

## Scaling the U.S. Solar Manufacturing Workforce

DE-FOA-0003074

DATE: April 6, 2023  
SUBJECT: Request for Information (RFI)

### Description

This request for information (RFI) is intended to inform the U.S. Department of Energy (DOE) Solar Energy Technologies Office (SETO) on the challenges and opportunities associated with scaling the domestic solar manufacturing workforce. This RFI pertains to job roles associated with operating U.S.-based manufacturing facilities involved in the production of photovoltaic (PV) modules and related components and materials.

### Background

On August 16, 2022, President Biden signed the Inflation Reduction Act (IRA), the most significant action on clean energy and climate change mitigation in U.S. history. The energy and climate provisions in the bill are poised to stimulate a new age for American solar manufacturing, with significant investments anticipated across the entire solar supply chain. Since IRA was passed, there have been numerous announcements across the solar PV supply chain of planned domestic manufacturing capacity additions, including ~42 GW of module manufacturing and 10-15 GW for other steps<sup>1</sup> (to view existing U.S. solar manufacturing sites, see SETO's [U.S. Solar PV Manufacturing Map](#)).

Core provisions of the IRA expected to accelerate domestic solar manufacturing investments include the advanced manufacturing production credit (AMPC), a tax credit for manufacturers of U.S.-made solar equipment, and the domestic content requirement (DCR), which incentivizes developers to install U.S.-made equipment. These incentives are expected to help close the gap

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<sup>1</sup> National Renewable Energy Laboratory (NREL) Fall 2022 Quarterly Solar Industry Update:  
<https://www.energy.gov/eere/solar/quarterly-solar-industry-update>

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between domestic and imported solar manufacturing costs and make domestic solar products more cost competitive.

The regrowth of domestic solar manufacturing brings tremendous opportunity to not only create new jobs, but to ensure these are family-sustaining careers that will help revitalize communities across the country. The Biden Administration is committed to ensuring that overburdened, underserved, and underrepresented individuals and communities have access to federal resources, and specifically that 40% of the overall benefits of certain federal investments flow to disadvantaged communities (the Justice40 Initiative)<sup>2</sup>. The clean energy transition should advance equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.

## **Purpose**

The purpose of this RFI is to solicit feedback from industry, academia, research laboratories, government agencies, and other stakeholders on the challenges and opportunities associated with an historic expansion of the U.S. solar manufacturing workforce. SETO is specifically interested in feedback from manufacturers, suppliers, education and training providers, community-based organizations, and workers' rights organizations, including labor unions. This RFI pertains to job roles associated with operating U.S.-based manufacturing facilities involved in the production of:

- PV modules (including c-Si and thin-film)
- Semiconductor materials and components (e.g., Si metal, polysilicon, ingots, wafers, cells)
- Materials used to construct PV modules (e.g., solar glass, frames, encapsulants, backsheets, etc.)

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<sup>2</sup> The White House – Justice40  
<https://www.whitehouse.gov/environmentaljustice/justice40/>

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- Other equipment associated with PV systems (e.g., inverters, power optimizers, racking, trackers); however, this RFI does not pertain to batteries used in PV coupled energy storage systems

SETO is interested in information it can use to better understand the anticipated quantity, quality, and accessibility of solar manufacturing roles, the required skill sets for these roles, any barriers likely to impact meeting the demand for qualified labor, as well as potential solutions for overcoming these barriers. SETO is particularly interested in ways in which SETO and/or other government agencies can help promote an employee-centered, diverse, and inclusive solar manufacturing workforce with access to quality jobs, defined career pathways, and a free and fair chance to join a union. Information received as part of this RFI is expected to inform future strategic programming and is part of a holistic approach across DOE to ensure an equitable clean energy workforce.

### **Disclaimer and Important Notes**

This RFI is not a Funding Opportunity Announcement (FOA); therefore, EERE is not currently accepting applications. EERE may issue a FOA in the future based on or related to the content and responses to this RFI; however, EERE may also elect not to issue a FOA. There is no guarantee that a FOA will be issued as a result of this RFI. Responding to this RFI does not provide any advantage or disadvantage to potential applicants if EERE chooses to issue a FOA regarding the subject matter. Final details, including the anticipated award size, quantity, and timing of EERE funded awards, will be subject to Congressional appropriations and direction. Any information obtained as a result of this RFI is intended to be used by the Government on a non-attribution basis for planning and strategy development; this RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as information only. EERE will review and consider all responses in its formulation of program strategies for the identified materials of interest that are the subject of this request. EERE will not provide reimbursement for costs incurred in responding to this RFI. Respondents are advised that EERE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind EERE to any further actions related to this topic.

