

Request for Comments on Energy Security Tax Credits for Manufacturing Under Sections 48C and 45X

Notice 2022-47

SECTION 1. PURPOSE

The Department of the Treasury (Treasury Department) and the Internal Revenue Service (IRS) plan to issue guidance regarding the advanced manufacturing production credit under new § 45X (§ 45X credit) and the qualifying advanced energy project credit under § 48C (§ 48C credit) of the Internal Revenue Code (Code), as added and amended, by §§ 13502 and 13501, respectively, of Public Law 117-169, 136 Stat. 1818 (August 16, 2022), commonly known as the Inflation Reduction Act of 2022 (IRA). This notice requests general and specific comments on questions pertaining to the implementation and administration of §§ 45X and 48C, which will help to inform the development of guidance implementing §§ 45X and 48C.

SECTION 2. BACKGROUND

.01 Advanced Manufacturing Production Credit (§ 45X)

(1) Overview

Section 13502(a) of the IRA added new § 45X to the Code to establish the advanced manufacturing production credit. Section 45X(a)(1) and (2) provide that, for purposes of the general business credit under § 38 of the Code, the advanced manufacturing production credit for any taxable year is an amount equal to the sum of

the credit amounts determined under § 45X(b) with respect to each eligible component (as defined in § 45X(c)) produced by the taxpayer and sold by such taxpayer to an unrelated person, but only if such production and sale is in a trade or business of the taxpayer.

Section 45X(a)(3) provides rules regarding the sale of components to an unrelated person, and generally provides a special rule that, for purposes of § 45X(a), treats a taxpayer as selling components to an unrelated person if such component is sold to such person by a person related to the taxpayer. Under § 45X(a)(3)(B), a taxpayer may make an election in the form and manner prescribed by the Secretary of the Treasury or her delegate (Secretary) to treat a sale of components by such taxpayer to a related person as made to an unrelated person. As a condition of, and prior to, a taxpayer making this election, the Secretary may require such information or registration as the Secretary deems necessary for purposes of preventing duplication, fraud, or any improper or excessive credit amount.

(2) Credit amounts

Section 45X(b)(1)(A) through (M) and § 45X(b)(2)(A) set forth the credit amounts for each type of eligible component, which amounts, except for purposes of determining the credit amount with respect to any applicable critical mineral, are subject to phase out rules set forth in § 45X(b)(3). For any eligible component sold after December 31, 2029, the credit amount with respect to such component equals the product of the amount determined under § 45X(b)(1) with respect to such component multiplied by the phase out percentages under § 45X(b)(3)(B)(i) through (iv). In the case of an eligible component sold during calendar year 2030, 2031, and 2032, the phase out percentages

are 75 percent, 50 percent, and 25 percent, respectively. In the case of an eligible component sold after December 31, 2032, the phase out percentage is 0 percent.

Section 45X(b)(4) prescribes capacity limitations used to compute the credit amount for eligible battery cells and battery modules under § 45X(b)(1)(K) and (L), respectively. For purposes of computing the credit for these eligible components, § 45X(b)(4)(A) provides that the capacity determined with respect to a battery cell or battery module must not exceed a capacity-to-power ratio of 100:1. Section 45X(b)(4)(B) defines the term “capacity-to-power-ratio” for this purpose as the ratio of the capacity of a battery cell or battery module to the maximum discharge amount of such cell or module.

(3) Eligible components

Section 45X(c) sets forth the different types of eligible components. Section 45X(c)(1)(A) provides that the term “eligible component” means any solar energy component, wind energy component, inverter described in § 45X(c)(2)(B) through (G), qualifying battery component, and applicable critical mineral. Section 45X(c)(1)(B) clarifies that the term “eligible component” does not include any property that is produced at a facility if the basis of any property that is part of such facility is taken into account for purposes of the qualifying advanced energy project credit allowed under § 48C after August 16, 2022 (that is, the date of enactment of the IRA).

