

118TH CONGRESS
1ST SESSION

S. _____

To amend the Energy Policy Act of 2005 to establish a Hydrogen Technologies for Heavy Industry Demonstration Program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. COONS (for himself, Mr. CORNYN, Mr. HICKENLOOPER, Mr. CASSIDY, Mr. HEINRICH, and Mr. LUJÁN) introduced the following bill; which was read twice and referred to the Committee on _____

A BILL

To amend the Energy Policy Act of 2005 to establish a Hydrogen Technologies for Heavy Industry Demonstration Program, and for other purposes.

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 “Hydrogen for Industry
5 Act of 2023”.

6 **SEC. 2. HYDROGEN TECHNOLOGIES FOR HEAVY INDUSTRY**
7 **DEMONSTRATION PROGRAM.**

8 (a) EMISSION REDUCTION PROGRAM.—Subtitle F of
9 title IX of the Energy Policy Act of 2005 (42 U.S.C.

1 16291 et seq.) is amended by adding at the end the fol-
2 lowing:

3 **“SEC. 969E. HYDROGEN TECHNOLOGIES FOR HEAVY INDUS-**
4 **TRY DEMONSTRATION PROGRAM.**

5 “(a) DEFINITION OF LOW-INCOME OR DISADVAN-
6 TAGED COMMUNITY.—The term ‘low-income or disadvan-
7 tagged community’ means a community (including a city,
8 town, county, or reasonably isolated and divisible segment
9 of a larger municipality) with an annual median household
10 income that is less than 100 percent of the statewide an-
11 nual median household income for the State in which the
12 community is located, according to the most recent decen-
13 nial census.

14 “(b) PROGRAM.—Not later than 180 days after the
15 date of enactment of the Hydrogen for Industry Act of
16 2023, the Secretary shall establish a program, to be
17 known as the ‘Hydrogen Technologies for Heavy Industry
18 Demonstration Program’ (referred to in this section as the
19 ‘Program’), under which the Secretary shall provide
20 grants or cooperative agreements to demonstrate indus-
21 trial end-use applications of hydrogen for—

22 “(1) iron, steel, and metals manufacturing;

23 “(2) cement manufacturing;

24 “(3) glass manufacturing;

25 “(4) ammonia and fertilizer production;

1 “(5) industrial food processes;

2 “(6) production of synthetic fuels from hydro-
3 gen, such as with carbon oxides;

4 “(7) fuel refining, such as biorefining;

5 “(8) chemical synthesis, such as synthesis of
6 methanol and ethylene;

7 “(9) process heaters, including hydrogen com-
8 bustion with environmental controls;

9 “(10) cogeneration to make electricity or heat
10 to support industrial processes; or

11 “(11) any other use of hydrogen for heavy in-
12 dustry, as determined by the Secretary.

13 “(c) PURPOSE.—The purpose of the Program is to
14 support the adoption of hydrogen as an emissions reduc-
15 tion technology for heavy industry, including in applica-
16 tions where hydrogen is blended with other fuels or feed-
17 stocks.

18 “(d) DEMONSTRATION PROJECTS AND OTHER AU-
19 THORIZED PROJECTS.—

20 “(1) IN GENERAL.—The Secretary shall provide
21 grants or cooperative agreements on a competitive
22 basis for commercial-scale demonstration projects
23 for end-use applications of hydrogen and other au-
24 thorized projects, as described in paragraph (5).

1 “(2) AMOUNT OF GRANT OR COOPERATIVE
2 AGREEMENT.—The amount of a grant or cooperative
3 agreement provided to an eligible entity under this
4 subsection shall be not more than \$400,000,000.

5 “(3) APPLICATION.—An entity seeking a grant
6 or cooperative agreement to conduct a demonstra-
7 tion project or other authorized project under this
8 subsection shall submit to the Secretary an applica-
9 tion at such time, in such manner, and containing
10 such information as the Secretary may require, in-
11 cluding a description of the manner in which the
12 project—

13 “(A) will contribute to the reduction of
14 greenhouse gas emissions at the applicable facil-
15 ity; and

16 “(B) in the case of a project for industrial
17 end-use application that already uses hydrogen
18 at scale, will reduce or avoid emissions of green-
19 house gases.

20 “(4) SELECTION.—

21 “(A) CONSIDERATIONS.—In providing a
22 grant or cooperative agreement under this sub-
23 section, the Secretary shall review each appli-
24 cant and application under paragraph (3) with
25 respect to—

1 “(i) the financial strength of the ap-
2 plicant;

3 “(ii) the proposed construction sched-
4 ule;

5 “(iii) the market risk of the tech-
6 nology that the applicant seeks to dem-
7 onstrate, as applicable; and

8 “(iv) the contractor history of the ap-
9 plicant.

10 “(B) PRIORITY.—In providing a grant or
11 cooperative agreement under this subsection,
12 the Secretary shall give priority to projects that
13 will provide greater net impact in avoiding or
14 reducing emissions of greenhouse gases.

