New Jersey Solar Transition
BPU Docket No. QO20020184
Comments from Gabel Associates in response to the
BPU Notice of August 11, 2020

Secretary Camacho-Welch:
Thank you for this opportunity to offer our thoughts on the Capstone Report.

Introduction

Gabel Associates, Inc. is an energy, environmental and public utility consulting firm with its principal office located in Highland Park, New Jersey. The firm provides its expertise to a wide variety of clients involved in virtually every sector of the energy industry. Our client list includes public and federal agencies, individual commercial and industrial end users, aggregated groups of customers, public utility commissions, power plant owners and operators, wholesale suppliers and utilities. We have successfully assisted public and private sector clients in implementing strategic energy plans and projects to reduce costs and enhance environmental quality.

Gabel Associates is deeply involved in all stages of renewable project development. We provide support to clients for project development activities, including feasibility studies; comprehensive evaluation of financial, economic, marketplace, environmental and regulatory issues; refined economic modeling; the development of financing and procurement administration; contract negotiations; project facilitation activities during the implementation phase; and renewable attribute sales and management in the PJM Generation Attribute Tracking System (GATS).

We have been involved in the development activities of **over 200 renewable projects** including assisting in the development of the region's most significant solar projects such as the Princeton Landfill Project, Delaware Valley High School District, Readington School District, the Atlantic City Convention Center, Rutgers University, 125 New Jersey county facilities, and many other renewable projects. We have supported the development of many landfill gas-to-energy projects including Burlington, Atlantic, Middlesex, Ocean and Salem Counties. We have also supported various on and offshore wind projects.

The firm is equally involved in the regulatory and policy side of the energy industry. Gabel Associates was the first energy agent registered with the State of New Jersey pursuant to the Electric Discount and Energy Competition Act (EDECA), and we continue currently as a registered energy agent in good standing with the New Jersey Board of Public Utilities (Registration No. EA-0021). In addition, in December 2002 Gabel Associates became the first registered energy consultant in the State. We are also registered as a Private Aggregator with NJBPU.

Gabel Associates' two principals, Mr. Steven Gabel and Mr. Robert Chilton, were involved in electric and natural gas utility regulatory and ratemaking for many years in the regulatory arena before entering private practice. Both are economists with utility rate design and tariff expertise and over 35 years of energy experience. Mr. Gabel and Mr. Chilton were intimately involved in all phases of the deregulation of the energy industry in New Jersey, commencing with the development of New Jersey's off-tariff rate agreement (OTRA) law in the mid-1990's and subsequent deregulation law (EDECA) enacted in 1999.

Gabel Associates continues to be directly involved in the development of renewable energy policy: Firm President Steven Gabel served on the Governor's Renewable Energy Task Force, which is the basis for New Jersey's RPS, and the firm continues to serve on various committees that help determine the policy direction of the renewable

energy market. The firm provides up-to-date market intelligence and insight with respect to regulatory activity that has the potential to trigger changes in the market.

Gabel Associates has also been instrumental in developing legislation surrounding renewable project development and renewable market regulation. The firm was directly involved in the development and negotiations surrounding the Solar Energy Advancement and Fair Competition Act, signed into law in New Jersey in January 2010. This law placed the solar RPS obligations into law and substantially increased solar requirements. The firm provided analytical support for the bill including comprehensive analysis surrounding ratepayer and economic impacts. The firm was an active participant in the second major piece of solar legislation in New Jersey signed into law in July 2012 (S-1925). This law accelerated the RPS solar requirements in an effort to absorb the significant oversupply of SRECs and help stabilize the market. In addition, most recently we were involved in the Clean Energy Act (A3723), which was signed into law by Governor Murphy on May 23, 2018 and has a significant impact on the SREC market.

It is with the above qualifications that we offer the following responses:

Topic 1: Recommended Incentive Structure Design

Question 1.a : The draft Capstone Report recommends the implementation of a bifurcated incentive structure, with a competitive solicitation for utility-scale projects and fixed, administratively- set incentives for smaller projects. Do you agree with this recommendation? Why or why not?

Response:

The Capstone recommendation that the BPU distinguish between "small" and "large" projects should be amended to change this distinction. The appropriate distinction is between net metered (or on-site), which include Community Solar projects and certain grid supply projects. The "large vs. small" distinction used by Capstone to determine whether a project gets a fixed incentive payment or undergoes a competitive action process is inappropriate relative to the BPU and State policy, which is built around net metered vs. grid projects.