Section 45X(c)(2)(A) generally defines “inverter” as an end product that is suitable to convert direct current electricity from 1 or more solar modules or certified distributed wind energy systems into alternating current electricity. Section 45X(c)(2)(B) through (G) define the following different types of eligible inverters: central inverter,

commercial inverter, distributed wind inverter, microinverter, residential inverter, and utility inverter.

Section 45X(c)(3)(A) defines a “solar energy component” as photovoltaic cells, photovoltaic wafers, polymeric backsheets, solar grade polysilicon, solar modules, and torque tubes or structural fasteners. Section 45X(c)(3)(B) defines these different types of eligible solar energy components as well as the term “solar tracker.”

Section 45X(c)(4)(A) defines “wind energy component” as blades, nacelles, towers, offshore wind foundations, and related offshore wind vessels. Section 45X(c)(4)(B) defines these different types of eligible wind energy components.

Section 45X(c)(5)(A) defines a “qualifying battery component” as electrode active materials, battery cells, and battery modules. Section 45X(c)(5)(B) defines these different types of qualifying battery components.

Section 45X(c)(6) provides the following list of 50 minerals that when converted or purified to specified purities are considered an “applicable critical mineral” for purposes of the § 45X credit: aluminum, antimony, arsenic, barite, beryllium, bismuth, cerium, cesium, chromium, cobalt, dysprosium, erbium, europium, fluorspar, gadolinium, gallium, germanium, graphite, hafnium, holmium, indium, iridium, lanthanum, lithium, lutetium, magnesium, manganese, neodymium, nickel, niobium, palladium, platinum, praseodymium, rhodium, rubidium, ruthenium, samarium, scandium, tantalum, tellurium, terbium, thulium, tin, titanium, tungsten, vanadium, ytterbium, yttrium, zinc, and zirconium.

(4) Special rules

Section 45X(d) prescribes special rules applicable for the § 45X credit. Section 45X(d)(1) provides that persons are treated as related to each other if such persons would be treated as a single employer under the regulations prescribed under the common control rules of § 52(b) of the Code. Section 45X(d)(2) provides that sales of eligible components are taken into account under § 45X only with respect to eligible components the production of which is within the United States (including continental shelf areas described in § 638(1) of the Code), or a U.S. territory (including continental shelf areas described in § 638(2)). Section 45X(d)(3) directs the Secretary to promulgate regulations adopting rules similar to the rules of § 52(d) to apportion credit amounts between estates or trusts and their beneficiaries on the basis of the income of the estates or trusts allocable to each and pass-thru any apportioned credit amounts to the beneficiaries. Section 45X(d)(4) provides that for purposes of the § 45X credit, 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 which is sold to an unrelated person.

.02 Qualifying Advanced Energy Project Credit (§ 48C)

(1) Overview

Section 48C was originally enacted by § 1302(b) of the American Recovery and Reinvestment Act of 2009, Public Law 111-5, Division B, Title I, Subtitle D, 123 Stat. 115, 345 (February 17, 2009), to provide an allocated credit for qualified investments in qualifying advanced energy projects. For purposes of the investment tax credit determined for any taxable year under § 46 of the Code, § 48C generally allows a

qualifying advanced energy project credit equal to 30 percent of a taxpayer's qualified investment for such taxable year with respect to any qualifying advanced energy project of the taxpayer.¹ The amount treated as the qualified investment for all taxable years with respect to a qualifying advanced energy project cannot exceed the amount allocated to the project by the Secretary.

Section 48C has been amended several times, most recently by § 13501 of the IRA. Section 13501(a) of the IRA adds new § 48C(e) to the Code to extend the § 48C credit to provide an additional credit allocation of \$10 billion. Section 13501(b) of the IRA modifies the definition of a "qualifying advanced energy project" contained in § 48C(c)(1)(A). Section 13501(c) and (d) of the IRA make conforming amendments to § 48C(c)(2)(A) and (f). The amendments made by § 13501 of the IRA are effective on January 1, 2023. See § 13501(e) of the IRA.

(2) New § 48C(e)

Section 48C(e)(1) directs the Secretary to establish a program to consider and award certifications for qualified investments eligible for § 48C credits to qualifying advanced energy project sponsors.

