

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.

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## 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

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## 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           ergy 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-

1       retary shall carry out a program to provide to eligi-  
2       ble entities—

3               (A) loans for the demonstration and de-  
4               ployment of energy storage systems in a specific  
5               project; and

6               (B) loans to provide funding for programs  
7               to finance the demonstration and deployment of  
8               multiple energy storage systems through a re-  
9               volving loan fund, credit enhancement program,  
10              or other financial assistance program.

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

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

15               (B) a State energy office;

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

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

22               (E) an electric utility, including—

23                     (i) a rural electric cooperative;

24                     (ii) a municipally owned electric util-  
25                     ity; 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.

○