

112TH CONGRESS
2D SESSION

H. R. 5827

To ensure consideration of water intensity in the Department of Energy's energy research, development, and demonstration programs to help guarantee efficient, reliable, and sustainable delivery of energy and clean water resources.

IN THE HOUSE OF REPRESENTATIVES

MAY 18, 2012

Ms. EDDIE BERNICE JOHNSON of Texas (for herself and Ms. EDWARDS) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To ensure consideration of water intensity in the Department of Energy's energy research, development, and demonstration programs to help guarantee efficient, reliable, and sustainable delivery of energy and clean water resources.

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 “Energy and Water Re-
5 search Integration Act of 2012”.

1 **SEC. 2. INTEGRATING ENERGY AND WATER RESEARCH.**

2 (a) IN GENERAL.—The Secretary of Energy shall in-
3 tegrate water considerations into energy research, develop-
4 ment, and demonstration programs and projects of the
5 Department of Energy by—

6 (1) advancing energy and energy efficiency
7 technologies and practices that meet the objectives
8 of—

9 (A) minimizing freshwater withdrawal and
10 consumption;

11 (B) increasing water use efficiency; and

12 (C) utilizing nontraditional water sources
13 with efforts to improve the quality of the water
14 from those sources;

15 (2) considering the effects climate variability
16 and change may have on water supplies and quality
17 for energy generation and fuel production; and

18 (3) improving understanding of the energy-
19 water nexus.

20 (b) STRATEGIC PLAN.—

21 (1) IN GENERAL.—Not later than 6 months
22 after the date of enactment of this Act, the Sec-
23 retary shall develop a strategic plan identifying the
24 research, development, and demonstration needs for
25 Department programs and projects to carry out sub-
26 section (a). The strategic plan shall include technical

1 milestones for achieving and assessing progress to-
2 ward the objectives of subsection (a)(1).

3 (2) SPECIFIC CONSIDERATIONS.—In developing
4 the strategic plan, the Secretary shall consider—

5 (A) new advanced cooling technologies for
6 energy generation and fuel production tech-
7 nologies;

8 (B) performance improvement of existing
9 cooling technologies and cost reductions associ-
10 ated with using those technologies;

11 (C) innovative water reuse, recovery, and
12 treatment technologies in energy generation and
13 fuel production;

14 (D) technology development for carbon
15 capture and storage systems that utilize effi-
16 cient water use design strategies;

17 (E) technologies that are life-cycle cost ef-
18 fective;

19 (F) systems analysis and modeling of
20 issues relating to the energy-water nexus;

21 (G) technologies to treat and utilize waste-
22 water and produced waters discharged from oil,
23 natural gas, coalbed methane, and any other
24 substance to be used as an energy source;

1 (H) advanced materials for the use of non-
2 traditional water sources for energy generation
3 and fuel production;

4 (I) biomass production and utilization and
5 the impact on hydrologic systems;

6 (J) technologies that reduce impacts on
7 water from energy resource development;

8 (K) energy efficient technologies for water
9 distribution and collection systems;

10 (L) technologies for energy generation
11 from water distribution and collection systems;
12 and

13 (M) any other area of the energy-water
14 nexus that the Secretary considers appropriate.

15 (3) COLLABORATION AND NONDUPLICATION.—

16 In developing the strategic plan, the Secretary shall
17 coordinate and avoid duplication—

18 (A) with other Federal agencies operating
19 related programs, if appropriate; and

20 (B) across programs and projects of the
21 Department, including with those of the Na-
22 tional Laboratories.

23 (4) RELEVANT INFORMATION AND REC-
24 OMMENDATIONS.—In developing the strategic plan,
25 the Secretary shall consider and incorporate, as ap-

1 appropriate, relevant information and recommenda-
2 tions, including those of the National Water Avail-
3 ability and Use Assessment Program under section
4 9508(d) of the Omnibus Public Land Management
5 Act of 2009 (42 U.S.C. 10368(d)).

6 (5) NONGOVERNMENTAL PARTICIPATION.—In
7 developing the strategic plan, the Secretary shall
8 consult and coordinate with a diverse group of rep-
9 resentatives from research and academic institutions
10 and industry who have expertise in technologies and
11 practices relating to the energy-water nexus.

