



Mid-Atlantic Solar & Storage Industries Association

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December 9, 2022

Secretary of the Board

New Jersey Board of Public Utilities
44 South Clinton Avenue, 1st Floor
Trenton, NJ 08625

Via email to:

secretary@bgu.nj.gov

Re: Docket No. QO20020184

IN THE MATTER OF THE ONE YEAR REVIEW OF THE ADMINISTRATIVELY DETERMINED INCENTIVE PROGRAM

Dear Acting Secretary Diaz:

The Mid-Atlantic Solar & Storage Industries Association (MSSIA) is pleased to present these comments in regard to the above-referenced request for comments.

MSSIA is a trade organization that has represented solar energy companies in New Jersey, Pennsylvania, and Delaware since 1997. During that 25-year period, the organization has spearheaded efforts in the Mid-Atlantic region to make solar energy a major contributor to the region's energy future. Its fundamental policy goals, which were recently expanded, are to: (1) grow solar energy and storage in our states as quickly as practicable; (2) do so at the lowest possible cost to ratepayers, while delivering the greatest possible benefit as a public good; (3) preserve diversity in the market, including opportunity for Jersey companies to grow and create local jobs, and (4) encourage policy to bring the benefits of solar energy to overburdened communities and households (<https://mssia.org/fundamental-policy-objectives/>).

MSSIA presents its core recommendations for the "Refresh" of the ADI Program below, along with high-level, preliminary results of its modeling.

Following that, MSSIA provides its comments in response to staff questions.

1. MSSIA Incentive Modeling and Recommendations

First, MSSIA is dismayed that most assumptions used in the modeling that underlies the conclusions drawn by Cadmus have not changed. MSSIA commenters and other solar industry professionals, during the stakeholder processes for both the TI program and the ADI program, pointed out many erroneous assumptions, as well as methodologies and metrics that are unintelligible to solar industry investors, financier, developers, and design professionals. These problems resulted in incentive levels both in the TI Program and in the initial ADI program that in some cases have been too high, resulting in unnecessary costs to ratepayers as well as long-term strife and harm to solar industry participants. In other cases they have been too low, resulting in the failure of major market segments.

The harm these errors produce for ratepayers, businesses, and institutions in New Jersey run into the tens of millions to hundreds of millions of dollars. MSSIA seeks meaningful change in the way the process is conducted in order to prevent such undesired outcomes.

These concerns hold true for the results shared by Cadmus in the stakeholder meeting on December 2, as will be seen in the modeling discussion below.

MSSIA has again undertaken modeling of the incentives for this Refresh of the ADI program. Because only 5 business days were available to respond to the presentation of Cadmus' modeling and results, the MSSIA modeling presented here and the recommendations based on that modeling are preliminary.

MSSIA will conduct further research, checking, and vetting of its modeling and its conclusions and update BPU as necessary on any refinements that result. MSSIA also offers to share its modeling, including the live and editable software, as it has done in the past. Also, as in the past, the modeling will be completely transparent, simple, and easy to check, including every input and every calculation formula used in the model.

In 2021, for the initial SuSI program, MSSIA modeled 13 project types and sizes, and modeled those types and sizes separately for 3 utilities, and for grid supply where applicable. In all, 40 cases were modeled. Each case was modeled by the solar industry model used by MSSIA, which is used in actual investment decisions, bidding and pricing, and the like. Each case was then modeled using the SAM model.

The grid supply cases and some types and sizes are not included in the ADI program, so at this time MSSIA has modeled nine project types and sizes, and modeled those for separately for three utilities, or 27 cases in all. The results presented here are from the MSSIA solar industry model. Modeling of the same cases using the SAM model is not yet complete, but will be shared with BPU once completed.

Two community solar project types – roof locations and landfill locations - were modeled, but the results are not presented here, because a major potential change could come from the Inflation Reduction Act (IRA). In particular, if the allocation of low-income adders (Section 13103) to New Jersey is of significant size, those adders could have a profound impact on community solar adders.

MSSIA applied changes to assumptions used in the modeling. At this time, the target IRR's (unlevered, after tax IRR, not including owner-side soft costs) were not changed, except for a minor change (10 basis points) for the large, non-residential rooftop and large, non-residential ground-mount cases. MSSIA may consider changing this assumption based on further research and industry input. Module costs, other equipment and material, and labor costs were increased modestly. Of course, the Federal Investment Tax Credit rate was changed to 30%.

Following is a table of the results of MSSIA's modeling. The results are shown as composite numbers in the categories used currently in the ADI program. This the results are averaged across project types and across the three main utility companies to arrive at results for the ADI categories.