Section 48C(e)(2) provides that the total amount of § 48C credits that may be allocated under such program cannot exceed \$10 billion, of which no greater than \$6 billion may be allocated to qualified investments which are not located within one of the following census tracts described in § 45(b)(11)(B)(iii):

(a) A census tract in which a coal mine has closed after December 31, 1999.

¹ Section 48C(e)(4)(A) provides a base credit rate of 6 percent for allocations under § 48C(e). The base credit rate is increased to 30 percent for any project that satisfies the prevailing wage requirements of § 48C(e)(5)(A) and the apprenticeship requirements of § 48C(e)(6). See Notice 2022-51 requesting comments on prevailing wage and apprenticeship requirements.

(b) A census tract in which a coal-fired electric generating unit has been retired after December 31, 2009.

(c) A census tract directly adjoining such a census tract described in (a) or (b) and, prior to August 16, 2022 (the date of enactment of § 48C(e)), had no project that received a certification and allocation of credits under § 48C(d).

Section 48C(e)(3)(A) provides that each applicant for certification must submit an application at such time and containing such information as the Secretary may require. Section 48C(e)(3)(B) provides that each applicant for certification has 2 years from the date of acceptance by the Secretary of the application to provide to the Secretary evidence that the requirements of the certification have been met.

Section 48C(e)(3)(C) provides that an applicant who receives a certification has 2 years from the date of issuance of the certification to place the project in service and to notify the Secretary that such project has been so placed in service. If the project is not placed in service within the two year period, then the certification is no longer valid. If any certification is revoked under § 48C(e)(3), the total amount of the credits that may be allocated under § 48C(e)(2) is increased by the amount of § 48C credit with respect to such revoked certification.

Section 48C(e)(3)(D) provides that in the case of an applicant which receives a certification, if the Secretary determines that the project has been placed in service at a location that is materially different than the location specified in the application for such project, the certification is no longer valid.

Section 48C(e)(7) provides that the Secretary must, upon making a certification under § 48C(e), publicly disclose the identity of the applicant and the amount of the § 48C credit with respect to such applicant.

(3) Amendments to § 48C(c)(1)(A)

As amended by the IRA, § 48C(c)(1)(A) defines the term “qualifying advanced energy project” as one of the three following project types, any portion of the qualified investment of which is certified by the Secretary under § 48C(e) as eligible for a § 48C credit:

(i) A project that re-equips, expands, or establishes an industrial or manufacturing facility for the production or recycling of one of the following nine property types:

(I) Property designed to be used to produce energy from the sun, water, wind, geothermal deposits or other renewable resources.

(II) Fuel cells, microturbines, or energy storage systems and components.

(III) Electric grid modernization equipment or components.

(IV) Property designed to capture, remove, use, or sequester carbon oxide emissions.

(V) Equipment designed to refine, electrolyze, or blend any fuel, chemical, or product which is renewable or low-carbon and low-emission.

(VI) Property designed to produce energy conservation technologies (including residential, commercial, and industrial applications).

(VII) Light, medium, or heavy-duty electric or fuel cell vehicles, as well as technologies, components, or materials for such vehicles, and associated charging or refueling infrastructure.

(VIII) Hybrid vehicles with a gross vehicle weight rating of not less than 14,000 pounds, as well as technologies, components, or materials for such vehicles.

(IX) Other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary.

(ii) A project that re-equips an industrial or manufacturing facility with equipment designed to reduce greenhouse gas emissions by at least 20 percent through the installation of (I) low- or zero-carbon process heat systems, (II) carbon capture, transport, utilization, and storage systems, (III) energy efficiency and reduction in waste from industrial processes, or (IV) any other industrial technology designed to reduce greenhouse gas emissions, as determined by the Secretary.

(iii) A project that re-equips, expands, or establishes an industrial facility for the processing, refining, or recycling of critical materials (as defined in § 7002(a) of the Energy Act of 2020 (30 USC § 1606(a))).

