

117TH CONGRESS
1ST SESSION

S. _____

To amend the Internal Revenue Code of 1986 to provide for a production and investment tax credit related to the production of clean hydrogen.

IN THE SENATE OF THE UNITED STATES

Mr. CARPER introduced the following bill; which was read twice and referred to the Committee on _____

A BILL

To amend the Internal Revenue Code of 1986 to provide for a production and investment tax credit related to the production of clean hydrogen.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Clean H2 Production
5 Act”.

6 **SEC. 2. TAX CREDIT FOR PRODUCTION OF CLEAN HYDRO-**
7 **GEN.**

8 (a) IN GENERAL.—Subpart D of part IV of sub-
9 chapter A of chapter 1 of the Internal Revenue Code of

1 1986 is amended by adding at the end the following new
2 section:

3 **“SEC. 45U. CREDIT FOR PRODUCTION OF CLEAN HYDRO-**
4 **GEN.**

5 “(a) AMOUNT OF CREDIT.—For purposes of section
6 38, the clean hydrogen production credit for any taxable
7 year is an amount equal to the product of—

8 “(1) the applicable amount, multiplied by

9 “(2) the kilograms of qualified clean hydro-
10 gen—

11 “(A) produced by the taxpayer at a quali-
12 fied clean hydrogen production facility during
13 the 10-year period beginning on the date the fa-
14 cility was placed in service, and

15 “(B)(i) sold by the taxpayer to an unre-
16 lated person during the taxable year,

17 “(ii) used by the taxpayer or a related per-
18 son during the taxable year, or

19 “(iii) stored during the taxable year for
20 subsequent use by the taxpayer or a related
21 person.

22 “(b) APPLICABLE AMOUNT.—

23 “(1) IN GENERAL.—For purposes of subsection
24 (a)(1), the applicable amount shall be an amount
25 equal to the applicable percentage of \$3.00. If any

1 amount as determined under the preceding sentence
2 is not a multiple of 0.1 cent, such amount shall be
3 rounded to the nearest multiple of 0.1 cent.

4 “(2) APPLICABLE PERCENTAGE.—For purposes
5 of paragraph (1), the term ‘applicable percentage’
6 means—

7 “(A) in the case of any qualified clean hy-
8 drogen which is produced through a process
9 that, as compared to hydrogen produced by
10 steam-methane reforming, achieves a percent-
11 age reduction in lifecycle greenhouse gas emis-
12 sions which is less than 75 percent, 20 percent,

13 “(B) in the case of any qualified clean hy-
14 drogen which is produced through a process
15 that, as compared to hydrogen produced by
16 steam-methane reforming, achieves a percent-
17 age reduction in lifecycle greenhouse gas emis-
18 sions which is not less than 75 percent and less
19 than 85 percent, 25 percent,

20 “(C) in the case of any qualified clean hy-
21 drogen which is produced through a process
22 that, as compared to hydrogen produced by
23 steam-methane reforming, achieves a percent-
24 age reduction in lifecycle greenhouse gas emis-

1 sions which is not less than 85 percent and less
2 than 95 percent, 34 percent, and

3 “(D) in the case of any qualified clean hy-
4 drogen which is produced through a process
5 that, as compared to hydrogen produced by
6 steam-methane reforming, achieves a percent-
7 age reduction in lifecycle greenhouse gas emis-
8 sions which is not less than 95 percent, 100
9 percent.

10 “(3) INFLATION ADJUSTMENT.—The \$3.00
11 amount in paragraph (1) shall be adjusted by multi-
12 plying such amount by the inflation adjustment fac-
13 tor (as determined under section 45(e)(2), deter-
14 mined by substituting ‘2020’ for ‘1992’ in subpara-
15 graph (B) thereof) for the calendar year in which
16 the sale or use of the qualified clean hydrogen oc-
17 curs. If any amount as increased under the pre-
18 ceding sentence is not a multiple of 0.1 cent, such
19 amount shall be rounded to the nearest multiple of
20 0.1 cent.

