



1 tion technologies and techniques, and to facilitate the  
2 translation of basic research results to industry.

3 “(b) COORDINATION.—In carrying out the program  
4 under subsection (a), the Secretary shall leverage expertise  
5 and resources and facilitate collaboration and coordination  
6 between—

7 “(1) the Office of Fossil Energy; and

8 “(2) the Office of Science.

9 “(c) CARBON UTILIZATION ENERGY INNOVATION  
10 HUB.—In carrying out the program under subsection (a),  
11 the Secretary shall establish and operate a national Car-  
12 bon Utilization Energy Innovation Hub (referred to in this  
13 section as the ‘Hub’), which shall focus on early stage re-  
14 search and development activities including—

15 “(1) post-combustion and pre-combustion cap-  
16 ture of carbon dioxide;

17 “(2) advanced compression technologies for new  
18 and existing fossil fuel-fired power plants;

19 “(3) technologies to convert carbon dioxide to  
20 valuable products and commodities; and

21 “(4) advanced carbon dioxide storage tech-  
22 nologies that consider a range of storage regimes.

23 “(d) SELECTION.—The Secretary shall select the  
24 Hub under this section on a competitive, merit-reviewed  
25 basis. The Secretary shall consider applications from Na-

1 tional Laboratories, institutions of higher education,  
2 multi-institutional collaborations, and other appropriate  
3 entities.

4 “(e) DURATION.—The Hub established under this  
5 section shall receive support for a period of not more than  
6 5 years, subject to the availability of appropriations.

7 “(f) RENEWAL.—Upon the expiration of any period  
8 of support of the Hub, the Secretary may renew support  
9 for the Hub, on a merit-reviewed basis, for a period of  
10 not more than 5 years.

11 “(g) TERMINATION.—Consistent with the existing  
12 authorities of the Department, the Secretary may termi-  
13 nate the Hub for cause during the performance period.

14 “(h) FUNDING.—For each of fiscal years 2020  
15 through 2025, out of any amounts appropriated to the De-  
16 partment to carry out fossil energy research and develop-  
17 ment activities and not otherwise obligated, the Secretary  
18 may use to carry out the Hubs under this section not more  
19 than \$25,000,000.”.

20 (b) Section 1(b) of the Energy Policy Act of 2005  
21 (42 U.S.C. 15801) by amending the item relating to sec-  
22 tion 963 to read as follows:

“Sec. 963. Carbon Utilization Research and Development Infrastructure.”.

1 **SEC. 3102. NATURAL GAS CARBON CAPTURE RESEARCH,**  
2 **DEVELOPMENT, AND DEMONSTRATION PRO-**  
3 **GRAM.**

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

7 **“SEC. 969. NATURAL GAS CARBON CAPTURE RESEARCH,**  
8 **DEVELOPMENT, AND DEMONSTRATION PRO-**  
9 **GRAM.**

10 “(a) DEFINITIONS.—In this section:

11 “(1) NATURAL GAS.—The term ‘natural gas’  
12 includes any fuel consisting in whole or in part of—

13 “(A) natural gas;

14 “(B) liquid petroleum gas;

15 “(C) synthetic gas derived from petroleum  
16 or natural gas liquids;

17 “(D) any mixture of natural gas and syn-  
18 thetic gas; or

19 “(E) any product derived directly from  
20 natural gas, including hydrogen.

21 “(2) QUALIFYING ELECTRIC GENERATION FA-  
22 CILITY.—The term ‘qualifying electric generation fa-  
23 cility’ means a facility that generates electric energy  
24 through the use of natural gas.

25 “(3) QUALIFYING TECHNOLOGY.—The term  
26 ‘qualifying technology’ means any technology to cap-

1       ture carbon dioxide produced during the generation  
2       of electricity from natural gas power systems.

3       “(b) ESTABLISHMENT OF RESEARCH, DEVELOP-  
4       MENT, AND DEMONSTRATION PROGRAM.—

5               “(1) IN GENERAL.—The Secretary shall estab-  
6       lish a program under which the Secretary shall,  
7       through a competitive, merit-reviewed process, award  
8       grants to eligible entities to conduct research, devel-  
9       opment, and demonstration of qualifying tech-  
10      nologies.

11             “(2) OBJECTIVES.—The objectives of the pro-  
12      gram established under paragraph (1) shall be—

13               “(A) to conduct research to accelerate the  
14      development of qualifying technologies to reduce  
15      the quantity of carbon dioxide emissions re-  
16      leased from qualifying electric generation facili-  
17      ties, including—

18                     “(i) pre- and post-combustion capture  
19                     technologies; and

20                     “(ii) technologies to improve the ther-  
21                     modynamics, kinetics, scalability, dura-  
22                     bility, and flexibility of carbon capture  
23                     technologies for use during the generation  
24                     of electricity from natural gas power sys-  
25                     tems;

1           “(B) to expedite and carry out demonstra-  
2           tion projects (including pilot projects) for quali-  
3           fying technologies in partnership with quali-  
4           fying electric generation facilities in order to  
5           demonstrate the technical feasibility and eco-  
6           nomic potential for commercial deployment of  
7           technologies developed pursuant to subpara-  
8           graph (A); and

9           “(C) to identify any barriers to the com-  
10          mercial deployment of any qualifying tech-  
11          nologies under development pursuant to re-  
12          search conducted pursuant to subparagraph  
13          (A).

14          “(3) ELIGIBLE ENTITIES.—An entity eligible to  
15          receive a grant under this subsection is—

16                 “(A) a National Laboratory;

17                 “(B) an institution of higher education;

18                 “(C) a research facility;

19                 “(D) a multi-institutional collaboration; or

20                 “(E) another appropriate entity or com-  
21          bination of any of the entities specified in sub-  
22          paragraphs (A) through (D).

