



Comments On Next Solar Incentive Straw Proposal

Submitted By

GENBRIGHT LLC

Genbright LLC (Genbright) appreciates the opportunity to comment on the Department of Energy Resources' (DOER) Next Solar Incentive Straw Proposal (Straw Proposal). Genbright is a limited liability corporation organized under the laws of Delaware and with its principal place of business at 18 Shipyard Drive, Suite 2A Hingham, MA 02043. Genbright is a full market participant in the Independent System Operator for New England (ISO-NE).

I. Recommendations

- It is critical that the new solar incentive tariff be structured so as to ensure that title to the capacity products is free and clear of all liens, security interests, claims, encumbrances or any interest therein or thereto by any person, as a result of receiving the incentive.
- Allow solar developers to retain title to capacity and other ISO-NE products.
- For the block tariff option allow the DOER to revise rates as appropriate based on actual Forward Capacity Market (FCM) participation.
- Conduct a cost analysis study of the potential impact of FCM participation on the cost of the next solar incentive that examines (1) the compatibility of ISO-NE market rules with different mechanisms to monetize FCM revenues, and (2) quantifies the direct and indirect benefits of allowing asset owners to monetize FCM revenues, including Demand Reduction Induced Price Effects (DRIPE) capacity programs.

II. New Solar Tariff Should Not Bundle Capacity With Any Other Product But Should Allow Solar Asset Owners to Retain Title

Except for energy delivered to the ISO-NE, it is important for any policy to allow solar asset owners to retain title to all ISO-NE products rather than bundle them with products retained by

Distribution Companies, who have not produced any ratepayer benefits from current options to assert title to products that involve forward market risk and performance risk, such as solar capacity.¹

There are several reasons why solar asset owners should be allowed to retain title to the ISO-NE products associated with the electricity generated by solar facilities that received solar incentive, including the following:

- i) By not allowing asset owners to retain title to capacity, ratepayers will be paying too much for capacity, solar incentives such as SRECs and potentially ancillary service products due the lack of incentives or obstacles that prevents energy storage from participation in ancillary markets.
- ii) Massachusetts will create a self-perpetuating reliance on non-market based incentives, the cost of which will be borne by ratepayers.
- iii) Not allowing solar asset owners to retain ISO-NE products could render otherwise viable market based energy storage business models infeasible.

III. Why Assigning Title to Utilities Would Increase Rates Unnecessarily

Utilities have not monetized capacity products and have stated in multiple proceedings that they are unwilling to assume the risks associated with resources they do not directly control. In contrast to settlement only generation, capacity and ancillary products require taking on market obligations to perform, including forward obligations that range from less than one day ahead to several years ahead. These obligations create inherent performance and market risk that is not present with settlement only energy. Either Distribution Companies will continue to be unable (despite best efforts) or unwilling to monetize ISO-NE products other than settlement only energy in ISO-NE markets, or ratepayers will be subject to imprudent and irrational performance and market risk.²

Prudent management of performance risk and market risk without direct ownership/control of the asset is extremely impractical, administratively infeasible and potentially inconsistent with the ISO-NE tariff. Without direct control of the site and its facilities or a principal/agent relationship that incentivizes asset owners to perform and subjects them to performance risks and market risks, any hope to

¹ For the purposes of Genbright's comments, reference to ISO-NE products should be considered to exclude energy products, but include capacity and ancillary products.

² During the Solar Task Force on Net Energy Metering, the Distribution Companies said they were reluctant to enroll NEM solar in the FCM and had no plans to do so. See Survey of Net Metering Task Force, Group A – Utilities (January 20, 2015) available at <http://www.mass.gov/eea/energy-utilities-clean-tech/nms-taskforce/previous-meetings.html>.

successfully monetize FCM or other ISO-NE products is unrealistic and explains why such monetization has not happened to date. The transfer of title to capacity from asset owners to Distribution Companies alone does not equate to the transfer operational control nor does it create a principle/agent relationship that promotes performance relating to forward market obligations. This is also true because the administrative burden on the asset owner for participating in the FCM or other markets, as required by the ISO-NE tariff is highly significant, unavoidable and ongoing. The burden is the same for a one megawatt (MW) solar array as it would be for a large scale 1,000 MW generator and therefore asset owners must be compensated for market participation to be successful.

