

A Shared Future: Electrification and Renewable Energy

featuring Example State Legislation to Support Electrification Strategies

EXECUTIVE SUMMARY



Consumers are driving the nation towards an increasingly electrified future supported by a growing share of renewable energy.

The National Renewable Energy Laboratory (NREL) estimates that electrification could boost electricity load growth up to 38% nationwide in comparison to a 2050 Reference Scenario baseline, with the electric vehicles (EV) transition providing the most significant demand increases, both in the near term and through 2050.¹

As support grows for electrification, so does support for renewable energy.

The Pew Research Center reported in 2018 that among American adults, 85% supported increased reliance on wind power, including 79% of Republicans and 91% of Democrats.² Electricity providers are already procuring renewable energy because of its well-documented contributions to grid reliability and affordability, with ample room to grow.

Coincidentally, wind energy is ideally suited to serve electrification demand.

Onshore wind generation tends to be strongest at night; EV drivers charge their vehicles most often overnight.³ Wind generation also tends to be strongest in the winter in most regions of the country.⁴ Residential and industrial electrification are expected to grow and shift peak electricity demand to the winter in the coming decades, particularly in the Midwest and Northeast.

Both electrification and renewable energy provide long-term benefits to consumers and state economies.

However, building an electricity grid to support evolving consumer expectations requires infrastructure investments.

The smartest way to approach these investments is to develop a comprehensive electrification strategy, including EV charging infrastructure, renewable energy additions, and transmission expansion. Electricity providers play a central role in managing the grid and delivering electricity to consumers, so they are well positioned to design and manage this strategy.

Our focus is on helping electricity providers, state legislators, and regulators as they develop their electrification strategies.

AWEA released “A Shared Future: Electrification and Renewable Energy featuring Example State Legislation to Support Electrification Strategies” in January 2019 as a resource for electricity providers, state legislators, regulators, and other stakeholders as they develop their electrification strategies and enable critical infrastructure investments. The tools and resources in that document are consistent with the Transportation Electrification Accord, as well as with policies adopted by policymaker associations, including the National Association of Regulatory Utility Commissioners (NARUC) and the National Conference of State Legislatures (NCSL), to encourage state-level actions.

Example State Legislation to Support Electrification Strategies

State legislatures will be a critical stakeholder for electricity providers as they pursue their electrification strategies. The following example state legislation may be referenced as a tool for states either considering enabling legislation for the first time or considering updates to their existing laws. It was drafted with the intention of enabling each state to tailor the legislation according to its own needs and circumstances, especially where conflicting provisions already exist.

Example State Legislation: Grid Modernization and Consumer Benefit Act

Intent

The Public Utility Commission (PUC) may, in addition to previously enacted requirements, evaluate and approve proposed electric utility investment plans, rate filings, and other filings in terms of accelerated activities related to the multi-year or long-term public interest in a sensible program including but not limited to:

- Consumer use patterns and expectations related to end-use technological innovations that are being adopted by state residents
- Evolving economic development opportunities requiring infrastructure deployment prior to the formal development investments being made
- Validation, in terms of technical performance and addressing, as appropriate, the safety, security, reliability, resiliency, efficiency, and other consumer benefits, of the technological innovations to serve the public interests
- Changes to the design, operation, and maintenance of the electric system to serve the public interest

The Commission may authorize alternative rate recovery mechanisms, including but not limited to forward-looking test years. The forward-looking test years would be designed to permit the electric utility to project the impact of anticipated and documented evolving consumer use patterns and expectations, as well as changing electric utility and/or consumer technologies.

Title I: Findings

The Commission is responsible for ensuring that proposed electric utility investment plans, rate filings, and other filings are in the long-term public interest, and that all related costs are prudently incurred and recovered in a just and reasonable manner that provides consumer benefits. Those consumer benefits include but are not limited to a modern electricity grid that operates in a safe, secure, resilient, reliable, and efficient manner.

In order to provide said benefits in a modern age, where technological innovations including but not limited to electric vehicles (EV) are being adopted by state residents at a rapid pace, it is increasingly necessary for electric utilities to plan infrastructure investments that meet evolving consumer use patterns and expectations. Given that these infrastructure investments have capabilities including but not limited to load management through demand response and energy storage capabilities, these investments can enhance and contribute to a more modern and efficient electricity grid.

And as the Commission is focused on the long-term public interest, these infrastructure investments provide opportunity to proactively invest in technological innovations with mid- to long-term consumer benefits, not just short-term benefits. Making said investments and upgrades on an accelerated basis in sensible programs approved by Commissions will further enhance consumer benefits in the most expeditious manner possible, provided the Commission ensures they are in the long-term public interest, and that all related costs are prudently incurred and recovered in a just and reasonable manner that provides consumer benefits.

