

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

CASE 15-E-0302 - In the Matter of the Implementation of a Large-Scale Renewable Program
CASE 14-M-0101 - Proceeding on the Motion of the Commission in Regard to Reforming the Energy Vision
CASE 03-E-0188 - Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard

NRG Response to Notice Soliciting Comments

August 12, 2015

The New York State Energy Research and Development Authority (NYSERDA) paper, “*Large-Scale Renewable Energy Development in New York: Options and Assessment*,” presents options to change New York’s existing approach to large-scale renewable (LSR) development and procurement. The paper concludes that new contracting and ownership models for renewables are needed in order to meet various state energy policy goals, including Reforming the Energy Vision (REV) and the State Energy Plan. In reassessing the current Renewable Energy Credit (REC) contracting model, the NYSERDA paper identifies three state goals: (1) minimizing costs while maximizing benefits; (2) promoting competition; and (3) animating the voluntary market. NRG Energy, Inc. (NRG) supports these goals and provides the following comments.

NRG currently owns several thousand megawatts of large-scale renewable facilities located across the country, which are largely supported by long-term power purchase agreements. NRG’s portfolio includes both large-scale solar and wind facilities. As a company with significant, and growing, renewable energy assets, significant wholesale generating assets in NY, and a market-leading player in the YieldCo financing space, NRG is in a unique position to offer its views on the move to a new procurement mechanism for renewables in NY.

NRG Supports New Contracting Models for Renewables in NY

NRG agrees that New York consumers would benefit from a new approach to renewables contracting. In general, NRG suggests that there are two primary policy drivers that can accelerate development of renewable generation facilities in New York: (i) cash flow certainty, and (ii) long-term contracts.

Supporting contracting structures that provide sustainable, long-term cash flows, help companies, like NRG, to deploy low-cost capital for renewable development projects.

Additionally, ensuring a long-term contract of 10 – 25 years provides an attractive opportunity for developers of large-scale renewable projects.

Of the options presented by NYSERDA, NRG generally supports a bundled energy and REC Power Purchase Agreement (PPA) model for renewable procurement. NRG could also support a REC Contract for Differences (CFD) model with either a REC only CFD procured through NYSERDA, or another state entity.

In either case, rules around curtailment of energy when real-time energy prices are below \$0/MWh are critical to attracting capital for large-scale renewable developments. In particular, NRG urges the Commission to ensure that the seller is kept whole to their expected revenue for any buyer-directed curtailments, including economic curtailments.

NRG strongly opposes utility ownership of renewable generating assets, as well as the assumption that any residual value of renewables procured under the Main Tier solicitations would be transferred post-PPA to utilities. Utility ownership of renewable assets runs counter to the goals of REV, which are to ensure the competitive deployment of distributed energy resources (DERs). Utility ownership also runs counter to the restructuring undertaken by the state in the 1990s, as well as NY state energy policy goals of maintaining a competitive and open electricity market. Allowing utility ownership will stifle private interest in renewable energy development in NY.

NRG also suggests that utility offtakes pass-through renewable PPA costs without additional markup or cost. NRG thus disagrees with the NYSERDA suggestion that, if utilities are the entity entering into the PPA, then they should earn a return on the cost of the PPA in exchange for entering into the PPA. If any such remuneration or adders are introduced, this will increase the cost of meeting the State's RPS goals, since these additional costs will simply be passed through to ratepayers.

The YieldCo Model Presents an Opportunity for Low Cost Renewables Development

As highlighted in the report, one way to lower consumer costs is to reduce financing costs for renewable projects. YieldCo companies have proven to be extremely effective ways of bringing large amounts of capital into the renewable development space. However, YieldCo financing requires a steady stream of cash flows. A PPA contract of at least 15 years, with energy and REC price certainty, are key elements to making such development projects eligible for YieldCo consideration, and thus accessing the low cost of capital YieldCos enjoy. By providing revenue certainty, consumers pay less in the long-run, because the predictable stream of cash flows from the PPA enables developers to access lower-cost financing. This, in turn, feeds a virtuous cycle of continued investment as (a) developers such as NRG are able to recycle capital efficiently, quickly, and on an accretive basis; and (b) YieldCo vehicles such as NRG Yield are able to acquire large-scale, operating renewable assets which produce reliable cash flow streams that

allow the YieldCo to pay increasing amounts of dividends to its shareholders, driving down cost of capital.

