

**Suspend the Rules and Pass the Bill, H.R. 8790, With an Amendment**

**(The amendment strikes all after the enacting clause and inserts a new text)**

119TH CONGRESS  
2D SESSION

# H. R. 8790

To amend the Energy Independence and Security Act of 2007 to direct research, development, demonstration, and commercial application activities in support of next-generation geothermal and closed-loop geothermal systems in various conditions, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

MAY 13, 2026

Mr. HARRIGAN (for himself and Ms. SALINAS) introduced the following bill; which was referred to the Committee on Science, Space, and Technology, and in addition to the Committee on Natural Resources, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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## A BILL

To amend the Energy Independence and Security Act of 2007 to direct research, development, demonstration, and commercial application activities in support of next-generation geothermal and closed-loop geothermal systems in various conditions, 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Next-Generation Geo-  
3 thermal Research and Development Act”.

4 **SEC. 2. GEOTHERMAL ENERGY.**

5 (a) IN GENERAL.—The Energy Independence and  
6 Security Act of 2007 (Public Law 110–140) is amended—

7 (1) in section 612 (42 U.S.C. 17191; relating  
8 to definitions)—

9 (A) by redesignating paragraphs (1), (2),  
10 (3), (4), (5), (6), (7), and (8) as paragraphs  
11 (2), (3), (4), (5), (6), (7), (8), and (10), respec-  
12 tively;

13 (B) by inserting before paragraph (2), as  
14 so redesignated, the following new paragraph:

15 “(1) CLOSED-LOOP GEOTHERMAL SYSTEMS.—  
16 The term ‘closed-loop geothermal systems’ means a  
17 wellbore or subsurface circuit of wellbores containing  
18 a fluid heated through contact with the borehole  
19 wall.”;

20 (C) by inserting after paragraph (8), as so  
21 redesignated, the following new paragraph:

22 “(9) NEXT-GENERATION GEOTHERMAL SYS-  
23 TEMS.—The term ‘next-generation geothermal sys-  
24 tems’ means—

25 “(A) enhanced geothermal systems;

26 “(B) closed-loop geothermal systems;

1 “(C) in supercritical conditions—  
2 “(i) enhanced geothermal systems; or  
3 “(ii) closed-loop geothermal systems;  
4 and  
5 “(D) other innovative energy tech-  
6 nologies.”; and

7 (D) by adding at the end the following new  
8 paragraph:

9 “(11) SUPERCRITICAL GEOTHERMAL.—The  
10 term ‘supercritical geothermal’ means energy derived  
11 from a subsurface rock resource in-situ existing at  
12 or above the supercritical conditions, whether relat-  
13 ing to temperature or pressure, of the primary fluid  
14 present.”;

15 (2) in section 613(b)(1) (42 U.S.C.  
16 17192(b)(1); relating to hydrothermal research and  
17 development), by striking “advanced geologic tools to  
18 assist” and inserting “advanced tools, including ma-  
19 chine learning algorithms, to assist”;

20 (3) in section 614 (42 U.S.C. 17193; relating  
21 to general geothermal systems research and develop-  
22 ment)—

23 (A) in subsection (d)(1), by striking  
24 “among the Office of Fossil Energy, the Office

1 of Energy Efficiency and Renewable Energy,”  
2 and inserting “across the Department”; and

3 (B) in subsection (h)—

4 (i) in paragraph (1), by inserting  
5 “and publicly available subsurface data, in-  
6 cluding data reported as part of fossil fuel  
7 and mining operations,” after “geothermal  
8 drilling information”; and

9 (ii) in paragraph (2), by adding at the  
10 end the following new subparagraphs:

11 “(C) UPDATES.—The repository estab-  
12 lished under paragraph (1) shall be periodically  
13 updated in order to carry out the following:

14 “(i) Standardize data in a uniform  
15 manner to the maximum extent practicable  
16 and enable analysis across different  
17 projects.

18 “(ii) Enhance the accessibility and  
19 usability of data to increase analysis of  
20 geothermal energy and next-generation  
21 geothermal systems on regional, local, and  
22 site-specific scales.

23 “(iii) Increase uses of data, including  
24 data viewable by map and organization by  
25 common attributes, such as region.

1 “(iv) Make other improvements in  
2 functionality and usability, as determined  
3 by the Secretary.

4 “(D) MEMORANDUM OF UNDER-  
5 STANDING.—

6 “(i) IN GENERAL.—The Secretary  
7 shall enter into a memorandum of under-  
8 standing with the Secretary of the Interior,  
9 and with the heads of other relevant Fed-  
10 eral departments, for notifying, sharing,  
11 and providing opportunities for additional  
12 data collection regarding shared geo-  
13 thermal development data from projects  
14 funded by the Department of the Interior  
15 and each such other relevant department,  
16 including data from mining, critical min-  
17 erals, and energy projects, such as sub-  
18 surface heat data, seismic data, lithology  
19 data, boundaries of State and federally  
20 protected areas, and existing transmission  
21 capacity.

