20 percent of adjusted retail sales for 2025. This section of the Code also addresses how the amount is calculated and the cost-effectiveness basis for this amount. Utah Code Ann. § 54-17-604 "Plans and reports," directs electrical corporations to: "develop and maintain a plan for implementing Subsection 54-17-602(1), consistent with the cost-effectiveness criteria." These plans or progress reports are to be filed by January 1 of each of the years 2010, 2015, 2020, and 2024 either with the electrical cooperative association's board of directors or with the Utah Public Service Commission, if the electrical corporation is other than an electrical Cooperative association. Subsection 54-17-604(6) then directs "By January 1 of each of the years 2011, 2016, 2021, and 2025, the Division of Public Utilities shall submit to the Legislature a report containing a summary of any progress report filed under Subsections (2) through (5)." The Division's Summary Report is the summary of the progress reports from Rocky Mountain Power and from the Utah Rural Electric Association.

## BACKGROUND

Utah Code Ann. § 54-17-604 requires electrical corporations to develop and maintain a plan for implementing a 20 percent renewable energy target that is consistent with the cost-effectiveness criteria of Subsection 54-17-201(2)(c)(ii). Section 602 requires, beginning in 2025, that each electrical corporation in Utah shall have at least 20 percent of its annual retail electric sales consist of qualifying electricity or renewable energy certificates. (See subsection 54-17-602(1)(a).) These retail electric sales are calculated based upon adjusted sales 36 months before the year 2025 target is calculated. (See subsection 54-17-602(1)(b).) Notwithstanding the 2025 targets, the annual target from one year to the next may not exceed the greater of 17,500 megawatt hours or 20 percent of the prior year's amount. (See subsection 54-17-602(1)(c).)

The plans or progress reports are to be filed either with the electrical cooperative association's board of directors or with the Utah Public Service Commission, if the electrical corporation is other than an electrical cooperative association. The plans or progress reports are to be filed by January 1 of each of the years 2010, 2015, 2020, and 2024.

Rocky Mountain Power filed its Utah Carbon Reduction Progress Report on December 31, 2019, with the Commission. Rocky Mountain Power's Utah Carbon Reduction Progress Report is included here as Appendix A and is available on the Commission's website as part of Docket No. 19-035-46.

To develop the Utah Carbon Reduction Progress Report for cooperative associations, the Division worked with the UREA. Letters were sent to each UREA member, and the Division consulted with Mr. Jeff Petersen, Executive Director of UREA. Mr. Peterson offered to develop the cooperative association progress report for the UREA members and to incorporate their responses into one document, which is included here as Appendix B. The Cooperatives included in this report are:

- Dixie Power, St. George, Utah
- Flowell Electric, Flowell, Utah
- Garkane Energy, Kanab, Utah
- Moon Lake Electric, Roosevelt, Utah

Five Rural Electric Cooperative Associations headquartered outside the state of Utah, serve customers located in Utah:

- Empire Electric Association, Cortez, Colorado
- Raft River Electric Cooperative, Malta, Idaho
- Wells Rural Electric Company, Wells, Nevada
- Bridger Valley Electric, Mountain View, Wyoming
- Mount Wheeler Power, Ely, Nevada

These organizations serve a small number of customers in Utah. UREA states in its progress report that these out of state cooperatives are exempt from the progress report. Reference is made to the Utah Legislature Utah Code section 54, amended in 2018, by adding §54-2-202. The report states that these five cooperatives meet the criteria of this code and therefore are not part of the progress report.

While both Rocky Mountain Power and the cooperative associations are directed by legislation to submit progress reports, they represent different parts of the electric industry. Rocky Mountain Power, with over 1.1 million customers delivers energy to communities across Utah, Idaho, and Wyoming.

Deseret was formed in 1978 and consists of six rural electric cooperatives. They are:

- Bridger Valley Electric Association, Mountain View, Wyoming
- Dixie Escalante Rural Electric Association, Beryl, Utah
- Flowell Electric Association, Flowell, Utah
- Garkane Energy, Loa, Utah
- Moon Lake Electric Association, Roosevelt, Utah
- Mt. Wheeler Power, Ely, Nevada

Each member obtains all of its power from Deseret. In a project to provide electric power for the Cooperatives, the Bonanza Power Plant was completed in 1985. Growing electric power requirements, however, have dampened and in a span of two years Deseret went from needing substantially more power to having surplus power.