NYSERDA (or State Entity) REC CFD

In addition to a bundled PPA model, the paper also considers a CFD model (under both Option 1 and Option 2), with either NYSERDA or a State entity as the contracting party. The key point is to design a REC CFD model that achieves the same cash flow certainty as the bundled energy and REC PPA model. If a CFD model is chosen, the REC receives a fixed price and the seller receives (or pays) the difference between the real-time NYISO market price and the fixed contract rate. The price index must be clear, and must reflect the location of the project. For example, the energy price index should either be the specific generator bus location, or average zonal price in which the project is located. If the energy price is indexed to a zone in which the project is not sited, or averaged over time in a way that does not recognize the value of the energy when and where it is delivered to the NYISO market, there would be a disconnect between how the contract is defined and where the energy is monetized. This could increase consumer costs, since the developer would need to account for this basis risk between the actual project location and energy price index of the contract.

Curtailment Options

In any of the above models (REC CFD or a bundled PPA), the Commission should give special consideration to ensuring that renewables developers are kept whole for any economic curtailments directed by the buyer/offtaker. The Commission should ensure that any contract design keeps the seller whole for any economic curtailments directed by the buyer/offtaker. The contract can accomplish this goal by relying on a third-party forecast of the amount of energy that the seller would have produced *but for* the curtailment, and then ensuring that the seller is paid for this “deemed” delivered energy.

This design has three benefits. First, it decreases the market risk associated with large-scale renewables development and allows developers to access the lowest-cost capital. Second, allowing buyers to require renewable facility owners to curtail when prices are negative reduces ratepayer costs. Third, it promotes effective price formation in the wholesale markets by ensuring that generators do not produce excess power into an already oversupplied market.

Resource Eligibility

Introducing resource eligibility rules could ensure the state’s collective renewable energy goals are met. As discussed in the report, one mechanism for doing this would be to base the procurement selection on both price and non-price criteria. Non-price criteria could include projects sited in particular locations that provide specific system benefits, specifying sub-tiers, or projects that meet specific state policy goals (e.g. solar and NY-Sun). As highlighted in the paper, Massachusetts and Connecticut already adopt a procurement structure that weights 80% of

the project evaluation on price, and 20% based on non-price criteria. New York should adopt a similar procurement mechanism.

Another option for introducing resource eligibility rules could be to carve out sub-tiers by project size. A shorter-term contract could work for larger projects, such as those over 10MW. Smaller-sized projects, such as MW-scale solar, would benefit from longer-term contracts (e.g 15-25 years). In the case of a small-scale project, the longer the contract, the more affordable the financing costs, and the more competitive the contract pricing. Smaller projects should be encouraged in the Main Tier solicitations because they allow for more diverse ownership, and tend to mitigate operational risks, as opposed to a few large projects where a single operational problem could have a proportionally greater impact.

Alternatively, linked or bundled technology projects should be able to qualify. For example, allowing solar projects with battery storage, or aggregating solar and wind projects together, could produce overall lower costs or operational benefits. Allowing linked or bundled technology projects – e.g. solar and storage – to qualify, and allowing aggregations of customer-sited resources to qualify in Main Tier solicitations, could be a way to integrate LSRs and DERs. This could allow developers to offer aggregated DERs that can complement LSRs, or offer combinations of DER and LSR. Not only will this increase system benefits, but integrating storage could lower the costs associated with the energy contracts, since storage could allow intermittent resources to better match their production to system needs over more hours of the day, and could help offset peak demand requirements.

Project evaluation should also take expected energy delivery times into account. Solar projects are likely to be producing during the day, when energy prices are highest. In contrast, wind projects tend to produce substantial energy at night, when energy prices are lowest. These energy price variations should be considered when evaluating PPA contracts, to ensure that selected projects not only have low prices, but also produce high value for the energy they deliver to the system.