116TH CONGRESS
2D SESSION

H. R._____

To establish and support the research, development, and demonstration of advanced carbon capture and utilization technologies at the Department of Energy, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Mr. CRENSHAW introduced the following bill; which was referred to the Committee on ________________

A BILL

To establish and support the research, development, and demonstration of advanced carbon capture and utilization technologies at the Department of Energy, and for other purposes.

1 Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

2 SECTION 1. SHORT TITLE.

3 This Act may be cited as the “New Energy Frontiers Through Carbon Innovation Act of 2020”.

(Original Signature of Member)
SEC. 2. CARBON UTILIZATION RESEARCH AND DEVELOPMENT PROGRAM AND INFRASTRUCTURE.

(a) Section 963 of the Energy Policy Act of 2005 (42 U.S.C. 16293) is amended to read as follows:

“SEC. 963. CARBON UTILIZATION RESEARCH AND DEVELOPMENT INFRASTRUCTURE.

“(a) IN GENERAL.—The Secretary shall carry out a program to conduct basic and fundamental research in materials science, chemistry, subsurface instrumentation, and data analysis to inform the research, development, and demonstration of carbon capture, storage, and utilization technologies and techniques, and to facilitate the translation of basic research results to industry.

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

“(1) the Office of Fossil Energy; and

“(2) the Office of Science.

“(c) CARBON UTILIZATION ENERGY INNOVATION HUB.—In carrying out the program under subsection (a), the Secretary shall establish and operate a national Carbon Utilization Energy Innovation Hub (referred to in this section as the ‘Hub’), which shall focus on early stage research and development activities including—
“(1) post-combustion and pre-combustion capture of carbon dioxide;

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

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

“(4) advanced carbon dioxide storage technologies that consider a range of storage regimes.

“(d) SELECTION.—The Secretary shall select the Hub under this section on a competitive, merit-reviewed basis. The Secretary shall consider applications from National Laboratories, institutions of higher education, multi-institutional collaborations, and other appropriate entities.

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

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

“(g) TERMINATION.—Consistent with the existing authorities of the Department, the Secretary may terminate the Hub for cause during the performance period.
“(h) FUNDING.—For each of fiscal years 2020 through 2025, out of any amounts appropriated to the Department to carry out fossil energy research and development activities and not otherwise obligated, the Secretary may use to carry out the Hubs under this section not more than $25,000,000.”.

(b) Section 1(b) of the Energy Policy Act of 2005 (42 U.S.C. 15801) by amending the item relating to section 963 to read as follows:

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

SEC. 3. NATURAL GAS CARBON CAPTURE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM.

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

“SEC. 969. NATURAL GAS CARBON CAPTURE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM.

“(a) DEFINITIONS.—In this section:

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

“(A) natural gas;

“(B) liquid petroleum gas;
“(C) synthetic gas derived from petroleum or natural gas liquids;

“(D) any mixture of natural gas and synthetic gas; or

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

“(2) QUALIFYING ELECTRIC GENERATION FACILITY.—The term ‘qualifying electric generation facility’ means a facility that generates electric energy through the use of natural gas.

“(3) QUALIFYING TECHNOLOGY.—The term ‘qualifying technology’ means any technology to capture carbon dioxide produced during the generation of electricity from natural gas power systems.

“(b) ESTABLISHMENT OF RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM.—

“(1) IN GENERAL.—The Secretary shall establish a program under which the Secretary shall, through a competitive, merit-reviewed process, award grants to eligible entities to conduct research, development, and demonstration of qualifying technologies.

“(2) OBJECTIVES.—The objectives of the program established under paragraph (1) shall be—
“(A) to conduct research to accelerate the development of qualifying technologies to reduce the quantity of carbon dioxide emissions released from qualifying electric generation facilities, including—

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

“(ii) technologies to improve the thermodynamics, kinetics, scalability, durability, and flexibility of carbon capture technologies for use during the generation of electricity from natural gas power systems;

“(B) to expedite and carry out demonstration projects (including pilot projects) for qualifying technologies in partnership with qualifying electric generation facilities in order to demonstrate the technical feasibility and economic potential for commercial deployment of technologies developed pursuant to subparagraph (A); and

“(C) to identify any barriers to the commercial deployment of any qualifying technologies under development pursuant to re-
search conducted pursuant to subparagraph (A).

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

“(A) a National Laboratory;
“(B) an institution of higher education;
“(C) a research facility;
“(D) a multi-institutional collaboration; or
“(E) another appropriate entity or combination of any of the entities specified in subparagraphs (A) through (D).

“(c) CARBON CAPTURE FACILITIES DEMONSTRATION PROGRAM.—

“(1) ESTABLISHMENT.—As part of the program established under paragraph (1), the Secretary shall establish a demonstration program under which the Secretary shall, through a competitive, merit-reviewed process, enter into cooperative agreements with entities that submit applications pursuant to paragraph (4) for demonstration or pilot projects to construct and operate, by not later than September 30, 2025, up to five facilities to capture carbon dioxide from qualifying electric generation facilities. The Secretary shall, to the maximum extent practicable, provide technical assistance to any entity seeking to
enter into such a cooperative agreement in obtaining
any necessary permits and licenses to demonstrate
qualifying technologies.

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

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

“(A) be designed to further the develop-
ment of qualifying technologies that may be
used by a qualifying electric generation facility;
“(B) be financed in part by the private
sector;
“(C) if necessary, secure agreements for
the offtake of carbon dioxide emissions captured
by qualifying technologies during the project;
and
“(D) support energy production in the
United States.
“(4) Request for Applications.—Not later than 120 days after the date of enactment of this Act, the Secretary shall solicit applications for cooperative agreements for projects—

“(A) to demonstrate qualifying technologies at up to five qualifying electric generation facilities; and

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

“(5) Review of Applications.—In considering applications submitted under paragraph (4), the Secretary, to the maximum extent practicable, shall—

“(A) ensure a broad geographic distribution of project sites;

“(B) ensure that a broad selection of qualifying electric generation facilities are represented;

“(C) ensure that a broad selection of qualifying technologies are represented;

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

and

“(E) leverage existing—

“(i) public-private partnerships; and

“(ii) Federal resources.

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

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

“(f) Report.—Not later than 180 days after the date on which the Secretary solicits applications under subsection (c)(3), and annually thereafter, the Secretary shall submit to the appropriate committees of jurisdiction of the Senate and the House of Representatives a report that includes—

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

“(A) a list of any activities carried out by the Secretary to solicit or evaluate applications; and
“(B) a process for ensuring that any projects carried out under a cooperative agreement are designed to result in the development or demonstration of qualifying technologies;

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

“(B) in the case of each subsequent report under this subsection, the progress made towards achieving such technical milestones during the period covered by the report; and

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

“(A) an estimate of the cost of licensing, permitting, constructing, and operating each carbon capture facility expected to be constructed under that demonstration program;

“(B) a schedule for the planned construction and operation of each demonstration or pilot project; and

“(C) an estimate of any financial assistance, compensation, or incentives proposed to
be paid by the host State, Indian Tribe, or local
government with respect to each facility.

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

(b) CLERICAL AMENDMENT.—The table of contents
119 Stat. 600) is amended by inserting after the item re-
lating to section 968 the following:

“Sec. 969. Natural gas carbon capture research, development, and demonstration program.”.