Instead of separating project types by MW size, the BPU should structure its incentive structure as follows:

- Net Metered Projects: fixed fifteen-year incentive payments with multipliers for different project types (a structure similar to the TREC program.)
- Open Space[1] Grid Projects: a competitive auction approach
- Preferred Site Projects: Fixed fifteen-year incentive payments with multipliers for different project types (a structure similar to the TREC program.)

This approach recognizes the key priorities of New Jersey in land use, economic development, and

[1] "Open Space" includes farmland that is not otherwise prohibited for solar use under New Jersey law; and other open space that is not deemed a Preferred Site Project.

environmental and renewable energy policies.

Land preservation and development that is respectful of New Jersey's dwindling open space is vitally important. Including Open Space grid projects in a competitive procurement process will allow the BPU to set size and land use standards and restrictions, consistent with New Jersey land use, agriculture, and environmental goals. This will allow the BPU and the State to manage the growth of grid projects in New Jersey.

a) Net metered projects (including Community Solar projects) should have a fixed incentive

Net metered projects have historically been at the heart of New Jersey's solar program: for almost two decades, net metered projects have allowed individual customers to reduce their energy costs, improving job growth and economic competitiveness and allowing public sector units to reduce operating costs to the benefit of taxpayers. New Jersey's electric utilities are not permitted under state law to provide rate discounts, instead, net metered projects are one of the primary methods for New Jersey energy users to reduce their costs.

Net metered projects should not be required to enter a competitive solicitation to sell its Successor SRECs. Instead, an approach similar to that used for TRECs (a set fixed price paid over a fifteen-year period through an administrator engaged by the EDCs) should be used in the Successor Program for net metered projects.

Because net metered projects tend to be smaller than grid projects, and because they are central to New Jersey's solar development policies, these projects should not be required go through an "auction" process. This requirement would substantially and significantly deter project development. BPU should fix the SREC price administratively based on analysis and projects would then be developed under the multiplier system. To protect ratepayers the values should be reset every three years to track costs and markets.

Making net metered projects "jump through the hoops" of a competitive solicitation process increases transaction costs as a percentage of total project costs and will hurt project development and impose costs on ratepayers. Of particular note, requiring a competitive bid process for determining the incentive is especially difficult for public sector projects that must undertake complex public procurement of solar projects. Specifically, if BPU were to require an auction, it creates a severe "chicken and egg" development problem: when a public unit conducts its own procurement process to designate a solar developer, it will be unable to determine which solar developer to award the solar project because it not know the final pricing until after the project competes in a BPU SREC auction; and at the same time, the developers bidding into the public unit will not be able to bid into a BPU SREC auction until it is selected by the school district. In short, an auction process will make it very difficult for a public unit to develop a project.

b) Preferred site projects should have a fixed incentive

Preferred site grid projects cover an array of project types that will enable New Jersey to meet its substantial solar goals and minimize the use of open space. These are projects on the following sites: brownfields, landfills, quarry sites (land or water based), dual use (preserving legitimate farm use underneath solar facilities)-- all of which should be should be prioritized in New Jersey solar development ahead of open space grid projects.

The BPU should develop a definition for dual use which assures that such projects meet New Jersey's land

use, agricultural, and environmental goals.

As with net metered projects, an approach similar to the TREC approach should be developed, based on cost considerations and the preference for these types of projects. These preferred site categories present an important opportunity for New Jersey to reach its large solar goals in a way that limits use of open space.

c) Open space grid projects should be priced through a competitive process

The BPU should have a competitive process for open space grid projects. As part of this process, there should be appropriate land use considerations and restrictions in place, including relative to farmland and open space development.

To simplify program administration for large projects, auction results in the first year could also set the price for the following two years. After the first year, projects would be approved on a first come, first served basis using an application queue similar to the current SRP applications.

Question 1.b If you agree with this recommendation, how should NJBPU divide market segments between those projects eligible for the competitive solicitation and those projects eligible to receive the administratively set incentives?

Response:

See response to 1.a.

Question 1.b.i: Do you view project size as the appropriate means of differentiating between competitive solicitations and administratively-set incentives? If so, please identify what NJBPU should consider to be the size limit between a utility-scale and small scale project.

Response:

See response to 1.a. As detailed in that response a more appropriate differentiation is between a) on-site projects (including community solar projects); b) grid projects on open space; and c) other preferred site projects.

