

111TH CONGRESS
1ST SESSION

H. R. 1145

IN THE SENATE OF THE UNITED STATES

APRIL 23, 2009

Received; read twice and referred to the Committee on Environment and
Public Works

AN ACT

To implement a National Water Research and Development
Initiative, 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “National Water Re-
3 search and Development Initiative Act of 2009”.

4 **SEC. 2. NATIONAL WATER RESEARCH AND DEVELOPMENT**
5 **INITIATIVE.**

6 (a) INITIATIVE AND PURPOSE.—The President shall
7 implement a National Water Research and Development
8 Initiative (in this Act referred to as the “Initiative”). The
9 purpose of the Initiative is to improve the Federal Govern-
10 ment’s role in designing and implementing Federal water
11 research, development, demonstration, data collection and
12 dissemination, education, and technology transfer activi-
13 ties to address changes in water use, quality, supply, and
14 demand in the United States, including providing addi-
15 tional support to increase water supply through greater
16 efficiency, conservation, and measures to abate water
17 quality impairment.

18 (b) INTERAGENCY COMMITTEE.—

19 (1) IN GENERAL.—Not later than 3 months
20 after the date of enactment of this Act, the Presi-
21 dent shall establish, or designate, an interagency
22 committee to implement the Initiative under sub-
23 section (a). The Office of Science and Technology
24 Policy shall chair the interagency committee.

25 (2) COMPOSITION.—The interagency committee
26 shall include a representative from each agency that

1 conducts research related to water or has authority
2 over resources that affect water supply and water
3 quality, as well as a representative from the Office
4 of Management and Budget.

5 (3) FUNCTIONS OF THE INTERAGENCY COM-
6 MITTEE.—The interagency committee shall—

7 (A) develop a National Water Research
8 and Assessment Plan (in this Act referred to as
9 the “plan”) in accordance with subsection (c)
10 and in coordination with State, local, and tribal
11 governments;

12 (B) coordinate all Federal research, devel-
13 opment, demonstration, data collection and dis-
14 semination, education, and technology transfer
15 activities pertaining to water;

16 (C) encourage cooperation among Federal
17 agencies and State, local, and tribal govern-
18 ments with respect to water-related research,
19 development, and technological innovation ac-
20 tivities to avoid duplication of effort and to en-
21 sure optimal use of resources and expertise;

22 (D) facilitate technology transfer, commu-
23 nication, and opportunities for information ex-
24 change with institutions of higher education,
25 non-governmental organizations, State and local

1 governments, tribal governments, industry,
2 water resources managers, commercial end
3 users, and other members of the stakeholder
4 community through the office established in
5 paragraph (4);

6 (E) provide guidance on outreach to mi-
7 nority serving institutions that are eligible insti-
8 tutions under section 371(a) of the Higher
9 Education Act of 1965 (20 U.S.C. 1067q(a)) to
10 encourage such institutions to apply for funding
11 opportunities specified in the plan;

12 (F) provide guidance on outreach to insti-
13 tutions of higher education (as defined in sec-
14 tion 101(a) of the Higher Education Act of
15 1965 (20 U.S.C. 1001(a)) that are located in
16 an area affected by drought and encourage such
17 institutions to apply for funding opportunities
18 specified in the plan;

19 (G) encourage cooperation between Federal
20 agencies, State and local governments, and trib-
21 al governments to develop standard methods for
22 collecting, managing, and disseminating data on
23 water;

1 (H) not later than 1 year after the date of
2 enactment of this Act and every 3 years there-
3 after—

4 (i) identify from each agency de-
5 scribed in paragraph (2) the statutory or
6 regulatory barriers preventing the use of
7 any technology, technique, data collection
8 method, or model that would contribute to
9 greater availability of water resources in
10 the United States through enhanced effi-
11 ciency and conservation; and

12 (ii) submit a report of the findings
13 from clause (i) to Congress; and

14 (I) assess the role of Federal water re-
15 search funding in helping to develop the next
16 generation of scientists and engineers at institu-
17 tions of higher education.

