



November 18, 2022

SUBMITTED ELECTRONICALLY

Jeffrey A. Koses
Deputy Chief Acquisition Officer/Senior Procurement Executive
Office of Acquisition Policy, Office of Government-wide Policy
General Services Administration
1800 F Street, NW
Washington, D.C. 20405

Re: RFI Photovoltaic Systems (Notice MVAC-2022-01; Docket No. 2022-0002)

Dear Mr. Koses:

Thank you for providing the Solar Energy Manufacturers for America (SEMA) Coalition¹ the opportunity to provide comment pursuant to the request for information (RFI) on the availability of domestically manufactured solar photovoltaic panels and components and the feasibility of requiring the use of such PV panels and components for future projects (Notice MVAC-2022-01; Docket No. 2022-0002).

I. Introduction

Our members are a diverse group of solar manufacturers – those who make panels and components – throughout the entire solar supply chain. SEMA Coalition members either have a significant manufacturing presence in the United States, or intend to start or shift significant portions of their manufacturing operations to the U.S. following passage of the Inflation Reduction Act (IRA) and additional policy signals supporting growing solar demand in America. This includes the Administration’s efforts to support domestic solar manufacturing by leveraging the federal government’s procurement authority.

Given solar is poised to be the world’s leading source of energy by 2040, we must ensure the U.S. government is taking the necessary steps to reduce the country’s reliance on overseas supply chains to meet our future clean energy needs. This means it is critical the federal government commit to procuring and using American-made solar panels and components, whether it purchases them directly or enters into solar power purchase agreements (PPAs). This type of policy signal will help the U.S. work in partnership with solar manufacturers to establish

¹ <https://semacoalition.org/about>

a strong, secure, and resilient solar manufacturing supply chain – from polysilicon through module manufacturing – to meet our current and future deployment needs in the U.S. and globally while creating good-paying manufacturing jobs.

With an approach that appropriately considers the important role current and future domestic solar manufacturers will play in building out the U.S. solar energy sector, we believe that we can have a secure, sustainable, and resilient U.S.-based solar manufacturing supply chain in the very near future. To reach these goals, federal government procurement of domestically manufactured solar – directly or indirectly through solar PPAs – will play an important role.

With this perspective in mind, we have responded to the RFI questions that will have the greatest impact on SEMA Coalition members and the future of the U.S. solar manufacturing industry.

II. REQUESTED INFORMATION FROM INDUSTRY

For purposes of organizing the data received, please provide the following information in your response:

- **What is your company or organization name, point of contact, telephone number, and email address?**

Name of Organization: Solar Energy Manufacturers for America Coalition

Point of contact: Yogin Kothari

Phone Number: (714)-906-9916

Email address: yogin@semacoalition.org

- **What is the nature of your company or organization?**

The SEMA Coalition is composed of solar component and panel manufacturers that cover the entire solar value chain, from polysilicon to modules. Our members are committed to establishing a secure and resilient domestic solar supply chain. Currently, coalition members are either manufacturing within the U.S. or are in the process of establishing a substantial domestic manufacturing presence. Our members directly employ more than 6,100 workers throughout the country.

Are you a solar panel or component provider, manufacturer, re-seller, or retailer (for residential, commercial, or utility scale); developer, utility company, or other (specify)?

SEMA Coalition members manufacture several components of a solar panel used at a residential, commercial and utility scale. Our members currently manufacture or will

produce solar-grade polysilicon, solar ingots and wafers, solar cells, and solar modules, along with other components such as EVA, solar glass, and backsheet.

The NAICS code for photovoltaic cell manufacturing is 334413, Semiconductor and Related Device Manufacturing. If you operate under a different NAICS code for other elements of this RFI please provide your primary NAICS code.

The NAICS code for polysilicon manufacturing is 327992 – Ground or Treated Mineral and Earth Manufacturing.

III. REQUESTED INFORMATION SPECIFIC TO MANUFACTURING

- 1. Is your company an established PV panel or component manufacturer (defined for the purposes of the RFI as the panel or component being in commercial production for 2 or more years)?**

Yes, members of the SEMA Coalition are established leaders within the solar manufacturing industry and manufacture several solar components.

- 2. Does your company or organization manufacture PV panels or system components for the arrays domestically?**
 - a. If yes, please provide a brief description to include the place of manufacture and where in the supply chain your product falls, i.e., do you manufacture a component or assemble the final panel system or components?**

Currently SEMA Coalition members domestically manufacture polysilicon and assemble modules. Many of our members are looking to expand their capacities and make further investments in manufacturing solar components including solar ingots, wafers, and cells.

