

119TH CONGRESS  
2D SESSION

**S.** \_\_\_\_\_

To promote the development and use of geothermal resources in the Pacific,  
and for other purposes.

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IN THE SENATE OF THE UNITED STATES

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Mr. SCHATZ (for himself, Mr. McCORMICK, Mr. CURTIS, and Mr. COONS) in-  
troduced the following bill; which was read twice and referred to the Com-  
mittee on \_\_\_\_\_

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**A BILL**

To promote the development and use of geothermal resources  
in the Pacific, 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 “Pacific Promotion of  
5 Workable Energy Resources Act” or the “Pacific POWER  
6 Act”.

7 **SEC. 2. DEFINITIONS.**

8 In this Act:

1           (1) APPROPRIATE COMMITTEES OF CON-  
2           GRESS.—The term “appropriate committees of Con-  
3           gress” means—

4                   (A) the Committee on Foreign Relations,  
5                   the Committee on Energy and Natural Re-  
6                   sources, and the Committee on Appropriations  
7                   of the Senate; and

8                   (B) the Committee on Foreign Affairs, the  
9                   Committee Energy and Commerce, and the  
10                  Committee on Appropriations of the House of  
11                  Representatives.

12           (2) DIRECT USE.—The term “direct use” has  
13           the meaning given the term in section 616A of the  
14           Energy Independence and Security Act of 2007 (42  
15           U.S.C. 17195a(b)).

16           (3) GEOTHERMAL PARTNERS.—The term “geo-  
17           thermal partners” means the United States allies  
18           and partners selected pursuant to section 5.

19           (4) NEXT-GENERATION GEOTHERMAL.—The  
20           term “next-generation geothermal” means a geo-  
21           thermal power production technology that has the  
22           potential to greatly expand the scale and geo-  
23           graphical range of geothermal power production, in-  
24           cluding—

1 (A) enhanced geothermal systems, as de-  
2 fined in section 612 of the Energy Independ-  
3 ence and Security Act of 2007 (42 U.S.C.  
4 17191);

5 (B) closed-loop geothermal systems, mean-  
6 ing systems that use one or more wells drilled  
7 into hot rock with fluid circulating through a  
8 closed-loop system to bring heat to the surface;

9 (C) geothermal systems which harness heat  
10 from supercritical temperatures, meaning at or  
11 above 375 degrees; and

12 (D) other innovative geothermal power  
13 technologies.

14 (5) SECRETARY.—The term “Secretary” means  
15 the Secretary of State.

16 **SEC. 3. SENSE OF CONGRESS.**

17 It is the sense of Congress that—

18 (1) the Indo-Pacific is critical to United States  
19 national security and economic interests, particularly  
20 given the rise of the People’s Republic of China as  
21 a competitor, and has some of the world’s highest  
22 geothermal potential;

23 (2) achieving United States foreign and na-  
24 tional security policy objectives, including deterring  
25 conflict and reducing vulnerability to coercion, re-

1       quires further strengthening relationships with key  
2       regional allies and partners;

3               (3) the United States should expand its engage-  
4       ment with key allies and partners on geothermal, in-  
5       cluding through commercial partnerships and tech-  
6       nical assistance to support the development of their  
7       geothermal capabilities to reduce reliance on the en-  
8       ergy exports of adversaries and to develop markets  
9       for United States companies; and

10              (4) the United States should promote the pur-  
11       suit of bilateral memoranda of understanding or  
12       other appropriate agreements on geothermal energy  
13       with key allies and partners, where doing so furthers  
14       United States foreign policy and national security  
15       interests.

16 **SEC. 4. GEOTHERMAL DIPLOMACY.**

17       (a) IN GENERAL.—The Secretary, in consultation  
18       with the Secretary of Energy, shall work both bilaterally  
19       and multilaterally to advance geothermal energy in sup-  
20       port of United States interests, including to develop—

21              (1) goals to increase geothermal deployment, in-  
22       cluding for electricity and direct use applications;

23              (2) forums for collective learning and research;

24              (3) risk-sharing and financial tools for geo-  
25       thermal exploration and development;

1           (4) potential regulatory and power market re-  
2 forms that support geothermal power production, di-  
3 rect use applications, and grid interconnection;

4           (5) technical, environmental, safety, and com-  
5 munity engagement standards and best practices, in-  
6 cluding—

7                   (A) early and consistent community en-  
8 gagement, including the free, prior, and in-  
9 formed consent of Indigenous Peoples and other  
10 communities;

11                   (B) revenue sharing to create local eco-  
12 nomic benefits;

13                   (C) reservoir management;

14                   (D) mitigation of seismic risk through real-  
15 time monitoring, operational guardrails, and en-  
16 gagement with impacted communities;

17                   (E) mitigation of impacts to water re-  
18 sources; and

19                   (F) standardized, transparent, and secure  
20 mechanisms for sharing geological and project-  
21 related data.

