

**Statutory Notes and Related Subsidiaries**

## EFFECTIVE DATE OF 2022 AMENDMENT

Amendment by section 13204(b)(2) of Pub. L. 117-169 applicable to electricity produced after Dec. 31, 2022, see section 13204(b)(3) of Pub. L. 117-169, set out as a note under section 45 of this title.

## EFFECTIVE DATE

Pub. L. 117-169, title I, §13105(c), Aug. 16, 2022, 136 Stat. 1931, provided that: “This section [enacting this section and amending section 38 of this title] shall apply to electricity produced and sold after December 31, 2023, in taxable years beginning after such date.”

**§ 45V. Credit for production of clean hydrogen****(a) Amount of credit**

For purposes of section 38, the clean hydrogen production credit for any taxable year is an amount equal to the product of—

(1) the kilograms of qualified clean hydrogen produced by the taxpayer during such taxable year at a qualified clean hydrogen production facility during the 10-year period beginning on the date such facility was originally placed in service, multiplied by

(2) the applicable amount (as determined under subsection (b)) with respect to such hydrogen.

**(b) Applicable amount****(1) In general**

For purposes of subsection (a)(2), the applicable amount shall be an amount equal to the applicable percentage of \$0.60. If any amount as determined under the preceding sentence is not a multiple of 0.1 cent, such amount shall be rounded to the nearest multiple of 0.1 cent.

**(2) Applicable percentage**

For purposes of paragraph (1), the applicable percentage shall be determined as follows:

(A) In the case of any qualified clean hydrogen which is produced through a process that results in a lifecycle greenhouse gas emissions rate of—

(i) not greater than 4 kilograms of CO<sub>2</sub>e per kilogram of hydrogen, and

(ii) not less than 2.5 kilograms of CO<sub>2</sub>e per kilogram of hydrogen,

the applicable percentage shall be 20 percent.

(B) In the case of any qualified clean hydrogen which is produced through a process that results in a lifecycle greenhouse gas emissions rate of—

(i) less than 2.5 kilograms of CO<sub>2</sub>e per kilogram of hydrogen, and

(ii) not less than 1.5 kilograms of CO<sub>2</sub>e per kilogram of hydrogen,

the applicable percentage shall be 25 percent.

(C) In the case of any qualified clean hydrogen which is produced through a process that results in a lifecycle greenhouse gas emissions rate of—

(i) less than 1.5 kilograms of CO<sub>2</sub>e per kilogram of hydrogen, and

(ii) not less than 0.45 kilograms of CO<sub>2</sub>e per kilogram of hydrogen,

the applicable percentage shall be 33.4 percent.

(D) In the case of any qualified clean hydrogen which is produced through a process that results in a lifecycle greenhouse gas emissions rate of less than 0.45 kilograms of CO<sub>2</sub>e per kilogram of hydrogen, the applicable percentage shall be 100 percent.

**(3) Inflation adjustment**

The \$0.60 amount in paragraph (1) shall be adjusted by multiplying such amount by the inflation adjustment factor (as determined under section 45(e)(2), determined by substituting “2022” for “1992” in subparagraph (B) thereof) for the calendar year in which the qualified clean hydrogen is produced. If any amount as increased under the preceding sentence is not a multiple of 0.1 cent, such amount shall be rounded to the nearest multiple of 0.1 cent.

**(c) Definitions**

For purposes of this section—

**(1) Lifecycle greenhouse gas emissions****(A) In general**

Subject to subparagraph (B), the term “lifecycle greenhouse gas emissions” has the same meaning given such term under subparagraph (H) of section 211(o)(1) of the Clean Air Act (42 U.S.C. 7545(o)(1)), as in effect on the date of enactment of this section.

**(B) GREET model**

The term “lifecycle greenhouse gas emissions” shall only include emissions through the point of production (well-to-gate), as determined under the most recent Greenhouse gases, Regulated Emissions, and Energy use in Transportation model (commonly referred to as the “GREET model”) developed by Argonne National Laboratory, or a successor model (as determined by the Secretary).

**(2) Qualified clean hydrogen****(A) In general**

The term “qualified clean hydrogen” means hydrogen which is produced through a process that results in a lifecycle greenhouse gas emissions rate of not greater than 4 kilograms of CO<sub>2</sub>e per kilogram of hydrogen.

**(B) Additional requirements**

Such term shall not include any hydrogen unless—

(i) such hydrogen is produced—

(I) in the United States (as defined in section 638(1)) or a possession of the United States (as defined in section 638(2)),

(II) in the ordinary course of a trade or business of the taxpayer, and

(III) for sale or use, and

(ii) the production and sale or use of such hydrogen is verified by an unrelated party.

