

116TH CONGRESS
1ST SESSION

H. R. 2909

To require the Secretary of Energy to establish an energy storage research program, a demonstration program, and a technical assistance and grant program, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MAY 22, 2019

Mr. CASTEN of Illinois (for himself, Mr. LUJÁN, Mr. MICHAEL F. DOYLE of Pennsylvania, Mr. MCNERNEY, Mr. BACON, Mr. TONKO, Mr. FOSTER, and Mr. WELCH) introduced the following bill; which was referred to the Committee on Energy and Commerce, and in addition to the Committee on Science, Space, and Technology, 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

A BILL

To require the Secretary of Energy to establish an energy storage research program, a demonstration program, and a technical assistance and grant program, 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 “Promoting Grid Stor-
5 age Act of 2019”.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) ENERGY STORAGE SYSTEM.—The term “en-
4 ergy storage system” means equipment or facilities
5 relating to the electric grid that are capable of ab-
6 sorbing energy, storing the energy for a period of
7 time, and dispatching the energy, that—

8 (A) use mechanical, electrochemical, bio-
9 chemical, or thermal processes to store energy
10 that was generated at an earlier time for use at
11 a later time;

12 (B) use mechanical, electrochemical, bio-
13 chemical, or thermal processes to store energy
14 generated from mechanical processes that would
15 otherwise be wasted for delivery at a later time;
16 or

17 (C) store thermal energy for direct use for
18 heating or cooling at a later time in a manner
19 that avoids the need to use electricity at that
20 later time, as is offered by grid-enabled water
21 heaters.

22 (2) ISLANDING.—The term “islanding” means
23 a distributed generator or energy storage device con-
24 tinuing to power a location in the absence of electric
25 power from the primary source.

1 (3) MICROGRID.—The term “microgrid” means
2 an integrated energy system consisting of inter-
3 connected loads and distributed energy resources, in-
4 cluding generators and energy storage devices, with-
5 in clearly defined electrical boundaries that—

6 (A) acts as a single controllable entity with
7 respect to the grid; and

8 (B) can connect and disconnect from the
9 grid to operate in both grid-connected mode
10 and island mode.

11 (4) SECRETARY.—The term “Secretary” means
12 the Secretary of Energy.

13 **SEC. 3. ENERGY STORAGE RESEARCH PROGRAM.**

14 (a) IN GENERAL.—The Secretary shall establish a
15 cross-cutting national program within the Department of
16 Energy for the research of energy storage systems, compo-
17 nents, and materials.

18 (b) ADDITIONAL REQUIREMENTS.—In establishing
19 the program under subsection (a), the Secretary shall—

20 (1) identify and coordinate across all relevant
21 program offices throughout the Department of En-
22 ergy key areas of existing and future research with
23 respect to a portfolio of technologies and approaches;
24 and

1 (2) adopt long-term cost, performance, and im-
2 plementation targets for specific applications of en-
3 ergy storage systems.

4 **SEC. 4. TECHNICAL ASSISTANCE AND GRANT PROGRAM.**

5 (a) ESTABLISHMENT.—

6 (1) IN GENERAL.—The Secretary shall establish
7 a technical assistance and grant program (referred
8 to in this section as the “program”)—

9 (A) to disseminate information and provide
10 technical assistance directly to eligible entities
11 so the eligible entities can identify, evaluate,
12 plan, design, and develop processes to procure
13 energy storage systems; and

14 (B) to make grants to eligible entities so
15 that the eligible entities may contract to obtain
16 technical assistance to identify, evaluate, plan,
17 design, and develop processes to procure energy
18 storage systems.

19 (2) TECHNICAL ASSISTANCE.—

20 (A) IN GENERAL.—The technical assist-
21 ance described in paragraph (1) shall include
22 assistance with one or more of the following ac-
23 tivities relating to energy storage systems:

24 (i) Identification of opportunities to
25 use energy storage systems.

1 (ii) Assessment of technical and eco-
2 nomic characteristics.

3 (iii) Utility interconnection.

4 (iv) Permitting and siting issues.

5 (v) Business planning and financial
6 analysis.

7 (vi) Engineering design.

8 (B) EXCLUSION.—The technical assistance
9 described in paragraph (1) shall not include as-
10 sistance relating to modification of Federal,
11 State, or local regulations or policies relating to
12 energy storage systems.

13 (3) INFORMATION DISSEMINATION.—The infor-
14 mation disseminated under paragraph (1)(A) shall
15 include—

16 (A) information relating to the topics de-
17 scribed in paragraph (2), including case studies
18 of successful examples;

19 (B) computer software for assessment, de-
20 sign, and operation and maintenance of energy
21 storage systems; and

22 (C) public databases that track the oper-
23 ation of existing and planned energy storage
24 systems.

1 (b) ELIGIBILITY.—Any not-for-profit or for-profit en-
2 tity shall be eligible to receive technical assistance and
3 grants under the program.