22           (b) INDO-PACIFIC ENGAGEMENT.—The Secretary  
23 shall prioritize engaging with allies and partners in the  
24 Indo-Pacific on opportunities to collaborate on geothermal

1 energy and as potential geothermal partners to be selected  
2 pursuant to section 5, including—

- 3 (1) Taiwan;
- 4 (2) the Philippines;
- 5 (3) Japan;
- 6 (4) Australia;
- 7 (5) Indonesia;
- 8 (6) India;
- 9 (7) New Zealand; and
- 10 (8) Papua New Guinea.

11 (c) MULTILATERAL MECHANISMS.—The Secretary,  
12 in consultation with the Secretary of Energy, shall use ex-  
13 isting multilateral mechanisms to advance cooperation on  
14 geothermal energy, including—

- 15 (1) the Quadrilateral Dialogue, or “Quad,”  
16 comprising the United States, Australia, India, and  
17 Japan;
- 18 (2) the United States-Japan-Philippines tri-  
19 lateral dialogue;
- 20 (3) the United States-Japan-Republic of Korea  
21 trilateral dialogue;
- 22 (4) the Pacific Community, the principal sci-  
23 entific and technical organization in the Pacific re-  
24 gion;
- 25 (5) the International Energy Agency; and

1           (6) the Group of Seven, comprising the United  
2           States, France, the United Kingdom, Germany,  
3           Japan, Italy, and Canada.

4 **SEC. 5. ESTABLISHMENT OF INTERNATIONAL GEO-**  
5                   **THERMAL PROGRAM AND COUNTRY SELEC-**  
6                   **TION.**

7           (a) ASSESSMENT.—Not later than 180 days after the  
8           date of the enactment of this Act, the Secretary, in coordi-  
9           nation with the Secretary of Energy, shall develop and  
10          submit to the appropriate congressional committees a re-  
11          port that—

12           (1) assesses global geothermal resources, in-  
13          cluding mapping the areas of highest potential for  
14          geothermal development based on factors, such as—

15                   (A) existing geothermal generation;

16                   (B) subsurface data;

17                   (C) proximity of geothermal resources to  
18          existing or potential energy infrastructure;

19                   (D) regulatory and economic conditions,  
20          including financial incentives for geothermal;

21                   (E) current and projected energy mix and  
22          demand;

23                   (F) workforce;

24                   (G) supply chains, including the distribu-  
25          tion of assets relative to projected demand; and

1 (H) energy reliability conditions;

2 (2) assesses countries, regions, and other loca-  
3 tions in which geothermal development or expansion  
4 is most beneficial to United States national security  
5 and economic interests, including in support of  
6 United States Indo-Pacific strategy; and

7 (3) explains the strategy for addressing the  
8 challenges to geothermal energy development or ex-  
9 pansion in the countries, regions, and other locations  
10 most beneficial to United States national security  
11 and economic interests.

12 (b) CONSULTATION.—In preparing the report re-  
13 quired in subsection (a), the Secretary shall consult  
14 with—

15 (1) agencies with relevant expertise;

16 (2) Department of Energy National Labora-  
17 tories (as defined in section 2 of the Energy Policy  
18 Act of 2005 (42 U.S.C. 15801));

19 (3) institutions of higher education (as defined  
20 in section 101(a) of the Higher Education Act of  
21 1965 (2 U.S.C. 1001(a));

22 (4) nonpartisan and nonprofit organizations;

23 (5) the International Energy Agency;

24 (6) the advisory group established pursuant to  
25 subsection (g); and

1           (7) the appropriate committees of Congress.

2           (c) ESTABLISHMENT.—Not later than one year after  
3 the date of the enactment of this Act, the Secretary, in  
4 coordination with the Secretary of Energy, shall establish  
5 the International Geothermal Program (the “Program”)  
6 for international collaboration on geothermal exploration  
7 and development to carry out section 4 and to pursue bi-  
8 lateral and multilateral partnerships as described in sub-  
9 section (d) to further United States foreign policy and na-  
10 tional security interests.

11          (d) PROGRAM.—The Program established pursuant  
12 to subsection (c) shall include public-private partnerships  
13 for the exploration and development of geothermal re-  
14 sources and next-generation geothermal systems, includ-  
15 ing—

16           (1) to support large-scale geothermal deploy-  
17 ment, including for next-generation geothermal tech-  
18 nologies and direct use applications;

19           (2) to conduct research of next-generation geo-  
20 thermal technologies, including through coordination  
21 with existing international research initiatives;

22           (3) to conduct geothermal resource exploration  
23 and characterization;

24           (4) to support the integration of geothermal en-  
25 ergy into energy system planning and regulations;

1           (5) to identify opportunity zones where geo-  
2           thermal could meet industrial, heating and cooling,  
3           agricultural, and electricity needs;

4           (6) to support the workforce and supply chains  
5           necessary for geothermal deployment;

6           (7) to support community engagement and edu-  
7           cation;

8           (8) to assist in the development and implemen-  
9           tation of risk-sharing mechanisms and other finan-  
10          cial tools for the cost of geothermal exploration and  
11          development;

12          (9) to assist in the development of predictable  
13          siting and permitting processes for partners selected  
14          pursuant to subsection (e);

15          (10) to create financial incentives for invest-  
16          ment in geothermal energy; and