18 (4) NATIONAL WATER INITIATIVE COORDINA-
19 TION OFFICE.—

20 (A) IN GENERAL.—Not later than 3
21 months after the date of enactment of this Act,
22 the President shall establish a National Water
23 Initiative Coordination Office (in this Act re-
24 ferred to as the “Office”), with full-time staff,
25 to—

1 (i) provide technical and administra-
2 tive support to the interagency committee;

3 (ii) serve as a point of contact on
4 Federal water activities for government
5 agencies, organizations, academia, indus-
6 try, professional societies, public-private
7 collaborations, commercial end users, and
8 others to exchange technical and pro-
9 grammatic information; and

10 (iii) communicate with the public, in-
11 cluding through a publicly accessible
12 website, on the findings and recommenda-
13 tions of the interagency committee based
14 on the activities conducted pursuant to the
15 Initiative.

16 (B) FUNDING.—The operation of the Of-
17 fice shall be supported by funds contributed
18 from each agency represented on the inter-
19 agency committee.

20 (c) NATIONAL WATER RESEARCH AND ASSESSMENT
21 PLAN.—

22 (1) PLAN DEVELOPMENT.—The plan required
23 under subsection (b)(3)(A) shall establish the prior-
24 ities for Federal water research, including federally
25 funded research, and assessment for the 4-year pe-

1 riod beginning in the year in which the plan is sub-
2 mitted to Congress. In the development of the plan,
3 the interagency committee shall consider and utilize
4 recommendations and information from State, local,
5 and tribal governments and contained in reports
6 that have addressed water research needs, including
7 the 2007 report issued by the Subcommittee on
8 Water Availability and Quality (SWAQ) of the Na-
9 tional Science and Technology Council’s Committee
10 on Environment and Natural Resources and rec-
11 ommendations of the National Academy of Sciences.

12 (2) SPECIFIC REQUIREMENTS.—The plan
13 shall—

14 (A) identify each current program and ac-
15 tivity of each Federal agency related to the Ini-
16 tiative;

17 (B) identify funding levels for the previous
18 fiscal year for each program and, if applicable,
19 each activity identified in subparagraph (A);

20 (C) set forth a strategy and a timeline to
21 achieve the outcomes described in subsection
22 (d) and shall describe—

23 (i) each activity required of each
24 agency responsible for contributing to each
25 such outcome;

1 (ii) the funding levels necessary to
2 achieve each such outcome; and

3 (iii) the distribution of funds between
4 each agency based on such agency's role in
5 carrying out such activity;

6 (D) be subject to a 90-day public comment
7 period as noticed on the Office's website and
8 shall address suggestions received and incor-
9 porate public input received, as appropriate;
10 and

11 (E) be submitted to Congress not later
12 than 1 year after the date of enactment of this
13 Act and revised and resubmitted every 4 years
14 thereafter.

15 (d) WATER RESEARCH OUTCOMES AND ASSESS-
16 MENTS.—The plan shall outline and direct agencies under
17 the interagency committee to work to achieve the following
18 outcomes:

19 (1) Implementation of a National Water Cen-
20 sus, which shall include the collection of data on na-
21 tional water resources to create a comprehensive
22 database that includes information about the quan-
23 tity, availability, and quality of ground water and
24 surface water resources.

1 (2) Development of a new generation of water
2 monitoring techniques and technologies, including
3 techniques and technologies that provide publicly
4 generated data useful to water managers.

5 (3) Development of technologies for enhancing
6 reliable water supply, water reuse, and pollution pre-
7 vention.

8 (4) Development of innovative technologies and
9 tools to enhance water quality, including advanced
10 water treatment and water purification technologies.

11 (5) Development of innovative technologies and
12 tools to enhance water-use efficiency and tools to en-
13 courage public acceptance of such technologies and
14 tools.

