

117TH CONGRESS
2D SESSION

H. R. 8993

To provide for methane emission detection and mitigation, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 28, 2022

Mr. CASTEN (for himself and Mr. MELJER) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To provide for methane emission detection and mitigation,
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 “Methane Emissions
5 Mitigation Research and Development Act”.

6 **SEC. 2. METHANE EMISSION DETECTION AND MITIGATION.**

7 (a) IN GENERAL.—Subtitle F of title IX of the En-
8 ergy Policy Act of 2005 (42 U.S.C. 16291 et seq.) is
9 amended by adding at the end the following:

1 **“SEC. 969D. METHANE LEAK DETECTION AND MITIGATION.**

2 “(a) TECHNICAL ASSISTANCE.—

3 “(1) IN GENERAL.—The Secretary, in consulta-
4 tion with the Administrator of the Environmental
5 Protection Agency and the heads of other appro-
6 priate Federal agencies, shall carry out a program of
7 methane emissions detection and mitigation re-
8 search, development, and demonstration for tech-
9 nologies and methods that significantly detect, quan-
10 tify, and mitigate methane emissions. In carrying
11 out the program, the Secretary shall—

12 “(A) enter into cooperative agreements
13 with State or local governments or for-profit en-
14 tities to provide technical assistance to—

15 “(i) prevent or respond to methane re-
16 leases, including prediction, detection, miti-
17 gation, quantification, and identification of
18 leaks, vents, and other outflows throughout
19 the natural gas infrastructure (including
20 natural gas storage, pipelines, and natural
21 gas production sites); and

22 “(ii) protect public health in the event
23 of a major methane release;

24 “(B) promote demonstration and adoption
25 of effective methane emissions-reduction tech-
26 nologies in the private sector;

1 “(C) in coordination with representatives
2 from private sector entities, State and local gov-
3 ernments, and institutions of higher education,
4 establish a publicly accessible resource for best
5 practices in the design, construction, mainte-
6 nance, performance, monitoring, and incident
7 response for—

8 “(i) pipeline systems, including com-
9 pressor stations;

10 “(ii) production wells;

11 “(iii) storage facilities; and

12 “(iv) other vulnerable infrastructure;

13 “(D) in coordination with representatives
14 from private sector entities, State and local gov-
15 ernments, and institutions of higher education,
16 establish a publicly accessible resource for best
17 practices in evaluation and incorporation of
18 emission reduction technologies, including—

19 “(i) metrics for performance evalua-
20 tion; and

21 “(ii) principles for selection and inte-
22 gration that are best suited for the project
23 or entity concerned;

24 “(E) research technologies to more accu-
25 rately quantify emissions, including—

1 “(i) the ability to accurately charac-
2 terize and measure methane emissions
3 through various atmospheric conditions
4 such as wind, rain, fog, and dust;

5 “(ii) improvements to data analytics
6 and machine learning platforms; and

7 “(iii) the ability to characterize tem-
8 poral patterns in emissions, such as
9 through continuous monitoring or multi-
10 tiered system practices;

11 “(F) identify high-risk characteristics of
12 pipelines, wells, storage facilities, and materials,
13 geologic risk factors, or other key factors that
14 increase the likelihood or intensity of methane
15 emissions leaks;

16 “(G) identify methane mitigation methods
17 and technologies in coal mines; and

18 “(H) in collaboration with private sector
19 entities and institutions of higher education,
20 quantify and map significant geologic methane
21 seeps and other sources of natural emissions
22 across the United States.

23 “(2) CONSIDERATIONS.—In carrying out the
24 program under this section, the Secretary shall con-
25 sider the following:

1 “(A) Historical data of methane emissions.

2 “(B) Public health consequences.

3 “(C) Public safety.

4 “(D) Novel materials and designs for pipe-
5 lines, compressor stations, components, and
6 wells (including casing, cement, and wellhead).

7 “(E) Regional geologic traits.

8 “(F) Induced and natural seismicity.

9 “(b) METHANE LEAK DETECTION CONSORTIUM.—

10 “(1) IN GENERAL.—Not later than one year
11 after the date of the enactment of this section, the
12 Secretary shall establish and operate a Methane
13 Emissions Measurement and Mitigation Research
14 Consortium (in this section referred to as the ‘Con-
15 sortium’) for the purpose of supporting, to the max-
16 imum extent practicable, data sharing, research
17 prioritization, and researching cooperative leak de-
18 tection and repair strategies pertaining to methane
19 emissions detection, quantification, and mitigation.

