

118TH CONGRESS
1ST SESSION

S. 649

To require the Secretary of Energy to establish a hydrogen infrastructure finance and innovation pilot program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 2, 2023

Mr. CORNYN (for himself, Mr. COONS, Mr. CASSIDY, Mr. HEINRICH, Ms. MURKOWSKI, and Mr. LUJÁN) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To require the Secretary of Energy to establish a hydrogen infrastructure finance and innovation pilot 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 Infrastruc-
5 ture Finance and Innovation Act”.

6 **SEC. 2. STUDY.**

7 Not later than 18 months after the date of enactment
8 of this Act, the Secretary of Energy, in coordination with
9 the Administrator of the Environmental Protection Agen-

1 cy, the Chair of the Council on Environmental Quality,
2 the Administrator of the Energy Information Administra-
3 tion, and the heads of other relevant Federal agencies,
4 shall conduct a study subject to notice and public com-
5 ment—

6 (1) to fully assess and report the potential lay-
7 out of pipeline corridors, including existing and new
8 infrastructure, that—

9 (A) are robust against a range of projected
10 hydrogen demand futures; and

11 (B) reflect the potential to site within, or
12 adjacent to, existing pipeline or other linear in-
13 frastructure corridors;

14 (2) to assess the costs associated with each in-
15 frastructure scenario described in paragraph (1);

16 (3) to synthesize the results from research, de-
17 velopment, and demonstration projects on materials
18 and metallurgy for transporting and storing hydro-
19 gen and hydrogen-based fuels, such as ammonia;

20 (4) to determine outstanding questions with re-
21 gard to research, development, and demonstration of
22 infrastructure for transporting and storing hydrogen
23 and hydrogen-based fuels, such as ammonia;

24 (5) to investigate the behavior and environ-
25 mental impact of hydrogen leakage in pipelines and

1 from geologic storage sites and nongeologic storage
2 equipment;

3 (6) to determine best practices for the construc-
4 tion and maintenance of hydrogen pipelines;

5 (7) to determine the reduction in carbon inten-
6 sity at various levels of hydrogen blending into the
7 natural gas network; and

8 (8) to establish a framework for the measure-
9 ment, reporting, and management of hydrogen leaks.

10 **SEC. 3. SUPPORTING HYDROGEN INFRASTRUCTURE AND**
11 **REGIONAL DEVELOPMENT OF HYDROGEN.**

12 (a) DEFINITIONS.—In this section:

13 (1) BOARD-REGULATED RATES.—The term
14 “Board-regulated rates” means rates regulated by
15 the Surface Transportation Board.

16 (2) COMMISSION-REGULATED RATES.—The
17 term “Commission-regulated rates” means rates reg-
18 ulated by the Federal Energy Regulatory Commis-
19 sion.

20 (3) COMMON CARRIER.—The term “common
21 carrier” means a transportation infrastructure oper-
22 ator or owner that—

23 (A) publishes a publicly available tariff
24 containing the just and reasonable rates, terms,

1 and conditions of nondiscriminatory service;
2 and

3 (B) holds itself out to provide transpor-
4 tation services to the public for a fee.

5 (4) ELIGIBLE ACTIVITY.—The term “eligible
6 activity” means an activity described in subsection
7 (g)(2) relating to, or carried out in connection with,
8 an eligible project.

9 (5) ELIGIBLE ENTITY.—The term “eligible enti-
10 ty” means a corporation, partnership, joint venture,
11 trust, non-Federal governmental entity, agency, or
12 instrumentality, or other entity.

13 (6) ELIGIBLE PROJECT.—

14 (A) IN GENERAL.—Subject to subpara-
15 graph (B), the term “eligible project” means an
16 infrastructure project for hydrogen transpor-
17 tation, storage, or delivery, including pipeline,
18 shipping, rail, refueling, or other infrastructure,
19 or associated equipment, as the Secretary deter-
20 mines to be appropriate.

