111TH CONGRESS 1st Session } HOUSE OF REPRESENTATIVES { REPORT 111–

NATIONAL WATER RESEARCH AND DEVELOPMENT INITIATIVE ACT OF 2009

APRIL , 2009.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. GORDON of Tennessee, from the Committee on Science and Technology, submitted the following

REPORT

together with

ADDITIONAL VIEWS

[To accompany H.R. 1145]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science and Technology, to whom was referred the bill (H.R. 1145) to implement a National Water Research and Development Initiative, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill as amended do pass. INSERT CONTENTS

The amendment is as follows:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Water Research and Development Initiative Act of 2009".

SEC. 2. NATIONAL WATER RESEARCH AND DEVELOPMENT INITIATIVE.

(a) INITIATIVE AND PURPOSE.—The President shall implement a National Water Research and Development Initiative (in this Act referred to as the "Initiative"). The purpose of the Initiative is to improve the Federal Government's role in designing and implementing Federal water research, development, demonstration, data collection and dissemination, education, and technology transfer activities to address changes in water use, supply, and demand in the United States, including providing additional support to increase water supply through greater efficiency and conservation.

(b) INTERAGENCY COMMITTEE.—

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(1) IN GENERAL.—Not later than 3 months after the date of enactment of this Act, the President shall establish, or designate, an interagency committee to implement the Initiative under subsection (a). The Office of Science and Technology Policy shall chair the interagency committee.

(2) COMPOSITION.—The interagency committee shall include a representative from each agency that conducts research related to water or has authority over resources that affect water supply, as well as a representative from the Office of Management and Budget.

(3) FUNCTIONS OF THE INTERAGENCY COMMITTEE.—The interagency committee shall—

(A) develop a National Water Research and Assessment Plan (in this Act referred to as the "plan") in accordance with subsection (c) and in coordination with State, local, and tribal governments;

(B) coordinate all Federal research, development, demonstration, data collection and dissemination, education, and technology transfer activities pertaining to water;

(C) encourage cooperation among Federal agencies and State, local, and tribal governments with respect to water-related research, development, and technological innovation activities to avoid duplication of effort and to ensure optimal use of resources and expertise;

(D) facilitate technology transfer, communication, and opportunities for information exchange with non-governmental organizations, State and local governments, tribal governments, industry, and other members of the stakeholder community through the office established in paragraph (4);

(E) provide guidance on outreach to minority serving institutions that are eligible institutions under section 371(a) of the Higher Education Act of 1965 (20 U.S.C. 1067q(a)) to encourage such institutions to apply for funding opportunities specified in the plan;

(F) encourage cooperation between Federal agencies, State and local governments, and tribal governments to develop standard methods for collecting, managing, and disseminating data on water; and

(G) not later than 1 year after the date of enactment of this Act and every 3 years thereafter—

(i) identify from each agency described in paragraph (2) the statutory or regulatory barriers preventing the use of any technology, technique, data collection method, or model that would contribute to greater availability of water resources in the United States through enhanced efficiency and conservation; and

(ii) submit a report of the findings from clause (i) to Congress.

(4) NATIONAL WATER INITIATIVE COORDINATION OFFICE.—

(A) IN GENERAL.—Not later than 3 months after the date of enactment of this Act, the President shall establish a National Water Initiative Coordination Office (in this Act referred to as the "Office"), with full-time staff, to—

(i) provide technical and administrative support to the interagency committee;

(ii) serve as a point of contact on Federal water activities for government agencies, organizations, academia, industry, professional societies, and others to exchange technical and programmatic information; and

(iii) communicate with the public on the findings and recommendations of the interagency committee based on the activities conducted pursuant to the Initiative.

(B) FUNDING.—The operation of the Office shall be supported by funds contributed from each agency represented on the interagency committee.

(c) NATIONAL WATER RESEARCH AND ASSESSMENT PLAN.—

(1) PLAN DEVELOPMENT.—The plan required under subsection (b)(3)(A) shall establish the priorities for Federal water research, including federally funded research, and assessment for the 4-year period beginning in the year in which the plan is submitted to Congress. In the development of the plan, the interagency committee shall consider and utilize recommendations and information from State, local, and tribal governments and contained in reports that have addressed water research needs, including the 2007 report issued by the Subcommittee on Water Availability and Quality (SWAQ) of the National Science and Technology Council's Committee on Environment and Natural Resources and recommendations of the National Academy of Sciences.

(2) SPECIFIC REQUIREMENTS.—The plan shall—

(A) identify each current program and activity of each Federal agency related to the Initiative;

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

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

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

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

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

(D) be subject to a 90-day public comment period and shall address suggestions received and incorporate public input received, as appropriate; and

(E) be submitted to Congress not later than 1 year after the date of enactment of this Act.

(d) WATER RESEARCH OUTCOMES AND ASSESSMENTS.—The plan shall outline and direct agencies under the interagency committee to work to achieve the following outcomes:

(1) Implementation of a National Water Census, which shall include the collection of data on national water resources to create a comprehensive database that includes information about the quantity, availability, and quality of ground water and surface water resources.

(2) Development of a new generation of water monitoring techniques.

(3) Development of technologies for enhancing reliable water supply, water reuse, and pollution prevention.

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

(5) Development of innovative technologies and tools to enhance water-use efficiency and tools to encourage public acceptance of such technologies and tools.

(6) Development of tools and processes to facilitate resolution of conflicts over water resources.

(7) Development of information technology systems to enhance water quality and supply.

(8) Improvement of understanding of water-related ecosystem services and ecosystem needs for water.

(9) Improvement of hydrologic prediction models and their applications.

(10) Analyses of the energy required to provide reliable water supplies and the water required to provide reliable energy supplies throughout the United States.

(11) Analyses of the social, behavioral, and economic barriers to sustainable use of water resources in the United States.

(12) Assessment of national water availability and use.

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

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

(A) maintaining water quality and enhancing energy efficiency of water treatment and delivery through the use of technologies or practices developed to address rural communities; and

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

(e) ADVISORY COMMITTEE.—The President shall establish, or designate, an advisory committee to advise the interagency committee established under subsection (b).

SEC. 3. BUDGET COORDINATION.

(a) IN GENERAL.—The President shall provide guidance to each Federal agency participating in the Initiative with respect to the preparation of requests for appropriations for activities related to the plan.

(b) CONSIDERATION IN THE PRESIDENT'S BUDGET.—The President shall submit, at the time of the President's annual budget request to Congress, a description of those items in each agency's budget which are elements of the plan or help to achieve the outcomes of the plan.

SEC. 4. COORDINATION.

The interagency committee shall coordinate the activities of the Initiative with the United States Global Change Research Program.

SEC. 5. ANNUAL REPORT.

Concurrent with the annual submission of the President's budget to Congress, the President shall submit to Congress a report that describes the activities and results of the Initiative during the previous fiscal year and outlines the objectives for the next fiscal year. The report shall include detailed information on all programs and activities involved in the Initiative, including an analysis of progress towards achieving the outcomes listed in section 2(d).

SEC. 6. NATIONAL WATER PILOT TESTING FACILITY FEASIBILITY STUDY AND REPORT.

(a) STUDY.—

(1) REQUIREMENT.—The Comptroller General of the United States shall complete a study examining the feasibility and practicality of creating a national water pilot testing facility.

(2) CONTENTS.—The study shall—

(A) examine Federal programs and facilities that currently engage in some form of water technology testing;

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

(C) examine the efforts of Federal agencies to establish testing facilities related to other technologies, including wind and solar, and the lessons learned from implementing these programs.

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

SEC. 7. DOE WATER TECHNOLOGIES FOR INCREASED ENERGY EFFICIENCY ACTIVITIES.

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

(1) in subparagraph (C), by striking "and" after the semicolon;

(2) by redesignating subparagraphs (D) through (F) as subparagraphs (E) through (G), respectively; and

(3) by inserting after subparagraph (C) the following:

"(D) research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production;".

SEC. 8. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the National Oceanic and Atmospheric Administration for coordination and outreach activities conducted under this Act through the Office established in section 2(b)(4)—

(1) $2,000,000 for fiscal year 2010;

(2) $2,000,000 for fiscal year 2011; and

(3) $2,000,000 for fiscal year 2012.

I. AMENDMENT

II. PURPOSE OF THE BILL

The purpose of H.R. 1145 is to authorize a National Water Research and Development Initiative to coordinate the Federal Government's efforts in research, development, demonstration, data collection and dissemination, education, and technology transfer related to water resources.

III. BACKGROUND AND NEED FOR THE LEGISLATION

Water policy in the United States remains essentially unchanged despite a myriad of reports recommending broad changes to address dwindling water supplies. Multi-year droughts continue to plague regions and states around the country, including the Southeast, Texas, and California. For many municipalities, intense competition for water and diminished supplies will force local water agencies to make tough decisions on water allocations including implementation of restrictions to protect essential ecosystem services.

Droughts, changing patterns of precipitation and snowmelt, and increased water loss due to evaporation as a result of warmer air temperatures are indicators that climate variability and climate change have impacts that are being felt across the United States.[1] The Intergovernmental Panel on Climate Change's (IPCC) latest report projects that water supplies stored in glaciers and snow cover will decline in the course of the century, thus reducing water availability in regions supplied by melt water from major mountain ranges.[2]

The United States' water supply cannot support future populations at its current rate of consumption. The country's population has increased from five million citizens in the 19th century to over 300 million today, and it continues to grow at a rate of roughly one percent annually. Available surface water supplies have not increased in the United States since the 1990s, and groundwater tables are continuing to decline.[3]

These water supply problems have substantial economic impacts. According to a 2000 report from the National Oceanic and Atmospheric Administration (NOAA), each of the eight water shortages over the past 20 years from drought or heat waves resulted in $1 billion or more

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[1] U.S. Environmental Protection Agency. 2008. *Water Impacts of Climate Change.* Office of Water. EPA 800-R-08-001. www.epa.gov/water/climatechange. Accessed February 26, 2009.

[2] Bates, B.C., Z.W. Kundzewicz, S. Wu and J.P. Palutikof, Eds., 2008: *Climate Change and Water.* Technical Paper of the Intergovernmental Panel on Climate Change, IPCC Secretariat, Geneva.

[3] "Report to Congress on the Inter-dependency of Energy and Water," U.S. Department of Energy. December 2006.

in monetary losses.[4] Further, an adequate supply of water is integral to industry. Water shortages contribute to reductions in job creation and retention, and increased water demand results in increased costs to businesses. In fact, the Association of California Water Agencies (ACWA) reported in 2008 that California was losing income and jobs due to the state's water supply crisis.[5]

Available water supplies are decreasing in the face of increasing demand. This problem necessitates that the federal government establish a comprehensive strategy for research and development to ensure a sustainable water supply. In 2004, the National Academies of Science (NAS) published a study entitled *Confronting the Nation's Water Problems: The Role of Federal Research,* which recommended that the United States make a new commitment to water resources research in order to confront severe water challenges.[6]

Currently, over 20 federal agencies carry out research and development on some aspect of water supply, water quality or water management. The National Academies of Science surveyed these agencies for its 2004 study and, based upon the responses, estimated approximately $700 million in federal expenditures on water research.

Despite this investment, an increase in the number of water shortages and emerging conflicts over water supplies suggest that we are inadequately prepared to address the nation's water management issues. Quantitative knowledge of water supply in the United States is currently inadequate. The U.S. Water Resources Council completed the most recent, comprehensive, national water availability and use assessment in 1978.[7] Accurate and timely data on water resources and variations in water supplies over time is essential to effectively manage water supplies.

Accordingly, a national initiative coordinating federal water research is necessary to ensure that the United States maintains adequate water supplies in the coming decades. H.R. 1145 seeks to improve the Federal Government's efforts in water research, development, demonstration, data collection and dissemination, education, and technology transfer activities to address changes in water use, supply, and demand in the United States.

The bill codifies the Interagency Committee created in 2003, the Subcommittee on Water Availability and Quality (SWAQ) of the National Science and Technology Council's Committee

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[4] U.S. Government Accounting Office, 2003 Report: *Freshwater Supply States' Views of How Federal Agencies Could Help Them Meet the Challenges of Expected Water Shortages*. GAO-03-514

[5] "California Water Supply Crisis Affecting Economy," *Water and Wastewater News*. April 21, 2008.

[6] National Research Council. 2004. *Confronting the Nation's Water Problems: The Role of Research.* Water, Science, and Technology Board. Committee on Assessment of Water Resources Research. National Academies Press, Washington, D.C.

[7] The Council, established by the Water Resources Planning Act in 1965 (P.L. 89-80), comprising the heads of several federal departments and agencies, such as Interior and the Environmental Protection Agency, has not been funded since 1983. U.S. Government Accounting Office, 2003 Report: *Freshwater Supply States' Views of How Federal Agencies Could Help Them Meet the Challenges of Expected Water Shortages*. GAO-03-514.

on Environment and Natural Resources. SWAQ was created to identify science and technology needs to address the growing issues related to freshwater supplies, to develop a coordinated multiyear plan to improve research on water supply and water quality, and to enhance the collection and availability of data needed to ensure an adequate water supply for the nation. H.R. 1145 incorporates suggestions in the NAS's 2004 report that are intended to strengthen the Committee. By strengthening the SWAQ and providing it explicit Congressional authorization, the recommendations of the 2007 SWAQ report will receive due consideration and form the foundation of a national strategy to ensure that the United States has a sustainable water supply.[8]

IV. SUMMARY OF HEARINGS

Full Committee Hearing – Water Supply Challenges for the 21st Century

The Committee on Science and Technology held a hearing on Wednesday, May 14, 2008 to examine the challenges of managing water supplies to meet social, economic and environmental needs in the United States given population growth, climatic variation, and other factors. The following witnesses provided testimony:

- Dr. Stephen Parker, Director, Water Science and Technology Board, National Research Council;
- Dr. Jonathan Overpeck, Director, Institute for the Study of Planet Earth, and Professor of Geosciences and Atmospheric Sciences at the University of Arizona;
- Dr. Robert Wilkinson, Director, Water Policy Program, Bren School of Environmental Science and Management at the University of California-Santa Barbara;
- Mr. Marc Levinson, Economist, U.S. Corporate Research at JP Morgan Chase; and
- Dr. Roger Pulwarty, Program Director, National Integrated Drought Information System (NIDIS) NOAA Climate Program Office.

