

117TH CONGRESS
1ST SESSION

H. R. 2822

To require the Secretary of Energy to carry out an energy storage research program, loan program, and technical assistance and grant program, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 22, 2021

Mr. TAKANO 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 carry out an energy storage research program, loan program, and 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 “Advancing Grid Stor-
5 age Act of 2021”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

1 (1) ENERGY STORAGE SYSTEM.—The term “en-
2 energy storage system” means a system or strategy
3 that improves the ability to shift the dispatch of en-
4 ergy in time, across multiple timescales.

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

9 (3) LOAN.—The term “loan” has the meaning
10 given the term “direct loan” in section 502 of the
11 Federal Credit Reform Act of 1990 (2 U.S.C. 661a).

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

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

19 (B) can connect and disconnect from the
20 grid to operate in both grid-connected mode
21 and islanding mode.

22 (5) RENEWABLE ENERGY SOURCE.—The term
23 “renewable energy source” includes—

24 (A) biomass;

25 (B) geothermal energy;

- 1 (C) hydropower;
- 2 (D) landfill gas;
- 3 (E) municipal solid waste;
- 4 (F) ocean (including tidal, wave, current,
- 5 and thermal) energy;
- 6 (G) organic waste;
- 7 (H) photosynthetic processes;
- 8 (I) photovoltaic energy;
- 9 (J) solar energy; and
- 10 (K) wind.

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

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

14 (a) IN GENERAL.—The Secretary shall carry out,
15 within the Office of Electricity, a program for the research
16 of energy storage systems.

17 (b) AUTHORIZATION OF APPROPRIATIONS.—There is
18 authorized to be appropriated to carry out this section
19 \$50,000,000.

20 **SEC. 4. ENERGY STORAGE SYSTEM DEMONSTRATION AND**
21 **DEPLOYMENT LOAN PROGRAM.**

22 (a) LOAN PROGRAM.—

23 (1) IN GENERAL.—Subject to the provisions of
24 this subsection and subsections (b) and (c), the Sec-

retary shall carry out a program to provide to eligible entities—

(A) loans for the demonstration and deployment of energy storage systems in a specific project; and

(B) loans to provide funding for programs to finance the demonstration and deployment of multiple energy storage systems through a revolving loan fund, credit enhancement program, or other financial assistance program.

(2) ELIGIBILITY.—Entities eligible to receive a loan under paragraph (1) include—

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

(B) a State energy office;

(C) a tribal organization (as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5304));

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

(E) an electric utility, including—

(i) a rural electric cooperative;

(ii) a municipally owned electric utility; and

1 (iii) an investor-owned utility.

2 (3) SELECTION REQUIREMENTS.—In selecting
3 eligible entities to receive a loan under this section,
4 the Secretary shall, to the maximum extent prac-
5 ticable, ensure—

6 (A) regional diversity among eligible enti-
7 ties that receive the loans, including participa-
8 tion by rural States and small States; and

9 (B) that specific projects and programs se-
10 lected for loans—

11 (i) expand on the existing technology
12 demonstration and deployment programs
13 of the Department of Energy; and

14 (ii) are designed to achieve 1 or more
15 of the objectives described in paragraph
16 (4).

17 (4) OBJECTIVES.—Each demonstration and de-
18 ployment project, and each program, selected for a
19 loan under paragraph (1) shall include 1 or more of
20 the following objectives:

21 (A) With respect to energy storage sys-
22 tems, the improvement of—

23 (i) the feasibility of microgrids or
24 islanding; or

1 (ii) the transmission and distribution
2 capability to improve reliability in rural
3 areas, including high energy cost rural
4 areas.

5 (B) Use of energy storage systems to im-
6 prove the security of emergency response infra-
7 structure.

8 (C) Integration of energy storage systems
9 with a renewable energy source, at the source
10 or away from the source.

11 (D) Use of energy storage systems to pro-
12 vide ancillary services for grid management.

13 (E) Advancement of power conversion sys-
14 tems to make the systems smarter, more effi-
15 cient, able to communicate with other indenters,
16 and able to control voltage.

17 (F) Use of energy storage systems to opti-
18 mize transmission and distribution operation
19 and power quality to address overloaded lines
20 and maintenance of transformers and sub-
21 stations.

22 (G) Use of energy storage systems for
23 peak load management of homes, businesses,
24 and the grid, particularly to offset investments
25 in new grid capacity.

1 (H) Use of energy storage system devices
2 to meet electricity demand during nonpeak gen-
3 eration periods to make better use of existing
4 grid assets.

5 (5) RESTRICTION ON USE OF FUNDS.—Any eli-
6 gible entity that receives a loan under paragraph (1)
7 may only use the loan to fund projects for, and pro-
8 grams relating to, the demonstration and deploy-
9 ment of energy storage systems in households, busi-
10 nesses, and communities.

11 (b) LOAN TERMS AND CONDITIONS.—

12 (1) TERMS AND CONDITIONS.—Notwithstanding
13 any other provision of law, in providing a loan under
14 this section, the Secretary shall provide the loan on
15 such terms and conditions as the Secretary deter-
16 mines, after consultation with the Secretary of the
17 Treasury, in accordance with this section.

18 (2) SPECIFIC APPROPRIATION.—No loan shall
19 be made under this section unless an appropriation
20 for the full amount of the loan has been specifically
21 provided for that purpose.

22 (3) REPAYMENT.—No loan shall be made under
23 this section unless the Secretary determines that
24 there is reasonable prospect of repayment of the
25 principal and interest by the borrower of the loan.

