

Innovations in Utility Policy: Adapting to the Growth in Solar Energy

Executive Summary

Electric utilities are a critical part of our modern society. They are required to provide reliable energy at all times, and constantly keep up with power fluctuations, which occur as consumers go about their everyday lives. Traditionally, energy infrastructure has been based on major capital investments in generators-Coal plants, Nuclear plants, Hydro dams, etc.- matched by major capital investments in transmission infrastructure to carry this energy from its point of generation (typically outside major cities) to consumers. Because of the major capital investments required and criticality of the service provided, many utilities maintain monopolies over the energy sector, and are controlled by government policy to ensure they are operating in the best interests of consumers.

Recently, however, the rapidly decreasing costs of distributed generation (DG), especially solar photovoltaic (PV) systems are disrupting this model. Because consumers are now able to become producers of energy, utilities are seeing their effective customer base decreasing. In addition, in some areas the point is rapidly approaching where consumers can save money by leaving the utility grid entirely - known as grid defection- which has the potential to seriously disrupt the utility model and its ability to service its capital intensive infrastructure.

Accordingly, it is imperative that utilities recognize and react to this issue quickly. By adopting cost recovery strategies, which play to their existing strengths as an organization, they can remain relevant and viable as the market transitions to a greater portion of DG.

The core strengths of a utility are:

- 1) Ability to manage and maintain large capital assets,
- 2) Servicing and control of critical infrastructure,
- 3) Access to inexpensive capital. All three of these assets can be used effectively in the adoption and integration of large scale DG projects, and can form the basis of a new cost-recovery model for modern utilities.