21 “(c) CREDIT REDUCTION.—The amount of the credit
22 determined under subsection (a) with respect to any quali-
23 fied clean hydrogen production facility for any taxable
24 year shall be reduced in a manner similar to the reduction
25 applied under section 45(b)(3).

1 “(d) DEFINITIONS.—For purposes of this section—

2 “(1) LIFECYCLE GREENHOUSE GAS EMIS-
3 SIONS.—For purposes of this section, the term
4 ‘lifecycle greenhouse gas emissions’ has the same
5 meaning given such term under subparagraph (H) of
6 section 211(o)(1) of the Clean Air Act (42 U.S.C.
7 7545(o)(1)), as in effect on the date of enactment of
8 this section, as related to the full fuel lifecycle
9 through the point of hydrogen production.

10 “(2) QUALIFIED CLEAN HYDROGEN.—

11 “(A) IN GENERAL.—The term ‘qualified
12 clean hydrogen’ means hydrogen which is pro-
13 duced through a process that, as compared to
14 hydrogen produced by steam-methane reforming
15 of non-renewable natural gas, achieves a per-
16 centage reduction in lifecycle greenhouse gas
17 emissions which is not less than 50 percent.

18 “(B) EXCLUSION.—The term ‘qualified
19 clean hydrogen’ shall not include any hydrogen
20 for which a credit is allowed for the taxable
21 year—

22 “(i) under section 38 which is prop-
23 erly allocable to any credit determined
24 under this part (other than this section),
25 or

1 “(ii) under subchapter B of chapter
2 65 of subtitle F.

3 “(3) QUALIFIED CLEAN HYDROGEN PRODUC-
4 TION FACILITY.—

5 “(A) IN GENERAL.—The term ‘qualified
6 clean hydrogen production facility’ means—

7 “(i) a facility owned by the tax-
8 payer—

9 “(I) which produces qualified
10 clean hydrogen which, with respect to
11 any taxable year, is sold by the tax-
12 payer to an unrelated person or used
13 by the taxpayer,

14 “(II) which satisfies the require-
15 ments under subparagraphs (B) and
16 (C), and

17 “(III) the construction of which
18 begins before January 1, 2030, and

19 “(ii) in connection with any facility
20 described in clause (i), any property used
21 to convert feedstock to hydrogen, including
22 any equipment or supporting facility
23 which—

24 “(I) accepts or receives feedstock,

1 “(II) conditions or stores feed-
2 stock or hydrogen, or

3 “(III) distributes or redistributes
4 hydrogen.

5 “(B) WAGE REQUIREMENTS.—The re-
6 quirements described in this subparagraph with
7 respect to any facility are that the taxpayer
8 shall ensure that any laborers and mechanics
9 employed by contractors and subcontractors
10 in—

11 “(i) the construction of such facility,
12 or

13 “(ii) for any year during the period
14 described in subsection (a)(2)(A) which be-
15 gins after the date of the enactment of this
16 section, the alteration or repair of such fa-
17 cility,

18 shall be paid wages at rates not less than the
19 prevailing rates for construction, alteration, or
20 repair of a similar character in the locality as
21 determined by the Secretary of Labor, in ac-
22 cordance with subchapter IV of chapter 31 of
23 title 40, United States Code.

24 “(C) LABOR REQUIREMENTS.—

1 “(i) APPRENTICESHIPS.—The require-
2 ments described in this subparagraph with
3 respect to any facility are that the tax-
4 payer shall ensure that all contractors and
5 subcontractors engaged in the performance
6 of construction, alteration, or repair work
7 on any facility shall, subject to clause (ii),
8 ensure that not less than 15 percent of the
9 total labor hours of such work be per-
10 formed by qualified apprentices.

