

Distributed energy resources (DER) strategic plan development

Draft proposal

Purpose

Platte River is undertaking a strategic planning process for distributed energy resources (DERs). DER includes any technologies, programs or resources implemented on the distribution system or within a customer's facility, whether in front of or behind the retail meter. DER is being used in its broadest sense to apply to energy efficiency (EE), demand response (DR), distributed generation (DG), distributed energy storage (DES) and beneficial electrification. Due to the distributed nature of these resources, the involvement of retail customers, and the need for integrated planning and operation across the entire electric system, it is important that Platte River and the owner communities collaborate on the development of a DER strategy.

Platte River and its owner communities have a long history of collaboration in the area of EE programs and offer a growing portfolio of programs that provide benefits to Platte River, our owner communities and their customers. Platte River's board adopted a Demand Side Management—Energy Efficiency Funding Policy in 2017 to provide guidelines for how EE portfolio goals and budgets are established to ensure cost effectiveness. The policy also articulates how individual programs comprising the portfolio are chosen and how programs are evaluated to ensure goals are being met. We have no similar policy or strategy to guide Platte River's investments in other areas of DER. Developing a strategy will be an important step in fostering effective collaboration among Platte River and the owner communities. Although a policy for EE funding already exists, we are proposing to include EE in this DER strategy to ensure we are taking a holistic approach to our planning.

A strategic approach for DER is necessary for a variety of reasons.

- Magnitude of the opportunity. There is significant potential for DER within the owner communities' customer facilities and distribution system. Many utilities have adopted a goal for EE programs to save one to two percent of load annually, which over time could build a resource of 10 percent of load or more. Some organized markets have DR bid into capacity markets totaling six to eight percent of load. In addition, customers choosing to install solar energy often want to achieve net-zero status, meaning solar provides as much energy over the course of the year as the customer uses. Some regions are seeing adoption surpass 10 percent of residential customers. Such a large resource warrants a deliberate approach.
- Magnitude and extent of DER adoption on utility functions. As DER programs and services grow—which will occur with or without direct utility support or involvement—it will affect all functional areas of a utility: engineering and operations; finance and rates; information technology and cybersecurity; and customer service and communications. Having the right DER strategy in place will facilitate a coordinated approach between Platte River and the owner communities to maximize overall system value from these resources while maintaining reliability.

- Ability to achieve the goals of Platte River’s Resource Diversification Policy. The Resource Diversification policy highlights advancements that must occur *in the near term* if the goal of achieving a 100 percent non-carbon resource mix is to be achieved by 2030. Seven of the nine advancements identified relate directly to DER:
 - Utilization of storage solutions to include thermal, heat, water and end user available storage
 - Transmission and distribution infrastructure investment must be increased
 - Transmission and distribution delivery systems must be more fully integrated
 - Improved distributed generation resource performance
 - Technology and capabilities of grid management systems must advance and improve
 - Advanced capabilities and use of active end user management systems
 - Generation, transmission and distribution rate structures must facilitate systems integration

Following are examples of more specific strategic issues the DER strategic plan may address. In some cases, we may find that that we may need a different strategy for different DER areas or technologies (e.g., a strategy for distributed solar may look different than a strategy for electric vehicles).

- What is our vision for Platte River’s DER initiatives?
- What are the common goals for DER initiatives? Are there different goals for different DER areas?
- What type and level of support for DER technologies should we provide? Are we encouraging and promoting new DER technologies? If so, which technologies? Do we work within existing local and regional energy product and service market structures or do we need to develop new market structures? Do we provide turnkey services?
- For a given DER initiative what are the key functional areas (e.g., planning, implementation, operation, promotion, customer enrollment, customer service) and what are the shared and individual responsibilities of Platte River and the owner communities for ensuring success in each?
- For DER that is under active utility operational control, how do we determine where that control resides—the owner communities’ distribution utilities or Platte River—to maximize overall system benefits? How do we allocate shared control capability and flexibility to achieve maximum wholesale and retail benefits?
- Do we have the right mix of rates and incentives to provide the support we intend and to provide financial sustainability? How might we incorporate pricing signals (e.g. real-time locational marginal prices (LMPs) or time-of-use (TOU) rates) into our strategy for dynamic DER technologies?
- What level of measurement, verification, and monitoring is needed to ensure DER functions beneficially as part of a reliable electric system? How do we best gain visibility (e.g., advanced metering infrastructure)?
- Does the need for DER program implementation, measurement, verification and monitoring require customer data to be shared with the owner communities and Platte

River? Do we have the right legal and cybersecurity frameworks for this sharing to occur?

- What is our position on “beneficial electrification,” which refers to technologies that reduce overall emissions, reduce costs, and provides DER grid benefits by fuel switching from fossil fuel sources to electric energy (e.g., electric vehicles or converting gas water or space heat to electric).
- How do we consistently evaluate the cost effectiveness of programs that support beneficial electrification with EE programs? How do we reconcile the differences in goals between the two?
- What is likely to be the future business environment for DER? Will there be third-party service providers for DER services and technologies? Will they be collaborative or competitive in their approach?
- How do we evaluate the current and future benefits (and costs) of DER?
- How important is equity in our DER program activities (i.e., equity among owner communities, equity among customer classes, equity for low-income groups)?
- Which DER technologies and programs should we prioritize and focus on?
- Are there key partnerships and collaboration opportunities to consider? Who are the leaders?
- How do we develop our organization’s resources (personnel, qualification, experience, knowledge, skills, tools and technology)?

Proposed process for DER strategic plan development

A deliberate process is necessary to gather broad input and to ensure that key aspects of a DER strategy are considered. Through this process, input will be gathered from a variety of stakeholders. A steering committee will be created comprised of staff from Platte River and the owner communities. Members of the steering committee should be prepared to represent their utility’s views from the perspective of engineering/planning, operations, finance/rates, communications/marketing and customer/energy services. Retail customers may also be engaged in this planning process, or through a separate-but-related process (e.g., survey) with consent of the owner communities. Collective priorities, strategic issues, objectives and goals will be discussed and developed through this process.

Platte River recommends use of a consultant to facilitate and guide Platte River and the owner communities through the development of a DER strategy. The consultant’s role would be to provide an experienced outsider’s view of DER and to help us benefit from the experiences of other utilities’ work developing DER strategies. One of the first steps the steering committee will take is to craft a scope of work for the consultant, to seek bids, and select a consultant.

Based on our research into DER strategy development, we anticipate that this process could take 18 to 24 months.

Upon completion of this strategic plan (or plans), Platte River and owner community staff will collaborate to develop action plans to achieve the strategic objectives.