21 (B) INCLUSION OF PIPELINE PROJECTS.—
22 The term “eligible project” includes a pipeline
23 project only if the project is for—

1 (i) the construction of 1 or more new
2 pipelines that are capable of handling pure
3 hydrogen; or

4 (ii) the retrofitting of 1 or more exist-
5 ing natural gas pipelines—

6 (I) to transport a blend of hydro-
7 gen and natural gas; and

8 (II) in a manner that will signifi-
9 cantly increase the capacity of the
10 pipelines to transport hydrogen, as de-
11 termined by the Secretary.

12 (7) ELIGIBLE PROJECT COST.—

13 (A) IN GENERAL.—The term “eligible
14 project costs” means—

15 (i) the costs of carrying out an eligible
16 activity; and

17 (ii) any costs described in subpara-
18 graph (B) relating to, or incurred in con-
19 nection with, an eligible project.

20 (B) COSTS DESCRIBED.—The costs re-
21 ferred to in subparagraph (A)(ii) are—

22 (i) the costs of capitalized interest
23 necessary to meet market requirements,
24 the costs of reasonably required reserve
25 funds, capital issuance expenses, and any

1 other carrying costs during construction of
2 the applicable infrastructure; and

3 (ii) transaction costs associated with
4 financing an eligible project, including the
5 cost of legal counsel and technical consult-
6 ants.

7 (8) HIFIA PILOT PROGRAM.—The term
8 “HIFIA pilot program” means the hydrogen infra-
9 structure finance and innovation pilot program es-
10 tablished under subsection (b)(1).

11 (9) LETTER OF INTEREST.—The term “letter
12 of interest” means a letter submitted by a potential
13 applicant prior to an application for a grant or a
14 loan under the HIFIA pilot program that—

15 (A) is in a format prescribed by the Sec-
16 retary on the website of the HIFIA pilot pro-
17 gram;

18 (B) describes the project and the location,
19 purpose, and cost of the project;

20 (C) outlines the proposed financial plan,
21 including—

22 (i) the requested grant or loan assist-
23 ance; and

24 (ii) the proposed obligor, if applicable;

1 (D) provides a status of environmental re-
2 view; and

3 (E) provides information regarding satis-
4 faction of other eligibility requirements of the
5 HIFLA pilot program.

6 (10) LOW-INCOME OR DISADVANTAGED COMMU-
7 NITY.—The term “low-income or disadvantaged
8 community” means a community (including a city, a
9 town, a county, and any reasonably isolated and di-
10 visible segment of a larger municipality) with an an-
11 nual median household income that is less than 100
12 percent of the statewide annual median household
13 income for the State in which the community is lo-
14 cated, according to the most recent decennial census.

15 (11) OBLIGOR.—The term “obligor” means an
16 eligible entity that is liable for payment of the prin-
17 cipal of, or interest on, a loan under the HIFLA pilot
18 program.

19 (12) SECRETARY.—The term “Secretary”
20 means the Secretary of Energy.

21 (b) ESTABLISHMENT.—

22 (1) IN GENERAL.—Not later than 1 year after
23 the date of enactment of this Act, the Secretary, in
24 consultation with the Federal Energy Regulatory
25 Commission, the Surface Transportation Board, and

1 the Administrator of the Pipeline and Hazardous
2 Materials Safety Administration, shall establish a
3 hydrogen infrastructure finance and innovation pilot
4 program under which the Secretary shall provide—

5 (A) financial assistance to eligible entities
6 for eligible projects through—

7 (i) grants; or

8 (ii) long-term, low-cost supplemental
9 loans; and

10 (B) technical assistance in accordance with
11 subsection (1).

12 (2) COORDINATION WITH HYDROGEN HUBS.—

13 (A) IN GENERAL.—To ensure that the
14 HIFLA pilot program is compatible with, and
15 complementary to, any hydrogen hubs developed
16 under any other law, the Secretary, to the max-
17 imum extent practicable and subject to sub-
18 paragraph (B), shall coordinate the establish-
19 ment of the HIFLA pilot program with—

20 (i) any program to support the devel-
21 opment of hydrogen hubs that is required
22 to be established under any other law; and

23 (ii) the development of those hydrogen
24 hubs.