IV. Clouding Title to ISO-NE Products Would Harm Ratepayers, Hamper Development of Energy Markets and Slow Deployment of Energy Storage

It is critical that any new solar incentive tariff be structured to ensure that legal title to ISO-NE products is free and clear of all liens, security interests, claims, encumbrances or any interest therein or thereto by any person, as a result of receiving the incentive. Clouding legal title to one or more ISO-NE products will result in several unintended consequences that can undermine the Commonwealth's goals, including the goals for promoting energy storage.

A. Harming Ratepayers

Massachusetts has developed over 1,000 MWs of ground mounted solar arrays, for which ownership of capacity rights as regulated by the Net-Energy Metering Tariff (NEM Tariff) remains subject to potential ambiguity.³ Due in large part to this ambiguity, solar asset owners to date have not enrolled the vast majority of ground mounted solar arrays in capacity markets. Furthermore, due to the performance and market risks involved with enrolling solar in capacity markets, host utilities which do not own these assets, have not to date enrolled them either. As a result of the way solar capacity rights were regulated in the NEM Tariff, ratepayers in Massachusetts have not been obtaining all of the available revenues that could be used to offset the costs of the Commonwealth's net metering program. In addition, ratepayers throughout New England are not receiving the full benefits of lower capacity prices (and potentially SREC prices), causing the ISO-NE to procure unneeded and less environmentally friendly capacity than solar.⁴

³ See e.g., Petition of Genbright LLC for an Exception from the Net Metering Regulations Pursuant to 220 C.M.R. § 18.09 (7), 220 C.M.R. § 8.08 (3) and 220 C.M.R. § 11.08, D.P.U. 15-116.

⁴ In these examples, the relevant ISO-NE product was forward capacity. However, for distributed solar co-located with energy storage, many products including energy, ancillary services and capacity could be involved.

Clouding title to capacity products could cost ratepayers billions of dollars. Unless solar asset owners are allowed to retain title to capacity and monetize it in the FCM, ratepayers could lose billions of dollars in indirect benefits. Using indicative demand curve data, the indirect benefits from solar's participation in ISO-NE capacity markets are over 25 times the potential direct benefits that we note have never materialized for ratepayers. Even if 100% of capacity payments could be made to ratepayers in future FCAs, it could take 25 years or longer to make up the lost indirect benefits from holding capacity out of FCA-11.

According to indicative demand curves published by the ISO-NE, additional capacity reduces capacity prices. For example, in the 10th FCM auction (FCA-10) Forward FCA-10, the demand curves showed that 10 MWs of additional capacity reduced capacity prices by \$0.055 per kw month.⁵ In FCA-10, the ISO-NE cleared 35,567 MWs of capacity.⁶ Therefore, for each 11.2 MWs of solar that participates in the auction, New England ratepayers benefit (on average) from over \$8 million in reduced capacity payments. By contrast, if ratepayers received the direct payments from these resources at a system price of \$7.03 per kw month, this amount would have only been around \$315,000.

Capturing the capacity value provided by solar could greatly benefit ratepayers and alleviate potential capacity shortages in the ISO-NE, especially when combined with emerging technologies such as energy storage. Ratepayers would have benefited from the development of a market in which solar enrolled in ISO-NE Forward Capacity Markets. If, for example, 1000 MWs of solar nameplate capacity were to enroll in FCA-10, they would likely have a Summer Qualified Capacity of around 400 MWs, which according the ISO-NE indicative demand curve, could reduce capacity prices by around \$2.20 per kw month, saving New England ratepayers over \$312,000,000 per year in reduced capacity payments. If all 1,325 MWs of solar had enrolled in capacity markets, the savings could have reached around \$415,000,000 in FCA-10.⁷

B. Hampering Development of Power Markets

An Act Related to Solar Energy is trying to create market based solutions. Stranding ISO-NE products does the opposite of create market based solutions; it prevents the business models from

⁵ As of the time this is being written, indicative demand curves for FCA 11 are not yet available. The indirect benefits calculations are therefore based on indicative demand curves published by ISO-NE for FCA 10, and calculated at or near the FCA 10 clearing price of \$7.03 per kw month. See ISO-NE Indicative Demand Curve.

⁶ See 2019-2020 Forward Capacity Auction Totals Flow Diagram, Forward Capacity Auction #10 Results Summary, http://www.iso-ne.com/static-assets/documents/2016/02/fca_10_cso_flow_diagram.pdf

⁷ See ISO-NE Indicative Demand Curve.

developing that will wean solar off of subsidies as solar costs come down and actual market revenues are obtained to displace incentive mechanisms paid for by ratepayers. If solar asset owners cannot sell market-based products, they will need more incentives to make up for it. Massachusetts will create a self-perpetuating reliance on non-market based incentives that will be borne by ratepayers.