15 (6) Development of tools and processes to facili-
16 tate resolution of conflicts over water resources.

17 (7) Development of information technology sys-
18 tems to enhance water quality and supply.

19 (8) Improvement of understanding of water-re-
20 lated ecosystem services and ecosystem needs for
21 water.

22 (9) Improvement of hydrologic prediction mod-
23 els and their applications, including spatial and tem-
24 poral variation in natural supply, watershed hydrol-

1 ogy, human and ecological demand, and infrastruc-
2 ture.

3 (10) Analyses of the energy required to provide
4 reliable water supplies and the water required to
5 provide reliable energy supplies throughout the
6 United States, including analyses of the amount,
7 proximity, and type of water required for the pro-
8 duction of alternative and renewable energy re-
9 sources.

10 (11) Analyses of the social, behavioral, and eco-
11 nomic barriers to sustainable use of water resources
12 in the United States.

13 (12) Assessment of national water availability
14 and use.

15 (13) Regional assessments of the status of
16 water supplies and evaluation of potential changes in
17 such status due to changes in land use, population
18 size and distribution, and economic activity.

19 (14) Assessment of water quality, availability,
20 and use in rural areas, including—

21 (A) maintaining water quality and enhanc-
22 ing energy efficiency of water treatment and de-
23 livery through the use of technologies or prac-
24 tices developed to address rural communities;
25 and

1 (B) developing data and information to
2 support water planning and conservation.

3 (15) Development of resources to investigate
4 the effects of invasive species on water supplies.

5 (16) Development of technologies and practices
6 to treat eutrophic water bodies, including rivers, es-
7 tuaries, and coastal waters.

8 (17) Development of tools to assist local water
9 resource managers in anticipating changing water
10 availability and use patterns in the preparation of a
11 strategic plan for sustainable future operations.

12 (18) Development of a program to offer tech-
13 nical and planning assistance to States, localities,
14 and regions that use or are planning to use land
15 conservation as a method to protect water quality,
16 as well as an analysis of the impact of land con-
17 servation on watershed hydrology.

18 (19) Improvement of understanding of the im-
19 pacts from chemical impairments, including contami-
20 nants of emerging concern, such as endocrine dis-
21 rupting compounds, pharmaceuticals, and personal
22 care products, on water supply and quality.

23 (20) Analyses of the Nation's water research
24 facilities and identification of whether a need exists
25 for additional facilities.

1 (21) Assessment of potential water storage
2 projects that would enhance water supply, water
3 planning, and other beneficial uses.

4 (22) Improvement of understanding of water-in-
5 tensive sectors of the economy and industrial needs
6 for water.

7 (23) Improvement of understanding of com-
8 peting water supply uses and how different uses
9 interact with and impact each other.

10 (24) Projection of long-term ice cover and water
11 level outlook for major water bodies in the United
12 States, including the Great Lakes, the potential im-
13 pacts of the results of such projections on infra-
14 structure, and resource management options based
15 on such projections.

16 (25) Assessment of the impacts of natural dis-
17 asters, including floods, hurricanes, and tornadoes,
18 on water resources.

19 (e) ADVISORY COMMITTEE.—The President shall es-
20 tablish, or designate, an advisory committee to advise the
21 interagency committee established under subsection (b).

22 **SEC. 3. BUDGET COORDINATION.**

23 (a) IN GENERAL.—The President shall provide guid-
24 ance to each Federal agency participating in the Initiative

1 with respect to the preparation of requests for appropria-
2 tions for activities related to the plan.

3 (b) CONSIDERATION IN THE PRESIDENT'S BUDG-
4 ET.—The President shall submit, at the time of the Presi-
5 dent's annual budget request to Congress, a description
6 of those items in each agency's budget which are elements
7 of the plan or help to achieve the outcomes of the plan.