Section 48C(c)(2)(A) defines “eligible property” as any property that is necessary for the production or recycling of property described in § 48C(c)(1)(A)(i), re-equipping an industrial or manufacturing facility described in § 48C(c)(1)(A)(ii), or re-equipping, expanding, or establishing an industrial facility described in § 48C(c)(1)(A)(iii).

(4) Denial of Double Benefit

As amended by § 13501(c) of the IRA, § 48C(f) provides that a § 48C credit is not allowed for a qualified investment for which a credit is allowed under §§ 48, 48A, 48B, 48E, 45Q or 45V.

SECTION 3. REQUEST FOR COMMENTS

The Treasury Department and the IRS request comments on issues arising from new § 45X and the amendments made by the IRA to § 48C that should be addressed in guidance. Commenters are encouraged to specify the issues on which guidance is needed most quickly as well as the most important issues on which guidance is needed. In addition to general comments, the Treasury Department and the IRS request comments that address the following specific issues:

.01 Section 45X Advanced Manufacturing Production Credit.

(1) Section 45X(a)(3)(B)(i) allows a taxpayer to make an election to treat a sale of components by such taxpayer to a related person as made to an unrelated person. Is guidance needed to clarify the meaning of the terms “unrelated person” and “related person”? If so, how should these terms be clarified?

(2) Section 45X(d)(4) provides that for purposes of § 45X, 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 which is sold to an unrelated person. How should “integrated, incorporated, or assembled” be determined?

(3) What factors should the Treasury Department and the IRS consider in determining what information or registration is necessary for purposes of preventing duplication, fraud, or any improper or excessive credit amount, as referenced in

§ 45X(a)(3)(B)?

(4) Is guidance needed regarding the capacity-to-power ratio in § 45X(b)(4)? If so, what guidance?

(5) Is additional clarification needed regarding the definitions of an “eligible component” in § 45X(c)?

(a) How should the amount of the § 45X credit be calculated for components that could be used in systems of varying capacities?

(b) In such cases, how should verification of the applicable credit amount be demonstrated?

(6) Section 45X(c)(4) identifies “related offshore wind vessels” as one of the qualifying “wind energy components.”

(a) What should the requirements be for establishing that a vessel is for offshore wind development?

(b) Where it is uncertain how much a vessel will be used for offshore wind, how should such situations be addressed?

(7) Section 45X(c)(6) identifies “applicable critical minerals,” and includes minimum purity percentages by mass.

(a) How should purity percentages be determined?

(b) Should an independent third party be required to verify the results?

(c) If so, what qualifications should be required of an independent third-party providing such verification?

(8) Is guidance needed regarding the definitions of “converted” and “purified”?

(9) Is guidance needed regarding the apportionment and pass-thru of credit

amounts to beneficiaries of estates or trusts as provided in § 45X(d)(3)?

(10) Please provide comments on any other topics under § 45X that may require guidance.

.02 Qualifying Advanced Energy Project Credit (§ 48C)

(1) Section 48C(c)(1)(A)(i), as amended by the IRA, includes additional types of equipment and property that may be produced or recycled at a project that re-equips, expands, or establishes an industrial or manufacturing facility.

(a) Is guidance needed to define “equipment designed to refine electrolyze, or blend any fuel, chemical, or product which is renewable, or low-carbon and low-emission”? If so, how should this be defined?

(b) Is guidance needed to define “property designed to produce energy conservation technologies (including residential, commercial, and industrial applications)”? If so, how should this be defined?

(c) What should the Treasury Department and the IRS consider in determining “other advanced energy property designed to reduce greenhouse gas emissions”?

(2) Section 48C(c)(1)(A)(ii) adds to the list of eligible projects any project which re-equips an industrial or manufacturing facility with equipment designed to reduce greenhouse gas emissions by at least 20 percent through the installation of certain systems, including through the installation of energy efficiency and reduction in waste from industrial processes.

(a) Is guidance needed to define “energy efficiency”? If so, how should this be defined?

(b) Is guidance needed to define “reduction in waste from industrial processes”? If so, how should this be defined?

(c) Is guidance needed to define baseline criteria, boundary conditions and/or timeframe to determine achievement of the 20 percent threshold?

