Gaps and Challenges

“Peaks, Solar, and Storage”

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The Big 4 – The Most Significant Gaps/Challenges

Despite its unique role, the current barriers to achieving greater storage deployment are similar to other DER technologies on the distribution and bulk systems. These include:

1. **Getting fair and accurate compensation for benefits delivered, and having that compensation mechanism be predictable enough to be useful to projects and visible enough to drive the market to invest.** The mechanisms available today include:
   - First come-first serve tariffs for distribution system assets (i.e. MA and NY)
   - Long-term contracts for the energy, capacity, and ancillary services of storage between developers and utilities for both distribution and transmission system assets (i.e. CA)
   - Non-Wire alternatives
   - Merchant ISO options

   Other key aspects include the services compensated for, how they are valued, and how charged for role as load

Most Significant Gaps/Challenges (Cont)

2. **Updating interconnection pathways, technical standards, and market access**
   - Distribution level IX rule updates – For example, studying max export and max load vs aggregation of nameplates, and integrated controls vs external utility control solutions
   - FERC 2016 NOPR and ISO updates– Focused on the ability to provide all technically available services. Different from conventional resources in terms of not infinite fuel separate from electrical system and acting as both load and generator

3. **Siting acceptance and safety**
   - Unfamiliar to local governments in most states and don't have zoning in place
   - Dense urban areas are reviewing fire department needs and concerns

4. **Taxation clarity**
   - Standard property tax assessments and taxes (and possibly abatements or PILOTs), and sales tax policies are needed

Unique Challenges

- **While storage can provide energy, capacity or shave peaks, and ancillary services if the market rules and tariff inclusion issues are addressed, two areas of non-fully monetized value remain:**
  - The future electric system and societal values of storage's key role in allowing the integration of intermittent resources and the complete transition to renewable energy will not be truly unpacked until there is a high penetration of renewables and most markets in the country are not yet near that state nor on that track
  - The increased resiliency benefit is also not yet monetized