

Calendar No. 357

116TH CONGRESS
1ST SESSION

S. 2657

To support innovation in advanced geothermal research and development,
and for other purposes.

IN THE SENATE OF THE UNITED STATES

OCTOBER 22, 2019

Ms. MURKOWSKI (for herself and Mr. MANCHIN) introduced the following bill;
which was read twice and referred to the Committee on Energy and Nat-
ural Resources

DECEMBER 17, 2019

Reported by Ms. MURKOWSKI, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]

A BILL

To support innovation in advanced geothermal research and
development, 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 “Advanced Geothermal
5 Innovation Leadership Act of 2019” or the “AGILE Act
6 of 2019”.

1 **SEC. 2. UPDATE TO GEOTHERMAL RESOURCE ASSESSMENT.**

2 Section 2501 of the Energy Policy Act of 1992 (30
3 U.S.C. 1028) is amended—

4 (1) by redesignating subsections (a) and (b) as
5 subsections (b) and (d), respectively;

6 (2) by inserting before subsection (b) (as so re-
7 designated) the following:

8 “(a) **DEFINITION OF ENHANCED GEOTHERMAL SYS-**
9 **TEMS.**—In this section, the term ‘enhanced geothermal
10 systems’ has the meaning given the term in section 612
11 of the Energy Independence and Security Act of 2007 (42
12 U.S.C. 17191).”;

13 (3) by inserting after subsection (b) (as so re-
14 designated) the following:

15 “(c) **UPDATE TO GEOTHERMAL RESOURCE ASSESS-**
16 **MENT.**—The Secretary of the Interior, acting through the
17 United States Geological Survey, and in consultation with
18 the Secretary of Energy, shall update the United States
19 geothermal resource assessment carried out by the United
20 States Geological Survey, including by focusing on—

21 “(1) with respect to areas previously identified
22 by the Department of Energy or the United States
23 Geological Survey as having significant potential for
24 hydrothermal energy or enhanced geothermal sys-
25 tems energy—

1 “(A) improving the resolution of resource
2 potential at systematic temperatures and
3 depths, including temperatures and depths ap-
4 propriate for power generation and direct use
5 applications;

6 “(B) quantifying the total potential to co-
7 produce geothermal energy and minerals;

8 “(C) incorporating data relevant to under-
9 ground thermal energy storage and exchange;
10 such as aquifer and soil properties; and

11 “(D) producing high resolution maps, in-
12 cluding—

13 “(i) maps that indicate key subsurface
14 parameters for electric and direct use re-
15 sources; and

16 “(ii) risk maps for induced seismicity
17 based on geologic, geographic, and oper-
18 ational parameters; and

19 “(2) to the maximum extent practicable, ex-
20 panding geothermal assessments, including enhanced
21 geothermal systems assessments, to include assess-
22 ments for the Commonwealth of Puerto Rico and the
23 States of Alaska and Hawaii.”; and

24 (4) in subsection (d) (as so redesignated), by
25 striking “necessary” and inserting “necessary”.

1 **SEC. 3. GENERAL GEOTHERMAL RESEARCH AND DEVELOP-**
 2 **MENT PROGRAMS.**

3 Section 614 of the Energy Independence and Security
 4 Act of 2007 (42 U.S.C. 17193) is amended by adding at
 5 the end the following:

6 “(d) OIL AND GAS TECHNOLOGY TRANSFER INITIA-
 7 TIVE.—

8 “(1) IN GENERAL.—The Secretary shall sup-
 9 port an initiative among the Office of Fossil Energy,
 10 the Office of Energy Efficiency and Renewable En-
 11 ergy, and the private sector to modify, improve, and
 12 demonstrate the use in geothermal energy develop-
 13 ment of relevant advanced technologies and oper-
 14 ation techniques used in the oil and gas sector.

15 “(2) PRIORITIES.—In carrying out paragraph
 16 (1), the Secretary shall prioritize technologies with
 17 the greatest potential to significantly increase the
 18 use and lower the cost of geothermal energy in the
 19 United States, including the cost and speed of geo-
 20 thermal drilling.

21 “(e) SECONDARY USE SUBPROGRAM.—

22 “(1) IN GENERAL.—The Secretary shall sup-
 23 port within the Geothermal Technologies Office a
 24 program of research, development, and demonstra-
 25 tion in the secondary use of geothermal energy other

1 than for electricity, direct use, or geothermal ex-
 2 change heat pumps.

3 ~~“(2) PROGRAM AREAS.—The program under~~
 4 ~~paragraph (1) shall include the following areas:~~

5 ~~“(A) Minerals recovery, including lithium,~~
 6 ~~silica, and rare earth elements.~~

7 ~~“(B) Geothermal-powered desalination.~~

8 ~~“(C) Industrial applications of geothermal~~
 9 ~~energy.~~

10 ~~“(D) The use of geothermal energy as a~~
 11 ~~grid management resource or seasonal energy~~
 12 ~~storage.~~

13 ~~“(E) Other cost competitive secondary uses~~
 14 ~~of geothermal energy, as determined by the Sec-~~
 15 ~~retary.~~

16 ~~“(F) Systems that utilize a combination of~~
 17 ~~the techniques and uses described in subpara-~~
 18 ~~graphs (A) through (E) with geothermal heat~~
 19 ~~or power.~~

20 ~~“(3) COPRODUCTION OF GEOTHERMAL ENERGY~~
 21 ~~AND MINERALS PRODUCTION PRIZE COMPETITION.—~~

22 ~~“(A) IN GENERAL.—The Secretary shall~~
 23 ~~carry out a prize competition under which the~~
 24 ~~Secretary shall award prizes to demonstrate the~~
 25 ~~coproduction of critical minerals (as defined by~~

the Secretary of the Interior on the date of enactment of the AGILE Act of 2019) from geothermal resources.

“(B) REQUIREMENTS.—A demonstration awarded a prize under subparagraph (A) shall—

“(i) improve the cost-effectiveness of removing minerals from geothermal brines as part of the coproduction process;

“(ii) increase recovery rates of the targeted mineral commodity;

“(iii) decrease water use and other environmental impacts, as determined by the Secretary; and

“(iv) demonstrate a path to commercial viability.

“(C) MAXIMUM PRIZE AMOUNT.—The maximum amount of a prize awarded under subparagraph (A) shall be \$10,000,000.

“(D) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to the Secretary to carry out this paragraph \$5,000,000 for each of fiscal years 2020 through 2023.”.

