

Taking Renewable Energy Policy To The Next Level

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When the governor and the General Assembly passed Public Act 11-80, An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future, it did far more than merge two state agencies under a single commissioner; it put Connecticut at the forefront of renewable energy development. By passing the act, Connecticut vaulted itself from an also-ran to one of the leaders in renewable energy programs, rivaling Massachusetts, New Jersey and California.

Connecticut has long had one of the more robust renewable portfolio standards in the country, but has largely met those renewable goals through the importation of renewable energy from other sources in the Northeast. Connecticut itself has very little "home grown" renewable energy projects. The programs found in the act represented a fundamental shift in how Connecticut transacts its renewable energy business.

This shift has as much to do about generating jobs and experimenting with different renewable technologies as it does with generating clean energy. Having learned from previous false starts, the new programs are specifically designed to ensure that projects will actually be developed, rather than staying on the drawing boards for years. Developers who wish to participate in various programs (such as the incentives for large scale renewable energy projects under section 127, or the Zero Emission/Low Emission Renewable Energy Credit) must provide financial assurance in the form of a bond or other performance guarantee as security for a project's timely completion. Failure to complete a project in a timely fashion will result in the forfeit of a developer's security.

For a developer that is willing to put up such security, however, the benefits can be quite lucrative. It is estimated that the total amount of incentives under the various programs in the energy future act will exceed \$1 billion. Most of these incentives involve the competitive bid for, and subsequent award of, renewable energy credits. Under various competitive bid procedures, developers first estimate the amount of money the project will cost, both to build and for annual maintenance. Against that cost, the developers negotiate an agreement for the price of the electricity that will be generated by the particular project and used by the host of the project. Because most renewable energy projects are more expensive than traditional energy projects, the programs provide successful developers with a renewable energy credit to offset that difference in cost.

This offset is accomplished through a "reverse auction" where each developer submits a bid based on the cost of a renewable energy credit it would accept in order to build a particular project. The logic of this system is that rather than set one price for all renewable energy projects in the state, only those projects that can be

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built at the lowest possible cost will be constructed. This limitation on project costs is another way that Connecticut has set itself apart from its peers.

Another fundamental difference is that the Connecticut program locks in the value of the renewable energy credit for the life of the contract, typically 15 years. Developers then have a renewable energy credit income stream along with the price of the electricity the project will generate. Project developers can use these income streams to secure financing for their projects. Prior renewable energy projects in the state frequently had difficulties in securing financing, given speculative pricing for either their electricity or the renewable energy credits. The new program addresses these issues.

Fuel Cells

Although any Class I renewable energy project (for example, solar, wind, geothermal, run-of-river hydroelectric and fuel cell projects) can qualify for the renewable energy credits, it is anticipated that the bulk of the projects that will be submitted under Connecticut's programs will be fuel cells and solar projects ranging from rooftop installations, to small pad sites, to larger-scale, ground based, commercial solar farms. The potential problem with such projects is that to be economically viable, they need to be located on sites with significant energy needs.

Put simply, the economic model currently being utilized by Connecticut requires that the site on which a particular project is constructed utilize the electricity that is being generated on-site. This is because the developer can charge the site owner the retail rate for such electricity, usually at a slight discount. The site owner gets its electricity more cheaply, and by proceeding in this way, the developer can maximize its revenues for electricity.

If the site host cannot utilize all of the electricity being generated, the developer can sell the power back to the electric grid, but it must do so at the wholesale rate for electricity, which is significantly lower than the retail rate. For projects that must go through a competitive bid process, the difference between wholesale and retail prices for electricity often determines whether the project will be financially viable in the long run.

Some jurisdictions, such as California, Colorado, Delaware and Massachusetts, address this problem by allowing "virtual net metering." Although the rules vary from jurisdiction to jurisdiction, the fundamental premise is the same: virtual net metering allows for the electricity being generated at one site to offset loads at multiple locations within a utility's service territory. Therefore, owners of multiple properties within a territory can construct one large renewable energy project at one site, and have the credits and electricity count against all of the properties owned by that entity.

Admittedly, section 121(a) of the energy act provides for virtual net metering credits by defining them as "a credit equal to the retail cost per kilowatt hour the customer host may have otherwise been charged for each kilowatt hour produced by a virtual net metering facility that exceeds the total amount of kilowatt hours used

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during an electric distribution company monthly billing period." Unfortunately, however, section 121(b) states that electric companies "shall provide virtual net metering to its municipal customers," but not to the private sector. Accordingly, private landowners in Connecticut are not permitted to use virtual net metering for their renewable energy projects.

One of the key ingredients to driving the cost of renewable energy down is economies of scale. A single 800-kilowatt project can be built more cheaply than the cost of four, 200-kilowatt projects. Unfortunately, there are few entities that utilize such large amounts of electricity at their sites. Virtual net metering acknowledges both the economies of scale involved as well as the limited universe of site owners that need such large amounts of electricity.

A simple change in Public Act 11-80 that would provide virtual net metering for any entity in a utility's service territory will allow renewable energy to be developed more cheaply, and will provide a much broader array of sites that can be suitably developed. As Connecticut positions itself at the forefront of the renewable energy movement, now is not the time for half measures. Connecticut should fully avail itself of all of the tools available to it to foster the development of renewable energy – virtual net metering for private sites is one of those tools. •

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