(3) What should the Treasury Department and the IRS consider in determining “any other industrial technology designed to reduce greenhouse gas emissions”? Is guidance needed to include eligibility of facilities currently producing industrial materials for use in the construction or alteration of buildings and infrastructure projects (such as concrete, steel, asphalt, and flat glass) that can be retrofitted to produce materials that have substantially lower levels of embodied greenhouse gas emissions?

(4) How should a qualifying advanced energy project substantiate its eligibility based on any of the available criteria, but particularly the criteria provided by § 13501 of the IRA?

(a) Are there industry guidelines currently in place that a taxpayer may use to demonstrate that a project reduces greenhouse gas or other pollutant emissions? If so, what guidelines?

(b) Are there existing industry guidelines or regulatory practices employed by local governments or states that a taxpayer may use to demonstrate that a project reduces greenhouse gas or other pollutant emissions, including submittal of environmental product declarations (EPDs) that include measurements of the embodied greenhouse gas emissions of the relevant material or product and conform with international standards?

(5) Section 48C(e) directs the Secretary to establish a program to consider and

award certifications of qualified investments eligible for the § 48C credit.

(a) What should the Treasury Department and the IRS consider in determining the selection criteria for awarding the § 48C credit and to what extent should the Treasury Department and the IRS rely on precedent from previous experience administering the § 48C credit during previous allocation rounds provided in Notice 2009-72, 2009-37 I.R.B. 325 and Notice 2013-12, 2013-10 I.R.B. 543?

(b) What aspects of the previous allocation rounds of the § 48C credit should the Treasury Department and IRS consider revising in establishing a new § 48C program and administering it?

(6) Section 48C(e)(3)(C) provides, in part, that if any certification is revoked, the amount of the limitation under § 48C(e)(2) must be increased by the amount of the credit with respect to such revocation.

(a) Is guidance needed on revocation of certifications? If so, what guidance?

(7) Please provide comments on any other topics that may require guidance.

SECTION 4. SUBMISSION OF COMMENTS

.01 Written comments should be submitted by Friday, November 4, 2022.

Consideration will be given, however, to any written comment submitted after Friday, November 4, 2022, if such consideration will not delay the issuance of guidance. The subject line for the comments should include a reference to Notice 2022-47 Comments may be submitted in one of two ways:

(1) Electronically via the Federal eRulemaking Portal at www.regulations.gov (type IRS-2022-0047 in the search field on the regulations.gov homepage to find this notice and submit comments).

(2) Alternatively, by mail to: Internal Revenue Service, CC:PA:LPD:PR (Notice 2022-47), Room 5203, P.O. Box 7604, Ben Franklin Station, Washington, DC 20044.

.02 All commenters are strongly encouraged to submit comments electronically. The Treasury Department and the IRS will publish for public availability any comment submitted electronically, and to the extent practicable on paper, to its public docket.

SECTION 5. 60-DAY RULE NOT EFFECTUATED FOR THE PREVAILING WAGE AND APPRENTICESHIP REQUIREMENTS

For purposes of §§ 30C, 45, 45L, 45Q, 45U, 45V, 45Y, 45Z, 48, 48C, 48E, and 179D, the publication of this notice requesting comments is not the publication of guidance with respect to the prevailing wage and apprenticeship requirements, and it is not relevant in determining whether the prevailing wage and apprenticeship requirements are satisfied under such sections. The Treasury Department and the IRS will explicitly identify when it has published guidance with respect to the prevailing wage and apprenticeship requirements that is relevant for determining whether such requirements have been satisfied for purposes of §§ 30C, 45, 45L, 45Q, 45U, 45V, 45Y, 45Z, 48, 48C, 48E, and 179D.

SECTION 6. DRAFTING INFORMATION

The principal author of this notice is the Office of Associate Chief Counsel (Passthroughs & Special Industries). However, other personnel from the Treasury Department and the IRS participated in its development. For further information

regarding this notice, call the energy security guidance contact number at (202) 317-5254 (not a toll-free call).