It is in the public interest that electric utilities make investments in their electric transmission and distribution systems to accommodate the rapid pace of technological developments and meet increasing consumer demand and expectations of benefits from an electric system. As such, it is expected that the PUC will work to support electric utilities' sensible programs for all technology innovations, in addition to those specifically described in this legislation.

Alternative rate-recovery mechanisms that include, but are not limited to, forward-looking test years may help eliminate near-term financial barriers of traditional ratemaking policies and provide consumer benefits at the same time.

Title II: Staying Up to Date on Technology Innovations

It is in the public interest for the Commission to have all necessary and up-to-date information on technological innovations being adopted by state residents, including validation of the technological innovations to serve the public interests.

As such, a coordinated stakeholder process will be developed and used by the Commission, and led by a state agency, preferably the Commission, to educate the Commission, the legislative branch, the executive branch, and consumers on technological innovations and their associated regulatory frameworks.

The scope of information and activities to be provided to the Commission will be broad in nature, including but not limited to:

- Best practices from other states and countries
- Lessons learned from other states and countries
- Interoperability and open standards development
- Autonomous vehicle development
- Direct current fast chargers and charging corridors

- Multi-unit dwelling considerations
- Low-income population considerations
- Optimization software

The process will involve regular meetings, maybe four times per year, on a quarterly basis. Invitations to all potential stakeholders will be made in a transparent manner. The stakeholder process will be subject to all relevant transparency and notice requirements in Commission or other state agency rules. Potential stakeholders may include, but are not limited to state legislators, jurisdictional and non-jurisdictional electric companies, renewable energy developers, and technology innovation and development companies. This would include participation from wind developers and others in the clean energy (zero- or low-carbon) generation sector, not just the distribution grid companies.

The Commission or other state agency leading the stakeholder process will be required to file an annual report to the state legislature summarizing findings from the quarterly meetings. It will also coordinate closely with relevant federal agencies as needed.

Title III: Sensible Programs Approvable by the Commission

The PUC shall approve an electric utility's sensible program if it includes these factors:

- Energy grid readiness: The modernized electric grid is able to handle the new demand created by EVs. This is due to a number of factors, largely that EVs are charged at night at people's homes, and during the day at offices. As demand increases, electric companies are in a position to shape demand by offering more dynamic pricing that encourages charging at times of excess capacity.
- Stakeholder engagement: Electric transportation is an opportunity for not only significant climate improvements, but also for new products and services. Chief among them are products and services around EV charging. Thus, discussions with EV charging equipment manufacturers, installers, convenience stores, rest stops, environmental stakeholders, and others should all be a part of the discussion about building new infrastructure.
- Consumer education: With new technology comes a need for product awareness. This is not limited to events like ride and drives, but also includes familiarization with the technologies that charge the vehicles, discussions about the simplification of the motors that drives these vehicles, and subsequent reduction in vehicle maintenance, lowering their total energy cost.
- Charging infrastructure deployment: One of the primary barriers to broader EV adoption is access to charging

infrastructure. Electric companies can help. A charging infrastructure strategy should include an assessment of needs and identification of potential providers. Given the expertise electric companies have in all things electricity, including them in the conversation and giving them the chance to participate in the market may make sense.

- Environmental impact: With tailpipe emissions now accounting for more carbon in the atmosphere than any other source, attention should be given to reducing those emission impacts. EVs [emit](#) 54% fewer carbon dioxide emissions per mile than the average new gasoline car, with potential to produce even less over time as renewable energy generation increases.⁵

Further, electric transportation should be a broader conversation than just EVs. To ensure equitable access to these clean vehicles, consideration should be given to the electrification of the mass transit fleet to include city buses, school buses, and light rail.

Title IV: Investment Recovery Approvable by the Commission

The Legislature recognizes that Commission decisions should support electric utilities' efforts to meet consumer expectations, provided the Commission ensures they are in the long-term public interest, and that all related costs are prudently incurred and recovered in a just and reasonable manner.

Accordingly, investment recovery options are hereby established. A variety of approaches and factors are available:

- On a biennial basis, electric utilities will develop and submit to the Commission a 5-year plan and a 10-year plan for EVs and related infrastructure investments with the goal of "widespread transportation electrification," until such time as the Commission determines that it is no longer necessary for such plans to be filed.
- Once the Commission has reviewed and approved said plans, the utility should receive a positive signal to proceed with investments, recognizing that prudence will be reviewed in a future general rate case.
- At the same time, the Commission will issue policy guidance pre-rulemaking to govern both planning and market transformation and ultimately cost recovery issues.
- For states with a certificate of public convenience and necessity (CPCN) requirement, capital investments in the 5-year or 10-year plan will be presumptively judged to satisfy the standards of a "need determination" and "used and useful" under a pre-approval type mechanism, or a multi-year rate year type mechanism.