22 “(ii) PRIORITIZATION.—To the max-  
23 imum extent practicable, activities con-  
24 ducted pursuant to a memorandum of un-  
25 derstanding under clause (i) shall prioritize

1 heat, lithology, and strain profiles through  
2 deep exploration boreholes and control  
3 points for deep heat mapping and geo-  
4 thermal development.

5 “(E) REGIONAL DATA PROBES.—The Sec-  
6 retary of the Interior may, in consultation with  
7 the Secretary, commission the drilling of super-  
8 critical geothermal exploration boreholes in rep-  
9 resentative geological provinces in the United  
10 States to provide control points for deep heat  
11 mapping and geothermal development. The re-  
12 sulting data shall include an exploration of  
13 heat, lithology, and strain profiles, and shall be  
14 shared publicly on the repository established  
15 under paragraph (1).

16 “(F) STUDY ON SITE SELECTION CHARAC-  
17 TERISTICS FOR SUPERCRITICAL GEO-  
18 THERMAL.—The Secretary of the Interior shall,  
19 in consultation with the Secretary, conduct a  
20 study on site selection characteristics in rep-  
21 resentative geological provinces in the United  
22 States, including the United States territories  
23 of American Samoa, Guam, Northern Mariana  
24 Islands, Puerto Rico, and the U.S. Virgin Is-  
25 lands, for supercritical geothermal.”;

1 (4) in section 615 (42 U.S.C. 17194; relating  
2 to enhanced geothermal systems research and devel-  
3 opment)—

4 (A) in the section heading, by striking  
5 “**ENHANCED**” and inserting “**NEXT-GENERA-**  
6 **TION**”;

7 (B) in subsection (a), by striking “en-  
8 hanced” and inserting “next-generation”;

9 (C) in subsection (b)—

10 (i) in the heading, by inserting “AND  
11 CLOSED-LOOP” after “ENHANCED”;

12 (ii) in the matter preceding paragraph  
13 (1), by inserting “and closed-loop” after  
14 “enhanced”;

15 (iii) in paragraph (11), by striking  
16 “and” after the semicolon;

17 (iv) in paragraph (12), by striking the  
18 period and inserting “; and”; and

19 (v) by adding at the end the following  
20 new paragraph:

21 “(13) the research topics specified in subpara-  
22 graphs (1) through (12) in supercritical condi-  
23 tions.”;

24 (D) in subsection (c)—

1 (i) by redesignating paragraph (7) as  
2 paragraph (8); and

3 (ii) by inserting after paragraph (6)  
4 the following new paragraph:

5 “(7) NEXT-GENERATION GEOTHERMAL TEST-  
6 ING.—Not later than one year after the date of the  
7 enactment of this paragraph, the Secretary shall  
8 take such actions as may be necessary to ensure that  
9 at least one FORGE site has the capabilities to in-  
10 clude next-generation geothermal testing, including  
11 in supercritical conditions.”; and

12 (E) by adding at the end the following new  
13 subsections:

14 “(e) NEXT-GENERATION GEOTHERMAL RESEARCH  
15 AND DEVELOPMENT PROGRAM.—

16 “(1) IN GENERAL.—Within the Geothermal  
17 Technologies Office of the Department, the Sec-  
18 retary shall support a program of next-generation  
19 geothermal research, development, demonstration,  
20 and commercial application activities, including in  
21 supercritical conditions.

22 “(2) FOCUS AREAS.—

23 “(A) IN GENERAL.—The program de-  
24 scribed in paragraph (1) shall focus on the fol-  
25 lowing topics:

1 “(i) Well completion.

2 “(ii) Permeability creation and man-  
3 agement, including proppants and packers.

4 “(iii) Materials development and  
5 equipment design, including power produc-  
6 tion, specific to supercritical geothermal  
7 systems.

8 “(iv) Sensor development.

9 “(v) Water-rock geochemistry.

10 “(vi) Rock properties.

11 “(vii) Hard rock and deep drilling.

12 “(viii) Any other topics the Secretary  
13 determines necessary.

14 “(B) PRIORITIZATION.—In carrying out  
15 next-generation geothermal research under the  
16 program described in paragraph (1), the Sec-  
17 retary shall prioritize projects best able to  
18 produce iterative data for deep drilling projects  
19 in unique geodynamic settings on the following  
20 topics:

21 “(i) Characterization and crustal  
22 stress.

23 “(ii) Lab work.