1 **SEC. 4. MODIFYING THE DEFINITION OF RENEWABLE EN-**
 2 **ERGY TO INCLUDE THERMAL ENERGY.**

3 (a) ~~IN GENERAL.~~—Section 203 of the Energy Policy
 4 Act of 2005 (42 U.S.C. 15852) is amended—

5 (1) in subsection (b)—

6 (A) by redesignating paragraph (2) as
 7 paragraph (3);

8 (B) by inserting after paragraph (1) the
 9 following:

10 “(2) **QUALIFIED WASTE HEAT RESOURCE.**—The
 11 term ‘qualified waste heat resource’ means—

12 “(A) exhaust heat or flared gas from any
 13 industrial process;

14 “(B) waste gas or industrial tail gas that
 15 would otherwise be flared, incinerated, or vent-
 16 ed;

17 “(C) a pressure drop in any gas as part of
 18 an industrial or commercial process; or

19 “(D) such other forms of waste heat as the
 20 Secretary determines appropriate.”; and

21 (C) in paragraph (3) (as so redesign-
 22 ated)—

23 (i) by striking “generated from” and
 24 inserting “produced from, or, in the case
 25 of thermal energy resulting from a thermal
 26 energy project placed in service after De-

ember 31, 2018, thermal energy generated from, or avoided by,” and

(ii) by inserting “qualified waste heat resource,” before “or new”; and

(2) in subsection (c)—

(A) by redesignating paragraphs (1) through (3) as subparagraphs (A) through (C), respectively, and indenting appropriately;

(B) in the matter preceding subparagraph (A) (as so redesignated), by striking “For purposes” and inserting the following:

“(1) IN GENERAL.—For purposes”; and

(C) by adding at the end the following:

“(2) SEPARATE CALCULATION.—

“(A) IN GENERAL.—For purposes of determining compliance with the requirement of this section, any energy consumption that is avoided through the use of renewable energy shall be considered to be renewable energy produced.

“(B) DENIAL OF DOUBLE BENEFIT.—

Avoided energy consumption that is considered to be renewable energy produced under subparagraph (A) shall not also be counted for purposes of achieving compliance with another Federal energy efficiency goal.”.

1 (b) CONFORMING AMENDMENT.—Section 2410q(a)
 2 of title 10, United States Code, is amended by striking
 3 “section 203(b)(2) of the Energy Policy Act of 2005 (42
 4 U.S.C. 15852(b)(2))” and inserting “section 203(b) of the
 5 Energy Policy Act of 2005 (42 U.S.C. 15852(b))”.

6 **SEC. 5. ENHANCED GEOTHERMAL RESEARCH AND DEVEL-**
 7 **OPMENT.**

8 (a) DEFINITION OF ENGINEERED.—Section 612(1)
 9 of the Energy Independence and Security Act of 2007 (42
 10 U.S.C. 17191(1)) is amended in the matter preceding sub-
 11 paragraph (A) by striking “subjected to intervention, in-
 12 cluding intervention” and inserting “designed to access
 13 subsurface heat, including nonstimulation technologies,”.

14 (b) PROGRAMS.—Section 615(b) of the Energy Inde-
 15 pendence and Security Act of 2007 (42 U.S.C. 17194(b))
 16 is amended—

17 (1) in paragraph (1)—

18 (A) in subparagraph (C), by striking
 19 “mapping” and inserting “and fracture map-
 20 ping, including real-time modeling”;

21 (B) in subparagraph (E), by striking
 22 “and” at the end;

23 (C) by redesignating subparagraph (F) as
 24 subparagraph (K); and

1 (D) by inserting after subparagraph (E)
2 the following:

3 “(F) well placement and orientation;

4 “(G) long-term reservoir management;

5 “(H) drilling technologies, methods, and
6 tools;

7 “(I) improved exploration tools;

8 “(J) zonal isolation; and”; and

9 (2) by striking paragraph (2) and inserting the
10 following:

11 “(2) FRONTIER OBSERVATORIES FOR RE-
12 SEARCH IN GEOTHERMAL ENERGY.—

13 “(A) PROGRAM.—The Secretary shall sup-
14 port 2 field research sites operated by public or
15 academic entities, which shall each be known as
16 a ‘Frontier Observatory for Research in Geo-
17 thermal Energy’ or ‘FORGE’ site, to develop,
18 test, and enhance techniques and tools for en-
19 hanced geothermal energy.

20 “(B) SITE SELECTION.—Of the FORGE
21 sites referred to in subparagraph (A)—

22 “(i) 1 shall be the existing research
23 site in Milford, Utah; and

1 “(ii) 1 shall be selected by the Sec-
 2 retary through a competitive selection
 3 process.

4 “(C) SITE DURATION.—The FORGE site
 5 selected under subparagraph (B)(ii) shall oper-
 6 ate for an initial term of not more than 7 years
 7 after the date on which site preparation is com-
 8 plete.

9 “(D) ADDITIONAL TERMS.—

10 “(i) IN GENERAL.—At the end of an
 11 operational term described in clause (ii), a
 12 FORGE site may—

13 “(I) be transferred to the private
 14 sector for further enhanced geo-
 15 thermal testing; or

16 “(II) subject to appropriations
 17 and a merit review by the Secretary,
 18 operate for an additional term of not
 19 more than 7 years.

20 “(ii) OPERATIONAL TERM DE-
 21 SCRIBED.—An operational term referred to
 22 in clause (i)—

23 “(I) in the case of the FORGE
 24 site designated under subparagraph

1 ~~(B)(i), is the existing operational~~
 2 ~~term; and~~

3 ~~“(H) in the case of the FORGE~~
 4 ~~site selected under subparagraph~~
 5 ~~(B)(ii), is the initial term under sub-~~
 6 ~~paragraph (C) or an additional term~~
 7 ~~under clause (i)(H).~~

8 ~~“(3) ENHANCED GEOTHERMAL SYSTEMS DEM-~~
 9 ~~ONSTRATIONS.—~~

10 ~~“(A) IN GENERAL.—Beginning on the date~~
 11 ~~of enactment of the AGILE Act of 2019, the~~
 12 ~~Secretary, in collaboration with industry part-~~
 13 ~~ners and institutions of higher education, shall~~
 14 ~~support an initiative for demonstration of en-~~
 15 ~~hanced geothermal systems for power produc-~~
 16 ~~tion or direct use.~~

17 ~~“(B) PROJECTS.—~~

18 ~~“(i) IN GENERAL.—Under the initia-~~
 19 ~~tive described in subparagraph (A), not~~
 20 ~~less than 4 demonstration projects shall be~~
 21 ~~carried out in locations that are commer-~~
 22 ~~cially viable for enhanced geothermal sys-~~
 23 ~~tems development, as determined by the~~
 24 ~~Secretary.~~

1 “(ii) REQUIREMENTS.—Demonstra-
2 tion projects under clause (i) shall—

3 “(I) collectively demonstrate—

4 “(aa) different geologic set-
5 tings, such as hot sedimentary
6 aquifers, layered geologic sys-
7 tems, supercritical systems, and
8 basement rock systems; and

9 “(bb) a variety of develop-
10 ment techniques, including open
11 hole and cased hole completions,
12 differing well orientations, and
13 stimulation mechanisms;

14 “(II) to the extent practicable,
15 use existing sites where subsurface
16 characterization or geothermal energy
17 integration analysis has been con-
18 ducted; and

19 “(III) each be carried out in ac-
20 cordance with section 988 of the En-
21 ergy Policy Act of 2005 (42 U.S.C.
22 16352).