## SUMMARY OF PROGRESS REPORTS

Both the Rocky Mountain Power and UREA reports cover specific sections of 54-17-604. The specific sections of 54-17-604 covered in the progress reports and presented in the Division's Summary Report are:

- Actual and projected amount of qualifying electricity through 2025 (54-17-604(3)(a)).
- Source of qualifying electricity (54-17-604(3)(b)).
- Analysis of cost-effectiveness (54-17-604(3)(c)(ii)) or estimated cost of achieving the target (54-17-604(3)(2)(ii)).
- Conditions impacting the renewable energy source and qualifying electricity markets (54-17-604(3)(d)).
- Recommendations (54-17-604(3)(e)).
- Other information (54-17-604(3)(f)).

For each of the Section 54-17-604 items, this Summary Report first provides a brief overview of the issue, and identifies how the individual progress reports responded to the specific item. Rocky Mountain Power's approach to the issue is then summarized first, followed by the Utah Rural Electric Association's approach to the issue. The primary focus of the 2021 Progress Report will be on the reports provided by Rocky Mountain Power and Deseret.

### Actual and Projected amount of qualifying electricity through 2025: § 54-17-604(3)(a).

Utah Code Subsection 54-17-604(3) specifies the contents of the progress reports to the Utah Legislature. Subsection 54-17-604(3)(a) specifies that the progress reports shall report

actual and projected amounts of qualifying electricity through 2025. Qualifying electricity is defined in subsection 54-17-601(7) as electricity generated from a renewable energy resource after January 1, 1995. Additionally, the renewable energy source must be located in the Western Electricity Coordinating Council (WECC), or must be deliverable to the electric utility with its renewable energy attributes available for application to the Utah targets.

Rocky Mountain Power addressed its actual and projected renewable resources in Exhibit A of its Utah Carbon Reduction Progress Report, which is included here as Appendix A. Rocky Mountain Power forecasts retail sales of approximately 24,409,538 megawatt hours (MWh) inclusive of reductions attributed to demand side management and line losses for the year 2022. This forecast is consistent with the load forecast used in the 2019 Integrated Resource Plan (IPR), filed with the Commission on October 18, 2019. The adjusted retail sales forecast is based on the retail sales, reduced by the kilowatt-hours attributable to electricity generated or purchased from qualifying zero emission generation as well as estimated kilowatt hours from electricity generated or purchased from generation located within the geographic boundary of the WECC that does not satisfy the definition of a renewable energy source. This results in adjusted retail sales of 23,787,314 MWh. Calculating the requirement for twenty percent renewable energy results in an estimated amount of 4,757,463 MWh. In comparison to this amount, Rocky Mountain Power reports estimated eligible qualifying electricity in 2025 of approximately 41,185,098 MWh, which includes both estimated generation and banked renewable electricity from qualifying renewable energy resources. Based on these representations, it appears that Rocky Mountain Power is well positioned to meet or exceed the 20 percent target by 2025.

Deseret's load forecast uses specific Member customer load, econometric regression analysis, trending analysis and assumptions resulting from and understanding of local economics and demographics specific to each individual cooperative. The load forecasts for each Member Cooperative are then aggregated into a combined Deseret Member load forecast. Deseret forecasts excess energy and capacity through the year 2025 and also expects to have adequate resources to satisfy Member future load growth. Deseret and its Members do not foresee the need for new or additional capacity over the IRP planning horizon.

Deseret Members are in a unique situation, with surplus energy and adequate resources to meet foreseeable future demand. Therefore, consistent with § 54-17-602 (3)(a)(b)(c), Deseret

Members would not be required to substitute qualifying electricity for existing resources owned or contractually committed.

## Source of qualifying electricity: § 54-17-604(3)(b).

Rocky Mountain Power addresses its actual and projected renewable resources in Exhibit A of its Utah Carbon Reduction Progress Report, which is included here in Appendix A. Exhibit A lists the sources of generation by resource used for the adjustment to the retail sales for the target year.

Deseret and its Members have surplus energy resources and are therefore not required to purchase additional qualifying electricity. Nevertheless, Deseret and its Members continue to investigate different renewable energy options. Currently, Deseret's qualifying electricity is primarily hydro. In addition, Subsection 54-17-602(6)(b) allows cooperative associations to count against the target either qualifying electricity (generated or acquired) or credits for a program for retail customers to voluntarily contribute to a renewable energy source. Deseret Members have the option to promote the "Green Way" program. The Green Way program promotes renewable energy production in the Western United States by encouraging customers to pay a renewable energy premium on their utility bill.