1 (B) TREATMENT.—Coordination with a
2 hydrogen hub under subparagraph (A) shall
3 not—

4 (i) be considered to be a priority cri-
5 terion in determining whether to provide
6 assistance for an eligible project under the
7 HIFIA pilot program; or

8 (ii) preclude the provision of assist-
9 ance under the HIFIA pilot program for
10 another eligible project that—

11 (I) meets the criteria described in
12 subsections (d) and (e); and

13 (II) is an objectively superior
14 project, as determined by the Sec-
15 retary.

16 (c) ELIGIBILITY.—

17 (1) IN GENERAL.—The Secretary may provide
18 financial assistance for an eligible project under the
19 HIFIA pilot program if—

20 (A) the eligible entity proposing to carry
21 out the project submits a letter of interest prior
22 to submission of an application under para-
23 graph (2) with respect to the project; and

1 (B) the eligible entity and the eligible
2 project meet all applicable requirements of this
3 section.

4 (2) APPLICATIONS.—

5 (A) IN GENERAL.—To be eligible for a
6 grant or a loan under the HIFIA pilot pro-
7 gram, an eligible entity shall submit to the Sec-
8 retary an application at such time, in such
9 manner, and containing such information as the
10 Secretary determines to be appropriate.

11 (B) ELECTION.—

12 (i) IN GENERAL.—An eligible entity
13 may elect to apply for a grant, a loan, or
14 both under the HIFIA pilot program.

15 (ii) DECISION.—The Secretary shall
16 have discretion to award any mix of grants
17 and loans under the HIFIA pilot program
18 as the Secretary determines to be appro-
19 priate, including with respect to each eligi-
20 ble entity that applies for both a grant and
21 a loan.

22 (C) APPLICATION PROCESSING PROCEDURE-
23 DURES.—

24 (i) NOTICE OF COMPLETE APPLICA-
25 TION.—Not later than 30 days after the

1 date of receipt of an application under this
2 paragraph, the Secretary shall provide to
3 the applicant a written notice describing
4 whether—

5 (I) the application is complete; or

6 (II) additional information or
7 materials are needed to complete the
8 application.

9 (ii) APPROVAL OR DENIAL OF APPLI-
10 CATION.—Not later than 90 days after the
11 date of issuance of a written notice under
12 clause (i), the Secretary shall provide to
13 the applicant a written notice informing
14 the applicant whether the Secretary has
15 approved or disapproved the application.

16 (d) PRIORITY.—In selecting eligible projects to re-
17 ceive a grant or a loan under the HIFLA pilot program,
18 the Secretary shall give priority to eligible projects that—

19 (1) will provide greater net impact in avoiding
20 or reducing emissions of greenhouse gases; and

21 (2) are sited in a manner that minimizes envi-
22 ronmental disturbance and other siting concerns, in-
23 cluding by being sited within, or adjacent to, existing
24 pipeline or other linear infrastructure corridors.

1 (e) CONSIDERATIONS.—In selecting eligible projects
2 to receive a grant or a loan under the HIFLA pilot pro-
3 gram, the Secretary, to the maximum extent practicable,
4 shall select projects that—

5 (1) are large-capacity, common carrier infra-
6 structure;

7 (2) enable geographical diversity in associated
8 projects and supply chains to produce, use, or store
9 hydrogen, with the goal of enabling projects in all
10 major regions of the United States with current hy-
11 drogen demand and potential future hydrogen de-
12 mand;

13 (3) aid in creating economies of scale for hydro-
14 gen uptake in applications requiring an affordable
15 solution to reduce greenhouse gas emissions;

16 (4) will generate the greatest benefit to low-in-
17 come or disadvantaged communities; and

18 (5) will—

19 (A) maximize creation or retention of jobs
20 in the United States; and

21 (B) provide the highest job quality.