Question 1.b.iI: If project size is used to differentiate incentive-types, how should NJBPU develop a competitive solicitation for utility scale projects that takes into account the different revenues that net metered projects earn compared to those that sell at wholesale?

Response:

See response to 1.a., net metered projects should not be subject to a competitive solicitation, only wholesale projects on open space should be subject to such a solicitation.

Question 1.b.iii: Alternatively, should all net metered projects rely on administratively-set incentives instead?

Response:

Yes, see response to 1.a for details.

Question 1.b.iv: If you recommend a different option for establishing criteria to distinguish projects that qualify for competitive solicitations versus fixed incentives, please elaborate on your recommendation.

Response:

See response to 1.a.

Question 1.b.v: How should projects that meet the requirements of the Solar Act subsection (t) (i.e., grid-supply projects located on landfills and brownfields) be treated?

Response:

See response to 1.a. for details; subsection t projects should review an administratively set incentive.

Question 1.c: If you disagree with the concept of a bifurcated competitive solicitation and fixed, administratively-set incentive approach, what would you suggest as an alternative incentive structure? Please be as specific as possible.

Response:

Not applicable as we agree.

Question 2.a: If NJBPU were to implement administratively-set incentives: How often should the incentive value be re-evaluated and potentially reset? Please comment on the mechanism by which NJBPU should consider modeling and analysis to inform future deliberations regarding incentive values.

Response:

The incentive value should be re-evaluated and potentially reset (for projects thereafter developed) every three years. Three-year reviews will enable the BPU to track market and protect ratepayers. More frequent reviews are unnecessary and could subject the solar market to frequent regulatory delays.

Question 2.b: Should NJBPU differentiate the incentive value (similar to the TREC factors)? If so, on what basis? Please discuss whether NJBPU should differentiate based on the following: (i) customer classes; (ii) installation type / project location; (iii) EDC service territory; (iv) project size; or (v) other.

Response:

The BPU should differentiate by: a) project type; b) EDC service territory; and c) general customer class (residential, commercial etc.).

Question 2.c: How is an administratively-set incentive consistent with NJBPU's goal for continually reducing the cost of solar development for ratepayers, in line with the reductions in the cost of solar development?

Response:

Cost analysis will consider the level of payment needed to meet project return requirements and other policy considerations (limiting overpayment) and frequent (three year) reviews will build in efficiencies that occur in the market.

Question 2.d: In the draft Capstone Report, Cadmus used a 15-year Qualification Life (i.e., incentive term) as the base case, with the exception of residential net metered direct-owned projects, for which the incentive term was set at 10 years based on project payback period. Please comment on these respective proposals regarding length of qualification life, including what changes you would suggest, if any, and why.

Response:

15 years is appropriate for all. Currently, public projects for schools and municipalities are limited to a fifteen-year PPA term, so the 15-year term for qualification life is an appropriate match.

Question 3.a: If NJBPU were to implement incentives based on a competitive solicitation: How should the competitive solicitation be designed? What evaluation criteria should NJBPU implement in administering the solicitation? Should project selection be based exclusively on price (i.e., value of the incentive), or should it include consideration of other criteria (and if so, which ones)?

Response:

As discussed in the response to 1.a., only open space grid projects should be required to competitively propose and subject to the solicitation. The solicitation should include non-price criteria and pre-qualification to protect New Jersey's environment and land use concerns. Projects that would violate open space and environmental standards (to be developed) should not be permitted to offer into the solicitation. The size of the solicitation should be set by the BPU considering the level of activity in other markets and relative to how much this sector is needed to meet the RPS after consideration of the other sectors (net metered and preferred site projects).

Question 3.b: Cadmus studied incentive structures for the environmental attributes of a given project (i.e., unbundled the environmental attribute, with projects remaining merchant on energy and capacity values). Please discuss project finance-ability of this incentive structure, as opposed to a bundled incentive structure, addressing the implications to price and risk to ratepayers.

Response:

Projects should remain merchant for capacity and energy (participating in PJM's competitive market as other generators do). A fixed long-term incentive payment will be sufficient to facilitate project financing.

Question 3.c: How would NJBPU set the incentive value using a competitive solicitation? In particular, please discuss the pros and cons of a pay-as-bid system or a single- clearing price system.