Chairman Gordon opened the hearing by discussing the importance of evaluating the nation's water resources given upcoming challenges, including increased population and competition for water supplies, recent droughts, degraded water quality and climate change. He noted that a 2000 NOAA report indicated that each of the eight water shortages over the past 20 years from drought or heat waves resulted in $1 billion or more in monetary losses.

Witnesses expressed concern that the demand for water is growing as the population grows, while the availability and quality of the water is diminishing. All of the witnesses highlighted the need to explore science-based solutions for innovative water technologies and government leadership in water resources research and maintenance.

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[8] National Science and Technology Council. Committee on Environment and Natural Resources. Subcommittee on Water Availability and Quality. 2007. *A Strategy for Federal Science and Technology to Support Water Availability and Quality in the United States.*

This hearing highlighted the importance of evaluating the nation's water resources in light of upcoming challenges, including increased population and competition for water supplies, droughts, degraded water quality and climate change. Witnesses' recommendations included better coordination of federal efforts on water, increased funding for research on the effects of climate change on groundwater, improved consideration of efficient water use in energy systems, and additional money to be spent on public education programs. The panel also favored legislation to authorize additional water research funds for the Environmental Protection Agency and the Department of Energy.

Energy and Environment Subcommittee Hearing – A National Water Initiative: Coordinating and Improving Federal Research on Water

On Wednesday, July 23, 2008, the Committee on Science and Technology's Energy and Environment Subcommittee held a hearing to receive testimony on the opportunities for the federal government to support and better coordinate research and technological innovation to enhance water supplies and water quality and to support improved water management. The Subcommittee discussed a draft of legislation to be introduced by Chairman Bart Gordon entitled *The National Water Research and Development Initiative Act*. The following witnesses provided testimony:

- Dr. Mark Shannon, Director of the United States Strategic Water Initiative;
- Mr. Todd Christenson, Director of the Beverage Industry Environmental Roundtable;
- Dr. Timothy T. Loftus, Water Resource Planner for the Chicago Metropolitan Agency for Planning (CMAP);
- Mr. Jerry Johnson, General Manager at the DC Water and Sewer Authority;
- Mr. Bradley H. Spooner, Principal Engineer for Environmental Services at Municipal Electric Authority of Georgia; and
- Dr. Upton Hatch, Associate Director at the Water Resources Research Institute of North Carolina.

Subcommittee Chairman Lampson began the hearing by conveying the rationale behind the draft *National Water Research and Development Initiative Act*, which was proposed to meet the country's water challenges over the coming decades. To that end, the legislation would strengthen an interagency committee currently under jurisdiction of the Office of Science and Technology Policy.

Witnesses recommended improved dialogue and coordination between federal, state and local-level agencies, and stressed the need for additional federal research and development targeted at a number of water-related challenges, including aquifer and groundwater storage, water treatment, and more efficient water use. The witnesses argued that the need for public education is a large barrier to ensuring water supplies in the future, and called on the federal

government to provide mechanisms to transfer known technologies out of the laboratories and into public practice.

Full Committee Hearing – 21st Century Water Planning: The Importance of a Coordinated Federal Approach

On Wednesday, March 4, 2009, the Committee on Science and Technology held a hearing to examine the need for a coordinated federal approach to water research and development in an effort to help communities that are, or will be, facing water shortages. The Committee also received testimony on H.R. 1145, *The National Water Research and Development Initiative Act,* and opportunities for the federal government to better coordinate research and technological innovation. The following witnesses provided testimony:

- Dr. Henry Vaux, Jr., Professor Emeritus, University of California, Berkley;
- Dr. Peter Gleick, President of the Pacific Institute for Studies in Development, Environment, and Security;
- Mr. Mark Modzelewski, Co-founder Water Innovations Alliance;
- Ms. Nancy Stoner, Co-director of the Water Program at the National Research Defense Council (NRDC); and
- Ms. Christine Furstoss, Chief Technology Officer, GE Water and Process Technologies.

Chairman Gordon began the hearing by noting that NOAA's National Center for Environmental Prediction has issued an outlook indicating that drought conditions will continue to plague a number of states and regions throughout the United States. He recognized the need to take decisive action to address the water challenges of 2009 and beyond, including the need for a national water policy in which research and development play an integral part. The legislation under consideration, H.R. 1145, addresses that need in part by ensuring that 20 federal agencies that are conducting research and development activities on water will coordinate their efforts to achieve the goal of managing water resources for the nation's benefit.

Witnesses at the hearing discussed the growing supply and demand problem associated with water and the potential effects of climate change on the water supply in the future. Testimony highlighted the need for an integrated effort among government, national labs, academia, institutes and industry to develop research priorities and technological innovations to address water use, reuse, conservation and efficiency. Additionally, there was a great deal of support expressed for a water census to adequately assess regional and national water supply. One witness noted that one of the biggest impediments to deploying new clean water technologies is the high cost of energy, and stated that the bill introduced by Chairman Gordon will help focus the community on issues related to minimizing energy usage so that industry can deploy new technologies in a cost-effective, environmentally-friendly way.

Witnesses' recommendations included additional research outcomes in areas including climate change, social science barriers, water treatment, pollution prevention, and water use efficiency technology. The panel also supported implementation of a national water census and the inclusion of water use, particularly groundwater, as part of the census.

V. COMMITTEE ACTIONS

In the 110th Congress, the House Committee on Science and Technology held two hearings, on May 14, 2008 and July 23, 2008, concerning water supply research and development.

On September 23, 2008 Committee Chairman Bart Gordon introduced H.R. 6997, *The National Water Research and Development Initiative Act*, which was referred to the Committee on Science and Technology. On February 24, 2009, Chairman Gordon reintroduced the legislation in the 111th Congress as H.R. 1145.

The Committee held a hearing entitled *21st Century Water Planning: The Importance of a Coordinated Federal Approach* on March 3, 2009. The purpose of the hearing was to receive testimony on *The National Water Research and Development Initiative Act* and examine the opportunities for the federal government to better coordinate and support research and technological innovation.

On March 25, 2009, the Committee met to consider H.R. 1145, the *National Water Research and Development Initiative Act*. The Committee considered the following amendments:

1. Mr. Gordon offered a manager's amendment. The amendment proposed amending Section 2 to include tribal governments in the coordination function of the bill. The amendment further proposed adding an analysis of the social, behavioral, and economic barriers to the sustainable use of water resources to the list of Water Research Outcomes and Assessments. The amendment added a new section to the bill to require that the interagency committee coordinate with the United States Global Research Program. The amendment also expanded the Department of Energy's Energy-Intensive Industries Program to include research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production, and also included an authorization of $2 million per year for the National Oceanic and Atmospheric Administration to fund the coordination and outreach activities to be undertaken by the Initiative Coordination Office. The amendment was agreed to by voice vote.

2. Mr. Smith (NE) offered an amendment to ensure coordination with State, local, and tribal governments in the development of the research and assessment plan to require cooperation with State, local, and tribal governments with respect to water-related research, development, and technological innovation activities to avoid duplication of effort and to ensure optimal use of resources and expertise. The amendment also required that information from and the recommendations of State, local, and tribal governments be considered in the development of the research and assessment plan. The amendment was agreed to by voice vote.

3. Ms. Johnson offered an amendment to require the interagency committee to provide guidance on outreach to minority serving institutions to encourage them to apply for funding opportunities specified in the plan. The amendment was agreed to by voice vote.

4. Ms. Edwards offered an amendment to require the interagency committee to encourage cooperation among the federal agencies, State and local governments and tribal governments to develop standard methods for collecting, managing, and disseminating data on water. The amendment was agreed to by voice vote.

5. Mr. Rohrabacher offered an amendment to require the interagency committee to identify any statutory or regulatory barriers preventing the use of any technology, technique, data collection method, or model that would contribute to greater availability of water resources in the United States through enhanced efficiency and conservation. The amendment was agreed to by voice vote.

6. Mr. Matheson offered an amendment to add additional assessments to the water research outcomes and assessments to be included in the research plan. The additional assessments included an assessment of national water availability and use; regional assessments of the status of water supplies and an evaluation of potential changes in status; and an assessment of water quality, availability, and use in rural areas. The amendment was agreed to by voice vote.

7. Ms. Giffords, Mrs. Dahlkemper, and Mr. Grayson offered an amendment to expand the research goal of developing new technologies to enhance water supply to encompass water reuse and pollution prevention, and also directing participating federal agencies to develop innovative technologies and tools to enhance water quality, including advanced water treatment and water purification technologies. The amendment was agreed to by voice vote.

8. Mr. Tonko offered an amendment to add the development of information technology systems to enhance water quality and supply to the water research outcomes included in the research plan, and to require the Government Accountability Office to complete a study examining the feasibility and practicality of creating a national water pilot testing facility. The amendment was agreed to by voice vote.

H.R. 1145, as amended, was agreed to by voice vote.

Mr. Baird moved that the Committee favorably report H.R. 1145, as amended, to the House with the recommendation that the bill do pass. The motion was agreed to by voice vote.

VI. Summary of Major Provisions of the Bill

H.R. 1145 requires the implementation of a National Water Research and Development Initiative to improve federal activities to address changes in water use, supply, and demand in the United States, including providing additional support to increase water supply through greater efficiency and conservation. The bill establishes an interagency committee, chaired by the Office of Science and Technology Policy, with representation from all Federal agencies conducting water research or having authority over resources affecting water supply, along with the Office of Management and Budget.

The bill requires that the interagency committee: (1) develop a National Water Research and Assessment Plan; (2) coordinate all Federal research, development, demonstration, data collection and dissemination, education, and technology transfer activities pertaining to water; (3) encourage cooperation among Federal agencies with respect to water-related research, development, and technological innovation activities to avoid duplication of effort and to ensure optimal use of resources and expertise; (4) facilitate technology transfer, communication, and opportunities for information exchange, with non-governmental organizations, State and local governments, industry, and other members of the stakeholder community; (5) provide guidance on outreach to minority serving institutions and encourage such institutions to apply for funding opportunities specified in the plan; (6) encourage cooperation between Federal agencies, State and local governments, and tribal governments to develop standard methods for collecting, managing, and disseminating data on water; and (7) within 1 year of enactment and every 3 years thereafter, identify from each agency the statutory or regulatory barriers preventing the use of any technology, technique, data collection method, or model that would contribute to greater availability of water resources in the United States and submit a report of these findings to Congress.

H.R. 1145 also establishes a National Water Initiative Coordination Office, with a full-time staff, to provide technical and administrative support to the interagency committee, to serve as a point of contact on Federal water activities, and to communicate the interagency committee's findings and recommendations to the public. The bill authorizes $2 million per year for the National Oceanic and Atmospheric Administration to fund the coordination and outreach activities undertaken by the Initiative Coordination Office.

The National Water Research and Assessment Plan required under the bill will establish federal priorities for Federal water research and assessment. H.R. 1145 lists a number of water research outcomes and assessments to be achieved through the plan by the agencies participating in the Initiative, including: (1) implementation of a National Water Census to create a comprehensive database that includes information about the quantity, availability, and quality of ground water and surface water resources; (2) development of a new generation of water monitoring techniques; (3) development of technologies for enhancing reliable water supply, water reuse, and pollution prevention; (4) development of innovative technologies and tools to enhance water quality, including advanced water treatment and purification technologies; (5) development of innovative technologies and tools to enhance water-use efficiency and tools to encourage public acceptance of such technologies and tools; (6) development of tools and processes to facilitate resolution of conflicts over water resources; (7) development of information technology systems to enhance water quality and supply; (8) improvement of understanding of water-related ecosystem services and ecosystem needs for water; (9) improvement of hydrologic prediction models and their applications; (10) analyses of the energy required to provide reliable water supplies and the water required to provide reliable energy supplies throughout the United States; (11) analyses of the social, behavioral, and economic barriers to sustainable use of water resources; (12) assessment of national water availability and use; (13) regional assessments of the status of water supplies and an evaluation of potential changes in status; and (14) assessment of water quality, availability, and use in rural areas.

In developing the National Water Research Assessment Plan, the interagency committee shall consider and utilize recommendations and information from State, local, and tribal governments and contained in reports that have addressed water research needs, including the 2007 report issued by the Subcommittee on Water Availability and Quality (SWAQ) of the National Science and Technology Council's Committee on Environment and Natural Resources, and recommendations of the National Academy of Sciences. The plan will be subject to a 90-day public comment period and must be submitted to Congress within 1 year of enactment.

The President shall provide guidance to each participating agency with respect to preparation of appropriations requests for activities related to the plan. Concurrent with annual budget submission, the President must submit to Congress an annual report describing the activities and results of the Initiative during the previous fiscal year and outlining the objectives for the next fiscal year.