RESULTS OF MSSIA MODELING – REFRESH OF ADI

Incentive Required, \$ per MWH

Residential	\$ 88
Small Non-Residential Rooftop	\$117
Large Non-Residential Rooftop	\$101
Small Non-Residential Ground-Mount	\$106
Large Non-Residential Ground-Mount	\$ 96

MSSIA RECOMMENDATIONS – REFRESH OF ADI

Incentive Required, \$ per MWH

Residential	\$ 85
Small Non-Residential Rooftop	\$115
Large Non-Residential Rooftop	\$100
Small Non-Residential Ground-Mount	\$105
Large Non-Residential Ground-Mount	\$ 95

MSSIA Answers to Questions for Stakeholders

MSSIA answers are shown after each question in blue font:

1. Cadmus proposes to adjust Operational Expenses by annual inflation rates, and to adjust current Capital Expenses by inflation rates and other cost escalators researched from industry data.

a. Please comment on the proposal to use Bureau of Labor Standards CPI-U data to escalate operational and capital expenses.

MSSIA is not aware of any comprehensive industry data for solar industry-specific cost escalators. We have no objection to the use of Bureau of Labor Standards data for labor cost escalation.

b. Please comment on the proposal to utilize industry data to apply a separate supply chain adjustment, and if so, what data range should be used?

Supply chain price increases are a significant factor. Another significant factor is U.S. tariffs on PV modules, and the current seizures by Customs & Border Patrol related to the forced labor law. MSSIA is not aware of any comprehensive data on cost increases that would encompass PV modules, other solar equipment, and common electrical materials and equipment. MSSIA members are observing very significant increases in all of those categories. In its modeling, MSSIA has used estimates by members to inform its estimates of cost increases. A New Jersey industry survey may be a worthwhile effort if more comprehensive information on the topic is desired.

c. Are there market segment-specific considerations when making cost adjustments?

The residential sector in particular can experience different escalation from the non-residential segments.

d. Are there additional or alternative data sources that should inform cost adjustments?

A New Jersey industry survey might yield useful results, as state above.

2. Interest rates have increased in 2022. In addition to cost and tax credit assumptions, Cadmus can adjust the cost of financing from the previous model runs. The cost of financing had been set at between 5.5% and 6.5%, depending on the project type, in the previous Cadmus Capstone report. Should increased interest rates be accounted for in modeling incentive requirements using the NREL's System Advisor Model? If so, are there suggested data sources for this adjustment?

First, regarding the SAM modeling, MSSIA has objected, and still objects, to Cadmus' use of leveraged rate of return as its measure of incentive adequacy. The approach simply is not useful and cannot be expected to yield meaningful results. This is because there are many different basic ways in which solar project ownership is structured in the industry; and within each of the basic ways of structuring ownership, there are many variations for financing - including the equity, debt, and tax equity segments of the capital stack. These complexities cannot be captured in SAM, which is far too simplistic to capture even a significant fraction of them. Furthermore, even if a detailed, specific structure *could* be input to SAM, it would only be a shot in the dark to choose one structure amid the myriad combinations that are in play in the market.

Communications among project buyers and sellers generally avoid this trap as well, and usually use a more basic measure of project viability so that different potential projects, different potential buyers, etc. can be compared. The value of the project itself needs to be the focus so that industry participants can have a common language to use to assess potential transactions. Such a measure needs to be structure-neutral and owner-neutral. Unlevered, after-tax rate of return (before accounting for owner-side soft costs) is a measure

that allows such conversations. SAM can easily be set up to produce unlevered, after-tax IRR as a result, and use it as a target. That should be Cadmus' target measure.

That said, an increase in interest rates will likely have an effect on the overall cost of capital. The rise in interest rates is recent, and may change more as the fed grapples with continued inflation, its effect on overall cost of capital is not yet clear. Other factors influence the overall cost of capital, including investors' general confidence in the New Jersey program, and the degree of competition among finance-owner-operator entities for projects.

3. Cadmus proposes to adjust investment tax credits for all market segments according to the Inflation Reduction Act, increasing tax credits to 30%. How should the changes in federal tax incentives from the Inflation Reduction Act be accounted for in modeling incentive requirements using the NREL's System Advisor Model?

The simple adjustment from current ITC to 30% should be adequate for this purpose.

a. When adjusting tax credits, are there any considerations for specific market segments?

Not that we're aware of.

b. How should the wage and apprenticeship requirements be considered for tax credit adjustments?

These should have little effect in New Jersey, since the state already has similar rules in place.