23 “(iii) EASTERN DEMONSTRATION.—

24 Not less than 1 demonstration project
25 under clause (i) shall be located in an area

1 east of the Mississippi River that is suit-
 2 able for enhanced geothermal demonstra-
 3 tion for power, heat, or a combination of
 4 power and heat.

5 “(C) OPTIONAL PROGRAM STRUCTURE.—

6 “(i) IN GENERAL.—The Secretary
 7 may, pursuant to section 646(g) of the De-
 8 partment of Energy Organization Act (42
 9 U.S.C. 7256(g)), structure the initiative
 10 described in subparagraph (A) as a cost
 11 share milestone-based payment initiative
 12 (similar to the National Aeronautics and
 13 Space Administration Commercial Orbital
 14 Transportation Services program).

15 “(ii) REQUIREMENTS.—If the Sec-
 16 retary elects to carry out clause (i), the
 17 Secretary shall—

18 “(I) request proposals from eligi-
 19 ble entities, as determined by the Sec-
 20 retary, that include—

21 “(aa) a business plan;

22 “(bb) technical details; and

23 “(cc) proposed milestones
 24 and associated payments; and

25 “(H) select projects—

1 “(aa) based on the dem-
 2 onstrated ability of the eligible
 3 entity to meet the milestones and
 4 associated payments described in
 5 the proposal of that eligible enti-
 6 ty; and

7 “(bb) that have the greatest
 8 potential commercial applica-
 9 bility.”.

10 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

11 Section 623 of the Energy Independence and Security
 12 Act of 2007 (42 U.S.C. 17202) is amended by striking
 13 “\$90,000,000” in the first sentence and all that follows
 14 through the period at the end of the second sentence and
 15 inserting “\$150,000,000 for each of fiscal years 2020
 16 through 2024.”.

17 **SEC. 7. REAUTHORIZATION OF HIGH COST REGION GEO-**
 18 **THERMAL ENERGY GRANT PROGRAM.**

19 Section 625 of the Energy Independence and Security
 20 Act of 2007 (42 U.S.C. 17204) is amended—

21 (1) in subsection (a)(2), by inserting “or heat”
 22 after “electrical power”; and

23 (2) by striking subsection (c) and inserting the
 24 following:

1 “(e) AUTHORIZATION OF APPROPRIATIONS.—There
 2 is authorized to be appropriated to carry out this section
 3 \$5,000,000 for each of fiscal years 2020 through 2024.”.

4 **SEC. 8. PROGRAM TO IMPROVE FEDERAL GEOTHERMAL**
 5 **PERMIT COORDINATION.**

6 (a) DEFINITIONS.—In this section:

7 (1) PROGRAM.—The term “Program” means
 8 the Geothermal Energy Permitting Coordination
 9 Program established under subsection (b).

10 (2) SECRETARY.—The term “Secretary” means
 11 the Secretary of the Interior.

12 (b) ESTABLISHMENT OF PROGRAM.—Not later than
 13 90 days after the date of enactment of this Act, the Sec-
 14 retary shall establish a program, to be known as the “Geo-
 15 thermal Energy Permitting Coordination Program”, to
 16 improve Federal permit coordination and reduce regu-
 17 latory timelines with respect to geothermal energy projects
 18 on Federal land by increasing the expertise of officials ad-
 19 ministering and approving permits.

20 (c) ESTABLISHMENT OF PROGRAM OFFICES.—To
 21 carry out the Program, the Secretary shall establish one
 22 or more Program offices at State or district offices of the
 23 Department of the Interior.

24 (d) MEMORANDUM OF UNDERSTANDING.—

1 (1) IN GENERAL.—Not later than 90 days after
 2 the date of enactment of this Act, the Secretary
 3 shall enter into a memorandum of understanding for
 4 purposes of this section with—

5 (A) the Secretary of Agriculture;

6 (B) the Administrator of the Environ-
 7 mental Protection Agency; and

8 (C) the Secretary of Defense.

9 (2) STATE PARTICIPATION.—The Secretary
 10 may request that the Governor of any State be a sig-
 11 natory to the memorandum of understanding under
 12 paragraph (1).

13 (e) DESIGNATION OF QUALIFIED STAFF.—

14 (1) IN GENERAL.—Not later than 30 days after
 15 the date on which the memorandum of under-
 16 standing under subsection (d) is executed, all Fed-
 17 eral signatories, as appropriate, shall assign to each
 18 Program office established under subsection (e) one
 19 or more employees who have expertise in the regu-
 20 latory issues relating to the office or agency in which
 21 the employee is employed, including, as applicable,
 22 particular expertise in—

23 (A) consultation regarding, and prepara-
 24 tion of, biological opinions under section 7 of

1 the Endangered Species Act of 1973 (16 U.S.C.
2 1536);

3 (B) permits under section 404 of the Fed-
4 eral Water Pollution Control Act (33 U.S.C.
5 1344);

6 (C) regulatory matters under the Clean Air
7 Act (42 U.S.C. 7401 et seq.);

8 (D) the Federal Land Policy and Manage-
9 ment Act of 1976 (43 U.S.C. 1701 et seq.);

10 (E) planning under section 14 of the Na-
11 tional Forest Management Act of 1976 (16
12 U.S.C. 472a);

13 (F) developing geothermal resources under
14 the Geothermal Steam Act of 1970 (30 U.S.C.
15 1001 et seq.); and

16 (G) the preparation of analyses under the
17 National Environmental Policy Act of 1969 (42
18 U.S.C. 4321 et seq.).

19 (2) DUTIES.—Each employee assigned under
20 paragraph (1) shall—

21 (A) not later than 90 days after the date
22 on which the employee is assigned; report to the
23 State Director of the Bureau of Land Manage-
24 ment for the State in which the office to which
25 the employee is assigned is located;

1 (B) be responsible for all issues relating to
 2 the jurisdiction of the home office or agency of
 3 the employee; and

4 (C) participate as part of the team of per-
 5 sonnel working on proposed energy projects,
 6 planning, and environmental analyses.

7 (f) ~~ADDITIONAL PERSONNEL.~~—The Secretary shall
 8 assign to each Program office any additional personnel
 9 that are necessary to ensure the effective implementation
 10 of—

11 (1) the Program; and

12 (2) any program administered by the Program
 13 office, including inspection and enforcement relating
 14 to energy development on Federal land, in accord-
 15 ance with the multiple use mandate of the Federal
 16 Land Policy and Management Act of 1976 (43
 17 U.S.C. 1701 et seq.).

