116TH CONGRESS
1ST SESSION

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To advance the integration of clean distributed energy into electric grids,
and for other purposes.

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IN THE SENATE OF THE UNITED STATES

Mrs. SHAHEEN introduced the following bill; which was read twice and
referred to the Committee on ______________________

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A BILL

To advance the integration of clean distributed energy into
electric grids, 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 “Clean Energy Grid
5   Act of 2019”.
6   SEC. 2. FINDINGS.
7   Congress finds that—
8   (1) research by the Secretary of Energy and the
9   Administrator of the Environmental Protection
10   Agency has found that clean distributed energy tech-
nologies can create important values for both the host facility and the electric grid operator;

(2) the values described in paragraph (1) can include, for the host facility—

(A) energy bill savings;

(B) additional revenue from offering ancillary services to the electric grid operator;

(C) increased electric reliability in the event of grid outages; and

(D) improved electric power quality;

(3) the values described in paragraph (1) can include, for the electric grid operator—

(A) avoiding the need for transmission and distribution upgrade investments;

(B) enhanced grid stability by providing reactive power;

(C) voltage and frequency stabilization; and

(D) more reliable and stable operation of the grid by providing dispatchable energy to the grid during periods of insufficient capacity or supply; and

(4) new advances in intelligent sensing and simulation and control technologies offer the potential to enhance the benefits of clean distributed genera-
tion to both the host facility and the electric grid op-
erator from dynamic, adaptive, and anticipatory re-
response to changing grid conditions.

**SEC. 3. DEFINITIONS.**

In this Act:

(1) **Ancillary Service.**—The term “ancillary
service” means those services necessary to support
the transmission of electric power from seller to pur-
chaser given the obligations of control areas and
transmitting utilities within those control areas to
maintain reliable operations of the interconnected
transmission system.

(2) **Clean Distributed Energy.**—The term
“clean distributed energy” means energy tech-
nologies that are located on or near the customer
site operating on the customer side of the electric
meter and are interconnected with the electric grid,
including—

(A) clean electric generation;

(B) customer electric efficiency measures;

(C) electric demand flexibility; and

(D) energy storage.

(3) **Grid.**—The term “grid” means the electric
grid that is composed of both distribution and trans-
mission lines, and associated facilities, including substations, sensors, and operational controls.

(4) INTELLIGENCE.—The term “intelligence” means any devices or technologies that manifest adaptive, anticipatory, and dynamic optimization behavior.

(5) SECRETARY.—The term “Secretary” means the Secretary of Energy.

SEC. 4. RESEARCH AND DEPLOYMENT PLAN FOR ENHANCED INTEGRATION OF CLEAN DISTRIBUTED ENERGY WITH THE GRID.

(a) IN GENERAL.—The Secretary shall carry out efforts for advancing the integration of clean distributed energy into electric grids.

(b) STUDY AND REPORT ON THE STATUS OF GRID INTEGRATION.—

(1) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Secretary, after consultation with State public utility commissions, State energy offices, regional transmission organizations, electric and natural gas utilities, independent power producers, clean distributed energy providers, public interest organizations, and other appropriate stakeholders, shall conduct a study on the status of integration of clean distributed en-
ergy into the grid, identifying any issues that require additional research or regulatory development.

(2) INCLUSIONS.—In conducting the study under paragraph (1), the Secretary shall—

(A) identify and quantify the benefits to all stakeholders of expanded integration of clean distributed energy resources into the grid;

(B) identify any technical issues (including cybersecurity concerns) that require research to identify solutions; and

(C) identify any regulatory barriers that inhibit the expanded integration of clean distributed energy resources into the grid.

(3) REPORT.—Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to Congress a report describing the results of the study conducted under paragraph (1).

(4) BEST PRACTICES.—Based on the findings of the report described in paragraph (3), the Secretary shall establish and distribute to States best practices to encourage the integration of clean distributed energy into the grid.