The bill requires the interagency committee to coordinate the activities of the Initiative with the United States Global Change Research Program.

Additionally, the bill directs the Comptroller General of the United States to complete a study examining the feasibility of creating a national water pilot testing facility and report the key findings of the study to Congress within 2 years of the enactment of H.R. 1145.

Finally, the bill amends Section 452(c)(2) of the Energy Independence and Security Act of 2007 to add research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production, to the list of eligible activities.

VII. SECTION-BY-SECTION ANALYSIS

Section 1. Short Title

The National Water Research and Development Initiative Act of 2009

Section 2. National Water Research and Development Initiative

Section 2 directs the President to implement a National Water Research and Development Initiative to improve Federal activities on water, including: research, development, demonstration, data collection and dissemination, education, and technology transfer. As part of the Initiative, the President shall establish or designate an Interagency Committee with representation from all Federal agencies conducting research related to water or having authority over resources that affect water supply, and the Office of Management and Budget. The Office of Science and Technology Policy will chair the Committee.

The Committee is charged with developing a National Water Research and Assessment Plan; coordinating all Federal activities on water that include research, development, demonstration, data collection and dissemination, education, and technology transfer; and encouraging cooperation among agencies and State, local, and tribal governments with respect to water-related research, development, and technological innovation to avoid duplication of effort and to ensure optimal use of resources and expertise. The Committee is also responsible for facilitating technology transfer, communication, and opportunities for exchange with non-governmental organizations, State, local, and tribal governments, industry, and other stakeholders.

The Committee shall also provide guidance on outreach to minority serving institutions to encourage such institutions to apply for funding opportunities specified in the research plan; encourage cooperation between Federal agencies, State and local governments, and tribal governments to develop standard methods for collecting, managing, and disseminating data on water; and identify statutory or regulatory barriers preventing the use of any technology, technique, data collection method, or model that would contribute to greater availability of water resources through enhanced efficiency and conservation.

The President is directed to create a National Water Initiative Coordination Office to provide technical and administrative support to the Committee. The Office will disseminate information to the public and serve as a point of contact on Federal water activities for government agencies, organizations, academia, industry, professional societies, and others to exchange technical and programmatic information.

The National Water Research and Assessment Plan will establish priorities for Federal water research and assessment and shall utilize the recommendation from a 2007 Report issued by SWAQ (Subcommittee on Water Availability and Quality of the National Science and Technology Council) and recommendations by the National Academy of Sciences.

The plan is to identify each current program and activity of each Federal agency related to the Initiative; identify funding levels for the previous fiscal year for each program and, if applicable, each activity; set forth a strategy and a timeline to achieve the water research outcomes, as well as the activities required of each agency responsible for contributing to each outcome, the funding levels necessary to achieve each outcome, and the distribution of funds between each agency based on the agency's role in carrying out such activity. The plan is subject to a 90-day public comment period and must be submitted to Congress within 1 year of enactment.

The plan must outline and direct agencies under the Committee to work to achieve the several water research outcomes and assessments. These include: (1) implementation of a National Water Census to create a comprehensive database that includes information about the quantity, availability, and quality of ground water and surface water resources; (2) development of a new generation of water monitoring techniques; (3) development of technologies for enhancing reliable water supply, water reuse, and pollution prevention; (4) development of innovative technologies and tools to enhance water quality, including advance water treatment and purification technologies; (5) development of innovative technologies and tools to enhance water-use efficiency and tools to encourage public acceptance of such technologies and tools; (6) development of tools and processes to facilitate resolution of conflicts over water resources; (7) development of information technology systems to enhance water quality and supply; (8) improvement of understanding of water-related ecosystem services and ecosystem needs for water; (9) improvement of hydrologic prediction models and their applications; (10) analyses of the energy required to provide reliable water supplies and the water required to provide reliable energy supplies throughout the United States; (11) Analyses of the social, behavioral, and economic barriers to sustainable use of water resources; (12) assessment of national water availability and use; (13) regional assessments of the status of water supplies and an evaluation of potential changes in status; and (14) assessment of water quality, availability, and use in rural areas.

Section 2 also requires the President to establish, or designate, an advisory committee to advise the Committee.

Section 3. Budget Coordination

Section 3 directs the President to provide guidance to each Federal agency in the Initiative with respect to the President's annual request. The President is required to describe and list the items in the request that are elements of the plan or help to achieve the outcomes of the plan.

Section 4. Coordination

Section 4 requires the interagency committee to coordinate the activities of the Initiative with the United States Global Change Research Program.

Section 5. Annual Report

Section 5 directs the President to submit an annual report to Congress describing the activities and results of the Initiative during the previous fiscal year and outlines objectives for the next fiscal year. The annual report shall include detailed information on all programs and activities involved in the Initiative, including an analysis of progress towards achieving the water research outcomes and assessments.

Section 6. National Water Pilot Testing Facility Feasibility Study and Report

Section 6 directs the Comptroller General of the United States to complete a study examining the feasibility of creating a national water pilot testing facility and report the key findings of the study to Congress within 2 years of the enactment.

Section 7. DOE Water Technologies For Increased Energy Efficiency Activities

Section 7 amends Section 452(c)(2) of the Energy Independence and Security Act of 2007 to add research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production, as an eligible activity.

Section 8. Authorization of Appropriations

Section 8 authorizes $2 million per year for fiscal years 2010, 2011, and 2012 to the National Oceanic and Atmospheric Administration for coordination and outreach activities undertaken by the National Water Initiative Coordination Office.

VIII. COMMITTEE VIEWS

H.R. 1145, *The National Water Research and Development Initiative Act*, as amended, will improve coordination among the federal agencies involved in research on water resources. H.R. 1145 also will improve communication between the Federal Government and State, local, and tribal governments that have much of the authority over management of water resources. H.R. 1145 builds on the recommendations on the National Academies' 2004 report, *Confronting the Nation's Water Problems*[9], and work of the Subcommittee on Water Availability and Quality (SWAQ) of the National Science and Technology Council's Committee on Environment and Natural Resources.

The Committee believes that by establishing a clear, national water research strategy for the 20-plus federal agencies engaged in water research and assessment, the United States can avert much of the increased cost, social disruption, and environmental damage associated with future water shortages.

The Committee notes the important research being done on water at the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the Department of Interior. The Committee also recognizes the importance of the work done by the U.S. Geological Survey to monitor and asses our nation's water resources. The Committee also believes that contribution by the academic community is vital to efforts to manage our water resources effectively. The Committee fully supports the National Science Foundation's efforts to provide extramural grant funds to support a wide array of research on water resources and technologies. In addition, the Committee believes that the state water resources research institutes, established under provisions of the Water Resources Research Act (P.L. 98-242) serve vitally important research, extension and outreach functions throughout the country. These institutes have a key role to play in the two-way communication between Federal water agencies and organizations at the state level, including universities, where most water research, including that funded by the Federal government, occurs.

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[9] National Academies of Science. 2004. *Confronting the Nation's Water Problems: The Role of Research.* Water Science and Technology Board. Committee on Assessment of Water Resources Research. National Research Council. Washington, DC.

The recently-enacted *Omnibus Public Land Management Act of 2009* (P.L. 111-11) directs the Secretary of Interior to conduct a variety of activities related to water management on federal lands. The Secretary is required to establish a climate change adaptation program to address water management in watersheds containing federally authorized reclamation projects. The law also directs the Secretary of Energy to conduct an assessment of potential climate change impacts on hydropower projects under the authority of the Federal Power Marketing Administration. In addition, P.L. 111-11 directs the Secretary of Interior to establish an interagency committee on water and climate change to review the impacts of climate change on freshwater resources in the U.S., to develop strategies to improve observations and expand data collection needed to assess climate impacts. The law also provides an increased authorization for the U.S. Geological Service for the National Streamflow Information Program and for expanded monitoring of groundwater resources.

The Committee notes that several of the provisions of the new law provide authorizations that implement research outcomes included in the *Omnibus Public Land Management Act of 2009*. The Committee believes the coordination and formal planning required under H.R. 1145 provide a mechanism to prioritize the work authorized by P.L. 111-11, ensures that new information generated through these programs is readily available to other federal agencies, and ensures distribution of research results beyond the traditional client base of the Department of Interior. H.R. 1145 ensures coordination of the research, development and demonstration activities of other federal agencies with expertise in water that will be required to develop the assessments and the adaptive management strategies for water resources that are required by the new law.

The Committee believes that the SWAQ is the appropriate designee for the Interagency Committee mandated by H.R. 1145. The Committee believes that management of water resources will continue to be a focus of multiple federal agencies and that a permanent coordinating structure for the diverse programs of the federal government will ensure these programs are conducted in an efficient, cost effective manner. By codifying the existing interagency committee, H.R. 1145 provides continuity to the current work of the SWAQ and the helps to ensure that the goals of the legislation will be achieved more rapidly.

H.R. 1145 directs the Office of Science and Technology Policy (OSTP) to chair the Interagency Committee. The functions of OSTP Director included in P.L. 94-282 are consistent with the need for leadership on the scientific and policy issues coordinated by SWAQ through the Initiative. As an interagency office, OSTP is positioned to take a broad view of overall government resources and capabilities that are applied to water resource management issues. The Committee expects the Director of OSTP to work with the Office of Management and Budget to ensure that agency budget allocations are sufficient to achieve the Initiative's goals as outlined in the Research and Assessment Plan.

Since its formation, the work of the SWAQ focused on coordination of federal agency programs and the development of a strategic plan to identify key needs for research on water resources. The Committee believes the federal government must engage in additional communication and information exchange with the broader community of stakeholders with interests and expertise in water. The Committee has mandated outreach and communication to be major functions of SWAQ. The Committee envisions a process of two-way communication between the Federal Government and the broader governmental and non-governmental community with interests in water issues. In addition to working with State, local and tribal governments, the program should solicit input from the academic community and the private sector, as well as other non-governmental organizations.

The Committee also included direction to the Interagency Committee to ensure participation in water research and development programs by minority serving institutions. A number of the federal agencies included in the Initiative support research and development projects through competitively awarded grants and contracts. The Committee expects key science organizations that also have important roles in education and training, including the National Science Foundation, the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the Department of Interior, to encourage broad participation in these efforts. The Committee notes that water resource issues impact communities throughout the nation.

The Committee recognizes that many governmental entities gather data and information on water resources. The Committee directs the Interagency Committee to encourage the Federal Government to work cooperatively with State, local, and tribal governments to develop common methods for collecting and managing data to facilitate sharing of information among these entities. The Committee does not intend to create any additional mandates for State, local and tribal governments to transfer data to the Federal Government beyond what is already required under other statutes. However, the Committee believes that common data protocols can facilitate the combination of data and information from different sources to achieve more comprehensive understanding of the current status and use of water resources and to reduce the need for costly, duplicative efforts to gather this information.

The Committee recognizes that there are numerous statutes, policies, and regulations that address issues related to water resources. The Committee also recognizes that there are barriers to the adoption and use of new technologies and that some of these barriers are unrelated to cost or availability of these new tools and may be statutory or regulatory barriers. The Committee directs the Interagency Committee to coordinate a policy review by each federal agency participating in the Initiative to identify barriers that may be associated with the statutes and regulations they administer.

Section 2(b)(4) of H.R. 1145 establishes an office to assist the Interagency Committee in the administration of the Initiative and to provide a single point of contact for interested parties to access information on federal programs in water. While the Committee recognizes that this one office could not serve as a repository for all federal information and expertise on water, it will be able to quickly direct inquiries to the appropriate federal agency or program. The Committee also intends this office to support activities such as workshops and conferences to foster information exchange between the federal government and the broader community with interests in and responsibilities for management of water resources. The Committee envisions support for this office from participating agencies through allocation of appropriate agency funds or through assignment of agency personnel to the office.

H.R. 1145 requires the development of a multi-year research and assessment plan to be provided to Congress within one year of enactment. The Committee recognizes this is an aggressive deadline for the Plan. However, much of the work needed to produce this Plan has already been done and is readily available in the reports referenced in the legislation. The Committee expects funding levels and anticipated timelines to be added to the research agenda contained in the 2007 report produced by SWAQ, *A Strategy for Federal Science and Technology to Support Water Availability and Quality in the United States.*[10]

H.R. 1145 contains a list of research topics the Initiative should undertake to address the challenges the United States faces in maintaining adequate water supplies.

The Committee believes an updated census of water resources is essential to facilitate planning and decision-making by all levels of government, as well as by individual citizens and businesses. It is also essential for the development of adaptation strategies to reduce vulnerability to variations in weather and climate and to resolve conflicts over water resources. The Committee recognizes the completion of a national water census requires significant effort and resources. The Committee expects the Plan to provide guidance for initiating this effort as authorized in P.L. 111-11.

The Committee believes we need to explore a full range of options for enhancing reliable water supplies. Pollution prevention saves money and energy and maintains the quality of current water supplies. Developing best management practices to address non-point source pollution and to promote retention of water within watersheds is an area of research that could have broad applicability to all regions of the country. In addition, urban and suburban water systems that capture water for re-use can provide important benefits while extending water supplies. This research could include applications that could be utilized either at the scale of individual buildings or neighborhoods.

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[10] National Science and Technology Council, Committee on Natural Resources, Subcommittee on Water Availability and Quality. 2007. A Strategy for Federal Science and Technology to Support Water Availability and Quality in the United States. 35 pp.