18 (g) ~~TRANSFER OF FUNDS.~~—To facilitate the coordi-
 19 nation and processing of geothermal permits on Federal
 20 land under the administration of a Program office, the
 21 Secretary may authorize the expenditure or transfer of
 22 any funds that are necessary to—

23 (1) the United States Fish and Wildlife Service;

24 (2) the Bureau of Indian Affairs;

25 (3) the Forest Service;

- 1 (4) the Environmental Protection Agency;
- 2 (5) the Corps of Engineers;
- 3 (6) the Department of Defense; or
- 4 (7) any State in which a geothermal project is
- 5 located.

6 (h) ~~REPORTS.~~—Not later than 3 years after the date
 7 of enactment of this Act, the Secretary shall submit to
 8 Congress a report that describes—

- 9 (1) the progress of the Program; and
- 10 (2) any problems relating to leasing, permitting,
- 11 or siting with respect to geothermal energy develop-
- 12 ment on Federal land.

13 (i) ~~SAVINGS CLAUSE.~~—Nothing in this section af-
 14 fects—

- 15 (1) the operation of any Federal or State law;
- 16 or
- 17 (2) any delegation of authority made by the
- 18 head of a Federal agency any employee of which is
- 19 participating in the Program.

20 ***SECTION 1. SHORT TITLE.***

21 *This Act may be cited as the “Advanced Geothermal*
 22 *Innovation Leadership Act of 2019” or the “AGILE Act*
 23 *of 2019”.*

1 **SEC. 2. UPDATE TO GEOTHERMAL RESOURCE ASSESSMENT.**

2 Section 2501 of the Energy Policy Act of 1992 (30
3 U.S.C. 1028) is amended—

4 (1) by redesignating subsections (a) and (b) as
5 subsections (b) and (d), respectively;

6 (2) by inserting before subsection (b) (as so re-
7 designated) the following:

8 “(a) *DEFINITION OF ENHANCED GEOTHERMAL SYS-*
9 *TEMS.—In this section, the term ‘enhanced geothermal sys-*
10 *tems’ has the meaning given the term in section 612 of the*
11 *Energy Independence and Security Act of 2007 (42 U.S.C.*
12 *17191).’;*”

13 (3) by inserting after subsection (b) (as so redes-
14 ignated) the following:

15 “(c) *UPDATE TO GEOTHERMAL RESOURCE ASSESS-*
16 *MENT.—The Secretary of the Interior, acting through the*
17 *United States Geological Survey, and in consultation with*
18 *the Secretary of Energy, shall update the United States geo-*
19 *thermal resource assessment carried out by the United*
20 *States Geological Survey, including—*

21 “(1) with respect to areas previously identified
22 by the Department of Energy or the United States
23 Geological Survey as having significant potential for
24 hydrothermal energy or enhanced geothermal systems
25 energy, by focusing on—

1 “(A) improving the resolution of resource
2 potential at systematic temperatures and depths,
3 including temperatures and depths appropriate
4 for power generation and direct use applications;

5 “(B) quantifying the total potential to co-
6 produce geothermal energy and minerals;

7 “(C) incorporating data relevant to under-
8 ground thermal energy storage and exchange,
9 such as aquifer and soil properties; and

10 “(D) producing high resolution maps, in-
11 cluding—

12 “(i) maps that indicate key subsurface
13 parameters for electric and direct use re-
14 sources; and

15 “(ii) risk maps for induced seismicity
16 based on geologic, geographic, and oper-
17 ational parameters; and

18 “(2) to the maximum extent practicable, by co-
19 ordinating with relevant State officials and institu-
20 tions of higher education to expand geothermal assess-
21 ments, including enhanced geothermal systems assess-
22 ments, to include assessments for the Commonwealth
23 of Puerto Rico and the States of Alaska and Ha-
24 waii.”; and

1 (4) in subsection (d) (as so redesignated), by
2 striking “necessary” and inserting “necessary”.

3 **SEC. 3. GENERAL GEOTHERMAL RESEARCH AND DEVELOP-**
4 **MENT PROGRAMS.**

5 Section 614 of the Energy Independence and Security
6 Act of 2007 (42 U.S.C. 17193) is amended by adding at
7 the end the following:

8 “(d) OIL AND GAS TECHNOLOGY TRANSFER INITIA-
9 TIVE.—

10 “(1) IN GENERAL.—The Secretary shall support
11 an initiative among the Office of Fossil Energy, the
12 Office of Energy Efficiency and Renewable Energy,
13 and the private sector to modify, improve, and dem-
14 onstrate the use in geothermal energy development of
15 relevant advanced technologies and operation tech-
16 niques used in the oil and gas sector.

17 “(2) PRIORITIES.—In carrying out paragraph
18 (1), the Secretary shall prioritize technologies with the
19 greatest potential to significantly increase the use and
20 lower the cost of geothermal energy in the United
21 States, including the cost and speed of small- and
22 large-scale geothermal drilling.

23 “(e) COPRODUCTION OF GEOTHERMAL ENERGY AND
24 MINERALS PRODUCTION PRIZE COMPETITION.—

1 “(1) *IN GENERAL.*—*The Secretary shall carry*
 2 *out a prize competition under which the Secretary*
 3 *shall award prizes to demonstrate the coproduction of*
 4 *critical minerals (as defined by the Secretary of the*
 5 *Interior on the date of enactment of the AGILE Act*
 6 *of 2019) from geothermal resources.*

7 “(2) *REQUIREMENTS.*—*A demonstration award-*
 8 *ed a prize under paragraph (1) shall—*

9 “(A) *improve the cost-effectiveness of remov-*
 10 *ing minerals from geothermal brines as part of*
 11 *the coproduction process;*

12 “(B) *increase recovery rates of the targeted*
 13 *mineral commodity;*

14 “(C) *decrease water use and other environ-*
 15 *mental impacts, as determined by the Secretary;*
 16 *and*

17 “(D) *demonstrate a path to commercial via-*
 18 *bility.*

19 “(3) *MAXIMUM PRIZE AMOUNT.*—*The maximum*
 20 *amount of a prize awarded under paragraph (1) shall*
 21 *be \$10,000,000.*

22 “(f) *DRILLING DATA REPOSITORY.*—

23 “(1) *IN GENERAL.*—*The Secretary shall, in co-*
 24 *ordination with the Secretary of the Interior, estab-*
 25 *lish and operate a voluntary, industry-wide reposi-*

1 *tory of geothermal drilling information to lower the*
 2 *cost of future geothermal drilling.*

3 *“(2) REPOSITORY.—*

4 *“(A) IN GENERAL.—In carrying out para-*
 5 *graph (1), the Secretary shall collaborate with*
 6 *geothermally significant countries, such as Ice-*
 7 *land, Switzerland, Kenya, Australia, the Phil-*
 8 *ippines, and any other relevant country, as de-*
 9 *termined by the Secretary.*