20 “(2) MEMBERSHIP.—The members of the Con-
21 sortium shall be representatives from relevant Fed-
22 eral agencies, National Laboratories, oil and gas op-
23 erators and industry groups, vendors of methane de-
24 tection and quantification technologies, institutions
25 of higher education, community organizations, rel-

1 evant nongovernmental organizations, and other ap-
2 propriate entities.

3 “(3) RESPONSIBILITIES.—The Consortium shall
4 develop and implement a multiyear plan that—

5 “(A) identifies technical goals and mile-
6 stones for the Consortium; and

7 “(B) facilitates data sharing for the pur-
8 poses of—

9 “(i) bettering the understanding of
10 methane emissions from the oil and gas
11 sector;

12 “(ii) improving emissions detection,
13 measurement, and mitigation capabilities;
14 and

15 “(iii) improving the understanding of
16 methane quantification data analytics and
17 machine learning platforms, including for
18 calibration of measurements.

19 “(4) REPORTING.—

20 “(A) IN GENERAL.—The Secretary shall
21 report on the Consortium’s activities to the ap-
22 propriate congressional committees.

23 “(B) INITIAL REPORT.—Not later than 18
24 months after the date of the enactment of this
25 section, the Secretary shall submit to the appro-

1 appropriate congressional committees a report sum-
2 marizing the activities, findings, and progress
3 of the program. The report shall include—

4 “(i) a review of LDAR technologies
5 available to the oil and gas sector for the
6 purpose of methane emissions measure-
7 ment and mitigation;

8 “(ii) a summary of research gaps and
9 priorities related to methane emissions de-
10 tection, measurement, and mitigation capa-
11 bilities; and

12 “(iii) a description of the data sharing
13 and cooperative activities that have been
14 initiated pursuant to paragraph (3)(B).

15 “(C) ANNUAL REPORT.—Not later than
16 one year after the date on which the report
17 under subparagraph (B) is submitted and an-
18 nually thereafter, the Secretary shall submit to
19 the appropriate congressional committees a re-
20 port summarizing the activities, findings, and
21 progress of the program. The report shall in-
22 clude—

23 “(i) an updated review of LDAR tech-
24 nologies available to oil and gas operators

1 for the purpose of methane emissions
2 measurement and mitigation;

3 “(ii) a description of the state of
4 methane emissions detection and measure-
5 ment capabilities;

6 “(iii) a summary of research priorities
7 relating to methane emissions detection,
8 measurement, and mitigation; and

9 “(iv) an update on the data sharing
10 and cooperative activities undertaken by
11 members of the Consortium.

12 “(5) SUNSET; TERMINATION.—

13 “(A) IN GENERAL.—The Secretary may
14 provide support to the Consortium for a period
15 of not more than ten years, subject to the avail-
16 ability of appropriations.

17 “(B) MERIT REVIEW.—Not later than five
18 years after the date on which the Consortium is
19 established, the Secretary shall conduct a re-
20 view to determine whether the Consortium has
21 achieved the technical goals and milestones
22 identified under paragraph (3)(A).

23 “(6) DEFINITIONS.—In this section:

24 “(A) APPROPRIATE CONGRESSIONAL COM-
25 MITTEES.—The term ‘appropriate congressional

1 committees’ means the Committee on Science,
 2 Space, and Technology of the House of Rep-
 3 resentatives and the Committee on Energy and
 4 Natural Resources of the Senate.

5 “(B) LDAR.—The term ‘LDAR’ means a
 6 technology, program, or activity that is intended
 7 to monitor, detect, measure, or repair methane
 8 leaks.

9 “(C) SECRETARY.—The term ‘Secretary’
 10 means the Secretary of Energy.

11 “(7) AUTHORIZATION OF APPROPRIATIONS.—
 12 There are authorized to be appropriated to the Sec-
 13 retary to carry out this section—

14 “(A) \$33,000,000 for fiscal year 2023;

15 “(B) \$34,650,000 for fiscal year 2024;

16 “(C) \$36,382,500 for fiscal year 2025;

17 “(D) \$38,201,625 for fiscal year 2026;

18 and

19 “(E) \$40,111,706 for fiscal year 2027.”.

20 (b) CLERICAL AMENDMENT.—The table of contents
 21 in section 1(b) of the Energy Policy Act of 2005 is amend-
 22 ed by adding at the end of the items relating to subtitle
 23 F of title IX of such Act the following new item:

“Sec. 969D. Methane leak detection and mitigation.”.

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