- i. What is your company's production capacity of domestically manufactured solar panels?**

Currently, there is approximately 20 GW of domestic polysilicon production and more than 7 GW of domestic module production. However, with the passage of the IRA, several coalition members are planning to invest in domestic solar ingot, wafer, and cell manufacturing, as well as make further investments in existing polysilicon and module manufacturing capacity.

ii. Are you anticipating an increase or decrease in production capacity in the next 10-year timeframe? Why or why not?

We anticipate an increase in production capacity of solar-grade polysilicon, solar ingots and wafers, solar cells, and solar modules over the next 10 years due to enactment of the IRA along with market conditions. The IRA in particular helps level the playing field for domestic solar manufacturers due to the inclusion of the Solar Energy Manufacturing for America Act in the law's advanced manufacturing production tax credit provision, also known as Section 45X.

iii. Do you have capacity to trace and certify that your products meet the component test for manufactured goods of 55% called out in the Infrastructure Investment and Jobs Act (IIJA) and 55%, incrementally increasing to 75% over time, for federal procurements?

Depending on the metric used, it is possible for domestic manufacturers to trace and certify their products meet the requirements under the IIJA. To be able to meet such requirements, the value of polysilicon, ingots, and wafers should be considered when calculating the required percentage for domestically manufactured products. In addition, the cost basis must exclude steel, iron, labor, and other construction material costs in order to maximize the value – and incentivize the production – of a 100% Made-in-America solar module.

iv. With recent legislative changes, are there now more mechanisms to trace the country of origin for the components? Please describe.

With the enactment of the IRA, there will be significant solar manufacturing investments made within the U.S. As a result, we believe it will be easier to trace the origin of solar components.

IV. REQUESTED INFORMATION ON MARKET AVAILABILITY

3. What are the technical, economic, logistical, or regulatory obstacles that exist to domestically manufacturing PV panels or purchasing renewable energy as a commodity? Does the IRA resolve any of these obstacles for your company?

The IRA is an essential tool to incentivize onshoring and expansion of U.S. solar manufacturing operations. Specifically, the advanced manufacturing production tax

credits for solar components will help level the playing field against overseas manufacturers. However, the threat of artificially low-priced foreign solar components flooding the market remains.

In the near term, there is not enough domestic capacity to meet demand at any step of the value chain. The IRA signing has boosted expected U.S. solar installations significantly, but there is currently only polysilicon (20 GW) and module (9 GW) capacity.

As a result, the U.S. government needs to take a whole-of-government approach, such as this one under consideration by GSA, to support domestic solar manufacturing. We believe the federal government alone can stimulate several GW of solar demand, which will provide domestic solar manufacturers with necessary certainty to scale rapidly.

- 4. How will the IRA and potentially more federal opportunities for use of domestically manufactured PV panels or components help you expand or increase your rate of growth? Are there other initiatives or factors that impede or spur growth in this area? How will the IRA impact the purchase of power versus the PV systems themselves?**

The IRA will help the rate of growth by providing guaranteed sales along with production incentives. The manufacturing credits will attract the investment required to build the middle links of the supply chain that are currently missing in the U.S. (ingot/wafer/cell). However, we need to do more to support this critical industry if we want secure and resilient solar manufacturing supply chains.

V. REQUESTED INFORMATION ON ACQUISITION PRACTICES

- 5. What would be the likely impacts of the Government requiring in its procurements that solar energy under such contracts be generated using domestically manufactured PV panels or components?**

If the federal government requires in its procurement practices that solar energy under such contracts be generated using domestically manufactured PV panels or components, solar component and panel manufacturers will have significantly more confidence in making investments across the U.S. to create good-paying manufacturing jobs. We believe utilizing the power of federal procurement – especially when it comes to requiring the federal government’s solar energy purchases to require the use of domestically manufactured PV panels and components – will be extremely beneficial to supporting and expanding domestic solar manufacturing across the board. This message

has been consistently highlighted by members of Congress² and from the manufacturing industry.³

Because the federal government rarely buys solar panels when procuring solar energy and instead enters into PPAs or similar contracts with project developers, it is essential that such contracts be required to generate electricity using domestically manufactured solar panels and components.

a. What are the risks/downsides?

While there might be concern for immediate availability or supply of panels and solar components to meet this type of requirement, we believe that there can be a phased-in approach as the industry continues to grow and announce new investments. The government could use an approach that gives a “super preference” to projects that use U.S. made solar panels and meet domestic content standards per the requirements of IJJA and the Buy American Act. Specifically, domestic content standards elevate key components currently absent from the silicon value chain, mainly wafers and cells. This will help mitigate potential risk and further incentivize U.S. manufacturers to make larger investments across the solar value chain. The government can play a major role in ensuring domestic production of solar components absent in the U.S.

b. What are the opportunities/upsides?