10 *“(B) DATA SYSTEM.—The repository estab-*
 11 *lished under paragraph (1) shall be integrated*
 12 *with the National Geothermal Data System.”.*

13 **SEC. 4. ENHANCED GEOTHERMAL RESEARCH AND DEVEL-**
 14 **OPMENT.**

15 *(a) DEFINITION OF ENGINEERED.—Section 612(1) of*
 16 *the Energy Independence and Security Act of 2007 (42*
 17 *U.S.C. 17191(1)) is amended in the matter preceding sub-*
 18 *paragraph (A) by striking “subjected to intervention, in-*
 19 *cluding intervention” and inserting “designed to access sub-*
 20 *surface heat, including nonstimulation technologies,”.*

21 *(b) PROGRAMS.—Section 615(b) of the Energy Inde-*
 22 *pendence and Security Act of 2007 (42 U.S.C. 17194(b))*
 23 *is amended—*

24 *(1) in paragraph (1)—*

1 (A) in subparagraph (C), by striking “map-
2 ping” and inserting “and fracture mapping, in-
3 cluding real-time modeling”;

4 (B) in subparagraph (E), by striking “and”
5 at the end;

6 (C) by redesignating subparagraph (F) as
7 subparagraph (K); and

8 (D) by inserting after subparagraph (E) the
9 following:

10 “(F) well placement and orientation;

11 “(G) long-term reservoir management;

12 “(H) drilling technologies, methods, and
13 tools;

14 “(I) improved exploration tools;

15 “(J) zonal isolation; and”; and

16 (2) by striking paragraph (2) and inserting the
17 following:

18 “(2) *FRONTIER OBSERVATORIES FOR RESEARCH*
19 *IN GEOTHERMAL ENERGY.*—

20 “(A) *PROGRAM.*—*The Secretary shall sup-*
21 *port 2 field research sites operated by public or*
22 *academic entities, which shall each be known as*
23 *a ‘Frontier Observatory for Research in Geo-*
24 *thermal Energy’ or ‘FORGE’ site, to develop,*

1 *test, and enhance techniques and tools for en-*
 2 *hanced geothermal energy.*

3 “(B) *SITE SELECTION.—Of the FORGE*
 4 *sites referred to in subparagraph (A)—*

5 “(i) *1 shall be the existing research site*
 6 *in Milford, Utah; and*

7 “(ii) *1 shall be—*

8 “(I) *selected by the Secretary*
 9 *through a competitive selection process;*
 10 *and*

11 “(II) *located in a different geo-*
 12 *logic type than the existing research*
 13 *site described in clause (i).*

14 “(C) *SITE OPERATION.—*

15 “(i) *INITIAL DURATION.—The FORGE*
 16 *site selected under subparagraph (B)(ii)*
 17 *shall operate for an initial term of not more*
 18 *than 7 years after the date on which site*
 19 *preparation is complete.*

20 “(ii) *PERFORMANCE METRICS.—The*
 21 *Secretary shall establish performance*
 22 *metrics for each FORGE site supported*
 23 *under this paragraph, which may be used*
 24 *by the Secretary to determine whether a*

1 *FORGE* site should continue to receive
2 funding.

3 “(D) *ADDITIONAL TERMS.*—

4 “(i) *IN GENERAL.*—At the end of an
5 operational term described in clause (ii), a
6 *FORGE* site may—

7 “(I) be transferred to other public
8 or private entities for further enhanced
9 geothermal testing; or

10 “(II) subject to appropriations
11 and a merit review by the Secretary,
12 operate for an additional term of not
13 more than 7 years.

14 “(ii) *OPERATIONAL TERM DE-*
15 *SCRIBED.*—An operational term referred to
16 in clause (i)—

17 “(I) in the case of the *FORGE*
18 site designated under subparagraph
19 (B)(i), is the existing operational term;
20 and

21 “(II) in the case of the *FORGE*
22 site selected under subparagraph
23 (B)(ii), is the initial term under sub-
24 paragraph (C) or an additional term
25 under clause (i)(II).

1 “(3) *ENHANCED GEOTHERMAL SYSTEMS DEM-*
2 *ONSTRATIONS.*—

3 “(A) *IN GENERAL.*—*Beginning on the date*
4 *of enactment of the AGILE Act of 2019, the Sec-*
5 *retary, in collaboration with industry partners*
6 *and institutions of higher education, shall sup-*
7 *port an initiative for demonstration of enhanced*
8 *geothermal systems for power production or di-*
9 *rect use.*

10 “(B) *PROJECTS.*—

11 “(i) *IN GENERAL.*—*Under the initia-*
12 *tive described in subparagraph (A), not less*
13 *than 4 demonstration projects shall be car-*
14 *ried out in locations that are potentially*
15 *commercially viable for enhanced geo-*
16 *thermal systems development, as determined*
17 *by the Secretary.*

18 “(ii) *REQUIREMENTS.*—*Demonstration*
19 *projects under clause (i) shall—*

20 “(I) *collectively demonstrate—*

21 “(aa) *different geologic set-*
22 *tings, such as hot sedimentary*
23 *aquifers, layered geologic systems,*
24 *supercritical systems, and base-*
25 *ment rock systems; and*

1 “(bb) a variety of develop-
2 ment techniques, including open
3 hole and cased hole completions,
4 differing well orientations, and
5 stimulation mechanisms;

6 “(II) to the extent practicable, use
7 existing sites where subsurface charac-
8 terization or geothermal energy inte-
9 gration analysis has been conducted;
10 and

11 “(III) each be carried out in ac-
12 cordance with section 988 of the En-
13 ergy Policy Act of 2005 (42 U.S.C.
14 16352).

15 “(iii) *EASTERN DEMONSTRATION*.—Not
16 less than 1 demonstration project under
17 clause (i) shall be located in an area east of
18 the Mississippi River that is suitable for en-
19 hanced geothermal demonstration for power,
20 heat, or a combination of power and heat.

21 “(C) *OPTIONAL PROGRAM STRUCTURE*.—

22 “(i) *IN GENERAL*.—The Secretary may,
23 pursuant to section 646(g) of the Depart-
24 ment of Energy Organization Act (42
25 U.S.C. 7256(g)), impose a cost share mile-

1 *stone-based payment structure (similar to*
 2 *the structure used in the National Aero-*
 3 *nautics and Space Administration Com-*
 4 *mercial Orbital Transportation Services*
 5 *program) on a demonstration project de-*
 6 *scribed in subparagraph (B).*

7 “(ii) *REQUIREMENTS.—If the Sec-*
 8 *retary elects to carry out clause (i) for a*
 9 *demonstration project, the Secretary shall—*

10 “(I) *request proposals from eligi-*
 11 *ble entities, as determined by the Sec-*
 12 *retary, that include—*

13 “(aa) *a business plan;*

14 “(bb) *technical details; and*

15 “(cc) *proposed milestones*
 16 *and associated payments; and*

17 “(II) *select projects—*

18 “(aa) *based on the dem-*
 19 *onstrated ability of the eligible en-*
 20 *tity to meet the milestones and as-*
 21 *sociated payments described in the*
 22 *proposal of that eligible entity;*
 23 *and*

1 “(bb) that have the greatest
2 potential commercial applica-
3 bility.”.