H.R. 1145 makes reference to technologies, tools and processes in the list of research topics that are envisioned for the Initiative. The Committee intends the research conducted under the Initiative to explore the development of a wide variety of applications. Models, data sets, and land management practices as well as public outreach and educational materials are all envisioned as potential outcomes of the research supported through the Initiative.

The Committee included relatively new areas of research, such as potential applications of information technology to water treatment and water distribution systems to facilitate real-time monitoring and rapid detection of system or water quality problems. The Committee also included ongoing research and development, such as the improvement of hydrologic prediction models by NOAA, which have broad applicability for forecasting of flooding due to severe weather events and to longer term management and planning to avoid the worst impacts of floods and droughts.

The Committee also believes we must utilize an integrated approach to address the challenges of meeting our needs for water and energy supplies. Energy is required to treat, obtain, and transport water. Water is required to cool power generation facilities, to grow the crops intended for use as biofuels, and in some extraction or exploration activities. Produced water is generated as a waste stream during oil and gas extraction.

The Committee also believes that social science research should be pursued under the Initiative. Individual behavior exerts a strong influence over the acceptance of new technologies and the speed at which they are adopted through purchase of water utilizing appliances, choices of plumbing systems for new buildings, and through everyday practices in homes and businesses. Better understanding of the non-technical barriers to acceptance of new technologies and practices could lead to broader and more rapid adoption of them.

In addition to the research supported through the Initiative, the Committee recognizes that there is increased demand for resource assessments, including assessments to project future water supplies and assessments of specific geographic regions. Section 9508 of P.L. 111-11 establishes a program to assess the status of the nation's water resources. H.R. 1145 requires the Plan for the Initiative to include a national assessment of water availability and use. As in the case of the water census, the Committee believes this activity will require significant time and resources and is likely to require significant input of information and expertise from multiple agencies. The Committee believes the development of assessments would benefit from careful planning, involvement of SWAQ, and involvement of the broader community that will utilize the information provided through the assessments.

The Committee recognizes the need for regional assessments. Development, land use and population growth patterns vary across the country, as do weather and climatic conditions. State, local and tribal governments need more refined information about water supplies and the activities that impact water resources. The Committee required the needs of rural communities to be taken into account in the Plan for future assessments. Citizens in rural areas are dependent upon local ground and surface water supplies. Costs per customer in rural areas to transport water and to treat waters that are impaired or become impaired are very high and alternative supplies may not be available. Research to develop watershed management, pollution prevention, and alternative treatments to maintain water quality and supplies in rural areas is needed to ensure continued viability of rural communities.

H.R. 1145 directs the President to designate or establish an advisory committee for the Initiative. The Committee recognizes that there is an active advisory committee currently in place, the Advisory Committee on Water Information (ACWI) that the Committee believes is well-suited to this role. ACWI has a broad-based membership and has well-established connections to the broader community with interests and expertise in water resource issues.

The Committee is aware of the increased interest in analyses of the potential impacts of climate change on key sectors of the economy, communities, and natural resources. The Committee notes these analyses and the information needed to facilitate the development of adaptation plans is required under P.L. 101-606, the *U.S. Global Change Research Act*. The Committee notes there have been recent products of the US Global Change Research Program (USGCRP) and by the U.S. Geological Service that address these issues.[11] Section 4 of H.R. 1145 directs the SWAQ to coordinate its efforts with those of the USGCRP. H.R. 1145 is intended to facilitate better coordination of federal agency efforts. The Committee does not intend to replace or duplicate the activities of the USGCRP in this legislation.

H.R. 1145 includes direction to the Government Accountability Office (GAO) to do a study to evaluate the potential benefits and the likely costs of establishing a national water pilot testing facility. Such a facility was recommended during one of the hearings on this legislation. However, the Committee believes this proposal should be fully evaluated before any funds are authorized to establish a new federal facility.

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[11] Backlund, P.; A. Janetos; and D. Schimel (Lead Coordinating Authors). 2008. The Effects of Climate Change on Agriculture, Water Resources, and Biodiversity in the U.S., U.S. Climate Change Science Program, Synthesis and Assessment Product 4.3, 252 pp.
Brekke, L.D., J.E. Kiang, J. R. Olsen, R.S. Pulwarty, D. A. Raff, D. P. Turnipseed, R.S. Webb, and K.D. White. 2009. Climate change and water resources management—A federal perspective: U.S. Geological Survey Circular 1331, 65p. http://pubs.usgs.gov/circ/1331/.

The Committee also included a provision to expand the scope of activities that are eligible for funding under the Department of Energy's (DOE) Industrial Technologies Program. This program partners an energy-intensive manufacturing company with DOE to perform applied research with the goal of improving the energy efficiency of manufacturing operations. H.R. 1145 would enable industries with an interest in working with DOE to improve their water-use efficiency in addition to improving their energy efficiency to apply for funding under this program. H.R. 1145 also makes projects that would enable industries to utilize impaired water under the program. The Committee did not define impaired water, since the degree of impairment of the water is often determined by the proposed use. Impaired water could include water with too high or low a temperature, saline water, water with organic or inorganic contaminants, or produced water released during extraction of oil and gas.

IX. COST ESTIMATE

A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has been timely submitted to the Committee on Science and Technology prior to the filing of this report and is included in Section X of this report pursuant to House Rule XIII, clause 3(c)(3).

H.R. 1145 does not contain new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that sums authorized under the bill are appropriated, H.R. 1145 does authorize additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section X of this report.

X. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

[Insert CBO Cost Estimate]

CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE

April 1, 2009

H.R. 1145
National Water Research and Development Initiative Act of 2009

As ordered reported by the House Committee on Science and Technology on March 25, 2009

SUMMARY

H.R. 1145 would direct the President to establish an interagency committee to implement a national initiative on water research and development. For this purpose, the bill also would establish a National Water Coordination Office within the Office of Science and Technology Policy (OSTP). Finally, the bill would direct the Government Accountability Office (GAO) to conduct a study to examine the feasibility of creating a pilot testing facility for water research.

Assuming appropriation of the amounts authorized or estimated to be necessary, CBO estimates that implementing H.R. 1145 would cost the federal government about $8 million over the 2010-2014 period. Enacting the bill would not affect revenues or direct spending.

H.R. 1145 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of H.R. 1145 is shown in the following table. The costs of this legislation fall within budget functions 300 (natural resources and environment) and 800 (general government).

	By Fiscal Year, in Millions of Dollars					
	2010	2011	2012	2013	2014	2010-2014
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Estimated Authorization Level	3	2	2	*	*	8
Estimated Outlays	2	3	2	*	*	8

Note: * = Less than 500,000.

BASIS OF ESTIMATE

For this estimate, CBO assumes that H.R. 1145 will be enacted during fiscal year 2009 and that the entire amounts authorized or estimated to be necessary will be appropriated for each of fiscal years 2010 through 2014. Estimated outlays are based on historical spending patterns for similar programs.

H.R. 1145 would authorize the appropriation of $2 million for the National Oceanic and Atmospheric Administration (NOAA) for each of fiscal years 2010 through 2012 for coordination and outreach activities concerning water research. In addition, CBO estimates that less than $500,000 a year would be required to staff a new water research and development coordination office within OSTP. Finally, CBO estimates that GAO would require about $1 million in 2010 to conduct a study to examine the feasibility of creating a pilot testing facility for water research.

Assuming appropriation of the authorized and necessary amounts, CBO estimates that implementing H.R. 1145 would cost the federal government nearly $8 million over the 2010-2014 period.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 1145 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

ESTIMATE PREPARED BY:

Federal Costs: Deborah Reis and Leigh Angres
Impact on State, Local, and Tribal Governments: Ryan Miller
Impact on the Private Sector: Amy Petz

ESTIMATE APPROVED BY:

Theresa Gullo
Deputy Assistant Director for Budget Analysis

XI. Compliance with Public Law 104-4

H.R. 1145 contains no unfunded mandates.

XII. Committee Oversight Findings and Recommendations

The Committee on Science and Technology's oversight findings and recommendations are reflected in the body of this report.

XIII. Statement on General Performance Goals and Objectives

Pursuant to clause (3)(c) of House Rule XIII, the goal of H.R. 1145 is to improve the federal government's role in designing and implementing federal water research, development, demonstration, data collection and dissemination, education, and technology transfer activities to address changes in water use, supply, and demand in the United States, including providing additional support to increase water supply through greater efficiency and conservation.

XIV. Constitutional Authority Statement

Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 1145.

XV. Federal Advisory Committee Statement

It may be that the functions of the advisory committee authorized in H.R. 1145 could be performed by enlarging the mandate of another existing advisory committee. For that reason, H.R. 1145 provides discretion to the President. Under the bill, the President must establish, or designate, an advisory committee to carry out to prescribed functions.

XVI. Congressional Accountability Act

The Committee finds that H.R. 1145 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104-1).

XVII. Earmark Identification

H.R. 1145 does not contain any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in House Rule XXI, clause 9(d), 9(e), and 9(f).

XVIII. Statement on Preemption of State, Local, or Tribal Law

The bill is not intended to preempt any state, local, or tribal law.

XIX. Changes in Existing Law Made by the Bill, As Reported

[Insert Changes in Existing Law]

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman):

SECTION 452 OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007

SEC. 452. ENERGY-INTENSIVE INDUSTRIES PROGRAM.

(a) * * *

* * * * * * *

(c) PARTNERSHIPS.—

(1) * * *

(2) ELIGIBLE ACTIVITIES.—Partnership activities eligible for funding under this subsection include—

(A) * * *

* * * * * * *

(C) research to achieve energy efficiency in steam, power, control system, and process heat technologies, and in other manufacturing processes; [and]

(D) research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production;

[(D)] *(E)* industrial and commercial energy efficiency and sustainability assessments to—

(i) * * *

* * * * * * *

[(E)] *(F)* the incorporation of technologies and innovations that would significantly improve the energy efficiency and utilization of energy-intensive commercial applications; and

[(F)] *(G)* any other activities that the Secretary determines to be appropriate.

* * * * * * *

XX. COMMITTEE RECOMMENDATION

On March 25, 2009, the Committee on Science and Technology favorably reported the *National Water Research and Development Initiative Act of 2009* by voice vote, and recommended its enactment.

XXI. EXCHANGE OF COMMITTEE CORRESPONDENCE

[INSERT COMMITTEE CORRESPONDENCE]

U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

April 17, 2009

The Honorable Bart Gordon
Chairman
Committee on Science and Technology
U.S. House of Representatives
2321 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Gordon:

I write to you regarding H.R. 1145, the "National Water Research and Development Initiative Act of 2009". This legislation directs the President to implement a National Water Research and Development Initiative.

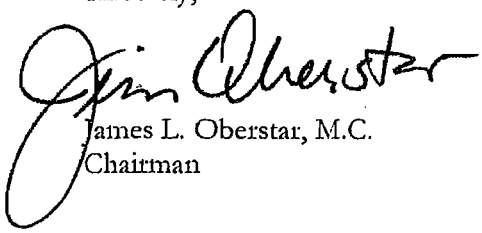
H.R. 1145 contains provisions that fall within the jurisdiction of the Committee on Transportation and Infrastructure. I recognize and appreciate your desire to bring this legislation before the House in an expeditious manner and, accordingly, I will not seek a sequential referral of the bill. However, I agree to waive consideration of this bill with the mutual understanding that my decision to forgo a sequential referral of the bill does not waive, reduce, or otherwise affect the jurisdiction of the Committee on Transportation and Infrastructure over H.R. 1145.

Further, the Committee on Transportation and Infrastructure reserves the right to seek the appointment of conferees during any House-Senate conference convened on this legislation on provisions of the bill that are within the Committee's jurisdiction. I ask for your commitment to support any request by the Committee on Transportation and Infrastructure for the appointment of conferees on H.R. 1145 or similar legislation.

Please place a copy of this letter and your response acknowledging the Committee on Transportation and Infrastructure's jurisdictional interest in the Committee Report on H.R. 1145 and in the *Congressional Record* during consideration of the measure on the House Floor.

I look forward to working with you as we prepare to pass this important legislation.

Sincerely,



James L. Oberstar, M.C.
Chairman

cc: The Honorable Nancy Pelosi, Speaker
The Honorable John L. Mica, Ranking Member
The Honorable Ralph M. Hall, Ranking Member, Committee on Science and Technology
The Honorable John Sullivan, Parliamentarian

BART GORDON, TENNESSEE
CHAIRMAN

RALPH M. HALL, TEXAS
RANKING MEMBER

U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON SCIENCE AND TECHNOLOGY

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(202) 225–6375
TTY: (202) 226–4410
http://science.house.gov

April 17, 2009

The Honorable James L. Oberstar
Chairman
Committee on Transportation and Infrastructure
U.S. House of Representatives
2165 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Oberstar:

Thank you for your April 17, 2009 letter regarding H.R. 1145, the National Water Research and Development Initiative Act of 2009. Your support for this legislation and your assistance in ensuring its timely consideration are greatly appreciated.

I agree that provisions in the bill are of jurisdictional interest to the Committee on Transportation and Infrastructure. I acknowledge that by forgoing a sequential referral, your Committee is not relinquishing its jurisdiction and I will fully support your request to be represented in a House-Senate conference on those provisions over which the Committee on Transportation and Infrastructure has jurisdiction in H.R. 1145. A copy of our letters will be placed in the Committee Report on H.R. 1145 and in the *Congressional Record* during consideration of the bill on the House floor.