Response:

A single clearing price tends to allow for greater price recovery. In the context of this market, both approaches can work to protect ratepayers. All bidders should be required to sign "non collision" certifications and the BPU should review "market power" issues in each bid to assure there is adequate competition.

Question 3.d: Should NJBPU implement a minimum and/or maximum bid value in order to prevent overly aggressive or overly high bids?

Response:

No.

Question 3.e: How often should NJBPU hold solicitations? How can NJBPU mitigate the risk of "stop and start" development cycles due to the nature of punctual solicitations? For example, should NJBPU consider implementing an "always on" incentive program in the context of a competitive solicitation? How would such an incentive be implemented?

Response:

If the BPU is concerned about the burden of managing continuous solicitations every year, it should consider holding a competitive solicitation in Year 1 and then using those results to set incentives for the following two years as well.

Question 3.f: Should NJBPU account for differences in project cost for different project types (e.g., project type or site, in-state vs. out-of-state)? If so, how?

Response:

All open space grid project should participate in the same auction.

Question 3.g: In the draft Capstone Report, Cadmus used a 15-year Qualification Life (i.e., incentive term) as the base case. Is this the appropriate term for incentives determined via a competitive solicitation?

Response:

Yes.

Question 3.h: New Jersey's solar incentive programs have historically been delivered via a program established by NJBPU. Should NJBPU consider instead delivering the incentives through project-specific contracts with the EDCs? Would this approach reduce financing costs for developers? Please discuss the pros and cons of both approaches, including the potential benefits of a contract filed with the Federal Energy Regulatory Commission and imputed debt considerations.

Response:

The premise in the question (that incentives have historically been delivered through BPU programs) is not accurate as solar incentives have not been delivered by BPU since the incentive (SRECs, TRECs, or RECs) have been paid by suppliers or by EDCs. Such an approach should continue to be utilized.

Question 4: How can NJBPU prevent queue siting or speculative project bids? In other words, what maturity requirements should NJBPU implement? Please consider, for example, minimum bidding requirements, escrow payments, etc. Should NJBPU require different maturity requirements for projects entering the competitive solicitation process versus the administratively-set incentive levels?

Response:

For larger projects, safeguards should be put in place that would not allow for "queue sitting" blocking projects that are shovel ready. BPU should use a combination of tools - from requiring escrow payments to enforcing reporting requirements with strict consequences for failure to meet project milestones due to actions that are within a project developer's control. BPU, in combination with the utilities, may consider consequences such as moving delayed projects to the "back of the interconnection queue," to allow for projects that are further along in the development process to come online.

Question 5.a: The draft Capstone Report recommends that NJBPU maintain flexibility in program design, in order to respond to changing market circumstances and enable the integration of emerging technologies and new solar business models. Generally, how can this flexibility be incorporated into the design of the Successor Program?

Response:

Emerging technologies and approaches should be incorporated into the "preferred site" category as discussed in the response to 1.a. In addition, a review of the fixed incentive every three years will permit changes and additions to reflect the current markets and technologies.

Question 5.b: How should changes in the federal Investment Tax Credit or carbon-pricing policies be incorporated into future incentive level resets?

Response:

As discussed, a review of incentive levels every three years would allow for then current tax treatment or other changes to be modeled.

Question 5.c: How should NJBPU account for potential changes to the PJM and FERC regulatory structures and capacity markets?

Response:

For the fixed incentive this can be captured within the periodic review conducted every three years as recommended in response to other questions. For the projects addressed through an auction, this can be addressed in the term of the competitive solicitation.

Topic 2: Modeling

Question 7: Is Cadmus' breakdown of SAM cases, as identified in Table 12 (p. 32), appropriate? Why or why not?

Response:

The breakdown of SAM cases seems appropriate for categorizing the current fleet of installed capacity. However, the Successor Program should be more forward-looking. As such, this list should be expanded to include emerging approaches and more beneficial project types as discussed in the response to question 1.a. which recommended a separate category of fixed incentives known as preferred use project types. These types of projects require greater incentives to compensate for development risks, up-front investment costs and the policy benefits of these project types. Considering the solar capacity build rate required to support New Jersey's long-term goals, it is critical to aggressively pursue the alternative building sites and construction designs that are under-represented in the current installed base.

The following project types should be included and analyzed: brownfields, landfills, dual use, and land and water-based quarry sites. These project types should receive an administratively set incentive similar to the TREC payment structure.