## Analysis of cost-effectiveness of achieving the target: § 54-17-604(3)(c)(i) or estimated cost of achieving the target: § 54-17-604(3)(c)(ii).

Rocky Mountain Power and the UREA addressed this Subsection in different ways. Rocky Mountain Power is governed by Section 604(3)(c)(i), which requires "an analysis of the cost-effectiveness of renewable energy sources for other than a cooperative association." The UREA provided "an estimate of the cost of achieving the target for an electrical corporation that is a cooperative association" as identified by Section 604(3)(c)(ii). Subsection 54-17-602(2) specifies cost-effectiveness and how it is determined: for Subsection (2)(a), cost-effectiveness "for other than a cooperative association is determined in comparison to other viable resource options using the criteria provided by Subsection 54-17-201(2)(c)(ii), and in Subsection (2)(b) cost-effectiveness for a cooperative association "is determined using criteria applicable to the cooperative association's acquisition of a significant energy resource established by the cooperative association's board of directors."

Rocky Mountain Power uses an integrated resource planning process filed every other year as a resource acquisition framework. The PacifiCorp IRP is a strategic roadmap that results in a preferred portfolio that is intended to provide reliable, reasonable-cost of service with manageable risks to the Company's customers. PacifiCorp's 2019 IRP is available at https://www.pacificorp.com/energy/integrated-resource-plan.html

In its 2019 IRP, filed with the Commission in October 2019, PacifiCorp reported that significant investments in renewable energy coupled with federal and state tax incentives have allowed the Company to deliver hundreds of millions of dollars in savings to its customers. Federal and state tax credits, declining capital costs, and improved technology performance have put wind and solar in areas of high potential. As such, wind, and solar will likely dominate U.S. capacity additions for the next decade. As the 2019 IRP preferred portfolio illustrates, the Company plans to meet its customers' needs over the next 10 years largely through the acquisition or development of new renewable resources and transmission infrastructure. PacifiCorp will continue to assess the cost-effectiveness of renewable energy sources in its IRP process to ensure its long term planning efforts are aligned with the most current market and policy developments.

Deseret member systems regularly review their cost of purchased power and renewable proposals with their boards of directors. Deseret estimates 60.28 MW needed to meet the target by 2025. This acquisition is estimated to cost $121 million, or a member rate increase of approximately 18%. This would not be cost effective as outlined in 54-17-602(2)(b) for the cooperatives and would burden Deseret's members.

## Conditions impacting the renewable energy source and qualifying electricity markets: § 54-17-604(3)(d).

Both PacifiCorp and the UREA identified several conditions that affect renewable energy sources. These conditions cover cost, policy, and technology issues.

Rocky Mountain Power identified federal tax credits, wildlife habitat impacts, carbon regulations, and other environmental regulations, Energy Imbalance Market (EIM), cost and performance implications, transmission, and other state and local polices as critical issues affecting renewable energy resources and qualifying electricity markets.

Federal tax credits include the production tax credit (PTC) and the investment tax credit (ITC). The availability of federal tax credits will impact the deployment of new renewable resources. The PTC provides a maximum 2.3 cent per kilowatt hour credit. This has been extended and phased out for wind property for which construction begins before January 1, 2020, as follows:

- 2015 - 100% retroactive
- 2016 – 100% (construction begins before January 1, 2017)
- 2017 – 80% (construction begins before January 1, 2018)
- 2018 – 60% (construction begins before January 1, 2019)
- 2019 – 40% (construction begins before January 1, 2020)

The ITC provides a credit equivalent to 30 percent of project expenditures with no maximum. This credit expired at the end of 2019 for wind, but continues into the future for solar.

Regarding wildlife habitat impacts, federal and state management and regulation of wildlife and natural habitats can impact renewable resources.

In June 2019, the EPA issued the final Affordable Clean Energy Rule, replacing the Clean Power Plan. This rule establishes emission guidelines for states to use when developing plans to limit carbon dioxide at their coal-fired electric generating units.