15 “(C) OTHER CONSIDERATIONS.—In pro-
16 viding a grant or cooperative agreement under
17 this subsection, the Secretary shall, to the max-
18 imum extent practicable, provide a grant or co-
19 operative agreement for projects that—

20 “(i) represent a variety of end uses of
21 hydrogen;

22 “(ii) will use at least 50 percent hy-
23 drogen blends by volume;

24 “(iii) demonstrate existing or planned
25 regional availability of hydrogen;

1 “(iv) will generate the greatest benefit
2 to low-income or disadvantaged commu-
3 nities; and

4 “(v) will maximize creation or reten-
5 tion of domestic jobs and provide the high-
6 est job quality.

7 “(5) AUTHORIZED PROJECTS.—A grant or co-
8 operative agreement provided under this subsection
9 may be used—

10 “(A) to carry out demonstration projects
11 for end uses of hydrogen;

12 “(B) to construct a new commercial-scale
13 facility that will use hydrogen as a fuel or feed-
14 stock; or

15 “(C) to retool, retrofit, or expand an exist-
16 ing facility determined to be qualified by the
17 Secretary to enable use of hydrogen as a fuel or
18 feedstock in industrial end-use applications of
19 hydrogen, including at multiple points within a
20 larger facility.

21 “(6) REQUIREMENTS.—A demonstration project
22 receiving a grant or cooperative agreement under
23 this subsection shall—

1 “(A) use technologies that have completed
2 pilot-scale testing or the equivalent, as deter-
3 mined by the Secretary;

4 “(B) on completion, demonstrate hydrogen
5 technologies used by heavy industry; and

6 “(C) conduct hydrogen leakage monitoring,
7 reporting, and verification programs and leak
8 detection and repair programs.

9 “(7) COST SHARING.—The non-Federal share
10 of the cost of a demonstration project carried out
11 using a grant or cooperative agreement under this
12 subsection shall be not less than 50 percent.

13 “(8) ENGINEERING AND DESIGN STUDIES.—
14 The Secretary may fund front-end engineering and
15 design studies in addition to, or in advance of, pro-
16 viding a grant or cooperative agreement for a dem-
17 onstration project or other authorized project under
18 this subsection.

19 “(e) APPLICABILITY.—No technology, or level of
20 emission reduction, shall be treated as adequately dem-
21 onstrated for purposes of section 111 of the Clean Air Act
22 (42 U.S.C. 7411), achievable for purposes of best available
23 control technologies (as defined in section 169 of that Act
24 (42 U.S.C. 7479)), or achievable in practice for purposes
25 of the terms defined in section 171 of that Act (42 U.S.C.

1 7501) solely by reason of the identification of that tech-
2 nology or level of emission reduction in programs estab-
3 lished under this Act.

4 “(f) AUTHORIZATION OF APPROPRIATIONS.—There
5 is authorized to be appropriated to the Secretary to carry
6 out the Program \$1,200,000,000 for the period of fiscal
7 years 2024 through 2028, to remain available until ex-
8 pended.”.

9 (b) CLERICAL AMENDMENT.—The table of contents
10 of the Energy Policy Act of 2005 (Public Law 109–58;
11 119 Stat. 600) is amended by inserting after the item re-
12 lating to section 969D the following:

“Sec. 969E. Hydrogen Technologies for Heavy Industry Demonstration Pro-
gram.”.

13 **SEC. 3. STUDY.**

14 (a) IN GENERAL.—Not later than 270 days after the
15 date of enactment of this Act, the Secretary of Energy,
16 the Secretary of Commerce, and the Secretary of Trans-
17 portation shall jointly conduct and submit to Congress a
18 report describing the results of a study—

19 (1) to examine the potential for emissions re-
20 ductions at industrial facilities through hydrogen ap-
21 plications, including—

22 (A) the potential use of levelized cost of
23 carbon abatement, or a similar metric, in ana-
24 lyzing industrial uses of hydrogen; and

1 (B) the feasibility and impact of incor-
2 porating levelized cost of carbon abatement to
3 compare the costs of technology options to re-
4 duce emissions across a range of industrial ap-
5 plications;

6 (2) to fully address existing challenges with re-
7 spect to ensuring the safe use and handling of hy-
8 drogen and hydrogen-based fuels and blends in in-
9 dustrial systems, including health and environmental
10 impacts associated with the leakage of hydrogen and
11 hydrogen carriers;

12 (3) to identify and evaluate the feasibility, safe-
13 ty, and best practices of the use of hydrogen and
14 ammonia as industrial fuel and feedstock, including
15 ways that current procedures, training, and handoffs
16 with supply chain partners should be augmented to
17 ensure safety for workers and neighboring commu-
18 nities;

19 (4) to examine the feasibility of blending in-
20 creasing levels of hydrogen with natural gas to sup-
21 plement process heat requirements;

22 (5) to examine the environmental impacts of
23 hydrogen combustion in hydrogen-fueled gas tur-
24 bines as pure hydrogen or at different ratios if used
25 in blended fuel; and

1 (6) to identify and evaluate considerations for
2 transport and storage of hydrogen and hydrogen
3 carriers for use at industrial facilities.

4 (b) REQUIREMENTS.—In conducting the study under
5 subsection (a), the Secretary of Energy and the Secretary
6 of Commerce shall—

7 (1) take into account lessons learned from dem-
8 onstration projects in other industries and projects
9 in other countries; and

10 (2) evaluate the applicability of the lessons de-
11 scribed in paragraph (1) to the use of hydrogen in
12 industrial applications.