

November 4, 2022

*Submitted electronically via the Federal eRulemaking Portal*

**Re: Preliminary Comments of the California Energy Storage Alliance on Treasury and Internal Revenue Service (IRS) Notice 2022-47 Requesting Public Comment on Energy Security Tax Credits for Manufacturing Under Sections 48C and 45X Provisions of the Inflation Reduction Act (IRA) of 2022**

---

To Whom It May Concern:

The California Energy Storage Alliance (CESA) appreciates the opportunity to submit comments on Notice 2022-47 on Energy Security Tax Credits for Manufacturing Under Sections 48C and 45X.

CESA is a 501(c)(6) organization representing over 120 member companies across the energy storage industry. CESA member companies span the energy storage ecosystem, involving many technology types, sectors, configurations, and services offered. As the definitive voice of energy storage in California and the largest trade association in the nation focused on grid-connected energy storage, CESA is uniquely positioned to speak to the various issues and questions posed in the Treasury Notices. However, we note that the comments below do not represent any particular view or position of any individual member company.

We appreciate the opportunity to provide these comments and would appreciate the opportunity to discuss them further with you. If you or your staff would like to discuss the contents of these comments, please contact Jin Noh, Policy Director of CESA at 510-296-0420 or [jnoh@storagealliance.org](mailto:jnoh@storagealliance.org), with a copy to Grace Pratt at [gpratt@storagealliance.org](mailto:gpratt@storagealliance.org).

**I. INTRODUCTION & SUMMARY.**

The IRA represents landmark legislation that will transform the nation's economy and will spur historic levels of investment in clean generation, energy storage, alternative fuels, transportation, and consumer/commercial devices and appliances – all in a national effort to tackle climate change and increase the sustainability and resiliency of the economy. With the IRA touching on so many aspects of the clean energy economy, Treasury and IRS are tasked with many areas of implementation of the IRA's key provisions. As such, in issuing six different notices requesting public comment, Treasury and IRS have expressed their core principles in guiding the implementation process and have quickly moved to solicit public comments.

CESA appreciates the timely action to seek public comment in order to mobilize the various clean energy investments over the medium and long term and provide greater clarity and certainty for many investments already underway or planned in the near term. Given the multitude and complexity of many IRA provisions, as well as the likely resourcing constraints faced by the Treasury and the IRS to review and process thousands of public comments, CESA submits these preliminary comments as key areas of clarifications and potential proposals that are important to the grid-connected energy storage industry.

## **II. ENERGY SECURITY TAX CREDITS FOR MANUFACTURING.**

In Notice 2022-47, Treasury and IRS seek comments and responses to questions on various provisions regarding §§ 45X and 48C of the Internal Revenue Code. In these comments, CESA seeks the following clarifications and offers several recommendations for consideration.

- Adopt clarifying language to the definition of “Battery Module” and “Electrode Active Material” to better support technology neutrality and advance non-lithium-ion battery domestic manufacturing as well
- Modify the definition of “Battery Module” to be inclusive of assembly that may need to occur at the project site
- Clarify the definition of “produce” and “sold” to determine eligibility for the Advanced Manufacturing Production Credit

### **A. Adopt clarifying language to the definition of “Battery Module” and “Electrode Active Material” to better support technology neutrality and advance non-lithium-ion battery domestic manufacturing as well**

The IRA adds a new provision § 45X to provide a new Advanced Manufacturing Production Credit for each eligible component that is produced and sold. The new section also defined each qualifying “component”, including “qualifying battery component” as constituting electrode active materials, battery cells, and battery modules. However, the current definitions may be exclusive of the full range of electrochemical and non-electrochemical energy storage technologies, such as flow batteries, thermal batteries, mechanical energy storage, and others.

First, the definition of a “battery module” requires clarification. Under the IRA, the term “battery module” means a module that: “(I) (aa) in the case of a module using battery cells, with 2 or more battery cells which are configured electrically, in series or parallel, to create voltage or current, as appropriate, to a specified end use, or (bb) with no battery cells, and (II) with an aggregate capacity of not less than 7 kilowatt-hours (or, in the case of a

module for a hydrogen fuel cell vehicle, not less than 1 kilowatt-hour).” CESA seeks the following clarification from Treasury and IRS for the definition of “battery modules”:

- The qualification as a “battery module” for the purposes of 45X is technology-neutral and includes modules that store electrical energy in the form of electrochemistry, heat, or thermochemistry, provided the battery module complies with all other statutory requirements.
- The qualification as a “battery module” for the purposes of 45X includes any form of energy output, including thermal or electric energy, provided that the output energy is in a directly useful form and that the battery module complies with all other statutory requirements.

