



Solar Ready II

TALKING POINTS UTILITIES

PROJECT IDEA & GOALS

Delaware Valley Regional Planning Commission (DVRPC) is partnering with the National Association of Regional Councils, the Mid-America Regional Council, Meister Consultants Group, the Council of State Governments, and eight regional councils on the *U.S. Department of Energy SunShot Initiative Rooftop Solar Challenge Solar Ready II* Project. Through this award, DVRPC is striving to implement solar best management practices, training materials, and additional proven implementation strategies in the DVRPC region. Together, with support from our local governments and utilities, DVRPC will achieve more streamlined and standardized solar practices, resulting in measurable improvement in DVRPC's solar market conditions.

- Utilities are key partners for local governments wanting to accelerate the deployment of solar technologies in their community. The utility is responsible for connecting the system to the power grid (interconnection) and for implementing net metering policies. Utilities also have expertise in delivering energy to customers, managing the power grid, tracking energy usage, and billing. Utilities have the power to accelerate or impede the development of solar within a community in meaningful ways.
- Local governments that have jurisdiction over the municipal utility can influence solar policies in significant ways. In locations where the local government is within the service territory of an investor-owned utility, the local government has opportunities to work with regional and state governments as well as the utility to implement changes in policy that encourage the development of solar technologies.

TALKING POINTS

WHY SHOULD UTILITIES ADOPT SOLAR?

- Utilities benefit from solar net metering if customer-sited generation is located in an area that allows a utility to avoid distribution and transmission-system upgrades.
- Utilities also benefit when they own RECs associated with net-metered generation and can use those RECs to meet state renewable energy requirements (e.g. renewable portfolio standards).
- There is typically large customer demand for on-site solar PV once it becomes cost-effective. As prices in PV decrease, the number of customers seeking to install PV increase dramatically.
- Solar allows a utility company to diversify its energy portfolio.
- Solar can assist utilities during times of peak energy usage:
 - Solar often produces the most output when customer demands are highest and when spot-market prices are highest (e.g. hot summer afternoons).
 - Distributed generation sources like solar PV can reduce congestion on the grid.
 - Utilities can work with customers to install systems in locations and orientations that most benefit the utility (e.g. in areas of congestion or to encourage installations on west-facing rooftops if the afternoon peak is later in the day).
 - Solar can allow the utility to avoid the use of "peaking systems" to generate electricity during those times of high demand, as these peaking systems are usually expensive and inefficient to operate.
- As a result of these benefits, solar is one of the fastest growing sources of electricity both for utilities and customers.

ADDITIONAL BACKGROUND INFORMATION

UTILITY CONCERNS

- Utilities want to know how solar will **affect the operation of the grid** and have input as to where and how PV resources are installed, to ensure safety and reliability.
- **Unfamiliarity with the technology:** While some utilities have experience interconnecting many hundreds of MW to the power grid, other utilities have installed only a handful of individual systems. Education is required to bridge this information gap, so that utilities are up-to-date with information regarding technology improvements and can address outdated concerns (e.g. modern inverters do not allow for "islanding" to occur, and the 15% "grid capacity rule" is outdated).
- **Reducing peak demand** can reduce the utility's ability to sell its most expensive, and potentially most valuable power.
- **Threat to existing business model:** Solar PV with net metering and changes in customer behavior reduce electricity loads and pose a threat to a utility's revenue stream. When the utility has to recover the cost of service (cost of the grid infrastructure) over a decreasing customer base, prices go up. When prices go up, demand goes down, and customers go "off the grid."



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WORK WITH THE UTILITY

- Approach utility with a collaborative attitude.
- Utilities tend to be conservative having 30-year costs recovery investment timelines.
- Utilities accustomed to owning a relatively small number of generating units and selling power to a large number of customers-- not buying power from a high number of generating units owned by their own customers.
- Your utility may have a renewables or solar program manager who can work directly with you, to implement policy and interconnection improvements.

INTERCONNECTION

Utility interconnection procedures can play a crucial role in supporting the development of distributed solar photovoltaic (PV) projects. Interconnection standards are the legal rules and procedures for connecting or “plugging-in” a renewable energy system to the utility’s power lines. Interconnection includes both the technical procedures and contractual terms that the system owner and utility must follow. Interconnection allows the owner to send power back into the grid and net meter. Generally, the utility must study and approve the interconnection of a proposed solar PV system based on rules established by a state’s public utilities commission. If interconnection standards are unclear, redundant, or **when unnecessary tests or steps are applied by the utility beyond existing national standards**, it can add significant costs and delays to the development of a PV system. Regions can play a key role in advocating for clear and transparent rules and policies.

Quick Facts:

- There are over 5,000+ utilities with unique interconnection procedures in the U.S.
- 43 States & DC have adopted interconnection standards.
- 26 states received a grade of C or lower on their interconnection policy based on the 2013 report, *Freeing the Grid*.

Region Specific:

- New Jersey received a grade B for interconnection policies.
- Pennsylvania received a grade B for interconnection policies.

NET-METERING

Net metering allows customers to export power to the grid during times of excess generation, and receive credits that can be applied to later electricity usage.

Quick Facts:

- More than 93% of distributed PV Installations are net-metered.
- Net metering allows for a customer-sited solar system to cover 100% of the customer’s load by crediting excess generation during the day to usage at night.
- 43 states, Washington D.C., and 4 territories have adopted some form of net metering policy.
- 20%-40% of power generated from solar energy systems goes back to the grid. (SEIA)

Benefits:

- Customers can use excess generation credits when their electricity needs exceed the solar system’s output (e.g. at night).
- Allows customers to “zero out” their monthly electricity bills, making solar more cost effective.

Region Specific:

- New Jersey received a grade A for net metering.
- Pennsylvania received a grade A for net metering.