4. Does potential funding from the Infrastructure Investment Act require adjustment to any inputs in modeling incentive requirements using the NREL's System Advisor Model?

There may be specific infrastructure projects that could apply for grants under the Act, but that potential is very uncertain – generally the Funding Opportunity Announcements (FOA's) released by USDOE are limited to very specific topics. They are competitive solicitations that will draw nationwide responses. It would be very difficult to make any general adjustments to the modeling that would meaningfully take the possibility of grants into account.

5. Does the pace of registration submission into the residential market segment since inception and the likelihood of early subscription of the full 150 MW market segment allocation before the close of Energy Year 2022 support a change in incentive level from the initial value of \$90 per MWh? Should the change in incentive level occur regardless of the modeling results?

MSSIA believes that apparent increases in the pace of registration in the residential sector have more to do with a catch-up in processing a backlog in applications than a real increase in activity. In terms of the overall pace during the period of the ADI program, MSSIA has analyzed the program data in order to assess the scrub rate. This has been done in the past by BPU in assessing trends in the market and adjusting program targets.

MSSIA's analysis of program data in the residential sector are covered in detail in the comments of Andy Wall, an MSSIA Board member who leads MSSIA's residential committee. His analysis indicates that when the estimated scrub rates that are calculated from the data are applied, it appears that the residential market is not overheated, but rather is likely to end up roughly meeting the 150 MW yearly target.

However, as stated above MSSIA does believe that both the modeling and the market trends support a modest decrease in the residential incentive levels to \$85.

6. Does the relatively slow uptake in registration submission in the non-residential market segments and the existence of excess capacity in this allocation for Energy Year 2022 support a change in incentive levels from the initial values?

Yes, definitely.

MSSIA's modeling in 2021 for the initial year of ADI indicated that higher incentive levels were needed, and that still holds today. Currently, the increase in the ITC is partially counterbalanced by the increases in costs and potentially the increase in interest rates. The net result, as can be seen in MSSIA's modeling results above, are

slightly lower than our 2021 recommendations for the initial ADI rates, *but still higher than the current ADI rates as adopted.*

The increase that is needed for rooftop systems is significant but not large – \$10 increase for large rooftops and \$15 for small rooftops. The increase that is needed for ground-mount systems is greater - \$15 increase for large ground-mounts and \$20 for small ground-mounts.

The lack of a meaningful incentive for ground mounts for the last three years has caused that market segment to virtually disappear. This segment has value to businesses, schools, municipalities, and non-profits. In the past these entities have located ground-mount systems primarily near buildings on spots that are maintained as grassy areas. After building PV systems on those locations, that fact does not change – they are still maintained as grassy areas. From a policy point of view, MSSIA believes that such valuable projects – ones that can produce solar power very cost-effectively and also produce electric bill savings for important New Jersey entities - should be supported.

7. Assuming the answer to question 5 is yes and the modeling supports a change in the residential market segment incentive value, how and when should modified incentive values in the residential market segment be implemented?

MSSIA recommends a modest reduction in the residential incentive to \$85, as shown above.

8. Assuming the answer to question 6 is yes and the modeling supports an increase in the non-residential market segment incentive values, how and when should the altered incentive values be implemented?

MSSIA recommends that the non-residential incentives be adjusted to values reflecting the MSSIA modeling results/recommendations presented above.

9. What other issues should be considered in the One-Year Program Review?

- a. Considering MSSIA’s analysis of the residential market as explained above and in the comments of MSSIA Board member Any Wall, MSSIA recommends that BPU take the likely scrub rate into account in predicting the potential for full subscription this year. MSSIA recommends that any adjustment of the allocations for residential versus non-residential incentives to make up the difference be considered temporary, and be re-examined at the end of the year with scrub taken into account.
- b. A number of changes in cost, interest rates, and other factors that MSSIA discusses above tend to increase the incentive needs. However, these may improve over the coming year or so. Likewise, some improvements that are contained in the IRA – other than the increase in the ITC – could produce positive results gradually over the coming year or two. Examples include the transferability of the ITC and the ability of governmental entities and non-profits to get the ITC themselves through the IRA direct-pay provisions. After Treasury guidance is issued, new practices and market structures will develop over time to take advantage of these provisions. The result could be significantly more efficient utilization of the ITC, which in turn could moderate the need for incentives. Therefore, MSSIA believes that another review and refresh of the ADI program after the upcoming one-year period could benefit ratepayers. MSSIA recommends that BPU conduct another review and refresh in one year.

MSSIA thanks staff for the opportunity to provide input on this matter.

Sincerely,



Lyle K. Rawlings, P.E.
President