**(C) Provisional emissions rate**

In the case of any hydrogen for which a lifecycle greenhouse gas emissions rate has not been determined for purposes of this section, a taxpayer producing such hydrogen may file a petition with the Secretary for

determination of the lifecycle greenhouse gas emissions rate with respect to such hydrogen.

**(3) Qualified clean hydrogen production facility**

The term “qualified clean hydrogen production facility” means a facility—

- (A) owned by the taxpayer,
- (B) which produces qualified clean hydrogen, and
- (C) the construction of which begins before January 1, 2033.

**(d) Special rules**

**(1) Treatment of facilities owned by more than 1 taxpayer**

Rules similar to the rules section 45(e)(3) shall apply for purposes of this section.

**(2) Coordination with credit for carbon oxide sequestration**

No credit shall be allowed under this section with respect to any qualified clean hydrogen produced at a facility which includes carbon capture equipment for which a credit is allowed to any taxpayer under section 45Q for the taxable year or any prior taxable year.

**(3) Credit reduced for tax-exempt bonds**

Rules similar to the rule under section 45(b)(3) shall apply for purposes of this section.

**(4) Modification of existing facilities**

For purposes of subsection (a)(1), in the case of any facility which—

- (A) was originally placed in service before January 1, 2023, and, prior to the modification described in subparagraph (B), did not produce qualified clean hydrogen, and
- (B) after the date such facility was originally placed in service—
  - (i) is modified to produce qualified clean hydrogen, and
  - (ii) amounts paid or incurred with respect to such modification are properly chargeable to capital account of the taxpayer,

such facility shall be deemed to have been originally placed in service as of the date that the property required to complete the modification described in subparagraph (B) is placed in service.

**(e) Increased credit amount for qualified clean hydrogen production facilities**

**(1) In general**

In the case of any qualified clean hydrogen production facility which satisfies the requirements of paragraph (2), the amount of the credit determined under subsection (a) with respect to qualified clean hydrogen described in subsection (b)(2) shall be equal to such amount (determined without regard to this sentence) multiplied by 5.

**(2) Requirements**

A facility meets the requirements of this paragraph if it is one of the following:

- (A) A facility—
  - (i) the construction of which begins prior to the date that is 60 days after the Sec-

retary publishes guidance with respect to the requirements of paragraphs (3)(A) and (4), and

(ii) which meets the requirements of paragraph (3)(A) with respect to alteration or repair of such facility which occurs after such date.

(B) A facility which satisfies the requirements of paragraphs (3)(A) and (4).

**(3) Prevailing wage requirements**

**(A) In general**

The requirements described in this subparagraph with respect to any qualified clean hydrogen production facility are that the taxpayer shall ensure that any laborers and mechanics employed by the taxpayer or any contractor or subcontractor in—

- (i) the construction of such facility, and
- (ii) with respect to any taxable year, for any portion of such taxable year which is within the period described in subsection (a)(2), the alteration or repair of such facility,

shall be paid wages at rates not less than the prevailing rates for construction, alteration, or repair of a similar character in the locality in which such facility is located as most recently determined by the Secretary of Labor, in accordance with subchapter IV of chapter 31 of title 40, United States Code. For purposes of determining an increased credit amount under paragraph (1) for a taxable year, the requirement under clause (ii) of this subparagraph is applied to such taxable year in which the alteration or repair of qualified facility occurs.

**(B) Correction and penalty related to failure to satisfy wage requirements**

Rules similar to the rules of section 45(b)(7)(B) shall apply.

**(4) Apprenticeship requirements**

Rules similar to the rules of section 45(b)(8) shall apply.

**(5) Regulations and guidance**

The Secretary shall issue such regulations or other guidance as the Secretary determines necessary to carry out the purposes of this subsection, including regulations or other guidance which provides for requirements for recordkeeping or information reporting for purposes of administering the requirements of this subsection.

**(f) Regulations**

Not later than 1 year after the date of enactment of this section, the Secretary shall issue regulations or other guidance to carry out the purposes of this section, including regulations or other guidance for determining lifecycle greenhouse gas emissions.

(Added and amended Pub. L. 117-169, title I, §13204(a)(1)–(3), Aug. 16, 2022, 136 Stat. 1936, 1938, 1939.)

**Editorial Notes**

REFERENCES IN TEXT

The date of enactment of this section, referred to in subsecs. (c)(1)(A) and (f), is the date of enactment of Pub. L. 117-169, which was approved Aug. 16, 2022.

