DEPARTMENT OF ENERGY

Nonavailability

PROPOSED Nonavailability Waiver applicable to Domestically Assembled Solar Photovoltaics (PV) panels referred to as "Solar Modules" under Build America, Buy America Manufactured Product Provisions as Applied to Recipients of Department of Energy Federal Financial Assistance under the Industrial Emissions Demonstrations and Advanced Industrial Facilities Deployment Programs

AGENCY: U.S. DEPARTMENT OF ENERGY.

ACTION: Notice and request for public comment.

DATES: The proposed duration of the waiver would be from the effective date ("Effective Date") of the proposed waiver until December 31, 2025 ("Expiration Date"). The waiver applies to solar modules with Final Assembly in the United States (as defined below in the "Proposed Waiver" section).

I. Proposed Waiver:

U.S. DEPARTMENT OF ENERGY is proposing to issue a temporary, limited non-availability partial waiver of the manufactured product requirements of Section 70914(a) of the Build America, Buy America Act ("BABA") included in the Infrastructure Investment and Jobs Act (IIJA) (Pub. L. No. 117-58) for domestically assembled solar modules used in federal financial assistance for infrastructure projects selected as of the Effective Date for an award by DOE under the Industrial Emissions Demonstrations and Advanced Industrial Facilities Deployment Program (herein " IDP"), including all projects listed on the appendix to this proposed waiver. This proposed waiver combines for efficiency multiple project specific non-availability waivers into one waiver document to reduce paperwork and reduce administrative burdens for project recipients and the U.S. Government.

IDP aims to prove out novel technologies using cross-cutting industrial decarbonization

approaches: energy efficiency, industrial electrification, low-carbon fuels, feedstocks, energy sources including clean hydrogen, material efficiency or substitution, carbon capture utilization and storage, and others. The Program includes manufacturing facilities engaged in energy-intensive industrial processes.

U.S. DEPARTMENT OF ENERGY 's proposed waiver ***requires domestic assembly*** versus a waiver of the full manufactured product requirements, which would allow assembly to occur outside the United States. This waiver is intended to provide time needed for domestic solar module manufacturing capability to meet demand for BABA-compliant solar modules by supporting and encouraging continued investments while bringing the benefits of solar power to the U.S. DEPARTMENT OF ENERGY 's financial assistance recipients.

This proposed waiver would apply on or after the Effective Date until December 31, 2025, the Expiration Date for all new solar modules with Final Assembly in the United States. Solar modules where final assembly occurred outside the United States are not eligible for coverage under this waiver. "Final Assembly" means all operations involved in the transformation of individual solar cells and all other module components into a fully functional encapsulated module. For recipient expenditures to be covered by this waiver, the solar modules will need to be installed by June 30, 2026. "Installed by" means modules being permanently fastened to an outdoor support structure at the project site. The U.S. DEPARTMENT OF ENERGY proposes to apply this waiver, if approved, to awards or selections made on or before the Effective Date under IDP.

In accordance with Section 70914(c) of the BABA, the U.S. DEPARTMENT OF ENERGY is providing notice that it is seeking a combined nonavailability waiver of the BABA manufactured product requirements for domestically assembled solar modules used in federal financial assistance awards for infrastructure projects under IDP, as stated above, due to the determination that compliant solar modules are not available in sufficient quality or quantity for use in U.S. DEPARTMENT OF ENERGY - funded infrastructure projects. The U.S. DEPARTMENT OF

ENERGY conducted market research to determine availability of BABA compliant solar modules which included subject matter expert analysis of domestic solar production based on announcements and non-public manufacturing plans disclosed by manufacturers. Based on this market research, the U.S. DEPARTMENT OF ENERGY proposes to find that BABA-compliant solar modules are not produced in the United States in sufficient and reasonably available quantities for use in U.S. DEPARTMENT OF ENERGY assisted solar projects and will not become available in sufficient and reasonably available quantities until December 2025 or later. This proposed waiver, if finalized, will ensure recipients can effectively carry out the activities of their award in a timely manner while promoting domestic solar module manufacturing. The U.S. DEPARTMENT OF ENERGY seeks to issue this waiver on the basis of nonavailability in accordance with Section 70914(b)(2) of the BABA.

II. Background

The Buy America preference set forth in section 70914(a) of BABA, requires all iron, steel, manufactured products, and construction materials used for infrastructure projects under federal financial assistance awards be produced in the United States.