8 (c) EVALUATION.—Not later than 30 days after the
9 submission of the President's annual budget request to
10 Congress, the Director of the Office of Science and Tech-
11 nology Policy shall write a letter to Congress evaluating
12 the budget as it relates to Federal water research and the
13 success of the interagency committee in meeting the out-
14 comes listed in section 2(d).

15 **SEC. 4. COORDINATION.**

16 (a) IN GENERAL.—The interagency committee shall
17 coordinate the activities of the Initiative with the United
18 States Global Change Research Program.

19 (b) SENSE OF CONGRESS.—It is the sense of Con-
20 gress that the interagency committee should collaborate
21 with public institutions of higher education whenever pos-
22 sible.

23 **SEC. 5. ANNUAL REPORT.**

24 Concurrent with the annual submission of the Presi-
25 dent's budget to Congress, the President shall submit to

1 Congress a report that describes the activities and results
2 of the Initiative during the previous fiscal year and out-
3 lines the objectives for the next fiscal year. The report
4 shall include detailed information on all programs and ac-
5 tivities involved in the Initiative, including an analysis of
6 progress towards achieving the outcomes listed in section
7 2(d) and the indicators used to measure such progress.

8 **SEC. 6. NATIONAL WATER PILOT TESTING FACILITY FEASI-**
9 **BILITY STUDY AND REPORT.**

10 (a) STUDY.—

11 (1) REQUIREMENT.—The Comptroller General
12 of the United States shall complete a study exam-
13 ining the feasibility and practicality of creating a na-
14 tional water pilot testing facility.

15 (2) CONTENTS.—The study shall—

16 (A) examine Federal programs and facili-
17 ties that currently engage in some form of
18 water technology testing;

19 (B) evaluate the practicality and identify
20 the potential costs of establishing a national
21 water pilot testing facility; and

22 (C) examine the efforts of Federal agencies
23 to establish testing facilities related to other
24 technologies, including wind and solar, and the

1 lessons learned from implementing these pro-
2 grams.

3 (b) REPORT.—Not later than 2 years after the date
4 of enactment of this Act, the Comptroller General shall
5 transmit to Congress a report on the key findings of the
6 study conducted under subsection (a).

7 **SEC. 7. DOE WATER TECHNOLOGIES FOR INCREASED EN-**
8 **ERGY EFFICIENCY ACTIVITIES.**

9 Section 452(c)(2) of the Energy Independence and
10 Security Act of 2007 (Public Law 110–140; 42 U.S.C.
11 17111) is amended—

12 (1) in subparagraph (C), by striking “and”
13 after the semicolon;

14 (2) by redesignating subparagraphs (D)
15 through (F) as subparagraphs (E) through (G), re-
16 spectively; and

17 (3) by inserting after subparagraph (C) the fol-
18 lowing:

19 “(D) research to develop water efficient
20 technologies that increase energy efficiency, in-
21 cluding utilization of impaired water sources in
22 production;”.

1 **SEC. 8. WASTEWATER AND STORMWATER REUSE TECH-**
2 **NOLOGY DEMONSTRATION PROGRAM.**

3 (a) **IN GENERAL.**—In consultation with the inter-
4 agency committee, the Assistant Administrator for Re-
5 search and Development at the Environmental Protection
6 Agency shall establish a wastewater and stormwater reuse
7 and recycling technology demonstration program, con-
8 sistent with section 2(d)(3).

9 (b) **ACTIVITIES.**—Under the program established in
10 subsection (a), the Assistant Administrator shall develop
11 and fund projects to demonstrate, evaluate, and test the
12 techniques and technologies to reuse and recycle
13 stormwater and wastewater at the building, site, neighbor-
14 hood, and watershed scales for urban, industrial, agricul-
15 tural, environmental, and recreational uses as well as to
16 augment potable water supplies.

