Let's Be Smart About Community Solar

By Chris Sturm
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The first Energy Master Plan hearing, Sept. 7, focused on clean and renewable power. Now it's up to the BPU to maximize the benefits for local communities

New Jersey's recently signed energy legislation takes an important step toward a clean-energy future for the state: It sets an ambitious goal that 21 percent of the energy sold in the state must be from Class I renewable energy sources by 2020, and 50 percent by 2030. In addition, Gov. Murphy signed an executive order calling for a long-overdue updating of the state's Energy Master Plan, including outlining a path to 100 percent clean energy by 2050.

One provision in the legislation will eventually allow many more residents and businesses in New Jersey to access solar energy. The provision calls for the state Board of Public Utilities to establish a pilot program for what is known as "community solar." These are smaller-scale solar installations to which customers can subscribe, agreeing to purchase a certain amount of power and receiving an equivalent credit on their legacy electricity bills, even if they can't host a solar installation themselves. This will be particularly beneficial to people who rent, including those living in apartment buildings, and residents and businesses in urban areas without enough sunlight in their neighborhoods to allow their own rooftop solar installations.

The BPU has until late this year to formalize a framework for installing community solar. Properly implemented, community solar can bring multiple benefits without subjecting its host communities to significant negative impacts. But the way the BPU writes the rules will be key to the long-term success of the program.

It's important to note that these are not going to be large-scale "solar farms" that feed into the transmission grid, but rather smaller energy assets, with a maximum size per installation of five megawatts, that feed into local distribution grids. Contaminated sites, flat-roof commercial buildings and surface parking lots can all support such installations. These non-ground options are especially important in walkable neighborhoods where ground-mounted solar installations can detract from the livability and vitality of the area.

In terms of cost, while every solar installation has its own characteristics, a national solar nonprofit estimates installation costs on ground-mounted arrays at $1.75 to $2.25 per watt. As a general rule, larger-scale installations bring economies of scale and a lower cost per watt. Canopies over parking lots, which need to take into account wind resistance and heavy snow, may cost up to $1 more per watt to install. Flat-roof mounts usually come in somewhere in between. Other costs associated with installing in urban areas include the cost of cleaning up contaminated sites, and the opportunity cost of using vacant lots and surface parking lots for solar installations, particularly in revitalizing markets where other forms of development may be more profitable.

But that doesn't mean we shouldn't prioritize these sites for community solar installations. There are some important lessons to be learned from other states that already have community solar pilot projects that New Jersey can take into account as our rules get written:

Require that any application for a community solar installation involve a host municipality early, and that the developer minimize adverse effects on local residents and businesses. This can mean requiring the planting of native vegetation around ground-mounted installations where feasible, requiring robust management of stormwater runoff to reduce flooding and pollution, cleaning up contaminated land, requiring an open aesthetics review process, and working with the community to minimize any adverse visual impact by using appropriate setbacks and screening.

Use incentives strategically to foster smart siting. In New Jersey, while there is a good deal of variation, a one-megawatt solar installation could power an estimated 160 homes per year, and would take up between four and seven acres. This means a 100-kilowatt installation could power at least 15 homes and would need less than three-quarters of an acre for installation. The new community solar legislation allows for restrictions, yet to be determined, on where an array can be installed, and the maximum distance it can be from its customers. However, these restrictions may raise the developer's costs above profitability, so additional incentives should be considered to cover the incremental costs of putting these facilities on preferred locations like roofs, parking lots and contaminated land; for cleanup of contaminated sites; or that bring substantial co-benefits to their host communities such as making sure neighbors of the installation get the first access to energy credits, making local jobs and job training a priority, reducing pollution, or use of the installation as an educational facility.

Ensure that everyone can participate in a community solar arrangement, and can get out when they need to. The legislation contemplates a requirement that each installation's low- and moderate-income customers comprise as much as 40 percent of its total customer base. This is significantly higher than in many other states that have community solar, and may require both redirection of existing customer subsidies and establishment of new ones. Implementation should also **require landlords in apartment buildings where power is not sub-metered to pass any savings from participation in a community solar program along to tenants**. And finally, providers

should be required to offer flexible contract terms with no cancellation fees, so residents can move if they need to without having to drag their contract obligation with them.

Make the application process clear at every step. Because these are smaller arrays, some applications may come from smaller or less experienced developers. Require pre-application consultation, offer assistance to both developers and the public during the application and installation processes, and require the establishment of a clear mediation process for disputes that may arise.

For installations on leased land, **require clarity around responsibilities at the end of the lease**, including whether the array will be dismantled, what and whose the cleanup responsibilities are, and to what state the land must be returned.

New Jersey has a once-in-a-generation opportunity to craft rules for community solar installations that will bring substantial benefit to communities that heretofore have not had access to solar energy. We're the leader in the nation in solar wattage per capita; let's also be the leader in truly beneficial community solar implementation.

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