Under section 70914(b) of BABA, 2 CFR 184.7 & 200.322, and in accordance with the Office of Management and Budget (OMB)'s Guidance Memorandum M-24-02, *Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure*, the U.S. DEPARTMENT OF ENERGY may waive the BABA Buy America preference under an infrastructure program in any case in which it finds that: (i) applying the domestic content procurement preference would be inconsistent with the public interest ("public interest waiver"); (ii) types of iron, steel, manufactured products, or construction materials are not produced in the U.S. in sufficient and reasonably available quantities or of a satisfactory quality ("nonavailability waiver"); or (iii) the inclusion of iron, steel, manufactured products, or construction materials produced in the U.S. will increase the cost of the overall project by more than 25 percent ("unreasonable cost waiver"). All waivers must have a written explanation for the proposed determination; provide a period of not less than fifteen (15) calendar days for public comment on the proposed waiver; and submit the proposed waiver to the OMB Made in

America Office for review to determine if the waiver is consistent with policy. The U.S. DEPARTMENT OF ENERGY is providing fifteen (15) calendar days for public comment on this waiver.

With $98 billion in funding from Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. No. 117-58, and H.R. 5376- Inflation Reduction Act of 2022 ("IRA"), the U.S. DEPARTMENT OF ENERGY is focused primarily on research and development, demonstration, and deployment programs to help to achieve carbon-free electricity in the U.S. by 2035 and a net-zero economy by 2050. The U.S. DEPARTMENT OF ENERGY is also responsible for strengthening and securing manufacturing and energy supply chains through financial assistance opportunities. This is consistent with Executive Order (EO) 14005 titled *Ensuring the Future is Made in All of America by All of America's Workers (86 FR 7475)* (Jan. 28, 2021). EO 14005 provides that the U.S. Government "should, consistent with applicable law, use terms and conditions of Federal financial assistance awards and Federal procurements to maximize the use of goods, products, and materials produced in, and services offered in, the United States." The U.S. DEPARTMENT OF ENERGY is committed to ensuring strong and effective domestic solar model domestic manufacturing capabilities consistent with EO 14005.

The U.S. DEPARTMENT OF ENERGY also provides grants to multiple recipients with individual projects that utilize solar modules. Nationwide demand includes use by other federal agencies, state, local, and tribal governments in addition to private consumers. The U.S. DEPARTMENT OF ENERGY, in collaboration with the Environmental Protection (EPA) and the United States Department of Agriculture (USDA), analyzed anticipated demand for projects that may include demand for BABA-compliant solar modules. The U.S. DEPARTMENT OF ENERGY requirement is estimated to be approximately 75 MW_{dc} to 150 MW_{dc} through 2026 for BABA-compliant modules. During this timeframe, the expected total capacity of overall U.S. installations is 82,000 MW_{dc}, of which U.S. DEPARTMENT OF ENERGY's BABA-compliant demand is only 0.1% of total domestic demand in this timeframe. For EPA, the estimate is approximately 3,300 $MW_{dc.}$ During this shorter timeframe, the expected total capacity of overall U.S. installations is 41,000 MW_{dc}, of which EPA's BABA-compliant demand is estimated to be only approximately 8% of total domestic demand in this (shorter) timeframe. For USDA, the

estimate is $80 million through 2025, corresponding to a nameplate capacity of 300 MW_{dc}. During this same timeframe the expected total capacity of overall U.S. installations is 41,000 MW_{dc}, of which USDA's BABA-compliant demand is less than 0.7% of total domestic demand in this timeframe. The major driver for domestic solar supply-chain growth is the IRA tax credits, including the IRC §§48 and 45 clean energy investment and production tax credits and the IRC §§48E and 45Y "technology neutral" clean electricity investment and production tax credits, and the IRC §45X advanced manufacturing production tax credit, which provides per-unit tax credits for the domestic production of polysilicon, wafers, cells, modules, backsheet, tracker components, and inverters, with rates of $0.07 per W_{dc} for modules and $0.04 per W_{dc} for cells. Moreover, the 10% domestic content bonus in IRA tax credits will increase competition for domestically produced modules from private developers, which could further impact grant recipients' ability to procure BABA-compliant modules.

Solar modules are manufactured products. Per BABA sections 70912(6)(A) and (B), manufactured products are considered to be produced in the United States if (i) the manufactured product was manufactured in the United States; and (ii) the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.

Solar module components were analyzed by the U.S. DEPARTMENT OF ENERGY. Market research included subject matter expert analysis of domestic solar production based on announcements and non-public manufacturing plans disclosed by manufacturers. The cost of the cell is estimated to constitute the majority (67%) of the component cost of a module. U.S. DEPARTMENT OF ENERGY subject matter experts concluded cells will not likely be available from U.S. manufacturers in sufficient quantities until December 2025 or later. The next highest estimated module cost component is the metal frame, at 10%. Metal frames for c-Si modules are expected to be unavailable at a significant quantity from anywhere other than China for several years. The cost of the front glass and backsheet are each estimated at 7%, of the encapsulant at 4%, of the junction box at 3%, and all other components less than 1% each.