(5) FUNDING.—The Secretary shall use unobligated funds of the Department of Energy to carry out this subsection.
(c) Research Into the Technical Barriers to the Integration of Clean Distributed Energy With the Grid.—

(1) In General.—Not later than 18 months after the date of enactment of this Act, the Secretary shall—

(A) issue a solicitation for research proposals to address the technical barriers identified in the report submitted under subsection (b)(3); and

(B) make grants to those applicants with research proposals selected by the Secretary in accordance with paragraph (2).

(2) Criteria.—The Secretary shall select research proposals to receive a grant under this subsection on the basis of merit, using criteria identified by the Secretary, including the likelihood that the research results will address critical barriers identified by the Secretary.

(3) Funding.—Beginning in the first full fiscal year following the date of enactment of this Act, and annually thereafter for 2 years, the Secretary may request funding as necessary to carry out this subsection, but in no case shall funding exceed $5,000,000 in any 1 fiscal year.
(d) Creation of a Stakeholder Working Group.—

(1) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, the Secretary shall convene a working group (referred to in this subsection as the "Group") to address regulatory barriers to deployment of intelligent grid integration of clean distributed energy technologies.

(2) PURPOSE.—The purpose of the Group is to provide guidance on how to address the regulatory and economic factors that limit widespread integration of grid-level clean distributed energy use in order to advance the integration of clean distributed energy into electric grids.

(3) MEMBERSHIP.—The Group shall be composed of—

(A) representatives from—

(i) State public utility commissions;

(ii) State energy offices;

(iii) regional transmission organizations;

(iv) electric and natural gas utilities;

(v) independent power producers;

(vi) clean distributed energy providers;

and
(vii) public interest organizations; and

(B) any other appropriate stakeholders determined by the Secretary to have a material interest in the development, implementation, siting, and integration of clean distributed energy technology or systems into the electric grid.

(4) Duties.—The duties of the Group shall be—

(A) to review the regulatory barriers identified in the report prepared by the Secretary under subsection (b)(3);

(B) to identify any additional regulatory barriers that inhibit the installation of distributed energy; and

(C) to recommend to the Secretary actions that should be considered to remove the barriers identified under subparagraphs (A) and (B).

(5) Report.—Not later than 3 years after the date of enactment of this Act, the Secretary shall prepare and submit to Congress a report based on the recommendations of the Group under paragraph (4)(C), to be made publicly available.
(6) FUNDING.—The Secretary may request funding as necessary to carry out this subsection, but in no case shall funding exceed $2,000,000 in any 1 fiscal year.

(e) DEMONSTRATIONS OF INTELLIGENT GRID INTEGRATION OF CLEAN DISTRIBUTED ENERGY SYSTEMS.—

(1) IN GENERAL.—Based on the findings in the reports conducted under this section and not later than 3 years after the date of enactment of this Act, the Secretary shall issue a solicitation for demonstration of integration of distributed energy resources into the grid.

(2) ELIGIBLE ENTITIES.—Any individual entity or group of entities may submit to the Secretary proposals for demonstration projects based on the solicitation described in paragraph (1), including—

(A) State and local agencies;

(B) public institutions;

(C) private companies;

(D) electric and natural gas utilities; and

(E) equipment manufacturers.

(3) GRANTS AUTHORIZED.—The Secretary may make grants, in amounts not to exceed a total of $5,000,000, to eligible entities to carry out demonstration projects, to be selected based on—
(A) the technical merits of the demonstration project;

(B) the likelihood that the demonstration project will address critical barriers identified by the Secretary under this section; and

(C) the share of non-Federal funds for the demonstration project.

(4) FUNDING.—Beginning in the third full fiscal year following the date of enactment of this Act, and annually thereafter for 3 years, the Secretary may request funding as necessary to carry out this subsection, but in no case shall funding exceed $15,000,000 in any 1 fiscal year.

(f) REPORT.—The Secretary annually shall submit to Congress a report that—

(1) describes the progress made in carrying out this section; and

(2) identifies any technical or regulatory issues that require legislative action.