As part of on-going program incentive review efforts, the BPU should evaluate the continued appropriateness of the project categorization list to be used in incentive-setting analysis.

Dual use projects are solar projects built on agriculture sites which allow the continuation of agriculture on the site in a manner that is in keeping with appropriate land use and legitimate agriculture use. Specific standards defining dual use should be developed by the Board, in consultation with the Department of Agriculture, the Farm Bureau, and the Department of Environmental Protection to assure that such dual use supports and protects New Jersey farming.

Question 8: Please provide feedback on Cadmus' SAM model inputs, as identified in the draft Capstone Report and the supplemental modeling spreadsheet. In particular, please provide feedback on the following assumptions:

Question 8.a: Modeled system size (Table 13, p. 34). For example, how could the adoption of the 2018 building codes and subsequent changes to residential systems setback requirements impact system size?

Response:

As a starting point for the Solar Successor Program, many of the modeled system sizes seem reasonable and representative of historical installations. However, Gabel recommends that Cadmus change the modeled capacity to more closely align with the 50% median rather than being influenced by the overall Average. The Average value can be strongly influenced by a few, non-representatively large projects. Specifically, we recommend the following Proposed Modeled Capacity:

Copy of "Table 13. Modeled Capacity" with Proposed Changes

	Capacity (kW)			
SAM Case	**Median (50th Percentile)**	**Average**	**Current Modeled Project Capacity**	***Proposed Modeled Capacity***
Historical SAM Cases				
Comm_DO_Ground_lg	3,448	3,316	3,500	*3,500*
Comm_DO_Ground_med	441	494	500	*450*

Comm_DO_Roof_lg	1,750	2,440	2,000	*1,750*
Comm_DO_Roof_med	261	355	350	*300*
Comm_DO_Roof_sm	31	37	35	*30*
Comm_TPO_Carport	624	1,679	1,500	*650*
Comm_TPO_Ground_lg	1,936	3,866	3,500	*2,000*
Comm_TPO_Ground_med	382	460	450	*375*
Comm_TPO_Roof_lg	1,971	2,281	2,000	*2,000*
Comm_TPO_Roof_med	121	257	250	*125*
Comm_TPO_Roof_sm	27	36	35	*25*
Grid_Ground	4,799	9,104	7,000	*7,000*
Resi_DO_Roof	9	10	8	*8*
Resi_TPO_Roof	8	8	8	*8*
New SAM Cases				
CS_Ground	3,150	3,457	3,500	*3,150*
CS_Roof_lg	1,907	2,061	2,000	*2,000*
CS_Roof_med	640	628	650	*650*
Grid_Ground_OOS	n/a	n/a	10,000	*10,000*
Grid_Roof	n/a	n/a	2,000	*2,000*

Question 8.b: Installed costs (Table 17, p. 39). What are factors that could impact installed costs moving forward? Has Cadmus correctly identified installed cost assumptions for the out-of-state solar and community solar SAM cases?

Response:

Gabel encourages Cadmus to carefully consider input from the "boots on the ground" developers that are currently active in New Jersey solar development. In addition, cost factors that are specific to community solar, including the unusual costs of billing and customer enrollment should be included in the analysis. **Recognition of these cost elements is critical to the success of community solar is enrolling low- and moderate-income customers, a key policy goal of the BPU.**

In addition, the higher development costs and the need for larger savings should be incorporated into the analysis for net metered projects serving public schools, municipalities, and counties. **The BPU should take special interest in supporting development at these locations as these projects stabilize property taxes and support local efforts to "go solar" and show the communities that solar works. The BPU should ensure that the incentives support this development.**

Question 8.c: Financial parameters, including interest rates and loan terms (Tables 19 and 20, p. 43).

Response:

Although the financial parameters may be reasonable, they are subject to significant uncertainty and cannot adequately encompass the variety of financing structures used in the market.

Gabel recommends that Cadmus conducts the SAM analysis without financing inputs relative to the capital stack, i.e., Capstone should analyze unlevered (IRR) rather than levered IRR. This would be more consistent with the financial community's project financial analysis and would make the analysis more uniform.

Question 8.d: Revenue assumptions. In particular, please comment on the ability to quantify projects' demand charge reduction (see Cadmus' modeling note on p. 45).

Response:

Gabel agrees with Cadmus' approach to modeling only kWh-based utility charge savings.

However, the PPA revenue assumptions used by Cadmus are too high and do not match established market considerations, neither in terms of the discount (vs. retail) nor the escalation assumptions.