11 “(ii) APPRENTICE-TO-
12 JOURNEYWORKER RATIO.—The require-
13 ment under clause (i) shall be subject to
14 any applicable requirements for apprentice-
15 to-journeyworker ratios of the Department
16 of Labor or the applicable State appren-
17 ticeship agency.

18 “(iii) PARTICIPATION.—Each con-
19 tractor and subcontractor described in
20 clause (i) that employs 4 or more individ-
21 uals to perform construction, alteration, or
22 repair work on any facility shall employ 1
23 or more qualified apprentices to perform
24 such work.

1 “(iv) EXCEPTION.—Notwithstanding
2 any other provision in this subparagraph,
3 this subparagraph shall not apply in the
4 case of a taxpayer who—

5 “(I) demonstrates a lack of avail-
6 ability of qualified apprentices in the
7 geographic area of the construction,
8 alteration, or repair work, and

9 “(II) makes a good faith effort,
10 and its contractors and subcontractors
11 make a good faith effort, to comply
12 with the requirements of this subpara-
13 graph.

14 “(4) STEAM-METHANE REFORMING.—The term
15 ‘steam-methane reforming’ means a hydrogen pro-
16 duction process in which high-temperature steam is
17 used to produce hydrogen from natural gas, without
18 carbon capture and sequestration.

19 “(e) SPECIAL RULES.—

20 “(1) IN GENERAL.—Rules similar to the rules
21 of paragraphs (3) and (4) of section 45(e) shall
22 apply for purposes of this section.

23 “(2) PRODUCTION IN THE UNITED STATES.—
24 No credit shall be allowed under this section with re-
25 spect to any qualified clean hydrogen which is pro-

1 duced outside of the United States (as defined in
2 section 638(1) or any possession of the United
3 States (as defined in section 638(2)).

4 “(f) GUIDANCE.—Not later than 1 year after the date
5 of enactment of this section, the Secretary, in consultation
6 with the Secretary of Energy and Administrator of the
7 Environmental Protection Agency, shall publish guidance
8 prescribing methods for determining the credit based on
9 lifecycle greenhouse gas emissions. For purposes of the
10 preceding sentence, such methods shall consider the emis-
11 sions associated with any feedstock or energy source which
12 is not co-located at the qualified clean hydrogen produc-
13 tion facility if—

14 “(1) such feedstock or energy source is contrac-
15 tually obtained by the taxpayer,

16 “(2) the taxpayer provides sufficient legal as-
17 surances that no other person can claim credit for
18 the environmental attributes of such feedstock or en-
19 ergy source, and

20 “(3) environmental attributes of the non co-lo-
21 cated feedstock or energy source are only considered
22 to the extent the taxpayer consumes an equivalent
23 amount of the feedstock or energy source in the pro-
24 duction of hydrogen, whereas—

1 “(A) in the case of electricity used to
2 produce hydrogen then only an equivalent
3 amount of electricity which is not co-located
4 may be considered, and

5 “(B) in the case of natural gas used to
6 produce hydrogen then only an equivalent
7 amount of biogas which is not co-located may
8 be considered.”.

9 (b) CONFORMING AMENDMENTS.—

10 (1) Section 38(b) of the Internal Revenue Code
11 of 1986 is amended—

12 (A) in paragraph (32), by striking “plus”
13 at the end,

14 (B) in paragraph (33), by striking the pe-
15 riod at the end and inserting “, plus”, and

16 (C) by adding at the end the following new
17 paragraph:

18 “(34) the clean hydrogen production credit de-
19 termined under section 45U(a).”.

20 (2) The table of sections for subpart D of part
21 IV of subchapter A of chapter 1 of such Code is
22 amended by adding at the end the following new
23 item:

“Sec. 45U. Clean hydrogen production credit.”.

1 (c) EFFECTIVE DATE.—The amendments made by
2 this section shall apply to hydrogen used or sold after De-
3 cember 31, 2020.

