

Union Calendar No. 136

111TH CONGRESS
1ST SESSION

H. R. 3165

[Report No. 111-248]

To provide for a program of wind energy research, development, and demonstration, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JULY 9, 2009

Mr. TONKO introduced the following bill; which was referred to the Committee on Science and Technology

SEPTEMBER 8, 2009

Additional sponsors: Mr. LUJÁN, Mrs. MALONEY, Mr. WEXLER, Mr. INSLEE, Mr. DOGGETT, Mr. ISRAEL, Mr. BARTLETT, Mr. COURTNEY, Mr. GRIJALVA, Mr. CHANDLER, Ms. GIFFORDS, and Mr. CONNOLLY of Virginia

SEPTEMBER 8, 2009

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Strike out all after the enacting clause and insert the part printed in *italic*]

[For text of introduced bill, see copy of bill as introduced on July 9, 2009]

A BILL

To provide for a program of wind energy research,
development, and demonstration, 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 “Wind Energy Research*
5 *and Development Act of 2009”.*

6 **SEC. 2. WIND ENERGY RESEARCH AND DEVELOPMENT PRO-**
7 **GRAM.**

8 (a) *IN GENERAL.*—*The Secretary of Energy shall*
9 *carry out a program of research and development to—*

10 (1) *improve the energy efficiency, reliability, and*
11 *capacity of wind turbines;*

12 (2) *optimize the design and adaptability of wind*
13 *energy systems to the broadest practical range of at-*
14 *mospheric conditions; and*

15 (3) *reduce the cost of construction, generation,*
16 *and maintenance of wind energy systems.*

17 (b) *PROGRAM.*—*The program under this section shall*
18 *focus on research and development of—*

19 (1) *new materials and designs to make larger,*
20 *lighter, less expensive, and more reliable rotor blades;*

21 (2) *technologies to improve gearbox performance*
22 *and reliability;*

23 (3) *automation, materials, and assembly of*
24 *large-scale components to reduce manufacturing costs;*

1 (4) *low-cost transportable towers greater than*
2 *100 meters in height to capitalize on improved wind*
3 *conditions at higher elevations;*

4 (5) *advanced computational modeling tools to*
5 *improve—*

6 (A) *the reliability of aeroelastic simulations*
7 *of wind energy systems;*

8 (B) *understanding of the interaction be-*
9 *tween each wind turbine component;*

10 (C) *siting of wind energy systems to maxi-*
11 *mize efficiency and minimize variable genera-*
12 *tion;*

13 (D) *integration of wind energy systems into*
14 *the existing electric grid to ensure reliability;*
15 *and*

16 (E) *understanding of the wake effect be-*
17 *tween upwind and downwind turbine operations;*

18 (6) *advanced control systems and blade sensors*
19 *to improve performance and reliability under a wide*
20 *variety of wind conditions;*

21 (7) *advanced generators, including—*

22 (A) *medium-speed and low-speed generators;*

23 (B) *direct-drive technology; and*

24 (C) *the use of advanced magnets in gener-*
25 *ator rotors;*

1 (8) *wind technology for offshore applications;*

2 (9) *methods to assess and mitigate the effects of*
3 *wind energy systems on radar and electromagnetic*
4 *fields;*

5 (10) *wind turbines with a maximum electric*
6 *power production capacity of 100 kilowatts or less;*

7 (11) *technical processes to enable—*

8 (A) *scalability of transmission from re-*
9 *motely located renewable resource rich areas; and*

10 (B) *optimization of advanced infrastructure*
11 *design, including high voltage transmission; and*

12 (12) *other research areas as determined by the*
13 *Secretary.*

14 **SEC. 3. WIND ENERGY DEMONSTRATION PROGRAM.**

15 (a) *IN GENERAL.—The Secretary of Energy shall con-*
16 *duct a wind energy demonstration program. In carrying*
17 *out this section, the Secretary shall ensure that—*

18 (1) *the program is of sufficient size and geo-*
19 *graphic diversity to measure wind energy system per-*
20 *formance under the full productive range of wind con-*
21 *ditions in the United States;*

22 (2) *demonstration projects carried out under this*
23 *program are—*

1 (A) conducted in collaboration with indus-
2 try and, as appropriate, with academic institu-
3 tions; and

4 (B) located in various geographic areas rep-
5 resenting various wind class regimes; and

6 (3) data collected from demonstration projects
7 carried out under this program is useful for carrying
8 out section 2(b).

9 (b) *COST-SHARING*.—The Secretary shall carry out the
10 program under this section in compliance with section
11 988(a) through (d) and section 989 of the Energy Policy
12 Act of 2005 (42 U.S.C. 16352(a) through (d) and 16353).

13 **SEC. 4. EQUAL OPPORTUNITY.**

14 In carrying out this Act, the Secretary of Energy
15 shall—

16 (1) coordinate with the Office of Minority Eco-
17 nomic Impact and with the Office of Small and Dis-
18 advantaged Business Utilization; and

19 (2) provide special consideration to applications
20 submitted by institutions, businesses, or entities con-
21 taining majority representation by individuals iden-
22 tified in section 33 or 34 of the Science and Engi-
23 neering Equal Opportunities Act (42 U.S.C. 1885a or
24 1885b).

1 **SEC. 5. COMPETITIVE AWARDS.**

2 *Awards under section 2 and section 3 shall be made*
3 *on a competitive basis with an emphasis on technical merit.*

4 **SEC. 6. COORDINATION AND NONDUPLICATION.**

5 *To the maximum extent practicable the Secretary of*
6 *Energy shall coordinate activities under this Act with other*
7 *programs of the Department of Energy and other Federal*
8 *research programs.*

9 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

10 *There are authorized to be appropriated to the Sec-*
11 *retary of Energy to carry out this Act \$200,000,000 for each*
12 *of the fiscal years 2010 through 2014.*

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