I value your cooperation and look forward to working with you as we move ahead with this important legislation.

Sincerely,

Bart Gordon

BART GORDON
Chairman

cc: The Honorable Nancy Pelosi, Speaker
The Honorable Ralph M. Hall, Ranking Member
The Honorable John L. Mica, Ranking Member,
Committee on Transportation and Infrastructure
The Honorable John Sullivan, Parliamentarian

XXII. ADDITIONAL VIEWS

[INSERT ADDITIONAL VIEWS]

Additional Views Regarding H.R. 1145
Representatives Ralph Hall, James Sensenbrenner,
Roscoe Bartlett, Brian Bilbray, Vernon Ehlers,
Michael McCaul, Bob Inglis, Mario Diaz-Balart, and Adrian Smith

The National Water Research and Development Initiative Act is this Committee's response to the many recommendations made by the country's top scientists on water research and development. Our water supply is of vital importance to the health and well-being of our nation and we are glad the Committee has chosen to address such an important topic.

No State is immune to water problems, whether there is too little of it, or an overabundance of it. Yet in the last quarter-century, our knowledge of water resources has been based on research that was conducted in the middle of the last century. While we support the concepts behind the National Water Research and Development Initiative Act, issues remain that need to be further addressed.

We are concerned that several provisions of H.R. 1145 may duplicate provisions found in H.R. 146, the Omnibus Public Lands Act of 2009 specifically the SECURE Water Act. We must be mindful to ensure these two bills compliment each other and do not create additional bureaucratic burdens on water research efforts.

Further, we must be very careful not to undermine the historical responsibility that State and local governments have on managing their water resources, so it is vitally important that the authorities given in this bill do not supersede or duplicate efforts at these levels. For example, we are concerned that the vague nature and description of the "National Water Census" in this bill may be a step towards federalizing groundwater and other water resources normally managed by state and local entities. To that end, we offered and passed an amendment to ensure state, local, and tribal participation in

coordination efforts. We hope to work together to further clarify the necessary contribution of these nonfederal entities.

Mr. Gordon offered a manager's amendment expanding the Energy-Intensive Industries Program established in the Energy Independence and Security Act (EISA) of 2007 to include "research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production". During the mark-up, questions were posed about the definition of "impaired waters". These questions sought to clarify that "impaired waters" included water extracted during oil and gas exploration and production. As a potentially significant source of water, the language of the amendment should be inclusive of all sources of non potable water.

Ralph M. Hall

Jim Sensenbrenner

Brian P. Bilbray

Vernon J. Ehlers

Adrian Smith

Mike Doyle

Michael T. McCaul

Additional Views Regarding H.R. 1145
Representative Jim Matheson:

Over the last 12 years, Utah has experienced a major drought which has threatened the state's economy. As the second driest state in the nation, Utah relies heavily on recreation, tourism, ranching, and agriculture. The lack of water threatens life and cripples local economies, particularly in rural areas of the state.

Utah's need for water is a common story in the West and increasingly in other parts of the nation, which highlights the need for a national database that contains relevant data from all water and wastewater systems in the United States. Currently, there is no national resource that quantifies usage and allows water users to share best practices and data in order to improve water resource management.

This legislation will enable the development of a robust database to facilitate a timely and useful production and analysis of data that will improve the water industry, particularly for rural water users. This would be accomplished by implementing safe, economical methods of funding and developing the nation's water and wastewater infrastructure, securing and protecting these systems, providing for long term sustainability of current and future systems, and efficiently managing the nation's water supply.

Jim Matheson

Jim Matheson

XXIII. PROCEEDINGS OF THE FULL COMMITTEE MARKUP

XXIII.

???: PROCEEDINGS OF THE FULL COMMITTEE MARKUP ON H.R. 1145, THE NATIONAL WATER RESEARCH AND DEVELOPMENT INITIATIVE ACT OF 2009

WEDNESDAY, MARCH 25, 2009

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
Washington, DC.

The Committee met, pursuant to call, at 10:08 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Bart Gordon [Chair of the Committee] presiding.

Chair GORDON. Good morning. The Committee will come to order. Pursuant to notice, the Committee on Science and Technology meets to consider the following measures: H.R. 1580, the *Electronic Waste Research Development Act,* and H.R. 1145, the *National Water Research Development Initiative Act of 2009.*

Before we get started with the markup, we have a little Committee business to take care of, and I recognize Mr. Hall for unanimous consent.

Mr. HALL. Mr. Chair, thank you, Mr. Chair, and I ask unanimous consent to officially remove Representative Adrian Smith as a Member of the Research and Science Education Subcommittee and to officially recognize Representative Bob Inglis as a Member of the Research and Science Education Subcommittee of the Committee on Science and Technology, and I would ask that the official Committee roster be modified to reflect this change. And I yield back.

Chair GORDON. Without objection, so ordered. We will now proceed with the markup. We are going to try to move along today. In the past, we have gotten caught with votes, so we don't want that to happen.

This morning the Committee will consider H.R. 1580, the *Electronic Waste Research and Development Act,* and H.R. 1145, the *National Water Research and Development Initiative Act of 2009.*

Billions of cell phones, computers, televisions, and other electronic products, once the latest technology, are now being thrown into landfills or in Mr. Hall's and our country, sometimes on the side of the road. This is a waste of valuable resources, and it is a growing environmental problem. We need to do more to make recycling easy and affordable and to make sure that the electronic products manufactured in the future are as environmentally sound as they can be.

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If we are going to address this issue, we need research and development, and we need to train present and future designers of this equipment to think about the entire life cycle of their products. That is what H.R. 1580 is all about.

The second bill we will consider this morning is H.R. 1145, which will ensure that the water research and development programs that are spread across over 20 federal agencies are coordinated to make maximum use of funding resources.

There is no resource more valuable than water. It is essential to all of us, every day, for everything we do. For too long we have ignored the warning signs that our water supplies are in trouble.

We must do more to conserve water and to maintain its quality. We must make a more strategic approach at the federal level and we must ensure the Federal Government supports our State, local and tribal governments, the entities that are the stewards of these resources on a day-to-day basis.

I thank the Members for their participation this morning, and I look forward to this productive markup.

[The prepared statement of Chair Gordon follows:]

PREPARED STATEMENT OF CHAIR BART GORDON

This morning the Committee will consider H.R. 1580, the *Electronic Waste Research and Development Act,* and H.R. 1145, the *National Water Research and Development Initiative.*

Billions of cell phones, computers, televisions, and other electronic products, once the latest technology, are now being thrown into landfills. This is a waste of valuable resources, and it is a growing environmental problem. We need to do more to make recycling easy and affordable and to make sure the electronic products manufactured in the future are as environmentally sound as they can be.

If we are going to address this issue, we need research and development, and we need to train present and future designers of this equipment to think about the entire life cycle of their products. That is what H.R. 1580 is all about.

The second bill we will consider this morning is H.R. 1145, which will ensure that the research and development programs that are spread across over 20 federal agencies are coordinated to make maximum use of funding resources.

There is no resource more valuable than water. It is essential to all of us, everyday, for everything we do. For too long we have ignored the warning signs that our water supplies are in trouble. We must do more to conserve water and maintain its quality. We must take a more strategic approach at the federal level and we must ensure the Federal Government supports our State, local and tribal governments—the entities that are the stewards of these resources on a day-to-day basis.

I thank the Members for their participation this morning and I look forward to a productive markup.

Chair GORDON. I now recognize Mr. Hall to present his opening remarks.

Mr. HALL. Mr. Chair, thank you. Each of these bills address issues that are of national importance, so I thank you for holding this markup, and because you have so very ably covered it, I will make my opening remarks brief.

H.R. 1580 authorizes EPA to establish consortiums with private industries and academia to conduct research, development and demonstration projects to increase electronics recycling, reduce the environmental impacts of manufacturing electronics and to develop ways to increase the usable lifespan of new electronics. It also promotes crosscutting of education for engineers by providing grants to higher-learning institutions to encourage the development of curricula that combines electrical, mechanical, industrial, material, and software engineering disciplines. These two efforts will be the

first step that we can take to start addressing the problem associated with discarded electronic equipment.

Secondly, H.R. 1145, the *National Water Research and Development Initiative Act of 2009,* organizes the Federal Government's approach to research of water resources. The bill would require perhaps for the first time every government agency involved in research of water resources to collaborate and create a Research and Assessment plan that will chart the course of U.S. research and development for years to come. Furthermore, it directs the Office of Science and Technology Policy and the Office of Management and Budget to work with these agencies to coordinate their annual budgets to avoid duplicative efforts. These suggestions come from recommendations that National Science and Technology Council and the National Academy of Sciences have offered for years. I commend the Chair, I commend you, sir, on moving a bill that is critical to our nation's health and well-being.

Mr. Chair, that is the first time I read this. I didn't know it was so long or I wouldn't have said I was going to make a brief statement. I would like to thank you, and I yield back to you.

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF REPRESENTATIVE RALPH M. HALL

Thank you, Mr. Chairman. Each of these bills address issues that are of national importance so thank you for holding this markup today to advance them. I will keep my opening remarks brief.

H.R. 1580 authorizes EPA to establish consortiums with private industry and academia to conduct research, development and demonstration projects to increase electronics recycling, reduce the environmental impacts of manufacturing electronics and to develop ways to increase the usable lifespan of new electronics.

It also promotes cross-cutting education for engineers by providing grants to higher-learning institutions to encourage the development of curricula that combines electrical, mechanical, industrial, material, and software engineering disciplines. These two efforts will be the first step that we can take to start addressing the problems associated with discarded electronic equipment.

Secondly, H.R. 1145, the *National Water Research and Development Initiative Act of 2009,* organizes the Federal Government's approach to research of water resources.

The bill would require, perhaps for the first time, every government agency involved in research of water resources to collaborate and create a Research and Assessment plan that will chart the course of U.S. research and development for years to come. Furthermore, it directs the Office of Science and Technology Policy and the Office of Management and Budget to work with these agencies to coordinate their annual budgets to avoid duplicative efforts. These suggestions come from recommendations that National Science and Technology Council and the National Academy of Sciences have offered for years.

I commend the Chairman on moving a bill that is critical to our nation's health and well-being.

Mr. Chairman, I would like to thank you and your staff for working with us on these bills before us today.

I yield back the balance of my time.

Chair GORDON. Thank you, Mr. Hall. As always, you are eloquent, and the Minority staff and Members made this a better bill, and we thank you for that.

Members may place statements in the record at this time.

[The prepared statement of Mr. Mitchell follows:]

PREPARED STATEMENT OF REPRESENTATIVE HARRY E. MITCHELL

Thank you, Mr. Chairman.

Today we will mark up the *Electronic Waste Research and Development Act,* H.R. 1580, and the *National Water Research and Development Initiative Act,* H.R. 1145.

As American consumers attempt to keep up with the latest technology trends by purchasing the newest cell phones and laptops, the number of discarded electronic products is rapidly increasing.

When electronic products are properly handled, these products can transform into a valuable source for reusable equipment.

However, if these products are not disposed of properly, they are potentially harmful to both human health and the environment.

H.R. 1580 would establish an electronic waste engineering research, development, and demonstration program at the Environmental Protection Agency to identify ways to manage electronic waste through reduction, reuse, and recycling.

I support both H.R. 1580 and H.R. 1145, and I urge my colleagues to support these pieces of legislation.

I would also like to commend Chairman Gordon for once again following regular order leading up to this markup.

I yield back.

Chair GORDON. We will now consider H.R. 1145, the *National Water Research and Development Initiative Act of 2009.* I recognize myself to describe the bill.

H.R. 1145 builds on the recommendations of the National Academies 2004 report establishing clear, national water strategy for the 20-plus federal agencies with water responsibilities. The bill codifies an existing interagency committee, the Subcommittee on Water Availability and Quality of the National Science and Technology Counsel. H.R. 1145 continues the good work done by this Subcommittee and incorporates several priorities outlined in the 2007 SWAQ report. H.R. 1145 also incorporates recommendations of the witnesses who appeared at the Science and Technology Committee hearing.

We have received input from a variety of academic, government and non-profit and industry water experts throughout the drafting of the bill, and it reflects the guidance of those experts. H.R. 1145 has been endorsed by the Water Innovations Alliance, the Natural Resources Defense Council, the Water Environmental Research Foundation, the Council of Scientific Society Presidents, the Food and Water Watch, the Water Research Foundation, the Alliance Environment, the Clean Water Action, the American Beverage Association, and the National Rural Electric Cooperative Association. The Majority staff has consulted with the Minority staff in the development of this bill. H.R. 1145 will ensure that the federal agencies conducting activities relating to water will work together to achieve the role of better management of water resources.

In tough economic times it is imperative that we use every dollar we spend effectively. Coordination of federal agency activities and a stronger partnership with State, local and tribal governments will ensure that the federal programs are focused on areas of greatest concern and that our efforts are complementary and effective. I urge my colleagues to support H.R. 1145.

I now recognize Mr. Hall to present any remarks.

Mr. HALL. Thank you, Mr. Chair. The *National Water Research and Development Initiative Act* is the Committee's response to many recommendations made by the country's top scientists on water research and development, and I have said many times that our water supplies are of vital importance to the health and well-being of our nation. No state is immune to water problems, whether too little of it or an abundance of it. Yet, in the last quarter-century, our knowledge of water resources has been piggy-backing off the research that was conducted in the middle of the last century.

