

116TH CONGRESS
1ST SESSION

S. _____

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 SENATE OF THE UNITED STATES

Ms. CORTEZ MASTO (for herself and Mr. CRAPO) introduced the following bill; which was read twice and referred to the Committee on

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 2019”.

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;

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

15 (D) minimizing deleterious impacts on
16 water bodies, groundwater, and waterways; and

17 (E) minimizing seismic impacts;

18 (2) considering the effects climate variability
19 may have on water supplies and quality for energy
20 generation and fuel production; and

21 (3) improving understanding of the energy-
22 water nexus.

23 (b) STRATEGIC PLAN.—

24 (1) IN GENERAL.—Not later than 12 months
25 after the date of enactment of this Act, the Sec-
26 retary shall develop a strategic plan identifying the

1 research, development, and demonstration needs for
2 Department programs and projects to carry out sub-
3 section (a). The strategic plan shall include technical
4 milestones for achieving and assessing progress to-
5 ward the objectives of subsection (a)(1).

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

8 (A) new advanced cooling technologies for
9 energy generation and fuel production tech-
10 nologies;

11 (B) performance improvement of existing
12 cooling technologies and cost reductions associ-
13 ated with using those technologies;

14 (C) innovative water reuse, recovery, and
15 treatment technologies in energy generation and
16 fuel production, including renewable energy;

17 (D) technology development for carbon
18 capture and storage systems that utilize effi-
19 cient water use design strategies;

20 (E) technologies that are life-cycle cost ef-
21 fective;

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

24 (G) technologies to treat and utilize waste-
25 water and produced waters discharged from oil,

1 natural gas, coalbed methane, and any other
2 substance to be used as an energy source;

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

6 (I) biomass production and utilization and
7 the impact on hydrologic systems;

8 (J) technologies that reduce impacts on
9 water from energy resource development;

10 (K) energy efficient technologies for water
11 distribution, treatment, supply, and collection
12 systems;

13 (L) technologies for energy generation
14 from water distribution, treatment, supply, and
15 collection systems;

16 (M) the flexible operation of water infra-
17 structure to provide essential grid reliability
18 services;

19 (N) modular or energy-water microgrid
20 systems that can provide energy and water re-
21 sources in remote or disaster recovery areas;

22 (O) recovering energy in the form of
23 biofuels, bioproducts, and biopower from munic-
24 ipal and industrial wastewaters, and similar or-
25 ganic streams; and

1 (P) any other area of the energy-water
2 nexus that the Secretary considers appropriate.

3 (3) COLLABORATION AND NONDUPLICATION.—

4 In developing the strategic plan, the Secretary shall
5 coordinate and avoid duplication—

6 (A) with other Federal agencies operating
7 related programs, if appropriate; and

8 (B) across programs and projects of the
9 Department, including with those of the Na-
10 tional Laboratories.

11 (4) RELEVANT INFORMATION AND REC-
12 OMMENDATIONS.—In developing the strategic plan,
13 the Secretary shall consider and incorporate, as ap-
14 propriate, relevant information and recommenda-
15 tions, including those of the National Water Avail-
16 ability and Use Assessment Program under section
17 9508(d) of the Omnibus Public Land Management
18 Act of 2009 (42 U.S.C. 10368(d)).

19 (5) ADDITIONAL PARTICIPATION.—In devel-
20 oping the strategic plan, the Secretary shall consult
21 and coordinate with a diverse group of representa-
22 tives from research and academic institutions, indus-
23 try, public utility commissions, and State and local
24 governments who have expertise in technologies and
25 practices relating to the energy-water nexus.

1 (6) SUBMISSION TO CONGRESS.—Not later than
2 12 months after the date of enactment of this Act,
3 the Secretary shall submit to the Committee on
4 Science, Space, and Technology of the House of
5 Representatives and the Committee on Energy and
6 Natural Resources of the Senate the strategic plan.

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

11 (A) utilize relevant information produced
12 by Federal Government agencies, academia,
13 State, local, and tribal governments and indus-
14 try to update the strategic plan;

15 (B) include in the updated strategic plan a
16 description of the changes from the previous
17 strategic plan and the rationale for such
18 changes;

19 (C) include a review of progress made to-
20 wards the milestones outlined in the previous
21 strategic plan; and

22 (D) submit the updated strategic plan to
23 the Committee on Science, Space, and Tech-
24 nology of the House of Representatives and the

1 Committee on Energy and Natural Resources of
2 the Senate.

3 (c) **ADDITIONAL ACTIVITIES.**—The Secretary may
4 provide for such additional research, development, and
5 demonstration activities as appropriate to integrate water
6 considerations into the research, development, and dem-
7 onstration activities of the Department as described in
8 subsection (a).

9 **SEC. 3. ENERGY-WATER OVERSIGHT AND COORDINATION.**

10 (a) **IN GENERAL.**—In carrying out the research, de-
11 velopment, and demonstration activities outlined in section
12 2, the Secretary, in coordination with other relevant Fed-
13 eral agencies, shall establish an Energy-Water Committee
14 to promote and enable improved energy and water re-
15 source data collection, reporting, and technological innova-
16 tion. The Committee shall consist of—

17 (1) representation from each program within
18 the Department and each Federal agency that con-
19 ducts research related to the energy-water nexus;
20 and

21 (2) non-Federal members, including representa-
22 tives of research and academic institutions, State,
23 local, and tribal governments, public utility commis-
24 sions, and industry, who have expertise in tech-

1 nologies, technological innovations, or practices re-
2 lating to the energy-water nexus.

3 (b) FUNCTIONS.—The Committee shall, in carrying
4 out section 2—

5 (1) make recommendations on the development
6 and integration of data collection and data commu-
7 nication standards and protocols, including models
8 and modeling results, to agencies and entities cur-
9 rently engaged in collecting the data for the energy-
10 water nexus;

11 (2) recommend ways to make improvements to
12 Federal water use data to increase understanding of
13 trends in energy generation and fuel production, in-
14 cluding non-cooling water uses;

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

19 (4) conduct annual technical workshops, includ-
20 ing at least one regional workshop annually, to fa-
21 cilitate information exchange among Federal, re-
22 gional, State, local, and tribal governments and pri-
23 vate sector experts on technologies that encourage
24 the conservation and efficient use of water and en-
25 ergy.

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

6 (d) APPLICABILITY OF FEDERAL ADVISORY COM-
7 MITTEE ACT.—Except as otherwise provided in this sec-
8 tion, the Federal Advisory Committee Act (5 U.S.C. App.)
9 shall apply to the Committee.

10 **SEC. 4. RULE OF CONSTRUCTION.**

11 Notwithstanding any other provision of law, nothing
12 in this Act shall be construed to require State, tribal, or
13 local governments to provide additional data for Federal
14 purposes, or to take any action that may result in an in-
15 creased financial burden to such governments by restrict-
16 ing the use of water by such governments.

17 **SEC. 5. COORDINATION AND NONDUPLICATION.**

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

22 **SEC. 6. DEFINITIONS.**

23 In this Act:

1 (1) COMMITTEE.—The term “Committee”
2 means the Energy-Water Committee established
3 under 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.

13 **SEC. 7. DETERMINATION OF BUDGETARY EFFECTS.**

14 The budgetary effects of this Act, for the purpose of
15 complying with the Statutory Pay-As-You-Go Act of 2010,
16 shall be determined by reference to the latest statement
17 titled “Budgetary Effects of PAYGO Legislation” for this
18 Act, submitted for printing in the Congressional Record
19 by the Chairman of the House Budget Committee, pro-
20 vided that such statement has been submitted prior to the
21 vote on passage.