24 “(iii) Drilling.

25 “(iv) Stimulation.

1 “(v) Power production.

2 “(C) ADMINISTRATION.—The Secretary  
3 may administer grants to institutions of higher  
4 education and private sector entities to carry  
5 out activities on the topics specified in subpara-  
6 graph (A) and, to the maximum extent prac-  
7 ticable, share data, results, and information  
8 publicly.

9 “(3) REPORT ON WATER USE.—Not later than  
10 five years after the date of the enactment of this  
11 subsection, the Secretary shall submit to the Com-  
12 mittee on Natural Resources and the Committee on  
13 Science, Space, and Technology of the House of  
14 Representatives and the Committee on Energy and  
15 Natural Resources of the Senate a report on the fol-  
16 lowing:

17 “(A) Water use and estimated needs of en-  
18 hanced geothermal systems.

19 “(B) Water use and estimated needs for  
20 closed-loop, and next-generation geothermal en-  
21 ergy production.

22 “(C) The ability of next-generation geo-  
23 thermal systems to use brackish and nonpotable  
24 water.

1           “(D) The withdrawal and consumption of  
2           water per megawatt hour of next-generation  
3           geothermal systems, as compared to other  
4           power-generation technologies.

5           “(E) Technological and operational im-  
6           provements that could lead to decreases in  
7           water withdrawal and consumption of next-gen-  
8           eration geothermal systems.

9           “(4) NEXT-GENERATION GEOTHERMAL CENTER  
10          OF EXCELLENCE.—

11           “(A) ESTABLISHMENT.—The Secretary  
12           shall award grants through a competitive,  
13           merit-reviewed process, to National Labora-  
14           tories (as such term is defined in section 2 of  
15           the Energy Policy Act of 2005 (42 U.S.C.  
16           15801)), multi-institutional collaborations, pub-  
17           lic-private partnerships, or institutes of higher  
18           education (or consortia thereof) for the fol-  
19           lowing:

20           “(i) The continuation and expansion  
21           of research, development, demonstration,  
22           testing, and commercial application activi-  
23           ties applicable to FORGE sites, including  
24           activities in supercritical conditions.

1 “(ii) The establishment of a next-gen-  
2 eration geothermal systems center of excel-  
3 lence.

4 “(B) LOCATION.—In selecting National  
5 Laboratories, multi-institutional collaborations,  
6 public-private partnerships, or institutions of  
7 higher education (or a consortia thereof) for a  
8 center of excellence referred to in subparagraph  
9 (A), the Secretary shall consider the following  
10 criteria:

11 “(i) Whether the entity hosts an exist-  
12 ing geothermal energy research and devel-  
13 opment program.

14 “(ii) Whether the entity has proven  
15 technical expertise to support geothermal  
16 energy research.

17 “(iii) Whether the entity has access to  
18 geothermal resources.

19 “(C) PURPOSE.—The center of excellence  
20 referred to in subparagraph (A) shall coordinate  
21 among existing FORGE sites, the Department,  
22 and National Laboratories to carry out the fol-  
23 lowing:

24 “(i) Advance research, development,  
25 demonstration, and commercial application

1 of next-generation geothermal energy tech-  
2 nologies, including supercritical geothermal  
3 technologies, in response to industry and  
4 commercial needs, including by partnering  
5 with other academic or research institu-  
6 tions, industry, non-governmental organi-  
7 zations, and State, local, or Tribal govern-  
8 ments.

9 “(ii) Foster collaboration for edu-  
10 cation, research, and partnership initiatives  
11 in order to support the technology, deploy-  
12 ment, and workforce needs of the United  
13 States geothermal energy industry, includ-  
14 ing a focus on next-generation geothermal  
15 systems.

16 “(iii) Support workforce development  
17 across the next-generation geothermal sys-  
18 tems energy development lifecycle.

19 “(iv) Provide educational, technical,  
20 and analytical assistance on next-genera-  
21 tion geothermal systems to Federal agen-  
22 cies, industry, and State, local, and Tribal  
23 governments.

24 “(v) Collect and disseminate informa-  
25 tion on best practices in all areas relating

1 to developing and managing geothermal  
2 energy resources and energy systems, in-  
3 cluding next-generation geothermal sys-  
4 tems.

5 “(5) COMMERCIAL-READINESS INNOVATION  
6 GRANTS.—

7 “(A) IN GENERAL.—The Secretary shall  
8 award grants to accelerate the development,  
9 testing, and implementation of innovative tech-  
10 nologies identified as areas for improving the  
11 performance of commercial geothermal energy  
12 projects using next-generation geothermal sys-  
13 tems.