Several of the witnesses in our last hearing stated that the way federal water research is conducted has barely changed in the last 35 years, and this is unacceptable. What we need are the proper tools and resources for local, State and regional decision-makers to adapt to changing conditions.

Mr. Chair, I have two concerns about this bill that I am hoping we can have alleviated. The first is how this bill, if passed, would work with legislation put forth by Senator Bingaman, the *SECURE Water Act.* The *SECURE Water Act* is on the precipice of becoming law. However, the fact that it is not yet law means we cannot do anything to try to amend it in order to make it work more seamlessly with the legislation before us. I hope that either in today's markup or before this bill goes to the Floor, we can make sure that no duplicative efforts are being written into the law.

Secondly, I had hoped that the Administration would have been able to comment on the bill before it went to markup. I understand that the Director of Office of Science and Technology was not actually confirmed until last week. I sincerely hope that the Committee will make every effort and every possible effort to reach out to the Administration now and the principal people that are in place so that we can be assured that this bill is going to have the effect on federal water research that we intend for it to have. Thank you, Mr. Chair. I yield back.

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF REPRESENTATIVE RALPH M. HALL

Thank you, Mr. Chairman. I am pleased that this committee has decided to focus on the important issue of water conservation and efficient use of our water supply.

Many of you have heard me discuss the importance of energy independence to our nation's security. Our water supply is also of vital importance to our security as a nation. We have all seen what can happen when a nation is faced with a shortage of water. Water is a vital component of our manufacturing, farming, and transportation. Ensuring that we have a plentiful supply of water in this country is essential.

There is not one district I am aware of that has not had to deal with water problems in the last few years, whether it's because there is too much of it or not enough of it. Three years ago when we passed the *National Integrated Drought Information System Act of 2006,* I was pleased that it would help my constituents and many others cope with the devastating effects of prolonged drought.

I am pleased that the Committee has chosen to address water issues with this bill as well as my bill addressing research into the reuse of produced waters and Mr. Matheson's water conservation bill, both of which were passed at the beginning of this Congress. I believe these bills complement one another to provide a comprehensive approach to this issue.

The amount of legislation our committee has moved on water issues in the last few years demonstrates our awareness of the need to address the critical issues our nation faces with regards to water quality, supply and availability.

I am aware that the Senate is also working on an extensive water bill, the *SECURE Water Act,* and I am hopeful we can work to ensure these bills do not duplicate efforts or work at cross purposes going forward.

Thank you, Mr. Chairman, and I yield back the balance of my time.

Chair GORDON. Thank you, Mr. Hall. We have been in contact regularly with OSTP. They are well-aware of what we are doing on this bill and also in respect to the Senate bill. This particular bill is the plan. Senate Bill 22 is the implementation, so I don't think you are going to see any type of override there, but we will continue to consult with you if you don't feel comfortable with that response.

Does anyone else wish to be recognized?

Mr. BILBRAY. Mr. Chair?

Chair GORDON. Mr. Bilbray.

Mr. BILBRAY. Mr. Chair, let me just really congratulate you on this package. One of the things that I really appreciate is the Section 8 of D which really points out one of the things that we keep overlooking when we talk about water and we have learned in California that be it desalinization, be it pumping, San Diego County was actually the original desalinization site. In fact, most people don't know that Guantanamo was able to be kept in operation during the '60s and '70s and the '80s because of the plant that was moved from San Diego to Gitmo during the Cuban Crisis. But the one thing I've just got to stress to you, electricity, clean, inexpensive electricity will be the largest determining factor in the future of the availability of the resource that we call water, be it transporting it from one part of the country to the other across, purifying it or desalinization. And I appreciate the fact that you included that in here because too many people overlook that critical component that we have really run into in California, and I have got a desalinization plant in my district, but we've just got to always come back to the fact that inexpensive, clean electricity is going to be the critical lynch pin in providing clean drinking water for our generations in the future, and I appreciate your including that aspect of it.

Chair GORDON. Thank you, Mr. Bilbray. I think we fully recognize the nexus between energy and water, are sensitive to that, and will try to incorporate that into all that we do.

Does anyone else wish to be recognized? I ask unanimous consent that the bill is considered as read and open to amendment at any point and that the Members proceed with amendments in the order of the roster. Without objection, so ordered.

The first amendment on the roster is a manager's amendment. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 116 offered by Mr. Gordon of Tennessee.

Chair GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered. I recognize myself to explain the amendment.

The manager's amendment makes a series of changes throughout H.R. 1145 to clarify the intent of the legislation, to increase the coordination of this program with the State, local, and tribal governments, and to incorporate recommendations from our last hearing.

It is critical that the interagency committee establish a good, working relationship among federal agencies, with the State, local, and tribal governments that deal directly with water resources on a day-to-day basis. Section 2 of the bill is amended to include the tribal governments in the coordination function of this bill. The Research Outcomes section is amended to include examination into the social, behavioral and economic barriers to sustain water use, and thank you, Dr. Baird, for your continuing interest in making us sensitive to that.

The manager's amendment adds a new Section 4 that ensures the coordination of H.R. 1145 with the United States Global Change Research Program. Several witnesses' recommended that the potential climate change impacts on water be assessed by the

Federal Government, the U.S. Global Change Research Program is working on these assessments, and this effort should be coordinated with the work done under this program.

The amendment also expands the Department of Energy's Energy-Intensive Industries Program that we reauthorized in the 2007 Energy Bill. Research to develop water efficiency technologies and to increase energy efficiency associated with water use will now be eligibility activity under this program.

The amendment also includes an authorization of $2 million a year to fund the coordination communication activities undertaken by the Initiative Coordination Office as recommended by Dr. Vaux. The amendment is based on witnesses' recommendations from the hearings, and I ask my colleagues to support the amendment.

[The prepared statement of Chair Gordon follows:]

PREPARED STATEMENT OF CHAIR BART GORDON

The manager's amendment makes a series of changes throughout H.R. 1145 to clarify the intent of the legislation, to increase the coordination of this program with State, local, and tribal governments, and to incorporate recommendations from our last hearing. It is critical that the Interagency Committee establish a good working relationship among federal agencies and with State, local and tribal governments that deal directly with water resources on a day-to-day basis.

Section 2 of the bill is amended to include tribal governments in the coordination functions of this bill. The research outcomes section is amended to include examination into the social, behavioral, and economic barriers to sustainable water use.

The manager's amendment adds a new Section 4 that ensures the coordination of H.R. 1145 with the United States Global Change Research Program. Several witnesses recommended that potential climate change impacts on water be assessed by the Federal Government. The U.S. Global Change Research Program is working on these assessments and this effort should be coordinated with the work done under this program.

The amendment also expands the Department of Energy's Energy-Intensive Industries Program that we reauthorized in the 2007 energy bill. Research to develop water efficient technologies and to increase energy efficiency associated with water use will now be an eligible activity under this program.

The amendment also includes an authorization for $2 million dollars a year to fund the coordination and communication activities undertaken by the Initiative's Coordination Office as recommended by Dr. Vaux.

The amendment is based on witness recommendations from the hearings related to H.R. 1145. I ask my colleagues to support the amendment.

Chair GORDON. Is there further discussion on the amendment? Mr. Hall is recognized.

Mr. HALL. I have a question on it. I notice the amendment makes changes to the Energy Independence and Security Act to allow projects that will focus on "research to help develop water efficient technologies that increase energy efficiency including utilization of, and this is important, the impaired water sources in production." The amendment doesn't contain a definition of impaired water sources. I guess my question is what exactly would that include? Is it intended to include water from oil and gas which is very important to me and to nine other states, extractions such as the Produced Water Bill that we passed earlier this year? I know you remember it because you were a great part of it. If that is not enough, what about salt water or ocean water? Is it the intent to include any water that is not potable or unusable in any other productive way? Can you help me with that or just promise to help me?

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF RALPH M. HALL

I notice the amendment makes changes to the *Energy Independence and Security Act* to allow projects that will focus on "research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production." The amendment does not contain a definition of "impaired water sources." What exactly would that include?

Is it intended to include water from oil and gas extraction, such as in the produced waters bill passed earlier this year?

What about salt water or ocean water?

Is the intention to include any water that is not potable or usable in any other productive way?

Chair GORDON. I think we can help you right now. You raise a very good point, and I am just going to let staff give you a response.

The STAFF. Sir, the language is purposely not defined. Impaired water is purposely broad to give the program latitude across a wide-range of energy-intensive industries that are included in the bill. Water used for food processing will need to be a different standard than water used for manufacturing of steel and will be different than water needed for mining. It will include saline water, produced water, waste water. It is a broad term and that is on purpose.

Mr. HALL. Are you saying it is not——

Chair GORDON. I think, Mr. Hall, what——

Mr. HALL.—just inclusive of these but inclusive of almost anything else you could imagine it involves in water sources?

Chair GORDON. Mr. Hall, I think the intent was if we were to specifically define it, it would limit it. And we take a broader view. Water is water in whatever, you know, unclaimed form it might be. So it was our intention to more than honor the spirit of your interest, and if for whatever reason you don't think this has been done, we will continue to work with you on that.

Mr. HALL. I thank you. I will be working on it with you. Thank you.

Chair GORDON. Is there further discussion on the amendment? If there no, the vote occurs on the amendment. All in favor say aye, opposed nay. The ayes have it. The amendment is agreed to.

The second amendment on the roster is an amendment offered by the gentleman from Nebraska, Mr. Smith. Are you ready with your amendment?

Mr. SMITH OF NEBRASKA. Yes, thank you, Mr. Chair, Members of the Committee. This amendment would——

Chair GORDON. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 121, offered by Mr. Smith of Nebraska.

Chair GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered. I recognize the gentleman for five minutes to explain the amendment.

Mr. SMITH OF NEBRASKA. Thank you, Mr. Chair, Members. This amendment would require that the interagency committee established in Section B to coordinate all activities with State, local and tribal governments.

Representing a predominantly rural agriculture-based district in which surface water and groundwater issues are at the forefront of many decisions and debates, my principal goals are to create poli-

cies which will strengthen rural America and provide long-term stability for our nation's producers. Ensuring the sustainability of our country's water supply through increased coordination, research and development is of utmost importance to the economic and social well-being of our nation and its citizens, enhanced coordination at not only the federal level but also the State and local levels is necessary to ensure a sustainable future for one of our most essential natural resources. Local, State and regional water agencies are entities implementing our water policy.

This amendment will ensure states and localities are involved in every one of the functions of the interagency committee, including incorporation of information from State agencies into the National Water Research and Assessment Plan. Thank you. I yield back.

[The prepared statement of Mr. Smith follows:]

PREPARED STATEMENT OF REPRESENTATIVE ADRIAN SMITH

Mr. Chairman and Members of the Committee,

This amendment would require the interagency committee established in Section (b) to coordinate all activities with State, local, and tribal governments.

Representing a predominantly rural, agricultural-based District in which surface water and groundwater issues are at the forefront of many decisions and debates, my principal goals are to create policies which will strengthen rural America and provide long-term stability for our nation's producers. Ensuring the sustainability of our country's water supply through increased coordination, research, and development is of utmost importance to the economic and social well-being our nation and its citizens.

Enhanced coordination at not only the federal level, but also State and local levels, is necessary to ensure a sustainable future for one of our most essential natural resources. Local, State and regional water agencies are the entities implementing our water policy.

This amendment will ensure states and localities are involved in every one of the functions of the interagency committee, including incorporation of information from State agencies into the National Water Research and Assessment Plan.

Thank you, Mr. Chairman, I yield back the balance of my time.

Chair GORDON. Thank you, Mr. Smith, for the good amendment. Does anyone have further discussion? Mr. Hall is recognized.

Mr. HALL. Mr. Chair, this amendment would require the integrity of the interagency committee that is established in the bill to coordinate its activities with State and local agencies. One of the largest concerns that State and regional water agencies have is that federal coordination of research and development will take place in the absence of outside input and operate as a mandate rather than as a cooperative effort.

State, local and regional water agencies are most familiar with the current state of monitoring needs and can provide invaluable insight into what a research agenda should produce. This amendment would ensure that these agencies are involved in the development of the National Water Research and Assessment Plan. I urge my colleagues to support this amendment. I yield back my time. Thank you.

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF REPRESENTATIVE RALPH M. HALL

This amendment would require the interagency committee established in the bill to coordinate its activities with the states and local agencies. One of the largest concerns that State and regional water agencies have is that federal coordination of re-

search and development will take place in the absence of outside input and operate as a mandate rather than a cooperative effort.

State, local, and regional water agencies are most familiar with the current state of monitoring needs and can provide invaluable insight into what a research agenda should produce. This amendment would ensure that these agencies are involved in the development of the National Water Research and Assessment Plan. I urge my colleagues to support this amendment and yield back the balance of my time.

Chair GORDON. Is there further discussion on the amendment? If no, the vote occurs on the amendment. All in favor say aye. The ayes have it. The amendment is agreed to.

The third amendment on the roster is an amendment offered by the gentlelady from Texas, Ms. Johnson. Are you ready to proceed with your amendment?

Ms. JOHNSON. Mr. Chair, I have an amendment at the desk.

Chair GORDON. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 036, offered by Ms. Eddie Bernice Johnson of Texas.

Chair GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered. I recognize the gentlelady for five minutes to explain the amendment.

Ms. JOHNSON. Thank you, Mr. Chair, and Ranking Member Hall and fellow Members for considering this amendment. The bill is of great interest to me because I am Chair of the Subcommittee on Water Resources and Environment within the Transportation Committee, and this amendment pertains to the interagency committee outlined beginning on page 2 of the legislation.