23          “(c) CARBON CAPTURE FACILITIES DEMONSTRATION  
24          PROGRAM.—

1           “(1) ESTABLISHMENT.—As part of the pro-  
2           gram established under paragraph (1), the Secretary  
3           shall establish a demonstration program under which  
4           the Secretary shall, through a competitive, merit-re-  
5           viewed process, enter into cooperative agreements  
6           with entities that submit applications pursuant to  
7           paragraph (4) for demonstration or pilot projects to  
8           construct and operate, by not later than September  
9           30, 2025, up to five facilities to capture carbon diox-  
10          ide from qualifying electric generation facilities. The  
11          Secretary shall, to the maximum extent practicable,  
12          provide technical assistance to any entity seeking to  
13          enter into such a cooperative agreement in obtaining  
14          any necessary permits and licenses to demonstrate  
15          qualifying technologies.

16          “(2) COOPERATIVE AGREEMENTS.—The Sec-  
17          retary may enter into a cooperative agreement under  
18          this subsection with industry stakeholders, including  
19          any such industry stakeholder operating in partner-  
20          ship with National Laboratories, institutions of high-  
21          er education, multi-institutional collaborations, and  
22          other appropriate entities.

23          “(3) GOALS.—Each demonstration or pilot  
24          project carried out pursuant to the demonstration  
25          program under this subsection shall—

1           “(A) be designed to further the develop-  
2           ment of qualifying technologies that may be  
3           used by a qualifying electric generation facility;

4           “(B) be financed in part by the private  
5           sector;

6           “(C) if necessary, secure agreements for  
7           the offtake of carbon dioxide emissions captured  
8           by qualifying technologies during the project;  
9           and

10          “(D) support energy production in the  
11          United States.

12          “(4) REQUEST FOR APPLICATIONS.—Not later  
13          than 120 days after the date of enactment of this  
14          Act, the Secretary shall solicit applications for coop-  
15          erative agreements for projects—

16                 “(A) to demonstrate qualifying tech-  
17                 nologies at up to five qualifying electric genera-  
18                 tion facilities; and

19                 “(B) to construct and operate three or  
20                 more facilities to capture carbon dioxide from a  
21                 qualifying electric generation facility.

22          “(5) REVIEW OF APPLICATIONS.—In consid-  
23          ering applications submitted under paragraph (4),  
24          the Secretary, to the maximum extent practicable,  
25          shall—

1           “(A) ensure a broad geographic distribu-  
2           tion of project sites;

3           “(B) ensure that a broad selection of  
4           qualifying electric generation facilities are rep-  
5           resented;

6           “(C) ensure that a broad selection of quali-  
7           fying technologies are represented;

8           “(D) require information and knowledge  
9           gained by each participant in the demonstration  
10          program to be transferred and shared among  
11          all participants in the demonstration program;  
12          and

13          “(E) leverage existing—

14                  “(i) public-private partnerships; and

15                  “(ii) Federal resources.

16          “(d) COST SHARING.—In carrying out this section,  
17          the Secretary shall require cost sharing in accordance with  
18          section 988.

19          “(e) FEE TITLE.—The Secretary may vest fee title  
20          or other property interests acquired under cooperative  
21          agreements entered into under subsection (b)(4) in any  
22          entity, including the United States.

23          “(f) REPORT.—Not later than 180 days after the  
24          date on which the Secretary solicits applications under  
25          subsection (c)(3), and annually thereafter, the Secretary

1 shall submit to the appropriate committees of jurisdiction  
2 of the Senate and the House of Representatives a report  
3 that includes—

4           “(1) a detailed description of how applications  
5 for cooperative agreements under subsection (b) will  
6 be solicited and evaluated, including—

7           “(A) a list of any activities carried out by  
8 the Secretary to solicit or evaluate applications;  
9 and

10           “(B) a process for ensuring that any  
11 projects carried out under a cooperative agree-  
12 ment are designed to result in the development  
13 or demonstration of qualifying technologies;

14           “(2)(A) in the case of the first report under  
15 this subsection, a detailed list of technical milestones  
16 for the development and demonstration of each  
17 qualifying technology pursued under subsection (b);  
18 and

19           “(B) in the case of each subsequent report  
20 under this subsection, the progress made towards  
21 achieving such technical milestones during the pe-  
22 riod covered by the report; and

23           “(3) with respect to the demonstration program  
24 established under subsection (c), includes—

1           “(A) an estimate of the cost of licensing,  
2           permitting, constructing, and operating each  
3           carbon capture facility expected to be con-  
4           structed under that demonstration program;

5           “(B) a schedule for the planned construc-  
6           tion and operation of each demonstration or  
7           pilot project; and

8           “(C) an estimate of any financial assist-  
9           ance, compensation, or incentives proposed to  
10          be paid by the host State, Indian Tribe, or local  
11          government with respect to each facility.

12          “(g) FUNDING.—For each of fiscal years 2020  
13          through 2025, out of any amounts appropriated to the De-  
14          partment to carry out fossil energy research and develop-  
15          ment activities and not otherwise obligated, the Secretary  
16          may use to carry out this section not more than  
17          \$50,000,000.”.

18          (b) CLERICAL AMENDMENT.—The table of contents  
19          for the Energy Policy Act of 2005 (Public Law 109–58;  
20          119 Stat. 600) is amended by inserting after the item re-  
21          lating to section 968 the following:

          “Sec. 969. Natural gas carbon capture research, development, and demonstra-  
          tion program.”.