While the definition of battery module derived from battery cells in 45X explicitly requires that the module be “configured electrically... to create voltage or current”, the definition of battery modules not derived from battery cells has no such requirement. Congress explicitly did not restrict the form of energy output solely to electricity. Because such a requirement was not included, our proposed clarification makes explicit that qualifying battery modules with no battery cells include thermal battery modules, which may output electricity and/or heat, provided that the thermal battery modules comply with all statutory requirements.

Further, to ensure flow battery inclusion under § 45X, CESA recommends that Treasury and IRS clarify that the battery module definition includes flow battery modules and components thereof, which may include electrolyte (*e.g.*, catholyte, anolyte, polysolyte, negolyte), supporting electrolyte, electrolyte storage, electrochemical stacks, electrochemical power units, pumps, piping, sensors, thermal management, battery management systems, controls, and compressors.

In addition, to ensure thermal batteries are covered under § 45X, CESA recommends that Treasury and IRS clarify that the battery module definition includes thermal battery modules and components thereof, which may include thermal storage media, thermal insulation materials, storage media containment, charging sub-systems, discharging sub-systems, sensors, controls, battery management systems, and power conversion components.

Second, the definition of a “electrode active material” and their cost calculation require clarification. Currently, this term is defined in the IRA as “cathode materials, anode materials, anode foils, and electrochemically active materials, including solvents, additives, and electrolyte salts that contribute to the electrochemical processes necessary for energy storage.” CESA recommends that Treasury and IRS clarify that electrode active materials may include electrode active material relevant for flow batteries, such as liquid-based electrolytes, flow battery electrolytes, flow battery supporting electrolytes, flow battery electrolyte containment, ion-conducting membranes, separators, electrodes, membrane-electrode assemblies, bipolar plate assemblies, monopolar plate assemblies and components thereof.

Moreover, under the IRA, the credit for electrode active materials is equal to 10% of the costs incurred by the taxpayer with respect to the production of such materials. Treasury and IRS should clarify the method for calculating these costs. In particular, this method should explicitly include the cost of raw materials that go into making the electrode active materials, not just the cost of transforming the raw materials into the electrode active materials.

**B. Modify the definition of “Battery Module” to be inclusive of assembly that may need to occur at the project site**

The current definition of “battery module” in § 45X does not address how components should be able to qualify for the Advanced Manufacturing Production Credit based on creation and assembly that may need to occur at the project site for certain energy storage technologies. Not all energy storage technologies that would otherwise provide the manufacturing jobs and energy security benefits of domestic production are “finished” products out of the factory/production line or can be “containerized” solutions, as it exists today, for example, for some commercial lithium-ion battery storage facilities. Instead, given either the nature or scale of the energy storage medium, technology, and/or process, certain energy storage technologies require components to be integrated with elements created or assembled directly at the energy storage project site (*e.g.*, flow battery electrolyte units and flow battery power units, or a reservoir or geologic cavity for holding water/air or a vessel for holding media for thermal energy storage) that are functionally integral to the energy storage and discharge capacity and operations.

As such, CESA recommends that the following clarification be made with respect to the “battery module” definition in § 45X:

*A battery module may also include functional elements that are created or assembled at the project site, provided such elements are integral to charging, storing or discharging energy from such module. The integration, incorporation, or assembly of such module may occur in part at the energy storage project site.*

In other words, the Treasury/IRS implementation guidelines should confirm that a fully completed module does not have to emerge from a single facility or location.

**C. Clarify the definition of “produce” and “sold” to determine eligibility for the Advanced Manufacturing Production Credit**

The IRA provides § 45X credits based on mass, watt-capacity, sales price, or production cost and whether eligible components were produced and sold before January 1,

2030. However, clarity is needed on the definitions for “produce” and “sold” to guide potential domestic manufacturer’s decisions on how to pursue and claim these credits.

First, the IRA provides that “a person is treated as having sold an eligible component to an unrelated person if such component is integrated, incorporated, or assembled into another eligible component”, but guidance is needed on what constitutes “produced” and how it would be considered in the context of an assembly of both eligible and ineligible components. To facilitate understanding and clarity, CESA recommends the following clarification:

*A taxpayer shall be treated as having ‘produced’ an ‘eligible component’ once such taxpayer transforms a collection of otherwise ineligible components into a fully functioning ‘eligible component’ for energy storage and discharge.*

Second, guidance should be provided on when claims can be made upon eligible components being “sold” to an unrelated person. In many cases, manufacturing of eligible components typically occurs upon the original equipment manufacturer (OEM) executing a supply agreement or purchase order with a customer, utility, and/or third-party developer, which can occur in advance of actual production. CESA requests clarification on whether and how credits could be claimed when products are “sold”.

### **III. CONCLUSION.**

CESA appreciates the opportunity to provide these comments on the Treasury Notices and look forward to collaborating with Treasury in implementing the various provisions of the IRA.

Respectfully submitted,



Jin Noh  
Policy Director  
**California Energy Storage Alliance**

Grace Pratt  
Policy Analyst  
**California Energy Storage Alliance**