The 15% retail discount assumption is much too low. Discounts from non-residential on-site solar are currently in the 30-50% range and a minimum of 40% should be used in the analysis. There are several drivers for this assumption.

- The PPA savings are only on a portion of the bill for the portion of electricity coming from the PPA (which is typically less than 100% of the electrical load). For a commercial tariff entity, offering 15% discount on that portion will yield much less than 10% discount on their total bill, which is not enough to attract interest or continue the growth of solar behind the meter.

- Potential solar site managers and owners are busy and there is a significant opportunity cost to pursuing a solar project. If they are going to take on the added workload involved in dealing with project development, construction crews and other site-disruptive activities, it needs to be worth their while. Except for fully staffed corporations, end users are generally staffed by individuals with multiple responsibilities (i.e. they are finance or facility managers) whose professional lives are continuously focused on a wide range of activities, concerns, and daily events. 15% savings simply does not get their attention.

Also, the 2.4-2.5% escalation assumption is excessive. Current PPA escalation rates are generally 1.5% and lower (even 0%). Although the retail rates are *forecast* to escalate, New Jersey retail rates have been flat (even slightly declining) for the past decade. It is not a reasonable assumption that most PPA recipients would accept anything more than a modest escalator. Gabel suggest using 1% for this assumption in the modeling.

In the modeling on PPA revenue, Cadmus needs to incorporate the difference between reality -- that retail rates are likely to escalate vs. the *perception* of reality – that PPA recipients have seen flat rates for the past ten years and do not want to take the risk that flat electric rates could make savings evaporate.

Question 8.e: Specific energy production and energy degradation rate (see Cadmus' modeling note on p. 61).

Response:

The specific energy production (SEP) capacity factor for ground mount installation (16.2% to 16.5%) seems reasonable, but capacity factors for the other project types are too high, as shown in Table 15. Year 1 SEPs and Capacity Factors by Broad Project Type (page 37). These values range from 14.2% for Residential Roof to 15.7% for Commercial Roof which is higher than the 13.2% used in 5.1% SREC Milestone analysis.

While it is reasonable to assume that newly installed systems will outperform the current fleet average, except for the ground-mount systems, Gabel recommends altering the system design assumptions (tilt, azimuth, system losses) to reduce the capacity factor assumptions by 1% for each project type. For example, instead of 13.2% for Residential Roof installations, 12.2% is more appropriate for the modeling analysis.

Gabel agrees with the 0.5% annual energy degradation rate.

Question 8.f: Investment Tax Credit ("ITC"). Should NJBPU assume that non-residential projects are able to safe harbor under the 2020 ITC at 26% (similar to the approach adopted in 2019 for the Transition Incentive Program)?

Response:

Gabel has no comments on the ITC safe harbor provisions and encourages Cadmus to carefully consider input from the "boots on the ground" developers that are currently active in New Jersey solar development.

Question 9: Do you agree with Cadmus' derivation of wholesale and energy prices, as presented in Table 21 (p. 46)? If not, how would you recommend modifying Cadmus' approach?

Response:

Portions of the wholesale energy and capacity calculations are overly optimistic, resulting in a combined energy and capacity price that is higher than it should be.

PJM Capacity payments are subject to non-performance risk which should be incorporated into the average assumed price. Gabel recommends discounting the Capacity revenue portion by 25% to reflect this market risk.

Also, PJM Capacity auctions are held three years in advance, and it is unlikely that a solar developer will commit to capacity obligations until the project is in an advanced stage of development. As such, capacity payments based on BRA results should be excluded from the first 2 years of the project's financial analysis.

The split between energy and ancillary revenue is not detailed but combined as "Energy (+ Ancillary Services)." Unless they are large, most grid solar projects are unlikely to participate in ancillary service markets and that revenue should be excluded from the calculation.

Furthermore, favorable project financing is often dependent on PPAs. Because solar generators are not dispatchable and intermittent, there is typically a significant discount applied to the expected average energy value. As such, Gabel recommends discounting the Energy revenue portion by 25% to reflect wholesale PPA discount.

Question 10: Cadmus provided different approaches to modeling the MW targets (see section 4.3, p. 50 - 56). How should NJBPU set the MW targets, while maintaining compliance with the legislative cost caps?