1 (4) INTEREST RATE.—A loan provided under
2 this section shall bear interest at a fixed rate that
3 is equal or approximately equal, in the determination
4 of the Secretary, to the interest rate for Treasury
5 securities of comparable maturity.

6 (5) TERM.—The term of a loan provided under
7 this section shall require full repayment over a pe-
8 riod not to exceed the lesser of—

9 (A) 20 years; or

10 (B) 90 percent of the projected useful life
11 of the physical asset to be financed by the loan
12 (as determined by the Secretary).

13 (6) USE OF PAYMENTS.—Payments of principal
14 and interest on a loan provided under this section
15 shall—

16 (A) be retained by the Secretary to support
17 energy research and development activities; and

18 (B) remain available until expended, sub-
19 ject to such conditions as are contained in an-
20 nual appropriations Acts.

21 (7) NO PENALTY ON EARLY REPAYMENT.—The
22 Secretary may not assess any penalty for early re-
23 payment of a loan provided under this section.

24 (8) RETURN OF UNUSED PORTION.—In order to
25 receive a loan under this section, an eligible entity

1 shall agree to return to the general fund of the
2 Treasury any portion of the loan amount that is un-
3 used by the eligible entity within a reasonable period
4 of time after the date of the disbursement of the
5 loan, as determined by the Secretary.

6 (9) COMPARABLE WAGE RATES.—Each laborer
7 and mechanic employed by a contractor or subcon-
8 tractor in performance of construction work fi-
9 nanced, in whole or in part, by a loan provided
10 under this section shall be paid wages at rates not
11 less than the rates prevailing on similar construction
12 in the locality as determined by the Secretary of
13 Labor in accordance with subchapter IV of chapter
14 31 of title 40, United States Code.

15 (c) RULES AND PROCEDURES; DISBURSEMENT OF
16 LOANS.—

17 (1) RULES AND PROCEDURES.—Not later than
18 180 days after the date of enactment of this Act, the
19 Secretary shall adopt rules and procedures for car-
20 rying out the loan program under subsection (a).

21 (2) DISBURSEMENT OF LOANS.—Not later than
22 1 year after the date on which the rules and proce-
23 dures under paragraph (1) are adopted, the Sec-
24 retary shall disburse the initial loans provided under
25 this section.

1 (d) REPORTS.—Not later than 2 years after the date
2 of receipt of the loan and annually thereafter for the term
3 of the loan, an eligible entity that receives a loan under
4 this section shall submit to the Secretary a report describ-
5 ing the performance of each program and activity carried
6 out using the loan, including itemized loan performance
7 data.

8 (e) AUTHORIZATION OF APPROPRIATIONS.—There
9 are authorized to be appropriated to carry out this section
10 such sums as are necessary.

11 **SEC. 5. TECHNICAL ASSISTANCE AND GRANT PROGRAM.**

12 (a) PROGRAM.—

13 (1) IN GENERAL.—The Secretary, in consulta-
14 tion with the Assistant Secretary, Office of Elec-
15 tricity, shall carry out a technical assistance and
16 grant program (referred to in this section as the
17 “program”)—

18 (A) to disseminate information and provide
19 technical assistance directly to eligible entities
20 so the eligible entities can identify, evaluate,
21 plan, and design energy storage systems; and

22 (B) to make grants to eligible entities so
23 that the eligible entities may contract to obtain
24 technical assistance to identify, evaluate, plan,
25 and design energy storage systems.

1 (2) TECHNICAL ASSISTANCE.—The technical
2 assistance described in paragraph (1) shall include
3 assistance with 1 or more of the following activities
4 relating to energy storage systems:

5 (A) Identification of opportunities to use
6 energy storage systems.

7 (B) Assessment of technical and economic
8 characteristics.

9 (C) Utility interconnection.

10 (D) Permitting and siting issues.

11 (E) Business planning and financial anal-
12 ysis.

13 (F) Engineering design.

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

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

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

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

1 (b) ELIGIBILITY.—Any nonprofit or for-profit entity
2 shall be eligible to receive technical assistance and grants
3 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) facilitating the use of renewable energy
22 sources;

23 (B) strengthening the reliability and resil-
24 iency of energy infrastructure to the impact of

1 extreme weather events, power grid failures,
2 and interruptions in supply of fossil fuels;

3 (C) improving the feasibility of microgrids
4 or islanding, particularly in rural areas, includ-
5 ing high energy cost rural areas;

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

9 (E) maximizing local job creation.

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

13 (1) 100 percent of the costs of the initial as-
14 sessment to identify energy storage system opportu-
15 nities;

16 (2) 75 percent of the cost of feasibility studies
17 to assess the potential for the implementation of en-
18 ergy storage systems;

19 (3) 60 percent of the cost of guidance on over-
20 coming barriers to the implementation of energy
21 storage systems, including financial, contracting,
22 siting, and permitting issues; and

23 (4) 45 percent of the cost of detailed engineer-
24 ing of energy storage systems.

25 (e) RULES AND PROCEDURES.—

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

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

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

11 (1) not less frequently than once every 2 years,
12 a report describing the performance of the program
13 under this section, including a synthesis and analysis
14 of the information provided in the reports submitted
15 to the Secretary under section 4(d); and

16 (2) on termination of the program under this
17 section, an assessment of the success of, and edu-
18 cation provided by, the measures carried out by eli-
19 gible entities under the program.

20 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
21 authorized to be appropriated to carry out this section
22 \$250,000,000 for the period of fiscal years 2022 through
23 2026, to remain available until expended.

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