As you know, the Committee is tasked with developing a National Water Research and Assessment Plan to coordinate federal research activities regarding water, and defining the functions of the interagency committee, my amendment adds another function, to provide guidance on outreach to minority serving institutions to encourage them to apply or funding opportunities specified in the plan. It is my belief that these colleges and universities are disadvantaged when it comes to applying for and winning federal science research funding. Often they are too small to overcome the hurdle of navigating the maze of the red tape to find out about such funding.

My amendment levels the playing field by emphasizing the inclusion of minority serving institutions when it comes to research grant funding. As you know, Mr. Chair, broadening participation in the sciences is a long-time interest of mine. Our current workforce lacks diversity. I do believe that we must work hard to encourage minority serving institutions to take advantage of federal science research and education grants. Doing so will increase their ability to attract and educate more American talent into the research and technical workforce.

While I am certainly supportive of bringing the best, the brightest minds of this country to this research, I am sensitive that we are failing to develop our own talent within our nation's borders by providing American students opportunities for a better education, and by encouraging them to pursue research careers, we will all benefit. When diversity prevails in our science and engineering workforce, we all win.

So I thank my colleagues for considering this amendment and urge its support. I yield back the balance of my time.

[The prepared statement of Ms. Johnson follows:]

PREPARED STATEMENT OF REPRESENTATIVE EDDIE BERNICE JOHNSON

Thank you, Chairman Gordon, Ranking Member Hall, and fellow Members, for considering my amendment to H.R. 1145, the *National Water Research and Development Initiative Act.*

This bill is of great interest to me, as I serve as Chair of the Subcommittee on Water Resources and Environment, within the Transportation Committee.

This amendment pertains to the interagency committee, outlined beginning on page 2 of the legislation.

As you know, this committee is tasked with developing a National Water Research and Assessment Plan, to coordinate federal research activities regarding water.

In defining the functions of the interagency committee, my amendment adds another function: to provide guidance on outreach to minority serving institutions, to encourage them to apply for funding opportunities specified in the plan.

It is my belief that these colleges and universities are disadvantaged when it comes to applying for, and winning, federal science research funding.

Often, they are too small to overcome the hurdle of navigating the maze of red tape to find out about such funding.

My amendment levels the playing field, by emphasizing the inclusion of minority serving institutions, when it comes to research grant funding.

As you know, Mr. Chairman, broadening participation in the sciences is a longtime interest of mine. Our current workforce lacks diversity.

I do believe that we must work harder to encourage minority serving institutions to take advantage of federal science research and education grants.

Doings so will increase their ability to attract and educate more American talent into the research and technical workforce.

While I am certainly supportive of bringing the world's best, brightest minds to this country to do research, I am sensitive that we are failing to develop our own talent, from within our nation's borders.

By providing American students opportunities for a better education, and by encouraging them to pursue research careers, we will all benefit.

When diversity prevails in our science and engineering workforce, we all win.

I thank my colleagues for considering this amendment and yield back the balance of my time.

Chair GORDON. Thank you, Ms. Johnson for your good amendment. Is there further discussion on the amendment. If no, the vote occurs on the amendment. All in favor say aye, opposed no. The ayes have it. The amendment is agreed to.

The fourth amendment on the roster is an amendment offered by the gentlelady from Maryland, Ms. Edwards. Are you ready with your amendment?

Ms. EDWARDS. Thank you, Mr. Chair. I have an amendment at the desk.

Chair GORDON. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 131 offered by Ms. Edwards of Maryland.

Chair GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered. I recognize the gentlelady for five minutes to explain her amendment.

Ms. EDWARDS. Thank you, Mr. Chair. This is a pretty straightforward amendment to encourage cooperation among the federal agencies, State and local governments and tribal governments to develop a standard method for collecting managing, and disseminating data on water so that all levels of government have a unified standard when handling this important information. Too often we receive reports here in the Congress and agencies with competing or comparable overlapping jurisdiction, and it is like comparing apples to oranges. And the goal of this amendment is that

the data that we collect will enable us to compare apples to apples in terms of setting water policy in the future. Thank you, Mr. Chair, and I yield the balance of my time.

Chair GORDON. Thank you, Ms. Edwards, again for a very good amendment. Is there further discussion? If no, the vote is on the amendment. All in favor say aye, opposed no. The ayes have it. The amendment is agreed to.

The fifth amendment on the roster is an amendment by Mr. Rohrabacher of which Mr. Hall is going to attempt to explain. Are you ready to begin?

Mr. HALL. I am. I have an amendment at the desk.

Chair GORDON. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 120, offered by Mr. Rohrabacher of California.

Chair GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered. Mr. Hall, I was going to say you are stepping into big shoes. I don't know if they are big shoes, but they are different shoes anyway, and so you are recognized for five minutes.

Mr. HALL. Are you saying Rohrabacher is different?

Chair GORDON. I welcome your remarks.

Mr. HALL. This amendment would require federal agencies involved in research and development of water efficient technologies to identify barriers to the deployment of these technologies, and we don't want to hold back development to be forced to "reinvent the wheel" because of government red tape. Half of the battle is won by encouraging agencies to recognize these barriers and amend their regulations to allow for the efficient implementation of new technologies. A report to Congress allows us to take decisive action where needed and to take it when needed to assist the agencies in eliminating these barriers. And I urge my colleagues to support this amendment. I would rather not have any questions about it, and I yield back my time.

[The prepared statement of Mr. Rohrabacher follows:]

PREPARED STATEMENT OF REPRESENTATIVE DANA ROHRABACHER

Mr. Chairman, the amendment I am offering is a small change with potentially large consequences. It simply directs this new interagency committee to identify, and report to us, the statutory and regulatory barriers that reduce water availability. By knowing these barriers, we can then act to reduce them.

In my District, in Long Beach, California, we are working to get a desalinization plant up and running, and we just had to clear hurdle after hurdle after hurdle. We have a small demonstrator plant up and running and we plan to go full-scale within the next few years. But there have been so many barriers to even get this far.

These barriers exist and some of them are necessary, but some of them are not. We need to identify what barriers exist across the country and fix those that we don't need. You will not find a Member of Congress more dedicated to protecting our oceans than me. I can often be found with my surfboard conducting my own research into our water resources. But we have a huge ocean just sitting there, and we're trying to find low-cost, low-impact, low-energy solutions so that we can use that water.

Some of the environmental regulations, in theory meant to protect us, are actually hindering us. They are hurting our ability to promote sustainable technologies. They are hurting local environmental protection efforts. We are not, in many cases, able to buy off-the-shelf technology that is available in other countries. We are prohibited from using many of these water technologies here due to regulatory barriers.

Another example, outside of water, is we have dozens of solar energy projects in Southern California that are on hold because they refuse to perform the environ-

mental assessments. I am certain there are many instances like this, instances where safe, clean and affordable water is not available because of certain barriers. Regulations that don't make sense. Laws that never should have been enacted in the first place.

And that's why I offer this amendment today. And that's why I urge my colleagues to support this amendment, a small change that can be a big help.

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF REPRESENTATIVE RALPH M. HALL

This amendment would require federal agencies involved in research and development of water efficient technologies to identify barriers to the deployment of these technologies. We do not want to hold back development or be forced to "reinvent the wheel" because of government red-tape.

Half the battle is won by encouraging agencies to recognize these barriers and amend their regulations to allow for the efficient implementation of new technologies. A report to Congress allows us to take decisive action where needed to assist the agencies in eliminating these barriers.

I urge my colleagues to support this amendment and yield back the balance of my time.

Chair GORDON. Is there further discussion on the amendment?

Mr. BILBRAY. Mr. Chair?

Chair GORDON. Mr. Bilbray.

Mr. BILBRAY. I regretfully have to say that, you know, no matter now much I hate to do it, I have to agree with Mr. Rohrabacher on this point. And I think that he has finally got an issue that I can agree with him on and that is that we have a responsibility to make sure that our regulations, our guidelines, our administration doesn't stand in the way, and I think this is consistent with the fact that the government's participation in innovative approaches and new approaches is not just to require other people to change their ways but also to make sure that our historical and traditional approaches don't stand in the way, either. And so I regretfully have to support the amendment.

Chair GORDON. Thank you, Mr. Bilbray. As Mr. Davis knows, even a blind squirrel occasionally finds an acorn. Is there further discussion on the amendment? If no, the vote occurs on the amendment. All in favor say aye, those opposed say no. The ayes have it. The amendment is agreed to.

The sixth amendment on the roster is an amendment offered by the gentleman from Utah, Mr. Matheson. Are you ready with your amendment?

Mr. MATHESON. Yes, Mr. Chair. I have an amendment at the desk.

Chair GORDON. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 018, offered by Mr. Matheson of Utah.

Chair GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered. I recognize the gentleman for five minutes to explain his amendment.

Mr. MATHESON. Well, thank you, Mr. Chair. I got the idea for this amendment talking to folks in my state's Rural Water Association, and I think all of us are probably familiar with in our states the Rural Water Association. They are interesting organizations. They try to coordinate among a bunch of very small users where there is no expertise in small towns, and they share information about good water practices. And I know in my own state that that

association has made a lot of progress in terms of looking for best practices and sharing information.

And so the idea was, you know, there are probably a lot of good ideas all over the country. Is there a way for us to share this information with each other? And quite frankly, that is the substance of this amendment, is allowing an opportunity for good practices in different regions of the country to be coordinated in a way where other people can learn from those ideas about being more efficient and more productive with their water use. It seems like a real simple amendment, Mr. Chair. I won't use all five minutes to describe it because I think that pretty much sums it up. So with that, I will yield back to the Chair.

Chair GORDON. Thank you, Mr. Matheson, for once again your value added. Is there further discussion on the amendment? If no, the vote occurs on the amendment. All in favor say aye, opposed no. The ayes have it. The amendment is agreed to.

The seventh amendment on the roster is an amendment offered by the gentlelady from Arizona, Ms. Giffords. Are you ready to proceed?

Ms. GIFFORDS. Yes, Mr. Chair. I have an amendment at the desk.

Chair GORDON. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 117 offered by Ms. Giffords of Arizona, Ms. Dahlkemper of Pennsylvania, and Mr. Grayson of Florida.

Chair GORDON. So I see you have some reinforcement here. I ask unanimous consent to dispense with the reading. Without objection, so ordered. I recognize the gentlelady for five minutes to explain her amendment.

Ms. GIFFORDS. Thank you, Mr. Chair. The underlining bill, H.R. 1145, establishes an interagency committee to coordinate Federal Water Research and Development and a National Water Research and Assessment Plan. Section 2, paragraph D of the bill directs participating federal agencies to work toward specific research outcomes under that plan.

The amendment, Mr. Chair, that we are offering today, myself along with my colleagues Representative Grayson and Representative Dahlkemper, would expand and clarify the research goal of developing new technologies to enhance reliable water supply. The amendment would clarify that this goal also encompasses water reuse and pollution prevention. In addition, the amendment would add a new provision to the list of research goals. It would direct participating federal agencies to develop innovative technologies and tools to enhance water quality, including advanced water treatment and water purification technologies.

Mr. Chair, as you well know, I am from a very arid corner of the world. In the deserts of southern Arizona, water is scarce. We know that we can never take it for granted. But in recent years, this realization has also hit home with many other regions of our country as well as drought conditions and aquifer depletion have struck in regions unaccustomed to such developments. As a result, Americans all across our nation now realize as ever before that we must take every drop of water into account.

This amendment would ensure that we do exactly that. I would direct the federal water research efforts to include efforts to expand

supply and enhance quality. The goal of both of these provisions is to ensure that we develop the technologies we need to take advantage of every source of water available to us.

This amendment, Mr. Chair, comes from the testimony of two expert witnesses that came before this committee on March 4, Ms. Nancy Stoner of the Natural Resource Defense Council, also Ms. Christine Furstoss of the Water and Process Technologies division at GE. Both witnesses recommended including advanced water treatment, pollution prevention, and water reuse technologies in the scope of the bill. This amendment incorporates the commonsense recommendations of these two expert witnesses to ensure that water supply and quality are fully addressed, and I urge my colleagues to support this amendment. I yield back.

[The prepared statement of Ms. Giffords follows:]

PREPARED STATEMENT OF REPRESENTATIVE GABRIELLE GIFFORDS

The underlying bill, H.R. 1145, establishes an interagency committee to coordinate federal water research and develop a national Water Research and Assessment Plan. Section 2, Paragraph (d) of the bill directs participating federal agencies to work toward specific research outcomes under that plan.

The amendment I am offering today, along with my colleagues Representatives Grayson and Dahlkemper, would expand and clarify the research goal of developing of new technologies to enhance reliable water supply. The amendment would clarify that this goal also encompasses "water reuse and pollution prevention."

In addition, the amendment would add a new provision to the list of research goals. It would direct participating federal agencies to "develop innovative technologies and tools to enhance water quality, including advanced water treatment and water purification technologies."

Mr. Chairman, as you know I come from an arid corner of the world. In the deserts of Southern Arizona, water is scarce and we know we can never take it for granted. In recent years, this realization has hit home in many other regions of our country as well, as drought conditions and aquifer depletion have struck in regions unaccustomed to such developments. As a result, Americans all across our nation now realize, as never before, that we must make every drop of water count.

This amendment would ensure that we do exactly that. It would direct that federal water research efforts include efforts to expand supply and enhance quality. The goal of both of these provisions is to ensure that we develop the technologies we need to take advantage of every source of water available to us.