Response:

Gabel feels that the different approaches will provide the NJBPU with solid guidance on determining annual MW targets required to stay on path to achieve New Jersey's solar goals. Referring to Figure 14. Comparison of 2019 EMP Target and Successor Program Modeled Installation (page 80), Gabel suggests that BPU set MW targets closer to the "Bottom-up Forecast for Successor Tranche" values. These targets are more aggressive in the early years and would secure more ITC value for New Jersey ratepayers.

Regarding the Legislative Cost Cap

The solar goal is a critical component to the Governor's vision and mandate for a clean energy future in New Jersey. As the annual new solar construction requirements climb, it is important that BPU stay under the cost cap required by the Clean Energy Act to protect ratepayers. However, it is equally important that the BPU carefully consider ALL of the costs and the direct electric ratepayer benefits in its cost cap calculations. Not including these benefits would be unfair and discriminatory against solar energy. These benefits include:

- Renewable generation provides merit order benefits on both wholesale energy and capacity prices; renewable energy (with zero fuel cost) reduces the supply stack eliminating higher cost generation from the clearing prices and benefiting all ratepayers. Market clearing prices would be higher in the absence of renewable generation and these benefits should be incorporated into the calculations. The BPU recently accepted such benefits in its calculation of energy efficiency and should be consistent in this matter.

- Behind the meter solar installations provide cost savings to those customers. This is a ratepayer benefit as the statute requires all ratepayer benefits to be calculated.

- Renewable generation provides hedge value against the volatility of fossil fuel prices. These and other benefits must be considered to perform a full and fair cost cap calculation.

The denominator in the cost cap calculation should include ALL paid for electricity, inclusive of all supply, delivery, utility, third-party supplier, and RPS incentive charges. Further, all renewable PPA payments, behind the meter solar self-own costs, and electricity cogeneration costs should be included in these calculations.

This approach was modeled by Gabel and provided during the January 9, 2020 comment period.

Question 11: Cadmus recommends that NJBPU consider whether to differentiate treatment between direct-owned ("DO") projects and third-party owned ("TPO") projects. Please comment.

Response:

While Gabel appreciates the potential value of diversifying ownership structure, possibly with incentivizing "DO" projects slightly higher than "TPO" projects, we feel that this would be an unnecessary complication and recommend that NJBPU should not differentiate.

Question 12: Please comment on the transparency and replicability of Cadmus' incentive modeling: if NJBPU were to implement an administratively determined incentive, could this model serve as the basis for setting the incentive value going forward? If not, what changes would need to be made to make it suitable?

Response:

Gabel appreciates the transparency and public-sourced modeling used by Cadmus in analyzing New Jersey's Solar Successor Program. The open access to the model and input assumptions allows stakeholders to provide more meaningful comments and is a welcome addition to the stakeholder process. However, it appears that the Cadmus/OCE has released only the analysis for only four of the many project types. To allow for due process, transparency and confidence in the results, **all sets should be released for review and comment.**

Looking forward, the SAM model could be used as the basis for setting incentive values if there if there is full disclosure of modeling and a reasonable (not necessarily full) consensus among stakeholders as to the appropriate model input assumptions. The SAM model seems to produce reasonable results, but it is critical that all inputs and modeling available for review and are consistent with the current market and cost considerations. **Prior to moving this matter to the BPU agenda for decision, the BPU should release the incentives which staff intends to recommend and the full modeling sets that support these recommendations so stakeholders may provide comments.**

Question 13: Please provide general feedback on Cadmus's modeling inputs, methodology, and assumptions not already addressed in a previous question.

Response:

Regarding Community Solar PPA Escalation

It is critical that Community Solar installations be modeled with a lower PPA escalation rate. Many of the costs that will drive retail rate increases over the next 15 years are not offset by Community Solar net metering, e.g. OREC charges, SBC, and ZEC charges. Gabel recommends that Community Solar projects receive a 0% escalator in the SAM modeling to reflect this market reality.

Regarding PPA Price Calculation Methodology

On Page 45, "Cadmus used the higher-tier rate where applicable and weighted seasonal rates by approximate shares of solar energy generated in the respective months…" to determine a single, annual PPA starting price. This is inconsistent with how net metering works for most customer sites. Many commercial and industrial customers have relatively flat energy use throughout the year and bank excess solar summer production for net metering credit during winter months. Gabel recommends that Cadmus calculate the starting PPA price by using monthly weighting of the appropriate load consumption patterns for each project type rather than the monthly solar generation.