17 **SEC. 9. WATER RESOURCE RESEARCH INSTITUTES.**

18 (a) **SUPPORT; COORDINATED PLAN.**—Section 104(b)
19 of the Water Resources Research Act of 1984 (42 U.S.C.
20 10303) is amended—

21 (1) in paragraph (1), by striking “, and” at the
22 end and inserting a semicolon;

23 (2) in paragraph (2), by striking the period at
24 the end and inserting a semicolon; and

25 (3) by inserting after paragraph (2) the fol-
26 lowing:

1 “(3) support the goals of the National Water
2 Research and Development Initiative; and

3 “(4) submit to the interagency committee under
4 section 2(b) of the National Water Research and
5 Development Initiative Act of 2009 a single, coordi-
6 nated, annual report that identifies future water re-
7 search needs.”.

8 (b) TYPES OF RESEARCH AND DEVELOPMENT.—Sec-
9 tion 108 of such Act (42 U.S.C. 10307) is amended—

10 (1) in paragraph (9), by striking “and” after
11 the semicolon;

12 (2) in paragraph (10), by striking the period at
13 the end and inserting “; and”; and

14 (3) by adding at the end the following:

15 “(11) Technical research on prevention and re-
16 moval of contaminants of emerging concern, includ-
17 ing endocrine disrupting compounds, pharma-
18 ceuticals, and personal care products, in water re-
19 sources.”.

20 **SEC. 10. PILOT PROGRAM.**

21 The Administrator of the Environmental Protection
22 Agency shall establish a national pilot program exploring
23 the use of energy audits of water related infrastructure
24 to identify energy and water saving opportunities. As part
25 of the program, each participating entity shall receive an

1 Energy Star Benchmarking energy performance score to
2 provide an initial screening of that entity, as well as an
3 ongoing tracking measure to compare their energy per-
4 formance against similar entities nationwide.

5 **SEC. 11. AUTHORIZATION OF APPROPRIATIONS.**

6 There are authorized to be appropriated to the Na-
7 tional Oceanic and Atmospheric Administration for coordi-
8 nation and outreach activities conducted under this Act
9 through the Office established in section 2(b)(4)—

- 10 (1) \$2,000,000 for fiscal year 2010;
- 11 (2) \$2,000,000 for fiscal year 2011;
- 12 (3) \$2,000,000 for fiscal year 2012;
- 13 (4) \$2,000,000 for fiscal year 2013; and
- 14 (5) \$2,000,000 for fiscal year 2014.

15 **SEC. 12. STUDY.**

16 Not later than 90 days after the date of enactment
17 of this Act, the Secretary of the Interior shall enter into
18 an arrangement with the National Academy of Sciences
19 for a study on the impact of changes in snow pack, includ-
20 ing snow pack from the Sierra Nevada, on water resources
21 and its relation to water supply, including the Sac-
22 ramento-San Joaquin Delta.

1 **SEC. 13. REPORTS TO CONGRESS.**

2 (a) REPORT ON BARRIERS.—Not later than 90 days
3 after the date of enactment of this Act, the President shall
4 submit to Congress a report that—

5 (1) identifies from each agency on the inter-
6 agency committee established under section 2(b) the
7 statutory or regulatory barriers—

8 (A) that prevent the use of technology,
9 technique, data collection method, or model con-
10 sidered under this Act; and

11 (B) that, due to such barrier to using such
12 technology, technique, method, or model, con-
13 tribute to the loss of jobs in rural or agricul-
14 tural economies dependent on the greater avail-
15 ability of water resources in the United States;

16 (2) identifies the long-term consequences on job
17 losses of such barriers that continue to be in effect;
18 and

19 (3) recommends steps to remove such barriers.

20 (b) REPORT ON IMPACTS.—Not later than 90 days
21 after the date of enactment of this Act, the President shall
22 submit to Congress a report that—

23 (1) identifies the economic impacts of water di-
24 versions for water supply, conservation for fish spe-
25 cies (including the Delta smelt), and water quality