4 **SEC. 5. GEOTHERMAL HEAT PUMPS AND DIRECT USE.**

5 *Title VI of the Energy Independence and Security Act*
6 *of 2007 is amended by inserting after section 616 (42*
7 *U.S.C. 17195) the following:*

8 **“SEC. 616A. GEOTHERMAL HEAT PUMPS AND DIRECT USE**
9 **RESEARCH AND DEVELOPMENT.**

10 “(a) *PURPOSES.*—*The purposes of this section are—*

11 “(1) *to improve the components, processes, and*
12 *systems used for geothermal heat pumps and the di-*
13 *rect use of geothermal energy; and*

14 “(2) *to increase the energy efficiency, lower the*
15 *cost, increase the use, and improve and demonstrate*
16 *the applicability of geothermal heat pumps to, and*
17 *the direct use of geothermal energy in, large buildings,*
18 *commercial districts, residential communities, and*
19 *large municipal, agricultural, or industrial projects.*

20 “(b) *DEFINITIONS.*—*In this section:*

21 “(1) *DIRECT USE OF GEOTHERMAL ENERGY.*—
22 *The term ‘direct use of geothermal energy’ means sys-*
23 *tems that use water directly or through a heat ex-*
24 *changer to provide—*

25 “(A) *heating to buildings; or*

1 “(B) *heat required for industrial processes,*
2 *agriculture, aquaculture, and other facilities.*

3 “(2) *ECONOMICALLY DISTRESSED AREA.*—*The*
4 *term ‘economically distressed area’ means an area de-*
5 *scribed in section 301(a) of the Public Works and*
6 *Economic Development Act of 1965 (42 U.S.C.*
7 *3161(a)).*

8 “(3) *GEOTHERMAL HEAT PUMP.*—*The term ‘geo-*
9 *thermal heat pump’ means a system that provides*
10 *heating and cooling by exchanging heat from shallow*
11 *ground or surface water using—*

12 “(A) *a closed loop system, which transfers*
13 *heat by way of buried or immersed pipes that*
14 *contain a mix of water and working fluid; or*

15 “(B) *an open loop system, which circulates*
16 *ground or surface water directly into the build-*
17 *ing and returns the water to the same aquifer or*
18 *surface water source.*

19 “(c) *PROGRAM.*—

20 “(1) *IN GENERAL.*—*The Secretary shall support*
21 *within the Geothermal Technologies Office a program*
22 *of research, development, and demonstration for geo-*
23 *thermal heat pumps and the direct use of geothermal*
24 *energy.*

1 “(2) *AREAS.*—*The program under paragraph (1)*
2 *may include research, development, demonstration,*
3 *and commercial application of—*

4 “(A) *geothermal ground loop efficiency im-*
5 *provements, cost reductions, and improved in-*
6 *stallation and operations methods;*

7 “(B) *the use of geothermal energy for build-*
8 *ing-scale energy storage;*

9 “(C) *the use of geothermal energy as a grid*
10 *management resource or seasonal energy storage;*

11 “(D) *geothermal heat pump efficiency im-*
12 *provements;*

13 “(E) *the use of alternative fluids as a heat*
14 *exchange medium, such as hot water found in*
15 *mines and mine shafts, graywater, or other*
16 *fluids that may improve the economics of geo-*
17 *thermal heat pumps;*

18 “(F) *heating of districts, neighborhoods,*
19 *communities, large commercial or public build-*
20 *ings, and industrial and manufacturing facili-*
21 *ties;*

22 “(G) *the use of water sources at a tempera-*
23 *ture of less than 150 degrees Celsius for direct*
24 *use; and*

1 “(H) system integration of direct use with
2 geothermal electricity production.

3 “(3) *ENVIRONMENTAL IMPACTS.*—In carrying
4 out the program, the Secretary shall identify and
5 mitigate potential environmental impacts in accord-
6 ance with section 614(c).

7 “(d) *GRANTS.*—

8 “(1) *IN GENERAL.*—The Secretary shall make
9 grants available to State, local, and Tribal govern-
10 ments, institutions of higher education, nonprofit en-
11 tities, National Laboratories, utilities, and for-profit
12 companies to promote the development of geothermal
13 heat pumps and the direct use of geothermal energy.

14 “(2) *PRIORITY.*—In making grants under this
15 subsection, the Secretary shall give priority to pro-
16 posals that apply to large buildings, commercial dis-
17 tricts, and residential communities that are located in
18 economically distressed areas.”.

19 **SEC. 6. MODIFYING THE DEFINITION OF RENEWABLE EN-**
20 **ERGY TO INCLUDE THERMAL ENERGY.**

21 (a) *IN GENERAL.*—Section 203 of the Energy Policy
22 Act of 2005 (42 U.S.C. 15852) is amended—

23 (1) in subsection (b)(2), by striking “generated
24 from” and inserting “produced from, or, in the case
25 of thermal energy resulting from a thermal energy

1 *project placed in service after December 31, 2018,*
 2 *thermal energy generated from, or avoided by,”; and*

3 *(2) in subsection (c)—*

4 *(A) by redesignating paragraphs (1)*
 5 *through (3) as subparagraphs (A) through (C),*
 6 *respectively, and indenting appropriately;*

7 *(B) in the matter preceding subparagraph*
 8 *(A) (as so redesignated), by striking “For pur-*
 9 *poses” and inserting the following:*

10 *“(1) IN GENERAL.—For purposes”; and*

11 *(C) by adding at the end the following:*

12 *“(2) SEPARATE CALCULATION.—*

13 *“(A) IN GENERAL.—For purposes of deter-*
 14 *mining compliance with the requirement of this*
 15 *section, any energy consumption that is avoided*
 16 *through the use of renewable energy shall be con-*
 17 *sidered to be renewable energy produced.*

18 *“(B) DENIAL OF DOUBLE BENEFIT.—Avoid-*
 19 *ed energy consumption that is considered to be*
 20 *renewable energy produced under subparagraph*
 21 *(A) shall not also be counted for purposes of*
 22 *achieving compliance with another Federal en-*
 23 *ergy efficiency goal.”.*

24 *(b) CONFORMING AMENDMENT.—Section 2410q(a) of*
 25 *title 10, United States Code, is amended by striking “sec-*

tion 203(b)(2) of the Energy Policy Act of 2005 (42 U.S.C. 15852(b)(2))” and inserting “section 203(b) of the Energy Policy Act of 2005 (42 U.S.C. 15852(b))”.