C. Slowing Deployment Of Energy Storage⁸

The ISO-NE's market rules allow for energy storage participation in energy, ancillary and capacity markets. However, the ISO-NE is currently rejecting qualification of energy storage co-located with net metered solar located in Massachusetts from participation in the FCM due to provisions that allow distribution companies to assert title to solar capacity.⁹ When energy storage is co-located with solar, the perceived ambiguity over legal title to ISO-NE products for solar may spill over and create ambiguity over legal title to ISO-NE products associated with co-located energy storage. As a result, energy storage co-located with solar projects that have given up title to capacity may be prevented from participation in the FCM or other ISO-NE markets. In fact, the ISO-NE has recently made this determination, by asserting that Genbright cannot enroll battery storage projects in the FCM because of ambiguities created by the current net metering Tariff.

Although it is not yet clear whether the ISO-NE will also prevent energy storage from participation in ancillary markets for similar reasons, the current clouding of title to capacity is stalling some otherwise viable energy storage projects from being developed, which is delaying participation in any ISO-NE markets. For an economically sustainable market for energy storage to develop, it is essential that new incentives help asset owners prove business models and revenue models that are supportive of participation in competitive markets, as well as optimization of the storage asset.

V. Allowing Solar Asset Owners to Retain Title To ISO-NE Products Will Improve All Three Incentive Designs And Provide Huge Ratepayer Benefits

The analysis provided in the DOER report provides a clear and straightforward assessment of the costs, including a return on capital, that solar developers need to recover in order for solar projects to be economically viable. Ratepayers pay for solar incentives, including the cost of the three incentive

⁸ With the cost of battery storage decreasing, these products can facilitate a viable merchant business model for battery storage. While certain changes to the ISO-NE tariff to better facilitate battery storage integration into ISO-NE markets would be helpful, the most significant challenge is finding financing for projects in a market that is not yet well developed and for which revenue models are not yet proven. The current MA incentives being considered will likely help to prove these new business models for investors.

⁹ See Schedule Z of the Model Interconnection Tariff.

structures considered, which will be passed through to retail rates to the extent they are not offset by countervailing revenue streams. However, the modelling analysis assumed that no FCM revenues were monetized for any of the three policy scenarios. The reason for making this assumption was to ensure an “apples for apples” comparison of policy scenarios. However, in reality, the legal construct underlying the Declining Block Incentive (DBI) and Competitive Bid models is – at least for purposes of monetizing capacity products in the FCM – significantly different than the legal construct underlying the SREC model. As illustrated by the experience described above related to monetizing the capacity products under the NEM tariff, bundling ISO-NE products into a single commodity has the potential to “strand” – i.e., prevent monetization of – specific revenues streams unintentionally. In each of the three policy scenarios, there are multiple ways of ensuring that if solar asset owners retain title to capacity, ratepayers will benefit. In the DBI construct, the FCM revenues captured by solar asset owners along with an estimate of the costs of obtaining FCM revenues can be used to calculate/reduce the declining block incentive rates as the market matures.

In the competitive bid process analyzed by the DOER, solar developers will be incentivized to enroll solar in capacity markets, creating indirect benefits to ratepayers via a lower capacity price and will likely provide direct benefits to ratepayers as revenues from the FCM are offset by the reserve prices of solar developers bidding to supply SRECs or providing competitive bids for solar projects. Capturing these benefits will not be possible if solar asset owners are not allowed to retain title to capacity for solar projects.

Under the SREC model, allowing asset owners to retain title to capacity will reduce SREC costs over time based on the true market driven costs of obtaining FCM payments and monetizing ancillary services relating to energy storage. This is because SREC markets are competitive and solar asset owners that obtain FCM payments will be able to reduce their bids in SREC auctions accordingly. Indeed, Genbright believes that basic economic theory suggests that the more products asset owners can control, optimize and maximize, the lower SREC prices and resulting burden to ratepayers will be, especially because capacity prices can be locked in by asset owners for 7 years (in addition to an increase in the associated indirect benefits).

VI. Conclusion

For the reasons discussed above, Genbright believes it is critical for the next solar incentive to tariff to be structured so as to ensure that title to ISO-NE products are free and clear of all liens, security interests, claims, encumbrances or any interest therein or thereto by any person, as a result of receiving the incentive.