22 (f) LOANS.—

23 (1) IN GENERAL.—In carrying out the HIFLA
24 pilot program, the Secretary shall make loans to eli-

1 gible entities, the proceeds of which shall be used to
2 finance eligible projects.

3 (2) INTEREST RATE.—The interest rate of a
4 loan under the HIFIA pilot program shall be not
5 less than the interest rate on United States Treas-
6 ury securities of a similar maturity to the maturity
7 of the loan on the date of closing on the loan.

8 (3) MATURITY DATE.—The final maturity date
9 of a loan provided under the HIFIA pilot program
10 shall be the date that is 30 years after the date of
11 substantial completion of the applicable eligible
12 project.

13 (4) REPAYMENT.—

14 (A) IN GENERAL.—The Secretary shall es-
15 tablish a repayment schedule for each loan pro-
16 vided under the HIFIA pilot program.

17 (B) COMMENCEMENT.—Repayment of a
18 loan provided under the HIFIA pilot program
19 shall commence on the date of substantial com-
20 pletion of the applicable eligible project for
21 which the loan was provided.

22 (C) DEFERRAL OF REPAYMENT.—If, at
23 any time during the 5-year period beginning on
24 the date of substantial completion of an eligible
25 project, the project is unable to generate suffi-

1 cient revenues in excess of reasonable and nec-
2 essary operating expenses to pay the scheduled
3 loan repayments of principal and interest on the
4 loan, the Secretary may allow the borrower to
5 defer repayment of the loan until the end of
6 that 5-year period.

7 (5) REQUIREMENTS.—

8 (A) CREDITWORTHINESS.—

9 (i) IN GENERAL.—Each obligor with
10 respect to a loan provided for an eligible
11 project under the HIFIA pilot program
12 shall be creditworthy, such that there ex-
13 ists a reasonable prospect of repayment of
14 the principal and interest on the loan, as
15 determined by the Secretary under clause
16 (ii).

17 (ii) REASONABLE PROSPECT OF RE-
18 PAYMENT.—The Secretary shall base a de-
19 termination of whether there is a reason-
20 able prospect of repayment under clause (i)
21 on a comprehensive evaluation of whether
22 the obligor has a reasonable prospect of re-
23 paying the loan for the eligible project, in-
24 cluding evaluation of—

- 1 (I) the forecast of noncontractual
2 cash flows supported by market pro-
3 jections from reputable sources, as de-
4 termined by the Secretary, and cash
5 sweeps or other structural enhance-
6 ments;
- 7 (II) the strength of the contrac-
8 tual terms of an eligible project (if
9 available for the applicable market
10 segment);
- 11 (III) the projected financial
12 strength of the obligor—
- 13 (aa) at the time of loan
14 close; and
- 15 (bb) throughout the loan
16 term, including after the project
17 is completed;
- 18 (IV) the financial strength of the
19 investors and strategic partners of the
20 obligor, if applicable; and
- 21 (V) other financial metrics and
22 analyses that are relied on by the pri-
23 vate lending community and nation-
24 ally recognized credit rating agencies,

1 as determined to be appropriate by
2 the Secretary.

3 (B) DEDICATED SOURCE OF REVENUE.—

4 An eligible project for which a loan is provided
5 under the HIFLA pilot program shall have a
6 dedicated source of revenue separate from any
7 financial assistance received under the HIFLA
8 pilot program.

9 (g) USE OF FINANCIAL ASSISTANCE.—

10 (1) IN GENERAL.—A grant or loan provided
11 under the HIFLA pilot program may be used for any
12 eligible project costs.

13 (2) ELIGIBLE ACTIVITIES.—A grant or loan
14 provided under the HIFLA pilot program may be
15 used to carry out any of the following activities with
16 respect to an eligible project:

17 (A) Development phase activities, includ-
18 ing—

19 (i) planning;

20 (ii) preliminary engineering;

21 (iii) design;

22 (iv) environmental review;

23 (v) revenue forecasting; and

24 (vi) other preconstruction activities.