14 “(B) FOCUS AREAS.—Grants may be  
15 awarded under this paragraph for innovative  
16 technologies, including the following:

17 “(i) Hardrock drilling equipment,  
18 components, and systems, including bit de-  
19 sign and vibration control.

20 “(ii) Reservoir characterization, well  
21 design and spacing, and completions.

22 “(iii) Data acquisition and analysis,  
23 including fiber optic sensing tools and  
24 methodologies.

25 “(C) APPLICATIONS.—

1 “(i) IN GENERAL.—An entity seeking  
2 a grant under this paragraph shall submit  
3 to the Secretary an application at such  
4 time, in such manner, and containing such  
5 information as the Secretary may require.

6 “(ii) PRIORITIZATION.—In awarding  
7 grants under this paragraph, the Secretary  
8 shall give priority to the following:

9 “(I) Applicants, including for-  
10 profit entities and public-private part-  
11 nerships, with demonstrated expertise  
12 relating to in-field development and  
13 commercial operations for geothermal  
14 energy projects.

15 “(II) Projects with the greatest  
16 ability to advance near-term commer-  
17 cial deployment of enhanced geo-  
18 thermal systems and closed-loop geo-  
19 thermal systems.

20 “(III) Projects that advance the  
21 commercialization of geothermal en-  
22 ergy projects in diverse geological con-  
23 ditions or supercritical conditions.

24 “(D) COST SHARING.—The Federal share  
25 of the cost of a project carried out with a grant

1           under this paragraph shall be not more than 80  
2           percent.

3           “(f) AUTHORIZATION OF APPROPRIATIONS.—There  
4 is authorized to be appropriated to the Secretary to carry  
5 out this section \$150,000,000 for each of fiscal years 2027  
6 through 2031. Such amounts shall be derived from  
7 amounts otherwise authorized to be appropriated to the  
8 Office of Energy Efficiency and Renewable Energy of the  
9 Department.”; and

10           (5) in section 617 (42 U.S.C. 17196; relating  
11 to organization and administration of programs)—

12           (A) in subsection (e), by striking “Com-  
13 mittee on Science and Technology” and insert-  
14 ing “Committee on Science, Space, and Tech-  
15 nology”; and

16           (B) by amending subsection (f) to read as  
17 follows:

18           “(f) PROGRESS REPORTS.—Not later than one year  
19 after the date of the enactment of this subsection and  
20 every two years thereafter, the Secretary shall submit to  
21 the Committee on Science, Space, and Technology of the  
22 House of Representatives and the Committee on Energy  
23 and Natural Resources of the Senate a report that con-  
24 tains the following:

1           “(1) A description of the maximum potential of  
2           geothermal resources in the United States, including  
3           a consideration of next-generation geothermal sys-  
4           tems.

5           “(2) Information relating to the results of  
6           projects undertaken under this section.

7           “(3) An assessment of the barriers to commer-  
8           cialization of next-generation geothermal tech-  
9           nologies.

10          “(4) Such other information as the Secretary  
11          considers appropriate.”.

12          (b) UPDATE TO GEOTHERMAL RESOURCE ASSESS-  
13          MENT.—

14               (1) IN GENERAL.—Section 2501 of the Energy  
15          Policy Act of 1992 (30 U.S.C. 1028) is amended—

16                       (A) in subsection (c)—

17                               (i) in the matter preceding paragraph  
18                               (1), by inserting “quadrennially” before  
19                               “update”;

20                               (ii) in paragraph (1)(D)(ii), by strik-  
21                               ing “and” at the end;

22                               (iii) in paragraph (2), by striking the  
23                               period at the end and inserting “; and”;  
24                               and

1 (iv) by adding at the end the following  
2 new paragraph:

3 “(3) to the maximum extent practicable, by as-  
4 sessing regions of the United States, including the  
5 United States territories of American Samoa, Guam,  
6 Northern Mariana Islands, Puerto Rico, and the  
7 U.S. Virgin Islands, with significant potential for  
8 supercritical geothermal (as such term is defined in  
9 section 612 of the Energy Independence and Secu-  
10 rity Act of 2007 (42 U.S.C. 17191)).”; and

11 (B) by striking subsection (d).

12 (2) FIRST UPDATE.—The first quadrennial up-  
13 date to the geothermal resource assessment carried  
14 out by the United States Geological Survey under  
15 subsection (c) of section 2501 of the Energy Policy  
16 Act of 1992, as amended by paragraph (1), shall be  
17 completed by not later than two years after the date  
18 of the enactment of this Act.

19 (c) CLERICAL AMENDMENT.—The table of contents  
20 in section 1(b) of the Energy Independence and Security  
21 Act of 2007 is amended by amending the item relating  
22 to section 615 to read as follows:

“Sec. 615. Next-generation geothermal systems research and development.”.