

107TH CONGRESS
1ST SESSION

H. R. 2496

To direct the Secretary of Energy to develop and implement a strategy for research, development, demonstration, and commercial application of distributed power hybrid energy systems, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JULY 12, 2001

Mr. UDALL of Colorado introduced the following bill; which was referred to the Committee on Science

A BILL

To direct the Secretary of Energy to develop and implement a strategy for research, development, demonstration, and commercial application of distributed power hybrid energy systems, 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 “Distributed Power Hy-
5 brid Energy Act”.

6 **SEC. 2. FINDINGS.**

7 The Congress makes the following findings:

1 (1) Renewable energy resources have the poten-
2 tial to help diversify our Nation's energy portfolio
3 with few adverse environmental effects. By their
4 very nature, renewable resources are distributed.
5 Our ability to cost effectively take advantage of our
6 renewable, indigenous resources can be greatly ad-
7 vanced through systems that minimize the
8 intermittency of these resources through distributed
9 power hybrid systems.

10 (2) Distributed power sources configured as dis-
11 tributed power hybrid systems can maximize benefits
12 to the energy consumer. The primary benefits of dis-
13 tributed power hybrid systems are that they can—

14 (A) shelter consumers from temporary en-
15 ergy price volatility created by supply and de-
16 mand mismatches;

17 (B) increase the reliability of energy sup-
18 ply, thereby avoiding significant costs associ-
19 ated with power outages;

20 (C) provide a cost-effective means to mini-
21 mize the impact of intermittent resources,
22 thereby expanding the Nation's energy supply
23 reserve;

24 (D) decrease environmental impacts of en-
25 ergy supply; and

1 (E) be tailored to address significant local
2 differences in power and economic development
3 needs and resource availability that exist
4 throughout the United States.

5 (3) Realizing these benefits will require a con-
6 certed and integrated effort that focuses on remov-
7 ing market barriers to the adoption of distributed
8 power hybrid systems by—

9 (A) providing tools that enable States and
10 regions to assess their indigenous renewable en-
11 ergy resources;

12 (B) developing the technological foundation
13 that enables designing, testing, certifying, and
14 operating distributed power hybrid systems; and

15 (C) providing the policy framework that re-
16 duces such barriers, including making net me-
17 tering available on a broader scale to enable
18 consumers to reap the full value of these sys-
19 tems, thereby lowering their overall energy bill.

20 (4) While many of the individual distributed
21 power hybrid systems components are either avail-
22 able or under development in existing private and
23 public sector programs, the capabilities to integrate
24 these components into workable distributed power
25 hybrid systems that maximize benefits to consumers

1 in a safe manner are deficient and not coherently
2 being addressed.

3 **SEC. 3. DEFINITIONS.**

4 For purposes of this Act—

5 (1) the term “distributed power hybrid system”
6 means a system using 2 or more distributed power
7 sources, operated together with associated sup-
8 porting equipment, including storage equipment, and
9 software necessary to provide electric power to the
10 grid or on site; and

11 (2) the term “distributed power source” means
12 an independent electric energy source of usually 10
13 megawatts or less located close to a residential, com-
14 mercial, or industrial load center, including—

15 (A) reciprocating engines;

16 (B) turbines;

17 (C) microturbines;

18 (D) fuel cells;

19 (E) solar electric systems;

20 (F) wind energy systems;

21 (G) biomass power systems;

22 (H) geothermal power systems; or

23 (I) electrical components of cogeneration
24 systems.

1 **SEC. 4. STRATEGY.**

2 (a) REQUIREMENT.—Not later than 1 year after the
3 date of the enactment of this Act, the Secretary of Energy
4 shall develop and transmit to the Congress a distributed
5 power hybrid systems strategy showing—

6 (1) opportunities and priorities that might best
7 be met with distributed power hybrid systems con-
8 figurations;

9 (2) what barriers exist to the use of distributed
10 power hybrid systems;

11 (3) what technology gaps need to be closed; and

12 (4) what system integration tools are needed to
13 plan, design, build, and operate distributed power
14 hybrid systems for maximum benefits.

15 (b) ELEMENTS.—The strategy may provide for devel-
16 opment of—

17 (1) system integration tools for planning, de-
18 signing, building, and operating economical, safe,
19 and clean distributed power hybrid systems, includ-
20 ing databases, computer models, software, and sen-
21 sors, controls, and other integrating hardware;

22 (2) tests of distributed power hybrid systems,
23 including field tests with industry and cost-shared
24 demonstrations of distributed power hybrid systems
25 power parks and microgrids, to validate integrated
26 performance and to give consumers, policymakers,

1 and industry the confidence that distributed power
2 hybrid systems work reliably, safely, and cleanly;

3 (3) special design tools that can characterize
4 the benefits and values of distributed power hybrid
5 systems for consumers and enable virtual proto-
6 typing of distributed power hybrid systems to reduce
7 testing needs and the time required to get the sys-
8 tems into the marketplace;

9 (4) data to characterize grid operations, includ-
10 ing interconnection requirements; and

11 (5) precise resource assessment tools to map
12 local resources for distributed power hybrid systems.

13 (c) IMPLEMENTATION AND INTEGRATION.—The Sec-
14 retary of Energy shall implement the strategy transmitted
15 under subsection (a), and activities pursuant to the strat-
16 egy shall be integrated with other activities of the Depart-
17 ment’s Office of Distributed Energy Resources.

18 **SEC. 5. REPORT TO CONGRESS.**

19 Not later than 1 year after the date of the enactment
20 of this Act, and annually thereafter, the Secretary of En-
21 ergy shall transmit to the Congress a report on the use
22 of, and experience with, distributed power hybrid systems
23 in the United States, and the research and development
24 issues remaining to ensure the successful application of
25 distributed power hybrid systems.

1 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

2 There are authorized to be appropriated to the Sec-
3 retary of Energy for carrying out this Act—

4 (1) \$5,000,000 for fiscal year 2002;

5 (2) \$10,000,000 for fiscal year 2003;

6 (3) \$20,000,000 for fiscal year 2004;

7 (4) \$20,000,000 for fiscal year 2005; and

8 (5) \$5,000,000 for fiscal year 2006.

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