

Designing a battery incentive that benefits customers, utilities, and the rate base

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Behind-the-meter (BTM) battery programs are a relative newcomer in the world of utility customer offerings and incentives. Even just a few short years ago, not much was known about how these programs were performing in the field. We didn't have a ton of data yet on what customers thought of these programs or how variations in delivery strategy or program design might be preferable in different regions or for serving different types of customers.

However, as BTM programs become more established, utilities are wondering how their peers are structuring their incentives. Luckily, we've reached the point where it's possible to share valuable knowledge on these programs.

We recently discussed BTM battery incentive program design at [E Source Forum 2021](#) during the "Designing a battery incentive that benefits customers, utilities, and the rate base" session (**figure 1**).

Figure 1: Designing a battery incentive that benefits customers, utilities, and the rate base



During the session, an attendee asked what should be prioritized when utilities structure their battery incentives (21:53). Important factors that come into play when designing a program usually include considerations such as winter versus summer peaking, the relative risk of natural disasters and resiliency objectives, local energy and capacity pricing, the presence of a distributed energy resource management system (DERMS) or another type of supervisory control network, and the organic market uptake of BTM batteries among the utility's customers.

What are utilities offering customers in a battery program?

We identified 28 utilities in the US and Canada that currently offer a total of 42 pilots or programs featuring battery storage technologies. Discover more insights in our report [Customer-sited battery storage pilots and programs](#).

When it comes to incentives, National Grid looks solely at the ways the program can help with avoided cost (23:19). Panelist and senior engineer Paul Wassink compared National Grid's battery incentive program to any other energy-efficiency program, claiming that it didn't matter if it's a customer benefiting from a discount on an LED bulb at their hardware store or a customer installing a battery in their basement.

In both scenarios, the program helps them ultimately avoid costs. After all, Wassink explained, "it's cheaper to get customers to invest in energy efficiency or a battery than it is to build a new power plant or transmission line."

"It's cheaper to get customers to invest in energy efficiency or a battery than it is to build a new power plant or transmission line." -Paul Wassink, senior engineer, National Grid

David Petroy, product developer at Xcel Energy, echoed the priority of avoided cost (23:54). He then shared how his team compares time-of-use energy benefits with other renewable resources put on the grid. The bigger picture at Xcel Energy is determining how much value is being added at different times as the utility moves toward a time-of-use-intensive strategy.

"How do we make control technology agnostic with DERMS so we don't limit customers in terms of their choices?" David wondered aloud. Xcel Energy currently supports a limited number of vendors in its pilot program but intends to expand the list of vendors to be more useful to customers. The wider the range of technologies Xcel Energy can accommodate, the more willing customers will be to adopt.

Batteries and battery programs will most likely continue to gain in popularity among end-use customers,

particularly as costs continue to fall and performance improves over time.