In order to support BABA compliance verification, U.S. DEPARTMENT OF ENERGY is considering step-certification following the expiration of this waiver, which is a type of certification process under which each handler (supplier, fabricator, manufacturer, processor, etc.) of the subject products and materials certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. This process is common practice for verifying Buy America requirements for iron and steel.

III. Waiver Justification

The U.S. DEPARTMENT OF ENERGY is proposing a temporary, limited partial nonavailability waiver of BABA manufactured product requirements for solar modules to apply to the use of domestically assembled modules that may incorporate foreign components. The United States is the second largest market for solar hardware, representing about 10%-15% of global solar demand. Developing and enhancing United States solar manufacturing will mitigate global supply chain challenges and meet decarbonization goals as well as benefit United States' workers, employers, and the economy. To reestablish domestic solar manufacturing in the United States, entities that produce and sell solar components will require a holistic industrial strategy to offset the 30-40% higher cost of domestic solar production relative to imported components. A narrowly tailored BABA waiver will meet immediate solar demands while the domestic solar industry expands supply.

Domestically, the United States currently has 10,600 MW_{dc}/year nameplate production capacity for CdTe modules and 47,000 MW_{dc}/yr nameplate production capacity for c-Si modules. Market research indicates c-Si module production capacity was historically underutilized for a variety of reasons including foreign competition, workforce shortages, and obsolete production equipment, with about 3,700 MW_{dc} actually produced and sold in 2023 compared to a nameplate capacity of 15,000 MW_{dc}/yr at the end of 2023. Capacity for c-Si modules has continued growing significantly in 2024 and as production is ramping, utilization rates are expected to grow. As of November 2024, domestic c-Si cell production in the United States has just restarted and production is also anticipated to grow.

In addition to current production capacity, future domestic manufacturing indicates growth will result in substantially more BABA-compliant module supply. As of November 2024, over $20 billion in planned solar investments have been announced at over 148 new and expanded manufacturing plants for modules, module parts and other hardware. U.S. DEPARTMENT OF ENERGY subject matter experts performed a probabilistic analysis of these announcements to identify a date when full BABA compliance may be achievable. Subject matter expert review identified technical delays from announced dates due to site readiness as well as likelihood of project success and considered the time required to ramp to full production capacities as well as announced offtake agreements. Overall analysis concludes that domestic manufactures will likely be capable of producing fully BABA-compliant modules in sufficient quantities for U.S. DEPARTMENT OF ENERGY financial assistance recipients no sooner than December 31, 2025. Thus, the U.S. DEPARTMENT OF ENERGY proposes to find that BABA-compliant solar modules are not produced in the United States in sufficient and reasonably available quantities for use in U.S. DEPARTMENT OF ENERGY assisted solar projects under IDP and will not become available in sufficient and reasonably available quantities until December 2025 or later.

IV. Impact Absent the Waiver

Without a waiver, the U.S. DEPARTMENT OF ENERGY anticipates most recipients with solar projects subject to BABA will develop, implement, and submit unavailability waiver packages for solar modules. This conclusion is based upon widely reported domestic sourcing challenges for BABA-compliant solar modules. The corresponding administrative burden will impact the cost and schedule of recipients, and in some cases diminish the use of solar projects, or, in extreme cases, deter overall participation. For those that participate and propose solar projects, recipient resources will be required to perform market research and submit unavailability packages. Project schedules will need to be extended to account for waiver development and waiver processing though final approval. These anticipated delays adversely impact numerous U.S. DEPARTMENT OF ENERGY goals of these projects, including climate action and energy justice.

The absence of a narrowly tailored BABA waiver will result in missed strategic opportunities to advance goals such as those within EO 14017 *American's Strategy to Secure the Supply Chain for a Robust Clean Energy Transition* and EO 14057 *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability,* in addition to the goals of EO 14005.

A narrowly tailored BABA waiver will support the establishment of a domestic solar supply chain. Fundamentally, the domestic content provisions in the IRA clean energy production and investment tax credits, including relating to IRC §§ 45, 45X, 45Y, 48, and 48E, including the domestic content bonus credit, constitute the significant driver for increasing the overall demand for domestic solar modules. Requiring full BABA compliance for federal financial assistance projects, as opposed to the narrowly tailored BABA compliance proposed in this waiver, would produce limited benefits for domestic solar manufacturing while potentially placing projects targeting vulnerable populations at risk.

V. Assessment of Cost Advantage of a Foreign-Sourced Product

Under OMB Memorandum M-24-02, agencies are expected to assess ''whether a significant portion of any cost advantage of a foreign-sourced product is the result of the use of dumped steel, iron, or manufactured products or the use of injuriously subsidized steel, iron, or manufactured products'' as appropriate before granting a waiver. The U.S. DEPARTMENT OF ENERGY 's analysis has concluded that this assessment is not applicable to this waiver, because this waiver is not based on cost advantage of foreign sourced products.