### **Confidential Business Information**

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Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery 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 or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

### **Evaluation and Administration by Federal and Non-Federal Personnel**

Federal employees are subject to the non-disclosure requirements of a criminal statute, the Trade Secrets Act, 18 USC 1905. The Government may seek the advice of qualified non-Federal personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to EERE providing their response to non-Federal parties. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

### **RFI Questions**

#### **Part 1: Respondent Type**

1. What type of entity do you represent (e.g., manufacturer, developer, academic institution, community-based organization, labor union, etc.)? Please describe your organization’s work and/or mission.
2. In what cities and states does your organization currently operate or expect to operate?

#### **Part 2: Potential Role of DOE**

1. What should the DOE’s role be in supporting the solar manufacturing workforce, both in the near and long term?
2. What would be the most effective use of DOE funding or resources in supporting the solar manufacturing workforce, including to promote diversity, equity, inclusion, and accessibility (DEIA) within this workforce? When would any new programming need to be available, and for how long, to maximize impact?

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**Part 3: Workforce Demand and Job Characteristics**

1. Which solar manufacturing roles are, or do you expect to be within the next 2-3 years, the most challenging to fill? Why do think this is? If possible, please quantify the number of job openings and anticipated vacancies.
2. What are the qualifications (e.g., skills, experience, education, training, credentials, certification, etc.) needed to fill these roles? Which roles require proprietary onsite training (e.g., to operate or maintain a specific piece of equipment)? Which of the qualifications listed above matter most in hiring decisions? Which matter most to the success of the employee?
3. What are the wages and benefits associated with these roles? Are there advancement opportunities associated with these roles?
4. Which occupations exhibit high degrees of under-representation with respect to workers' demographic characteristics (e.g., race, ethnicity, gender, ability, veteran status, etc.)?
5. What solutions are needed to overcome these challenges (e.g., more accessible training and education programs, higher wages and benefits, better defined career pathways, etc.)?

**Part 4: Targeted Questions**

## Category 1: Questions for Manufacturers

1. What are your greatest concerns related to staffing and retaining the workforce needed to effectively operate your U.S.-based manufacturing facility?
2. How many jobs to you anticipate needing to fill in the next year? In the next 5 years?
3. Have you developed any workforce and/or DEIA strategies to recruit, train, or retain potential employees? Are there strategies you would consider implementing with government support? If so, please describe.
4. Do you see a potential role for organized labor in helping to meet your anticipated workforce demand? Why or why not?

## Category 2: Questions for Community-Based, Education, and Labor Organizations

1. How do you see your role in the scaling of the U.S. solar manufacturing workforce? What efforts are you currently involved in?
2. Do you have any experience in engaging with solar manufacturers to date? If so, please describe.

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3. Do you have any experience in engaging with manufacturing-sector education providers and/or programs to date? If so, please describe.
4. What do you see as the challenges/barriers to growing a skilled and diverse workforce?
5. Can you share any potential or demonstrated solutions to these challenges?

## **Request for Information Response Guidelines**

Responses to this RFI must be submitted electronically to [solarworkforce@ee.doe.gov](mailto:solarworkforce@ee.doe.gov) no later than 5:00pm (ET) on June 2, 2023. Responses must be provided as attachments to an email. It is recommended that attachments with file sizes exceeding 25MB be compressed (i.e., zipped) to ensure message delivery. Responses must be provided as a Microsoft Word (.docx) attachment to the email, and no more than 6 pages in length, 12 point font, 1 inch margins. Only electronic responses will be accepted.

Please identify your answers by responding to a specific question or category if applicable. Respondents may answer as many or as few questions as they wish. EERE will not respond to individual submissions or publish publicly a compendium of responses. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Respondents are requested to provide the following information at the start of their response to this RFI:

- Company / institution name;
- Company / institution contact;
- Contact's address, phone number, and e-mail address

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