

AMENDMENT NO. _____ Calendar No. _____

Purpose: In the nature of a substitute.

IN THE SENATE OF THE UNITED STATES—116th Cong., 1st Sess.

S. 2702

To require the Secretary of Energy to establish an integrated energy systems research, development, and demonstration program, and for other purposes.

Referred to the Committee on _____ and
ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended
to be proposed by _____

Viz:

1 Strike all after the enacting clause and insert the fol-
2 lowing:

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Integrated Energy Sys-
5 tems Act of 2019”.

6 **SEC. 2. INTEGRATED ENERGY SYSTEMS PROGRAM.**

7 (a) DEFINITIONS.—In this section:

8 (1) PROGRAM.—The term “program” means
9 the Integrated Energy Systems Program established
10 under subsection (b)(1).

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

3 (b) ESTABLISHMENT.—

4 (1) IN GENERAL.—The Secretary shall establish
5 a program, to be known as the “Integrated Energy
6 Systems Program”—

7 (A) to maximize energy production and ef-
8 ficiency;

9 (B) to develop energy systems involving
10 the integration of nuclear energy with renew-
11 able energy, fossil energy, and energy storage;
12 and

13 (C) to expand the use of emissions-reduc-
14 ing energy technologies into nonelectric sectors
15 to achieve significant reductions in environ-
16 mental emissions.

17 (2) PROGRAM ADMINISTRATION; PARTNERS.—
18 The program shall be carried out by the Undersecre-
19 tary of Energy, in partnership with—

20 (A) relevant offices within the Department
21 of Energy;

22 (B) National Laboratories;

23 (C) institutions of higher education; and

24 (D) the private sector.

1 (3) GOALS AND MILESTONES.—The Secretary
2 shall establish quantitative goals and milestones for
3 the program.

4 (c) RESEARCH AREAS.—Research areas under the
5 program may include—

6 (1) technology innovation to further the expan-
7 sion of emissions-reducing energy technologies to ac-
8 commodate a modern, resilient grid system by—

9 (A) effectively leveraging multiple energy
10 sources;

11 (B) enhancing and streamlining engineer-
12 ing design;

13 (C) carrying out process demonstrations to
14 optimize performance; and

15 (D) streamlining regulatory review;

16 (2) advanced power cycles, energy extraction,
17 and processing of complex hydrocarbons to produce
18 high-value chemicals;

19 (3) efficient use of emissions-reducing energy
20 technologies for hydrogen production to support
21 transportation and industrial needs;

22 (4) enhancement and acceleration of domestic
23 manufacturing and desalinization technologies and
24 processes by optimally using clean energy sources;

1 (5) more effective thermal energy use, trans-
2 port, and storage;

3 (6) the demonstration of nuclear energy deliv-
4 ery for—

5 (A) the production of chemicals, metals,
6 and fuels;

7 (B) the capture, use, and storage of car-
8 bon;

9 (C) renewable integration with an inte-
10 grated energy system; and

11 (D) conversion of carbon feedstock, such
12 as coal, biomass, natural gas, and refuse waste,
13 to higher value nonelectric commodities;

14 (7) the development of new analysis capabilities
15 to identify the best ways—

16 (A) to leverage multiple energy sources in
17 a given region; and

18 (B) to quantify the benefits of integrated
19 energy systems; and

20 (8) any other area that, as determined by the
21 Secretary, meets the purpose and goals of the pro-
22 gram.

23 (d) GRANTS.—The Secretary may award grants
24 under the program to support the goals of the program.