SEC. 7. AUTHORIZATION OF APPROPRIATIONS.

Section 623 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17202) is amended by striking “\$90,000,000” in the first sentence and all that follows through the period at the end of the second sentence and inserting the following: “\$165,000,000 for each of fiscal years 2020 through 2024, of which—

“(1) \$5,000,000 for each of fiscal years 2020 through 2023 shall be for the prize competition under section 614(e); and

“(2) \$1,000,000 each fiscal year shall be for the drilling data repository under section 614(f).”.

SEC. 8. REAUTHORIZATION OF HIGH COST REGION GEOTHERMAL ENERGY GRANT PROGRAM.

Section 625 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17204) is amended—

(1) in subsection (a)(2), by inserting “or heat” after “electrical power”; and

(2) by striking subsection (e) and inserting the following:

1 “(e) *AUTHORIZATION OF APPROPRIATIONS.*—*There is*
 2 *authorized to be appropriated to carry out this section*
 3 *\$5,000,000 for each of fiscal years 2020 through 2024.*”.

4 **SEC. 9. NATIONAL GOALS FOR PRODUCTION ON FEDERAL**
 5 **LAND.**

6 (a) *IN GENERAL.*—*Not later than September 1, 2021,*
 7 *the Secretary of the Interior shall, in consultation with the*
 8 *Secretary of Energy, the Secretary of Agriculture, and other*
 9 *heads of relevant Federal agencies, establish national goals*
 10 *for geothermal energy capacity on public land.*

11 (b) *GEOHERMAL ENERGY DEVELOPMENT.*—*The Di-*
 12 *rector of the Bureau of Land Management, in consultation*
 13 *with other appropriate Federal officials, shall take any ac-*
 14 *tions that the Director of the Bureau of Land Management*
 15 *determines necessary to facilitate geothermal energy devel-*
 16 *opment, consistent with applicable laws.*

17 **SEC. 10. FACILITATION OF COPRODUCTION OF GEO-**
 18 **THERMAL ENERGY ON OIL AND GAS LEASES.**

19 Section 4(b) of the Geothermal Steam Act of 1970 (30
 20 U.S.C. 1003(b)) is amended by adding at the end the fol-
 21 lowing:

22 “(4) *LAND SUBJECT TO OIL AND GAS LEASE.*—
 23 *Land under an oil and gas lease issued pursuant to*
 24 *the Mineral Leasing Act (30 U.S.C. 181 et seq.) or the*
 25 *Mineral Leasing Act for Acquired Lands (30 U.S.C.*

1 351 et seq.) that is subject to an approved application
 2 for permit to drill and from which oil and gas pro-
 3 duction is occurring may be available for noncompeti-
 4 tive leasing under this section to the holder of the oil
 5 and gas lease—

6 “(A) on a determination that—

7 “(i) geothermal energy will be pro-
 8 duced from a well producing or capable of
 9 producing oil and gas; and

10 “(ii) national energy security will be
 11 improved by the issuance of such a lease;
 12 and

13 “(B) to provide for the coproduction of geo-
 14 thermal energy with oil and gas.”.

15 **SEC. 11. GEOTHERMAL RESOURCE CONFIRMATION TEST**
 16 **PROJECTS.**

17 (a) *IN GENERAL.*—The Geothermal Steam Act of 1970
 18 (30 U.S.C. 1001 et seq.) is amended by adding at the end
 19 the following:

20 **“SEC. 30. GEOTHERMAL RESOURCE CONFIRMATION TEST**
 21 **PROJECTS.**

22 “(a) *DEFINITIONS.*—In this section:

23 “(1) *EXTRAORDINARY CIRCUMSTANCES.*—The
 24 term ‘extraordinary circumstances’ has the same
 25 meaning given the term in the Department of the In-

1 *terior Departmental Manual, 516 DM 2.3A(3) and*
 2 *516 DM 2, Appendix 2 (or successor provisions).*

3 “(2) *GEOHERMAL RESOURCE CONFIRMATION*
 4 *TEST PROJECT.—The term ‘geothermal resource con-*
 5 *firmation test project’ means a project of drilling not*
 6 *more than 3 wells into a reservoir to test or explore*
 7 *for geothermal resources—*

8 “(A) *on land for which the Secretary has*
 9 *issued a lease under this Act; and*

10 “(B) *that—*

11 “(i) *is carried out by the holder of the*
 12 *lease;*

13 “(ii) *allows for well testing, such as to*
 14 *confirm temperature, pressure, chemistry,*
 15 *flow rate, and near-wellbore and overall res-*
 16 *ervoir permeability;*

17 “(iii) *causes—*

18 “(I) *less than 2.5 acres of soil or*
 19 *vegetation disruption at the location of*
 20 *each geothermal exploration well; and*

21 “(II) *not more than an additional*
 22 *5 acres of soil or vegetation disruption*
 23 *during access to or egress from the test*
 24 *site;*

1 “(iv) is less than 9 inches in bottom-
2 hole diameter;

3 “(v) is developed—

4 “(I) in a manner that does not re-
5 quire off-road motorized access other
6 than to and from the well site along an
7 identified off-road route; and

8 “(II) without the use of high-pres-
9 sure well stimulation;

10 “(vi) includes the removal of any sur-
11 face infrastructure other than the wellhead
12 from the site not later than 90 days after
13 the project is completed; and

14 “(vii) requires, not later than 42
15 months after the date on which the first ex-
16 ploration drilling began, the restoration of
17 the project site to approximately the condi-
18 tion that existed at the time the project be-
19 gins, unless the site is subsequently used as
20 part of an energy development under the
21 lease.

22 “(b) CATEGORICAL EXCLUSION.—Unless extraor-
23 dinary circumstances exist, a project that the Secretary de-
24 termines under subsection (c) is a geothermal resource con-
25 firmation test project shall be categorically excluded from

1 *the requirements for an environmental assessment or an en-*
 2 *vironmental impact statement under the National Environ-*
 3 *mental Policy Act of 1969 (42 U.S.C. 4321 et seq.) or sec-*
 4 *tion 1508.4 of title 40, Code of Federal Regulations (or a*
 5 *successor regulation).*

6 “(c) *PROCESS.*—

7 “(1) *REQUIREMENT TO PROVIDE NOTICE.*—A
 8 *leaseholder shall provide notice to the Secretary of the*
 9 *intent of the leaseholder to carry out a geothermal re-*
 10 *source confirmation test project at least 30 days be-*
 11 *fore the start of drilling under the project.*

12 “(2) *REVIEW AND DETERMINATION.*—*Not later*
 13 *than 30 days after receipt of a notice of intent under*
 14 *paragraph (1), the Secretary shall, with respect to the*
 15 *project described in the notice of intent—*

16 “(A) *determine if the project is a geo-*
 17 *thermal resource confirmation test project;*

18 “(B) *notify the leaseholder of such deter-*
 19 *mination; and*

20 “(C) *provide public notice of the determina-*
 21 *tion.*

22 “(3) *OPPORTUNITY TO REMEDY.*—*If the Sec-*
 23 *retary determines under paragraph (2)(A) that the*
 24 *project is not a geothermal resource confirmation test*
 25 *project, the Secretary shall—*

1 “(A) include in such notice clear and de-
 2 tailed findings on any deficiencies in the project
 3 that resulted in such determination; and

4 “(B) allow the leaseholder to remedy any
 5 such deficiencies and resubmit the notice of in-
 6 tent under paragraph (1).”.