- For those states without a CPCN requirement, the “used and useful” standard will be waived for capital investments in the 5-year or 10-year plan, subject to Commission terms.
- It will be possible to use deferred accounting treatment (ASC 980) for electric utility infrastructure investments over a multi-year period. These investments will be regarded as “intelligent investments” eligible for a return on cost recovery, subject to Commission rules, and a return on equity (ROE) approved by the Commission. Such ROE should be applied in a consistent fashion.
- If using a rebate approach, it is preferable to include the rebate as a capital asset either under a deferred accounting approach or a traditional rate base approach.
- For investments in zero-carbon sources of generation, such as wind and solar energy, provides cost recovery options. Investments might be linked to transportation electrification. Acquisition of the generation sources should be consistent with the electric utility’s integrated resource plan, if it exists, and the multi-year plan for EVs and related infrastructure investments. If so, the CPCN requirements will be deemed to be satisfied, and the “used and useful standard” will be waived.

Title V: Incentives

The Legislature recognizes that consumer interests in specific vehicle fuels and technologies directly and significantly impact electric utility investment decisions and that PUC decisions should support electric utilities’ efforts to meet consumer expectations. Commission decisions should also reflect electric utilities’ efforts to improve the efficiency, reliability, and resilience of the energy supply system to cost-effectively meet those consumer expectations and preferences.

Accordingly, incentive options are hereby established, including but not limited to those below, and shall be administered by the Department of Revenue.

- Electric utilities will have a property tax exemption for five years for EV charging stations that are accessible to the public. For the purpose of property tax exemption, such charging stations will include the actual device necessary to connect the electric distribution or transmission system to the vehicle, the interconnection equipment, and other infrastructure as necessary to permit consumers to safely and conveniently charge their vehicles.
- Electric utilities constructing EV charging stations shall be sales tax exempt for purchases directly related to the construction of the stations.
- No local or state regulatory approval will be necessary

if the EV charging stations are located on electric utility property, or the property of a commercial enterprise that sells other types of motor fuel, or willingly contracts for such a unit, and the utility approves the siting on the basis of distribution system adequacy.

- EV charging stations owned by an electric utility shall be price regulated by the PUC.
- EV charging stations not owned by the electric utility shall not be price regulated by the PUC but shall be monitored by the Attorney General’s Consumer Protection Bureau.
- Electric utilities shall have no liability for the operation of EV charging stations other than to establish interconnection protocols for physically connecting the charging station to the electric utility’s infrastructure and requiring normal maintenance of such interconnections.
- Commercial enterprises that install a publicly accessible EV charging station, whose interconnection with the electric utility has been approved, shall have a property tax exemption for five years for the necessary infrastructure.
- No local or state regulatory approval for a commercially owned EV charging station is required if the utility approves the siting of the facility on the basis of distribution system adequacy.
- Resale of electricity through an EV charging station commercially owned shall not constitute the seller as a public utility for PUC or other regulatory purposes.
- EV charging stations owned and operated by a public utility that provides electricity generated from renewable resources including but not limited to wind and solar energy shall have a 10-year property tax exemption.
- EV charging stations owned and operated by a commercial enterprise that use renewable energy as defined by state statutes shall have a 10-year property tax exemption.
- Electric utilities owning and operating EV charging stations that use renewable energy as defined by state statutes are authorized to earn ½ of 1 percent higher return on equity for those operations.
- EV charging stations owned and operated by a commercial enterprise may directly purchase the necessary electricity from renewable energy and such purchases shall not constitute retail wheeling nor violate other PUC limitations on such purchases if the public utility has been given 60 days to provide the necessary renewable energy and is unable or unwilling to do so. The public utility shall charge Commission approved rates for the delivery of the energy to the commercial charging station.

- Commission may establish rates by which electric utilities may withdraw electrons from voluntarily participating owners of EVs to serve the grid.
- The Department of Revenue is authorized to develop such rules and regulations necessary to implement the Legislative intent of this bill.

Title VI: Education and Outreach

The Legislature recognizes it is in the public interest for proposed electric utility investment plans, rate filings, and other electric utility filings to include an active and ongoing education and outreach plan. The plan will educate consumers on technological innovations, accelerating market transformation as a result. The Commission may

determine the appropriate parameters and associated costs for such activities.

The scope of activities in the education and outreach plan may be broad in nature, including but not limited to:

- Outreach to automobile dealers and their trade associations, automotive insurance companies, financial industries, non-profit organizations, city and county governments, school district, commercial delivery fleet companies, and EV owners
- Deliberative polling exercises
- Interactive web platforms with educational portals for consumers

Endnotes

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Prepared By
American Wind Energy Association
 1501 M St. NW, Suite 900
 Washington, DC 20005

AWEA.org