4 **SEC. 3. EXPANSION OF ENERGY CREDIT TO INCLUDE**
5 **CLEAN HYDROGEN PRODUCTION FACILITIES.**

6 (a) IN GENERAL.—Section 48(a)(5) of the Internal
7 Revenue Code of 1986 is amended—

8 (1) in subparagraph (A)(ii), by inserting “sub-
9 ject to subparagraph (G)(i),” before “the energy
10 percentage”,

11 (2) in subparagraph (B), by inserting “or 45U”
12 after “section 45”,

13 (3) in subparagraph (C)—

14 (A) in clause (i), by inserting “or, subject
15 to subparagraph (G)(ii), a qualified clean hy-
16 drogen production facility (as defined in section
17 45U(d)(3)) which meets the requirements of
18 section 45U(b)(2)(C)” after “section 45(d)”,

19 (B) in clause (ii), by inserting “(or, in the
20 case of a qualified clean hydrogen production
21 facility, which is placed in service after 2020
22 and the construction of which begins before
23 January 1, 2030)” after “January 1, 2022”,
24 and

1 (C) in clause (iii)(I), by inserting “or
2 45U” after “section 45”, and
3 (4) by adding at the end the following:

4 “(G) QUALIFIED CLEAN HYDROGEN PRO-
5 Duction FACILITIES.—

6 “(i) ENERGY PERCENTAGE.—

7 “(I) IN GENERAL.—For purposes
8 of subparagraph (A)(ii), in the case of
9 a qualified investment credit facility
10 which is a qualified clean hydrogen
11 production facility, the energy per-
12 centage with respect to such facility
13 shall be an amount (expressed as a
14 percentage) equal to—

15 “(aa) in the case of a facility
16 which is estimated to produce
17 qualified clean hydrogen (as de-
18 fined in described in section
19 45U(d)(2)) which is described in
20 subparagraph (A) of section
21 45U(b)(2), 20 percent of the en-
22 ergy percentage otherwise appli-
23 cable under subparagraph (A)(ii),

24 “(bb) in the case of a facil-
25 ity which is estimated to produce

1 qualified clean hydrogen which is
2 described in subparagraph (B) of
3 section 45U(b)(2), 25 percent of
4 the energy percentage otherwise
5 applicable under subparagraph
6 (A)(ii),

7 “(cc) in the case of a facility
8 which is estimated to produce
9 qualified clean hydrogen which is
10 described in subparagraph (C) of
11 section 45U(b)(2), 34 percent of
12 the energy percentage otherwise
13 applicable under subparagraph
14 (A)(ii), and

15 “(dd) in the case of a facil-
16 ity which is estimated to produce
17 qualified clean hydrogen which is
18 described in subparagraph (D) of
19 section 45U(b)(2), 100 percent of
20 the energy percentage otherwise
21 applicable under subparagraph
22 (A)(ii).

23 “(II) RECAPTURE.—The Sec-
24 retary shall, by regulations, provide
25 for recapturing the benefit of any

1 credit allowable under this section
2 with respect to any qualified clean hy-
3 drogen production facility which sig-
4 nificantly fails to produce qualified
5 clean hydrogen consistent with the ap-
6 plicable percentage reduction in
7 lifecycle greenhouse gas emissions de-
8 scribed in section 45U(b)(2) which
9 were estimated for such facility pursu-
10 ant to subclause (I).

11 “(ii) NO DOUBLE BENEFIT.—For pur-
12 poses of this paragraph, the term ‘qualified
13 investment credit facility’ shall not include
14 any qualified clean hydrogen production fa-
15 cility for which a credit is allowed under
16 section 38 for the taxable year or any prior
17 taxable year which is properly allocable to
18 any credit determined under—

19 “(I) this section (other than pur-
20 suant to this paragraph), or

21 “(II) section 45, 45J, or 45Q.”.

22 (b) EFFECTIVE DATE.—The amendments made by
23 this section shall apply to property placed in service after
24 December 31, 2020.