7 (b) *REPEAL*.—The Geothermal Energy Research, De-
 8 velopment, and Demonstration Act of 1974 (30 U.S.C. 1101
 9 *et seq.*) is repealed.

10 **SEC. 12. PROGRAM TO IMPROVE FEDERAL GEOTHERMAL**
 11 **PERMIT COORDINATION.**

12 (a) *DEFINITIONS*.—In this section:

13 (1) *PROGRAM*.—The term “Program” means the
 14 Geothermal Energy Permitting Coordination Pro-
 15 gram established under subsection (b).

16 (2) *SECRETARY*.—The term “Secretary” means
 17 the Secretary of the Interior.

18 (b) *ESTABLISHMENT OF PROGRAM*.—Not later than 90
 19 days after the date of enactment of this Act, the Secretary
 20 shall establish a program, to be known as the “Geothermal
 21 Energy Permitting Coordination Program”, to improve
 22 Federal permit coordination and reduce regulatory
 23 timelines with respect to geothermal energy projects on Fed-
 24 eral land by increasing the expertise of officials admin-
 25 istering and approving permits.

1 (c) *ESTABLISHMENT OF PROGRAM OFFICES.*—To
 2 *carry out the Program, the Secretary shall establish 1 or*
 3 *more Program offices at State or district offices of the De-*
 4 *partment of the Interior.*

5 (d) *MEMORANDUM OF UNDERSTANDING.*—

6 (1) *IN GENERAL.*—Not later than 90 days after
 7 *the date of enactment of this Act, the Secretary shall*
 8 *enter into a memorandum of understanding for pur-*
 9 *poses of this section with—*

10 (A) *the Secretary of Agriculture;*

11 (B) *the Administrator of the Environmental*
 12 *Protection Agency; and*

13 (C) *the Secretary of Defense.*

14 (2) *STATE PARTICIPATION.*—The Secretary may
 15 *request that the Governor of any State be a signatory*
 16 *to the memorandum of understanding under para-*
 17 *graph (1).*

18 (e) *DESIGNATION OF QUALIFIED STAFF.*—

19 (1) *IN GENERAL.*—Not later than 30 days after
 20 *the date on which the memorandum of understanding*
 21 *under subsection (d) is executed, all Federal signato-*
 22 *ries, as appropriate, shall assign to each Program of-*
 23 *fice established under subsection (c) 1 or more em-*
 24 *ployees who have expertise in the regulatory issues re-*
 25 *lating to the office or agency in which the employee*

1 *is employed, including, as applicable, particular ex-*
2 *pertise in—*

3 *(A) consultation regarding, and prepara-*
4 *tion of, biological opinions under section 7 of the*
5 *Endangered Species Act of 1973 (16 U.S.C.*
6 *1536);*

7 *(B) permits under section 404 of the Fed-*
8 *eral Water Pollution Control Act (33 U.S.C.*
9 *1344);*

10 *(C) regulatory matters under the Clean Air*
11 *Act (42 U.S.C. 7401 et seq.);*

12 *(D) the Federal Land Policy and Manage-*
13 *ment Act of 1976 (43 U.S.C. 1701 et seq.);*

14 *(E) planning under section 14 of the Na-*
15 *tional Forest Management Act of 1976 (16*
16 *U.S.C. 472a);*

17 *(F) developing geothermal resources under*
18 *the Geothermal Steam Act of 1970 (30 U.S.C.*
19 *1001 et seq.); and*

20 *(G) the preparation of analyses under the*
21 *National Environmental Policy Act of 1969 (42*
22 *U.S.C. 4321 et seq.).*

23 *(2) DUTIES.—Each employee assigned under*
24 *paragraph (1) shall—*

1 (A) not later than 90 days after the date on
 2 which the employee is assigned, report to the
 3 State Director of the Bureau of Land Manage-
 4 ment for the State in which the office to which
 5 the employee is assigned is located;

6 (B) be responsible for all issues relating to
 7 the jurisdiction of the home office or agency of
 8 the employee; and

9 (C) participate as part of the team of per-
 10 sonnel working on proposed energy projects,
 11 planning, and environmental analyses.

12 (f) *ADDITIONAL PERSONNEL.*—The Secretary shall as-
 13 sign to each Program office any additional personnel that
 14 are necessary to ensure the effective implementation of—

15 (1) the Program; and

16 (2) any program administered by the Program
 17 office, including inspection and enforcement relating
 18 to energy development on Federal land, in accordance
 19 with the multiple use mandate of the Federal Land
 20 Policy and Management Act of 1976 (43 U.S.C. 1701
 21 *et seq.*).

22 (g) *TRANSFER OF FUNDS.*—To facilitate the coordina-
 23 tion and processing of geothermal permits on Federal land
 24 under the administration of a Program office, the Secretary

1 *may authorize the expenditure or transfer of any funds that*
 2 *are necessary to—*

- 3 *(1) the United States Fish and Wildlife Service;*
- 4 *(2) the Bureau of Indian Affairs;*
- 5 *(3) the Forest Service;*
- 6 *(4) the Environmental Protection Agency;*
- 7 *(5) the Corps of Engineers;*
- 8 *(6) the Department of Defense; or*
- 9 *(7) any State in which a geothermal project is*
 10 *located.*

11 *(h) REPORTS.—Not later than 3 years after the date*
 12 *of enactment of this Act, the Secretary shall submit to Con-*
 13 *gress a report that describes—*

- 14 *(1) the progress of the Program; and*
- 15 *(2) any problems relating to leasing, permitting,*
 16 *or siting with respect to geothermal energy develop-*
 17 *ment on Federal land.*

18 *(i) SAVINGS CLAUSE.—Nothing in this section af-*
 19 *fects—*

- 20 *(1) the operation of any Federal or State law; or*
- 21 *(2) any delegation of authority made by the head*
 22 *of a Federal agency any employee of which is partici-*
 23 *pating in the Program.*

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A BILL

To support innovation in advanced geothermal research and development, and for other purposes.

DECEMBER 17, 2019

Reported with an amendment