1 (B) Construction, reconstruction, rehabili-
2 tation, and replacement activities, including the
3 training of construction personnel in handling
4 and safety.

5 (C) Acquisition of—

6 (i) real property or an interest in real
7 property; or

8 (ii) equipment.

9 (D) Environmental mitigation activities.

10 (E) Activities relating to construction con-
11 tingencies.

12 (h) FEDERAL REQUIREMENTS.—

13 (1) IN GENERAL.—Nothing in this section su-
14 persedes the applicability of any other requirement
15 under Federal law (including regulations).

16 (2) NEPA.—Federal assistance may only be
17 provided under the HIFLA pilot program for a
18 project that has received an environmental categor-
19 ical exclusion, a finding of no significant impact, or
20 a record of decision under the National Environ-
21 mental Policy Act of 1969 (42 U.S.C. 4321 et seq.).

22 (i) LEAK DETECTION.—Each eligible entity that re-
23 ceives a loan or grant under the HIFLA pilot program
24 shall conduct—

1 (1) a hydrogen leakage monitoring, reporting,
2 and verification (also known as “MRV”) program;
3 and

4 (2) a hydrogen leak detection and repair (also
5 known as “LDAR”) program.

6 (j) MAXIMUM FEDERAL INVOLVEMENT.—The max-
7 imum Federal share of an eligible project for which a loan
8 is provided under the HIFIA pilot program shall not ex-
9 ceed 80 percent of the eligible costs of the project.

10 (k) AMENDMENT.—Section 1703(b)(3) of the Energy
11 Policy Act of 2005 (42 U.S.C. 16513(b)(3)) is amended
12 by striking “Hydrogen fuel” and inserting “Hydrogen
13 technologies applicable to 1 or more end-use sectors, such
14 as power generation, transportation, aviation, storage, in-
15 dustrial, and chemicals, including hydrogen fuel”.

16 (l) TECHNICAL ASSISTANCE.—

17 (1) IN GENERAL.—The Secretary and the Na-
18 tional Laboratories may provide technical assistance
19 under the HIFIA pilot program to assess the grad-
20 ing and readiness of existing infrastructure to trans-
21 port, store, or deliver hydrogen with respect to infor-
22 mal State and regional planning for investments in
23 that grading and readiness.

1 (2) PRIORITY.—In providing technical assist-
2 ance under paragraph (1), the Secretary and the
3 National Laboratories shall prioritize—

4 (A) preexisting infrastructure corridors;

5 (B) geologic storage potential for hydro-
6 gen; and

7 (C) industrial clusters.

8 (m) REGULATORY ASSESSMENT TO ENCOURAGE HY-
9 DROGEN TRANSPORTATION INFRASTRUCTURE DEPLOY-
10 MENT.—Not later than 270 days after the date of enact-
11 ment of this Act, each of the Federal Energy Regulatory
12 Commission, the Surface Transportation Board, and the
13 Administrator of the Pipeline and Hazardous Materials
14 Safety Administration, in coordination with the Secretary,
15 shall—

16 (1) assess jurisdiction over the siting, construc-
17 tion, safety, and regulation of hydrogen transpor-
18 tation infrastructure, including, at a minimum, the
19 blending of hydrogen in natural gas pipelines;

20 (2) if that assessment indicates that additional
21 authority is needed to support the deployment of hy-
22 drogen transportation infrastructure, submit to Con-
23 gress a report describing the needed authority; and

24 (3) identify the eligibility of, and process for,
25 hydrogen transportation infrastructure to receive

1 cost recovery under the HIFLA pilot program
2 through Commission-regulated rates, Board-regu-
3 lated rates, or other applicable regulated rates, as
4 appropriate, for the transportation of hydrogen in
5 interstate commerce.

6 (n) AUTHORIZATION OF APPROPRIATIONS.—There is
7 authorized to be appropriated to the Secretary to carry
8 out the HIFLA pilot program \$100,000,000 for each of
9 fiscal years 2024 through 2028.

○