12 (6) SUBMISSION TO CONGRESS.—Not later than
13 9 months after the date of enactment of this Act,
14 the Secretary shall submit to Congress the strategic
15 plan.

16 (7) UPDATING THE STRATEGIC PLAN.—Not
17 later than 3 years after the date of enactment of
18 this Act, and at least once every 5 years thereafter,
19 the Secretary shall—

20 (A) utilize relevant information produced
21 by Federal Government agencies, academia, and
22 industry to update the strategic plan;

23 (B) include in the updated strategic plan a
24 description of the changes from the previous

1 strategic plan and the rationale for such
2 changes; and

3 (C) submit the updated strategic plan to
4 Congress.

5 (c) PROGRESS REPORTS.—Not less frequently than
6 once every 2 years, the Secretary shall transmit to Con-
7 gress a report on the progress the Department has made
8 toward the milestones outlined in the strategic plan.

9 (d) ADDITIONAL ACTIVITIES.—The Secretary may
10 provide for such additional research, development, and
11 demonstration activities as appropriate to integrate water
12 considerations into the research, development, and dem-
13 onstration activities of the Department as described in
14 subsection (a).

15 (e) AUTHORIZATION OF APPROPRIATIONS.—There
16 are authorized to be appropriated to the Secretary for car-
17 rying out this section \$60,000,000 for each of the fiscal
18 years 2013 through 2017.

19 **SEC. 3. ENERGY-WATER ARCHITECTURE COUNCIL.**

20 (a) IN GENERAL.—The Secretary, in coordination
21 with other relevant Federal agencies, shall establish an
22 Energy-Water Architecture Council to promote and enable
23 improved energy and water resource data collection, re-
24 porting, and technological innovation. The Council shall
25 consist of—

1 (1) representation from each Federal agency
2 that conducts research related to the energy-water
3 nexus; and

4 (2) non-Federal members, including representa-
5 tives of research and academic institutions and in-
6 dustry, who have expertise in technologies and prac-
7 tices relating to the energy-water nexus.

8 (b) FUNCTIONS.—The Council shall—

9 (1) make recommendations on the development
10 of data collection and data communication standards
11 and protocols to agencies and entities currently en-
12 gaged in collecting the data for the energy-water
13 nexus;

14 (2) recommend ways to make improvements to
15 Federal water use data to increase understanding of
16 trends in energy generation and fuel production;

17 (3) recommend best practices for utilizing infor-
18 mation from existing monitoring networks to provide
19 nationally uniform water and energy use and infra-
20 structure data; and

21 (4) conduct annual technical workshops, includ-
22 ing at least 1 regional workshop annually, to facili-
23 tate information exchange among Federal, regional,
24 State, local, and tribal governments and private sec-

1 tor experts on technologies that encourage the con-
2 servation and efficient use of water and energy.

3 (c) REPORTS.—Not later than 1 year after the date
4 of enactment of this Act, and at least once every 2 years
5 thereafter, the Council, through the Secretary, shall trans-
6 mit to Congress a report on its findings and activities
7 under this section.

8 (d) AUTHORIZATION OF APPROPRIATIONS.—There
9 are authorized to be appropriated to the Secretary for car-
10 rying out this section \$2,000,000 for each of the fiscal
11 years 2013 through 2017.

12 **SEC. 4. MANDATES.**

13 Nothing in this Act shall be construed to require
14 State, tribal, or local governments to take any action that
15 may result in an increased financial burden to such gov-
16 ernments by restricting the use of water by such govern-
17 ments.

18 **SEC. 5. COORDINATION AND NONDUPLICATION.**

19 To the maximum extent practicable, the Secretary
20 shall coordinate activities under this Act with other pro-
21 grams of the Department and other Federal research pro-
22 grams.

23 **SEC. 6. DEFINITIONS.**

24 In this Act:

1 (1) COUNCIL.—The term “Council” means the
2 Energy-Water Architecture Council established by
3 section 3(a).

4 (2) DEPARTMENT.—The term “Department”
5 means the Department of Energy.

6 (3) ENERGY-WATER NEXUS.—The term “en-
7 ergy-water nexus” means the energy required to pro-
8 vide reliable water supplies and the water required
9 to provide reliable energy supplies throughout the
10 United States.

11 (4) SECRETARY.—The term “Secretary” means
12 the Secretary of Energy.

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