VI. Duration of Waiver

This proposed waiver, if finalized, applies to expenditures on solar panels after the Effective Date and by December 31, 2025, the Expiration Date, so long as those panels are installed by June 30, 2026.

VII. Solicitation of Comments

The U.S. DEPARTMENT OF ENERGY has proposed to issue this waiver on the basis of nonavailability: This notice, posted on **December 13, 2024,** satisfies the requirement under section 70914 of BABA to publish any proposed BABA waiver and provide the public with a reasonable period of time for notice and comment. The U.S. DEPARTMENT OF ENERGY seeks public comment from all interested parties.

Input is sought from stakeholders, including, but not limited to, federal financial assistant applicants and recipients, manufacturers, installers and other stakeholders across sectors and geographies. In particular, the U.S. DEPARTMENT OF ENERGY seeks comment regarding the scope of this waiver and the following:

- Proposed dates of applicability, including Effective Date of the waiver and installed by date.
- Recommendations and comments regarding certification for BABA compliant solar modules. The U.S. DEPARTMENT OF ENERGY is considering step-certification following the expiration of this waiver, a type of certification process under which each handler (supplier, fabricator, manufacturer, processor, etc.) of the subject products and materials certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin.

Relevant information and comments will help the U.S. DEPARTMENT OF ENERGY to understand completely the facts surrounding the waiver request and the U.S. DEPARTMENT OF ENERGY 's proposed finding of nonavailability. This notice will be closed for comments on **December 28, 2024**.

To receive consideration as a public comment, Written comments should be sent to **buyamericangawaiver@hq.doe.gov.** Please place "2024 Solar Waiver" in the subject line when sending an email

For more information on the Build America, Buy America preference, please reference https://www.energy.gov/management/build-america-buy-america or www.MadeinAmerica.gov

Confidential Business Information: Pursuant to 10 CFR 1004.11, any person submitting

information that he or she believes to be confidential and exempt by law from public discourse should submit via email two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Submit these documents via email. The U.S. DEPARTMENT OF ENERGY will make its own determination about the confidential status of the information and treat that information in accordance with the determination made based on all legal requirements.

APPENDIX: Awards and Selections under the Industrial Demonstrations and Advanced Industrial Facilities Deployment Program Programs

Program	Recipient
Industrial Emission Demonstration Projects	Brimstone Energy, Inc. (d/b/a Brimstone)
Industrial Emission Demonstration Projects	Orsted P2X US Holding LLC
Industrial Emission Demonstration Projects	T.EN Stone & Webster Process Technology, Inc.
Advanced Industrial Facilities Deployment Program	Wieland North America Recycling
Advanced Industrial Facilities Deployment Program	Century Aluminum Company
Advanced Industrial Facilities Deployment Program	Constellium
Advanced Industrial Facilities Deployment Program	Golden Aluminum
Advanced Industrial Facilities Deployment Program	Real Alloy Recycling
Advanced Industrial Facilities Deployment Program	Sublime Systems, Inc.
Advanced Industrial Facilities Deployment Program	National Cement Company of California, Inc.
Advanced Industrial Facilities Deployment Program	Roanoke Cement Company, LLC
Advanced Industrial Facilities Deployment Program	Summit Materials, Inc.
Advanced Industrial Facilities Deployment Program	Heidelberg Materials US, Inc.
Advanced Industrial Facilities Deployment Program	ExxonMobil Corporation
Advanced Industrial Facilities Deployment Program	ISP Chemicals, LLC an Ashland Company
Advanced Industrial Facilities Deployment Program	The Dow Chemical Company
Advanced Industrial Facilities Deployment Program	Eastman Chemical Company
Advanced Industrial Facilities Deployment Program	BASF Corporation
Advanced Industrial Facilities Deployment Program	Unilever
Advanced Industrial Facilities Deployment Program	Kraft Heinz

Advanced Industrial Facilities Deployment Program	Diageo Americas Supply
Advanced Industrial Facilities Deployment Program	Libbey Glass
Advanced Industrial Facilities Deployment Program	O-I Glass, Inc
Advanced Industrial Facilities Deployment Program	Gallo Glass Company
Advanced Industrial Facilities Deployment Program	SSAB
Advanced Industrial Facilities Deployment Program	Cleveland-Cliffs Steel Corporation
Advanced Industrial Facilities Deployment Program	American Cast Iron Pipe Company
Advanced Industrial Facilities Deployment Program	United States Pipe and Foundry Company
Advanced Industrial Facilities Deployment Program	Vale USA
Advanced Industrial Facilities Deployment Program	Cleveland-Cliffs Steel Corporation
Advanced Industrial Facilities Deployment Program	Skyven Technologies
Advanced Industrial Facilities Deployment Program	Kohler
Advanced Industrial Facilities Deployment Program	International Paper Company