Energy Storage Standard

Description:

There are a number of policy opportunities to take advantage of the growing technological advances and declining costs within the energy storage sector. These include incentives and requirements to deploy storage by utilities as well as incentives for customer sided energy storage to manage both distributed renewable resources and fluctuating demand.

Discussion of the Policy:

Energy storage offers a unique opportunity to manage a number of different challenges at once. First, it can provide power that can be dispatched to better integrate intermittent resources like renewable energy. Second, it similarly provides management of intermittent demand – helping to flatten demand requirements of the utility. Third, the quick response of energy storage can provide the utility with valuable voltage regulation services to help make the utility run more efficiently.

Finally, energy storage can help businesses avoid costly utility charges in the form of "demand charges". Demand charges establish a level of cost to businesses based on their highest 15 minutes (or other period) of demand across a month. Eliminating spikes in demand with storage can reduce these costly demand charges.

Cost of energy storage has historically been a barrier, but, as with other innovative technologies, these costs are coming down dramatically and some states are beginning to pursue deployment of energy storage in an effort to both benefit from the inherent advantages of storage outlined above and attract innovation companies to create economic growth in this new sector.

Washington State has required that energy storage be a component of the utility integrated resource plans (IRPs) and credits energy storage of renewable energy at 2.5x credit under the RPS – reflecting the increased flexibility in use of renewables allowed when in combination with storage.

In New York, the NY-BEST (New York Battery and Energy Storage Technology) consortium was created with a $25M grant from NYSERDA.

California's AB 2514 requires the California PUC to consider a storage procurement mandate for utilities. The PUC has followed up with a requirement that the state's big three investor owned utilities add 1.3GW of energy storage to their grids by the end of 2020. The PUC issued a ruling to advance the policy.

Key Components:

- Instruct the PUC to evaluate the value of energy storage in various strategic locations across the utility system and consider a requirement to deploy storage where it will be cost effective, or identify the price point at which it will be cost effective.
- Provide incentives for customers to purchase storage to both manage load and store locally produced renewable energy.
- Provide an option for utility customers (targeted at commercial users) to pay an additional charge to be included in a "high reliability zone" provided through a combination of distributed generation and energy storage – forming a utility integrated "micro-grid".
- Provide financing for commercial businesses to install energy storage that will reduce their demand charges from the utility.

Resources:

- Sandia Labs Report on Energy Storage
  http://www.sandia.gov/ess/docs/other/Grid_Energy_Storage_Dec_2013.pdf