The EIM is an automated system which efficiently dispatches resources across multiple balancing authorities in real time to serve electricity demand with least-cost resources. In other words, it allows neighboring systems to purchase one another's over- or under-generation so both systems balance in the most economically efficient way. The EIM was launched on November 1, 2014.

The additional costs associated with new transmission, along with the constraints of existing transmission congestion pose challenges for renewable energy development. Also, the siting and permitting of new transmission lines across the western United States have proven to be difficult and lengthy.

As an intermittent and sometimes highly variable resource, renewable energy may require additional costs for dispatching and integrating. On the flip side, improved operating

performance characteristics, such as new designs intended to increase energy production capability for some wind plant locations or reduced degradation from solar panels, could improve the cost-effectiveness of renewable resources relative to the wholesale electricity market.

Finally, state and local policies can impact renewable energy targets. In 2019, Utah governor Gary Herbert signed into law the Community Renewable Energy Act (H.B. 411), which gave authority to the Utah Public Service Commission to approve community renewable energy program and regulate rates associated with the acquisition of energy under such program.

The UREA identified three primary conditions that affect renewable development: renewable energy's cost, its intermittent nature, and the required transmission necessary to deliver it. UREA notes that costs for renewable energy components have declined. Lower costs combined with federal subsidies have helped renewable energy growth across the country. Unfortunately, rural electric cooperatives, because of their non-profit status, are not eligible for tax credits. Therefore, most federal subsidies are not available to UREA. UREA maintains that the costs of existing generation resources at Deseret remain below the cost of renewables, especially given the intermittent nature of wind and solar.

Reliability is another important condition. Renewable energy is not capable of producing baseload power. Intermittent resources are complicated to implement on a large scale because they may not provide power when it is needed. This leads to volatility in pricing, increased stress on units, and reliance on energy imports to meet demand. Utah cooperatives are committed to provide safe, reliable, and affordable electricity and they believe this is best accomplished with their current resource portfolio.

Transmission is also identified as a key piece of the renewable energy puzzle. Transmission infrastructure requires major upgrades to accommodate large loads of renewable energy. Utah's electric co-ops are invested heavily in other energy resources. The co-ops are also not in a position where they need more load. Any requirement to add investment in alternative energy resources would leave Utah cooperatives with stranded assets, and result in a difficult financial position.

## Recommendations for suggested legislative or program change: § 54-17-604(3)(e).

The Utah Carbon Reduction Progress Reports were current as of December 31, 2019, and it must be noted that these recommendations were made as of that time.

Rocky Mountain Power makes no recommended legislative or program changes at this time.

UREA recommends no mandates for renewable energy. UREA believes that the state's goal to reach 20% renewable energy by 2025 will be achieved naturally by market forces and increased efficiencies. The danger in forcing the transition is highlighted by recent power crisis in California. Renewable resources do a great job producing power during daytime hours however, solar power does not produce at peak demand times. This cycle of over generation followed by a steep ramp to meet demand is known as the Duck Curve.[1] As high temperatures hit California in August 2020, solar generation stopped producing as demand soared. There was not enough power to meet the states need. California's solution was rolling blackouts. UREA states, this will be a more regular occurrence as renewables flood the grid in response to policies that mandate higher percentages of their use. Utah legislators should be very cautious when considering similar mandates for renewable energy if they want to avoid these scenarios.

## Other information: § 54-17-604(3)(f).

By referring only to electrical corporations other than cooperative associations, this Subsection concerned Rocky Mountain Power and not the cooperative associations.

Rocky Mountain Power stated in its Utah Carbon Reduction Progress Report that the 2019 IRP is the source of relevant information for its Utah Carbon Reduction Progress Report. PacifiCorp's 2019 IRP included several renewable resource scenarios in an effort to assess compliance with different state renewable mandates. Since PacifiCorp operates in six states, it must often balance load and regulation across all six jurisdictions.

[1] Please see graph on page 6 of Appendix B

## CONCLUSION

Given Rocky Mountain Power's projections of its loads and qualifying electricity for 2025, Rocky Mountain Power is positioned to meet or exceed a target of 20 percent renewable energy by 2025. The electric corporations under UREA expect to have surplus energy and capacity for the foreseeable future and, therefore, do not believe that it would be cost effective to pursue additional resources at this time. However, the UREA and its Members are not opposed to renewable energy and will continue to evaluate its cost effectiveness through its governing boards.

Questions concerning this report can be directed to the Division of Public Utilities:

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