## AMENDMENTS

2022—Subsec. (d)(3). Pub. L. 117-169, §13204(a)(2), added par. (3).

Subsec. (d)(4). Pub. L. 117-169, §13204(a)(3), added par. (4).

**Statutory Notes and Related Subsidiaries**

## EFFECTIVE DATE

Pub. L. 117-169, title I, §13204(a)(5), Aug. 16, 2022, 136 Stat. 1939, provided that:

“(A) IN GENERAL.—The amendments made by paragraphs (1) [enacting this section] and (4) [amending section 38 of this title] of this subsection shall apply to hydrogen produced after December 31, 2022.

“(B) CREDIT REDUCED FOR TAX-EXEMPT BONDS.—The amendment made by paragraph (2) [amending this section] shall apply to facilities the construction of which begins after the date of enactment of this Act [Aug. 16, 2022].

“(C) MODIFICATION OF EXISTING FACILITIES.—The amendment made by paragraph (3) [amending this section] shall apply to modifications made after December 31, 2022.”

**§ 45W. Credit for qualified commercial clean vehicles****(a) In general**

For purposes of section 38, the qualified commercial clean vehicle credit for any taxable year is an amount equal to the sum of the credit amounts determined under subsection (b) with respect to each qualified commercial clean vehicle placed in service by the taxpayer during the taxable year.

**(b) Per vehicle amount****(1) In general**

Subject to paragraph (4), the amount determined under this subsection with respect to any qualified commercial clean vehicle shall be equal to the lesser of—

(A) 15 percent of the basis of such vehicle (30 percent in the case of a vehicle not powered by a gasoline or diesel internal combustion engine), or

(B) the incremental cost of such vehicle.

**(2) Incremental cost**

For purposes of paragraph (1)(B), the incremental cost of any qualified commercial clean vehicle is an amount equal to the excess of the purchase price for such vehicle over such price of a comparable vehicle.

**(3) Comparable vehicle**

For purposes of this subsection, the term “comparable vehicle” means, with respect to any qualified commercial clean vehicle, any vehicle which is powered solely by a gasoline or diesel internal combustion engine and which is comparable in size and use to such vehicle.

**(4) Limitation**

The amount determined under this subsection with respect to any qualified commercial clean vehicle shall not exceed—

(A) in the case of a vehicle which has a gross vehicle weight rating of less than 14,000 pounds, \$7,500, and

(B) in the case of a vehicle not described in subparagraph (A), \$40,000.

**(c) Qualified commercial clean vehicle**

For purposes of this section, the term “qualified commercial clean vehicle” means any vehicle which—

(1) meets the requirements of section 30D(d)(1)(C) and is acquired for use or lease by the taxpayer and not for resale,

(2) either—

(A) meets the requirements of subparagraph (D) of section 30D(d)(1) and is manufactured primarily for use on public streets, roads, and highways (not including a vehicle operated exclusively on a rail or rails), or

(B) is mobile machinery, as defined in section 4053(8) (including vehicles that are not designed to perform a function of transporting a load over the public highways),

(3) either—

(A) is propelled to a significant extent by an electric motor which draws electricity from a battery which has a capacity of not less than 15 kilowatt hours (or, in the case of a vehicle which has a gross vehicle weight rating of less than 14,000 pounds, 7 kilowatt hours) and is capable of being recharged from an external source of electricity, or

(B) is a motor vehicle which satisfies the requirements under subparagraphs (A) and (B) of section 30B(b)(3), and

(4) is of a character subject to the allowance for depreciation.

**(d) Special rules****(1) In general**

Rules similar to the rules under subsection (f) of section 30D (without regard to paragraph (10) or (11) thereof) shall apply for purposes of this section.

**(2) Vehicles placed in service by tax-exempt entities**

Subsection (c)(4) shall not apply to any vehicle which is not subject to a lease and which is placed in service by a tax-exempt entity described in clause (i), (ii), or (iv) of section 168(h)(2)(A).

**(3) No double benefit**

No credit shall be allowed under this section with respect to any vehicle for which a credit was allowed under section 30D.

**(e) VIN number requirement**

No credit shall be determined under subsection (a) with respect to any vehicle unless the taxpayer includes the vehicle identification number of such vehicle on the return of tax for the taxable year.

**(f) Regulations and guidance**

The Secretary shall issue such regulations or other guidance as the Secretary determines necessary to carry out the purposes of this section, including regulations or other guidance relating to determination of the incremental cost of any qualified commercial clean vehicle.

**(g) Termination**

No credit shall be determined under this section with respect to any vehicle acquired after December 31, 2032.