Requiring solar PV panels and components used for the generation of solar energy supplied to the U.S. government to be manufactured domestically will send a strong demand signal to domestic solar manufacturers. As previously discussed, sending such a signal will offer domestic manufacturers more security when making investments towards building out a domestic supply chain. This will further incentivize domestic manufacturing and will ensure its resilience in the event of any potential disruptive events. Ensuring the U.S. government’s reliance on solar panels and components made in America is good for our economic, energy, and national security.

c. If you are a developer, would such a requirement change your willingness to participate in future federal opportunities?

6. Other than establishing a requirement, what steps could the Government take to use federal acquisition to leverage domestic PV panel or component manufacturing?

² [Senators Warnock, Ossoff Call on Administration to Boost Federal Solar Power Procurement](#); See also [Rep. Tim Ryan Wants to Close a Buy American Loophole for Solar Power](#)

³ [SEMA Coalition Comment: DOE RFI Energy Sector Supply Chain Review](#)

The government could instate a value-add criteria for U.S. solar procurement that can leverage domestic PV panel or component manufacturing. For example, the government can have a domestic polysilicon and/or domestic wafer requirement, or create stackable credits across several component categories that will allow for increasing competitive advantages for domestic manufacturers. The government could also increase the value of projects using panels and solar components made by companies producing or headquartered in the U.S. The value add or super preference could then be subtracted from the bidding price in the PPA auction process, thereby supporting domestic solar manufacturers. The government can also support the domestic solar manufacturing industry by requiring or preferring the purchase of PV panels or components that are environmentally friendly, EPEAT certified, and/or have lower embodied carbon.

7. If the Government were to pursue developing a procurement standard for domestically manufactured PV panels or components, what key elements should be contained in that standard to encourage domestic manufacturing?

The federal government should take the necessary steps to ensure U.S.-manufactured panels and solar components are required for power purchase and similar agreements. Given that the federal government uses such agreements to procure electricity, it should take the necessary steps to ensure the solar panels generating the electricity are made in America and follow solar-specific Buy American requirements. Ideally, these requirements would increase as solar cell, wafer, and polysilicon manufacturing comes online. U.S. cells, wafers, and polysilicon are the most crucial components and subcomponents necessary to reshore the solar supply chain. In order to incentivize the reshoring of a full solar supply chain, a rising solar-specific standard that requires more than module assembly is necessary for federal solar energy procurement. The government has a unique opportunity to supplement the advanced manufacturing production tax credit included in the IRA to apply Buy American requirements to solar modules used in power purchase and similar agreements and go beyond by implementing a solar-specific rising standard to require U.S. cells, wafers, and polysilicon.

Another possible approach to supplement this would be for the government to issue a system that adds a financial credit to domestically manufactured components such as silicon, polysilicon, wafers, silicon/thin-film cells, and silicon/thin-film panels. These credits could then be stacked to incentivize the utilization of domestic components together and then would be subtracted from the total of the procurement bid. In this scenario, domestic PV panels can become more competitive and desirable during the procurement process, and the entire value chain is incentivized to be onshored.

Implementing a domestic polysilicon, domestic wafer, and domestic cell requirement for all solar procurements that utilize a silicon cell will help spur further demand for

domestic polysilicon, wafer, and cell capacity – a critical portion of the domestic solar supply chain that is important for national security, and enable further investments.

8. What components in PV panels would be difficult to source domestically?

With the enactment of the IRA, *and with additional key policy support such as leveraging the power of federal procurement*, we believe the U.S. can be on a track to have a 100% U.S. solar supply chain this decade. We have already seen announcements increasing module production and the first announcement for domestic solar cell production,⁴⁵⁶⁷ and anticipate similar announcements across the solar value chain.

a. Do different components in PV panels need different timeframes for being domestically sourced without difficulty?

Different solar components require different timeframes to establish manufacturing facilities and ramp up production. For example solar cells and modules may only need one or two years to establish a significant (or increased) manufacturing presence while ingot/wafers could take two to three years.

9. If there is anything else that you want the Government to consider in encouraging domestic manufacturing of PV panels and components, please address.

We encourage the government to adopt a standard RFP process to increase the speed and efficiency with which clean electricity providers can sell their products to the U.S. government. This in turn will allow domestic solar manufacturers to manufacture components on a relatively consistent and reliable basis.

⁴ [ENEL](#)

⁵ [First Solar](#)

⁶ [Meyer Burger](#)

⁷ [Q Cells](#)