4 (c) APPLICATIONS.—

5 (1) IN GENERAL.—An eligible entity desiring
6 technical assistance or grants under the program
7 shall submit to the Secretary an application at such
8 time, in such manner, and containing such informa-
9 tion as the Secretary may require.

10 (2) APPLICATION PROCESS.—The Secretary
11 shall seek applications for technical assistance and
12 grants under the program—

13 (A) on a competitive basis; and

14 (B) on a periodic basis, but not less fre-
15 quently than once every 12 months.

16 (3) PRIORITIES.—In selecting eligible entities
17 for technical assistance and grants under the pro-
18 gram, the Secretary shall give priority to eligible en-
19 tities with projects that have the greatest potential
20 for—

21 (A) strengthening the reliability and resil-
22 iency of energy infrastructure to the impact of
23 extreme weather events, power grid failures,
24 and interruptions in supply of fossil fuels;

1 (B) reducing the cost of energy storage
2 systems;

3 (C) facilitating the use of renewable energy
4 resources;

5 (D) minimizing environmental impact, in-
6 cluding regulated air pollutants and greenhouse
7 gas emissions;

8 (E) improving the feasibility of microgrids
9 or islanding, particularly in rural areas, includ-
10 ing high energy cost rural areas; and

11 (F) maximizing local job creation.

12 (d) GRANTS.—On application by an eligible entity,
13 the Secretary may award grants to the eligible entity to
14 provide funds to cover not more than—

15 (1) 100 percent of the costs of the initial as-
16 sessment to identify net system benefits of using en-
17 ergy storage systems;

18 (2) 75 percent of the cost of guidance relating
19 to methods to assess energy storage in long-term re-
20 source planning and resource procurement;

21 (3) 60 percent of the cost of studies to assess
22 the cost-benefit ratio of energy storage systems; and

23 (4) 50 percent of the cost of guidance on com-
24 plying with State and local regulatory technical

1 standards, including siting and permitting stand-
2 ards.

3 (e) RULES AND PROCEDURES.—

4 (1) RULES.—Not later than 180 days after the
5 date of enactment of this Act, the Secretary shall
6 adopt rules and procedures for carrying out the pro-
7 gram.

8 (2) GRANTS.—Not later than 120 days after
9 the date of issuance of the rules and procedures for
10 the program, the Secretary shall issue grants under
11 this section.

12 (f) REPORTS.—The Secretary shall submit to Con-
13 gress and make available to the public—

14 (1) not less frequently than once every 2 years,
15 a report describing the performance of the program
16 under this section, including a synthesis and analysis
17 of any information the Secretary requires grant re-
18 cipients to provide to the Secretary as a condition of
19 receiving a grant; and

20 (2) on termination of the program under this
21 section, an assessment of the success of, and edu-
22 cation provided by, the measures carried out by eli-
23 gible entities under the program.

1 **SEC. 5. DEPARTMENT OF ENERGY WORKSHOPS.**

2 The Secretary shall hold one or more workshops dur-
3 ing each of calendar years 2021 and 2023 to facilitate the
4 sharing, across the Department of Energy, the States,
5 local and Tribal governments, industry, and the academic
6 research community, of research developments and new
7 technical knowledge gained in carrying out sections 3 and
8 4.

9 **SEC. 6. ENERGY STORAGE SYSTEM DEMONSTRATION PRO-**
10 **GRAM.**

11 (a) ENERGY STORAGE GRANT PROGRAM.—

12 (1) ESTABLISHMENT.—The Secretary shall es-
13 tablish a competitive grant program for pilot energy
14 storage systems, as identified by the Secretary, that
15 use either—

16 (A) a single system; or

17 (B) aggregations of multiple systems.

18 (2) ELIGIBILITY.—Entities eligible to receive a
19 grant under paragraph (1) include—

20 (A) a State, territory, or possession of the
21 United States;

22 (B) a State energy office;

23 (C) a tribal organization (as defined in sec-
24 tion 3765 of title 38, United States Code);

1 (D) an institution of higher education (as
2 defined in section 101 of the Higher Education
3 Act of 1965 (20 U.S.C. 1001));

4 (E) an electric utility, including—

5 (i) a rural electric cooperative;

6 (ii) a political subdivision of a state,
7 such as a municipally owned electric util-
8 ity, or any agency, authority, corporation,
9 or instrumentality of one or more state po-
10 litical subdivisions; and

11 (iii) an investor-owned utility; and

12 (F) a private energy storage company that
13 is a small business concern (as defined in sec-
14 tion 3 of the Small Business Act (15 U.S.C.
15 632)).