17          (11) to identify investment and export opportu-  
18          nities for United States companies

19          (e) SELECTION OF GEOTHERMAL PARTNERS.—Con-  
20          current with the establishment of the Program pursuant  
21          to subsection (c), the Secretary, in consultation with the  
22          appropriate congressional committees, shall select at least  
23          five geothermal partners that—

24                 (1) include—

1 (A) not fewer than three countries in the  
2 Indo-Pacific;

3 (B) not fewer than one country that cur-  
4 rently does not produce or consume geothermal  
5 energy at commercial scale; and

6 (C) not fewer than one country that dem-  
7 onstrates significant potential to expand exist-  
8 ing capacity for geothermal energy generation,  
9 such as through recent success in adding more  
10 geothermal energy to its grid and through the  
11 inclusion of geothermal in utility resource plans;  
12 and

13 (2) are informed by the report required under  
14 subsection (a).

15 (f) AGREEMENTS.—The Secretary shall pursue  
16 memoranda of understanding or other appropriate agree-  
17 ments with countries selected pursuant to subsection (e)  
18 and that are willing to work with the United States to  
19 implement the Program.

20 (g) ENGAGEMENT WITH THE PRIVATE SECTOR AND  
21 NONPROFITS.—The Secretary shall establish an advisory  
22 mechanism to engage United States geothermal devel-  
23 opers, equipment manufacturers, financial institutions, in-  
24 dustry associations, and nonprofit organizations with geo-

1 thermal expertise in the implementation of the Program,  
2 including to—

3 (1) identify export opportunities for United  
4 States geothermal technology and services in geo-  
5 thermal partner countries;

6 (2) advise on technical standards, data, policy,  
7 supply chain development, and workforce needs; and

8 (3) facilitate connections between United States  
9 companies and organizations and geothermal invest-  
10 ment opportunities.

11 **SEC. 6. IMPLEMENTATION OF THE INTERNATIONAL GEO-**  
12 **THERMAL PROGRAM.**

13 (a) STRATEGY.—Not later than 180 days after the  
14 establishment of the Program and selection of geothermal  
15 partners pursuant to section 5, the Secretary shall submit  
16 to the appropriate congressional committees a report that  
17 describes the United States strategy for advancing geo-  
18 thermal energy with each of the geothermal partners.

19 (b) ELEMENTS.—The strategy submitted pursuant to  
20 subsection (a) shall include the estimated personnel and  
21 assistance resources required on an annual basis for suc-  
22 cessful implementation of such strategy, and the identi-  
23 fication of opportunities for—

24 (1) supporting regional partnerships on geo-  
25 thermal energy;

1           (2) strengthening the resilience of geothermal  
2 supply chains, including—

3           (A) equipment and services related to geo-  
4 thermal resource exploration, characterization,  
5 and production; and

6           (B) through partnerships with domestic  
7 and allied manufacturers;

8           (3) leveraging existing and developing new mul-  
9 tilateral financing tools to support geothermal en-  
10 ergy;

11           (4) conducting geothermal-specific feasibility  
12 studies and other support by the United States  
13 Trade and Development Agency; and

14           (5) the United States Export-Import Bank, the  
15 Millennium Challenge Corporation, and the United  
16 States International Development Finance Corpora-  
17 tion to provide financial support to geothermal part-  
18 ners that meet the eligibility requirements of the  
19 agencies.

20           (c) IMPLEMENTATION.—The implementation of the  
21 Program established in section 5 shall be led by the Under  
22 Secretary of State for Economic Growth, Energy, and the  
23 Environment and coordinated with the leadership of the  
24 Office of International Affairs and the Geothermal Tech-  
25 nologies Office.

1 (d) ANNUAL REPORT.—The Secretary shall submit  
2 a report to the appropriate congressional committees that  
3 includes—

4 (1) a summary of United States activities and  
5 engagement with each geothermal partner, including  
6 the status of negotiations to establish memoranda of  
7 understanding or other agreements pursuant to sec-  
8 tion 5(f);

9 (2) any changes to the strategy required by  
10 subsection (a) for each geothermal partner;

11 (3) the number of personnel assigned to imple-  
12 mentation of the Program, by operating unit; and

13 (4) assistance provided to implement the Pro-  
14 gram to date by operating unit, amount, account,  
15 and purpose.

16 (e) TECHNICAL AND FINANCIAL ASSISTANCE.—The  
17 Secretary is authorized to work with relevant United  
18 States agencies to promote and coordinate the develop-  
19 ment and underwriting of grants, loans, loan guarantees,  
20 and other technical and financial assistance to geothermal  
21 partners and United States companies that work with geo-  
22 thermal partners through the Program established in sec-  
23 tion 5.

24 (f) COORDINATION.—In preparing the strategy re-  
25 quired under subsection (a) and the annual report re-

1 quired under subsection (d), and implementing the Pro-  
2 gram established in section 5, the Under Secretary of  
3 State for Economic Growth, Energy, and the Environment  
4 shall convene agencies with relevant expertise and the ad-  
5 visory group established in section 5(g) and brief the ap-  
6 propriate committees of Congress not less than twice per  
7 year.