16 (3) SELECTION REQUIREMENTS.—In selecting
17 eligible entities to receive a grant under this section,
18 the Secretary shall, to the maximum extent prac-
19 ticable—

20 (A) ensure regional diversity among eligi-
21 ble entities that receive the grants, including
22 participation by rural States and small States;

23 (B) ensure that specific projects selected
24 for grants—

1 (i) expand on the existing technology
2 demonstration programs of the Depart-
3 ment of Energy; and

4 (ii) are designed to achieve one or
5 more of the objectives described in para-
6 graph (4);

7 (C) prioritize projects from eligible entities
8 that do not have an energy storage system;

9 (D) give consideration to proposals from
10 eligible entities for securing energy storage
11 through competitive procurement or contract
12 for service;

13 (E) prioritize projects that coordinate with
14 the local incumbent utility for in-front-of-the-
15 meter projects that do not formally involve a
16 utility; and

17 (F) prioritize projects that leverage match-
18 ing funds from non-Federal sources.

19 (4) OBJECTIVES.—Each demonstration project
20 selected for a grant under paragraph (1) shall in-
21 clude one or more of the following objectives:

22 (A) To improve the security of critical in-
23 frastructure and emergency response systems.

24 (B) To improve the reliability of the trans-
25 mission and distribution system, particularly in

1 rural areas, including high energy cost rural
2 areas.

3 (C) To optimize transmission or distribu-
4 tion system operation and power quality to
5 defer or avoid costs of replacing or upgrading
6 electric grid infrastructure, including trans-
7 formers and substations.

8 (D) To supply energy at peak periods of
9 demand on the electric grid or during periods of
10 significant variation of electric grid supply.

11 (E) To reduce peak loads of homes and
12 businesses, particularly to defer or avoid invest-
13 ments in new electric grid capacity.

14 (F) To advance power conversion systems
15 to make the systems smarter, more efficient,
16 able to communicate with other inverters, and
17 able to control voltage.

18 (G) To provide ancillary services for grid
19 stability and management.

20 (H) To integrate a renewable energy re-
21 source production source at the source or away
22 from the source.

23 (I) To increase the feasibility of microgrids
24 or islanding.

1 (J) To enable the use of stored energy in
2 forms other than electricity to support the nat-
3 ural gas system and other industrial processes.

4 (5) RESTRICTION ON USE OF FUNDS.—Any eli-
5 gible entity that receives a grant under paragraph
6 (1) may only use the grant to fund programs relat-
7 ing to the demonstration of energy storage systems
8 connected to the electric grid, including energy stor-
9 age systems sited behind a customer revenue meter.

10 (6) FUNDING LIMITATIONS.—

11 (A) FEDERAL COST SHARE.—The Federal
12 cost share of a project carried out with a grant
13 under paragraph (1) shall be not more than 50
14 percent of the total costs incurred in connection
15 with the development, construction, acquisition
16 of components for, or engineering of a dem-
17 onstration project.

18 (B) MAXIMUM GRANT.—The maximum
19 amount of a grant awarded under paragraph
20 (1) shall be \$5,000,000.

21 (7) NO PROJECT OWNERSHIP INTEREST.—The
22 United States shall hold no equity or other owner-
23 ship interest in an energy storage system for which
24 a grant is provided under paragraph (1).

1 (8) COMPARABLE WAGE RATES.—Each laborer
2 and mechanic employed by a contractor or subcon-
3 tractor in performance of construction work fi-
4 nanced, in whole or in part, by the grant shall be
5 paid wages at rates not less than the rates prevailing
6 on similar construction in the locality as determined
7 by the Secretary of Labor in accordance with sub-
8 chapter IV of chapter 31 of title 40, United States
9 Code.

10 (b) RULES AND PROCEDURES; AWARDING OF
11 GRANTS.—

12 (1) RULES AND PROCEDURES.—Not later than
13 180 days after the date of enactment of this Act, the
14 Secretary shall adopt rules and procedures for car-
15 rying out the grant program under subsection (a).

16 (2) AWARDING OF GRANTS.—Not later than 1
17 year after the date on which the rules and proce-
18 dures under paragraph (1) are established, the Sec-
19 retary shall award the initial grants provided under
20 this section.

21 (c) REPORTS.—The Secretary shall submit to Con-
22 gress and make publicly available—

23 (1) not less frequently than once every 2 years
24 for the duration of the grant program under sub-
25 section (a), a report describing the performance of

1 the grant program, including a synthesis and anal-
2 ysis of any information the Secretary requires grant
3 recipients to provide to the Secretary as a condition
4 of receiving a grant; and

5 (2) on termination of the grant program under
6 subsection (a), an assessment of the success of, and
7 education provided by, the measures carried out by
8 grant recipients under the grant program.

9 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

10 There are authorized to be appropriated—

11 (1) for each of fiscal years 2020 through 2024,
12 \$175,000,000 to carry out section 3;

13 (2) for the period of fiscal years 2020 through
14 2024, \$100,000,000 to carry out section 4, to re-
15 main available until expended; and

16 (3) for the period of fiscal years 2020 through
17 2024, \$150,000,000 to carry out section 6, to re-
18 main available until expended.

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