This amendment builds on the testimony of two expert witnesses who testified at our full committee hearing on this bill on March 4. Ms. Nancy Stoner—of the Natural Resources Defense Council—recommended the expansion of the research goals to include the impacts of climate change on water resources, advanced treatment options, and pollution prevention technologies. Ms. Christine Furstoss—of the Water and Process Technologies Division at GE—spoke in favor of water purification and reuse. Both witnesses recommended including advanced water treatment, pollution prevention, and water reuse technologies in the scope of the bill.

This amendment incorporates the common sense recommendations of these two expert witnesses to ensure that water supply and quality are fully addressed. I urge my colleagues to support this amendment.

I yield back.

Chair GORDON. Is there any further discussion on the amendment?

Ms. DAHLKEMPER. I would like to be recognized.

Chair GORDON. Ms. Dahlkemper is recognized.

Ms. DAHLKEMPER. Thank you, Mr. Chair. As Representative Giffords talked about, this amendment is something that Representative Grayson and myself are supporting also. I come from the Great Lakes area where we have plentiful water, but we all know that water is critical for households as well as for Congress, and we

share a common goal, no matter where we are in this country, that our water resources be both abundant and of high quality.

However, the likelihood of either of those requirements being met is jeopardized without the nationwide water planning that this bill contemplates. I am not only pleased to sponsor this legislation, but I am also pleased to join with Representatives Giffords and Grayson to offer an amendment to the bill which advocates development of technologies for water treatment, purification, pollution prevention, as well as water reuse, all of which play key roles in the future management of our important water resources. I thank you, and I yield back.

[The prepared statement of Ms. Dahlkemper follows:]

PREPARED STATEMENT OF REPRESENTATIVE KATHLEEN DAHLKEMPER

Chairman Gordon, Ranking Member Hall and Fellow Members,

The *National Water Research and Development Initiative Act of 2009* is a timely bill which takes strong steps to see that we make better use of our water resources. And I applaud Chairman Gordon for his leadership in this important initiative.

Water is as critical for households as it is for commerce. And we all share a common need that our water resources be both abundant and of high quality. However, the likelihood of either of those requirements being met is jeopardized without the nationwide water planning that this bill contemplates.

I am not only pleased to sponsor this legislation, I am also pleased to join with Representatives Giffords and Grayson to offer an amendment to the bill which advocates development of technologies for water treatment, purification, pollution prevention as well as water reuse—all of which will play key roles in the future management of our important water resources.

Thank you.

Chair GORDON. Thank you, Ms. Dahlkemper, for your support and more importantly for your again value added to this bill. Mr. Grayson is recognized.

Mr. GRAYSON. Thank you, Mr. Chair. I am asking for support of this amendment to expand research and activities around the issue of water reclamation and recycling and conservation. In my district, the city of Winter Garden maintains a reclaimed water storage and pumping facility because the conservation of potable water supply has become a major concern in Central Florida. An increase in groundwater withdrawals has resulted in the St. Johns River Water Management District placing serious restrictions on groundwater supplies. Reclaimed water is now routinely used for irrigation water and is a requirement of local municipalities by their consumptive use permit regulated by State management districts.

Creating this facility has cost a tiny community of only 3,000 people upwards of $11 million. This amendment will enhance the development of innovative technology and tools to enhance water quality, including advanced water treatment and water purification technologies, to prevent pollution, and to augment water reuse capabilities.

In conclusion, if our federal dollars are redirected to assist small communities like Winter Garden in my district, I think it would be the right path toward making our dollars work best for American taxpayers. Thank you very much, Mr. Chair.

[The prepared statement of Mr. Grayson follows:]

PREPARED STATEMENT OF REPRESENTATIVE ALAN GRAYSON

Mr. Chairman, I'm asking for support of the Giffords-Dahlkemper-Grayson amendment to expand research and activities around the issue of water reclamation and recycling, and conservation.

In my district, the City of Winter Garden maintains a Reclaimed Water Storage and Pumping Facility, because the conservation of potable water supplies has become a major concern in Central Florida. An increase in groundwater withdrawals has resulted in the St. Johns River Water Management District placing restrictions on groundwater supplies. Reclaimed water is now routinely used for irrigation water and is a requirement of local municipalities by their Consumptive Use Permit regulated by the water management districts. Creating this facility has cost this small community of approximately 3,000 upwards of $11 million.

This amendment will enhance the development of innovative technologies and tools to enhance water quality, including advanced water treatment and water purification technologies to prevent pollution and augment water reuse capabilities.

In conclusion, if our federal dollars were redirected to assist small communities like Winter Garden, I think we would be on the right path towards making our dollars work best for American taxpayers.

Thank you Mr. Chairman. I ask my colleagues to support this amendment and I yield back the balance of my time.

Chair GORDON. Thank you. Ms. Biggert is recognized.

Ms. BIGGERT. Thank you, Mr. Chair, and I do support this amendment, but if I might take the opportunity at this time to thank you for in H.R. 1580 for working with me and putting into the manager's amendment the change in the term from waste to scrap, I appreciate that. And I would ask consent to put my statement into the record.

Chair GORDON. Thank you, Ms. Biggert. You helped us move it to a sort of new generation of thinking, and that was good. Thank you.

Further discussion on this amendment? If not, the vote occurs on the amendment. All in favor say aye, opposed no. The ayes have it. The amendment is agreed to.

The eighth amendment on the roster is an amendment offered by the gentleman from New York, Mr. Tonko. You are recognized for your amendment.

Mr. TONKO. Mr. Chair, I have an amendment at the desk.

Chair GORDON. The Clerk will report the amendment.

The CLERK. Amendment to H.R. 1145, amendment number 002, offered by Mr. Tonko of New York.

Chair GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered. Mr. Tonko is recognized for five minutes.

Mr. TONKO. Thank you, Mr. Chair, Mr. Hall, Members of the Committee. On March 4, the Science and Technology Committee held a hearing to receive testimony on H.R. 1145. My amendment addresses two suggestions made at that hearing. First, Mr. Modzelewski, Executive Director of the Water Innovations Alliance, discussed the need for federal research related to water information technology. He estimated that even with current filtration systems, effective water IT infrastructure and management could lead to water savings of some 30 to 50 percent. He referred to this concept as a National Smart Water Grid, and I think it is an approach worth exploring considering the estimated impact on water resources. My amendment adds this topic to the list of research areas that will be undertaken through the initiative.

Second, witnesses discussed barriers to moving innovative technologies out of the lab and into the marketplace. Mr. Modzelewski provided one possible solution to overcoming barriers to commercialization. He recommended the creation of a National Water Pilot Testing Facility. Various federal testing facilities exist for other emerging technologies. For example, the Department of Energy's National Renewable Energy Lab has an on-site facility for testing the durability of wind turbines, and the Bureau of Reclamation has a desalination testing facility in Yuma, Arizona. A facility such as this may in fact be an important asset to the research community. However, I do not believe we have sufficient information to authorize a facility of this nature at present. Therefore, my amendment tasks the Government Accountability Office with investigating the feasibility and practicality of creating a National Water Pilot Testing Facility. The GAO team will then report its findings to Congress so that we can determine the best path forward.

Mr. Chair, I want to thank you for your leadership on H.R. 1145, and I ask my colleagues to support this given amendment. And Mr. Chair, I then yield back my time.

[The prepared statement of Mr. Tonko follows:]

PREPARED STATEMENT OF REPRESENTATIVE PAUL D. TONKO

On March 4, the Science and Technology Committee held a hearing to receive testimony on H.R. 1145. My amendment addresses two suggestions made at this hearing.

First, Mr. Modzelewski, Executive Director of the Water Innovations Alliance, discussed the need for federal research related to water information technology (IT). He estimated that even with current filtration systems, effective water IT infrastructure and management could lead to water savings of 30 to 50 percent. He referred to this concept as a national smart water grid, and I think it is an approach worth exploring considering the estimated impact on water resources. My amendment adds this topic to the list of research areas that will be undertaken through the Initiative.

Second, witnesses discussed barriers to moving innovative technologies out of the lab and into the market place. Mr. Modzelewski provided one possible solution to overcoming barriers to commercialization. He recommended the creation of a National Water Pilot Testing Facility.

Various federal testing facilities exist for other emerging technologies. For example, The Department of Energy's National Renewable Energy Lab (NREL) has an on-site facility for testing the durability of wind turbines, and the Bureau of Reclamation has a desalination testing facility in Yuma, Arizona.

A facility such as this may, in fact be an important asset to the research community. However, I do not believe we have sufficient information to authorize a facility of this nature at present.

Therefore, my amendment tasks the Government Accountability Office (GAO) with investigating the feasibility and practicality of creating a National Water Pilot Testing Facility. The GAO team will then report their findings to Congress, so that we can determine the best path forward.

I want to thank the Chairman for his leadership on H.R. 1145, and I ask my colleagues to support my amendment.

Chair GORDON. Thank you, Mr. Tonko, for making a good bill even better. Is there further discussion on that amendment? If no, all in favor say aye. The ayes have it. The amendment is agreed to. Excuse me. Does anyone want to say no? If no, then the ayes have it.

Are there other amendments? If no, then the vote is on the bill, H.R. 1145 as amended. All those in favor will say aye, all those opposed say, no. In the opinion of the Chair, the ayes have it.

Before I recognize Dr. Baird, let me just quickly say thank you to all those that have participated today, and let me also say particularly for our newer Members, although today went relatively smoothly, it wasn't because these were inconsequential bills. Just to the contrary. They are very important bills, there was a lot of work put into it, a lot of consultation with the Minority, a variety of hearings beforehand, and I think because of that it does go smoothly.

I want to also remind you that if you have not co-sponsored the bills, you will have two weeks to do so. I would suggest if you want to, do it and go home and tell them it is your bill because they are two good one.

I now recognize Dr. Baird for a motion.

Mr. BAIRD. Mr. Chair, I move that the Committee favorably report H.R. 1145 as amended to the House with the recommendation that the bill do pass. Furthermore, I move that the staff be instructed to prepare the legislative report and make necessary technical and conforming changes and that the Chair take all necessary steps to bring the bill before the House for consideration.

Chair GORDON. The question is on the motion to report the bill favorably. Those in favor of the motion signify by saying aye, opposed, no. The ayes have it, and the bill is favorably reported. Without objection, the motion to reconsider is laid upon the table. Members will have two subsequent calendar days in which to submit supplemental, Minority, or additional views on the measure.

Once again, I thank our Members for being here, and this markup is concluded.

[Whereupon, at 11:15 a.m., the Committee was adjourned.]

Appendix:

H.R. 1145, SECTION-BY-SECTION ANALYSIS, AMENDMENT ROSTER

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111TH CONGRESS
1ST SESSION

H. R. 1145

To implement a National Water Research and Development Initiative, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 24, 2009

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

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A BILL

To implement a National Water Research and Development Initiative, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Water Research and Development Initiative Act of 2009".

SEC. 2. NATIONAL WATER RESEARCH AND DEVELOPMENT INITIATIVE.

(a) INITIATIVE AND PURPOSE.—The President shall implement a National Water Research and Development Initiative (in this Act referred to as the "Initiative"). The

1 purpose of the Initiative is to improve the Federal Govern-
2 ment's role in designing and implementing Federal water
3 research, development, demonstration, data collection and
4 dissemination, education, and technology transfer activi-
5 ties to address changes in water use, supply, and demand
6 in the United States, including providing additional sup-
7 port to increase water supply through greater efficiency
8 and conservation.

9 (b) INTERAGENCY COMMITTEE.—

10 (1) IN GENERAL.—Not later than 3 months
11 after the date of enactment of this Act, the Presi-
12 dent shall establish, or designate, an interagency
13 committee to implement the Initiative under sub-
14 section (a). The Office of Science and Technology
15 Policy shall chair the interagency committee.

16 (2) COMPOSITION.—The interagency committee
17 shall include a representative from each agency that
18 conducts research related to water or has authority
19 over resources that affect water supply, as well as a
20 representative from the Office of Management and
21 Budget.

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

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1 (A) develop a National Water Research
2 and Assessment Plan (in this Act referred to as
3 the "plan") in accordance with subsection (c);
4 (B) coordinate all Federal research, devel-
5 opment, demonstration, data collection and dis-
6 semination, education, and technology transfer
7 activities pertaining to water;
8 (C) encourage cooperation among Federal
9 agencies with respect to water-related research,
10 development, and technological innovation ac-
11 tivities to avoid duplication of effort and to en-
12 sure optimal use of resources and expertise; and
13 (D) facilitate technology transfer, commu-
14 nication, and opportunities for information ex-
15 change with non-governmental organizations,
16 State and local governments, industry, and
17 other members of the stakeholder community
18 through the office established in paragraph (4).
19 (4) NATIONAL WATER INITIATIVE COORDINA-
20 TION OFFICE.—
21 (A) IN GENERAL.—Not later than 3
22 months after the date of enactment of this Act,
23 the President shall establish a National Water
24 Initiative Coordination Office (in this Act re-

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1 ferred to as the "Office"), with full-time staff,
2 to—
3 (i) provide technical and administra-
4 tive support to the interagency committee;
5 (ii) serve as a point of contact on
6 Federal water activities for government
7 agencies, organizations, academia, indus-
8 try, professional societies, and others to ex-
9 change technical and programmatic infor-
10 mation; and
11 (iii) communicate with the public on
12 the findings and recommendations of the
13 interagency committee based on the activi-
14 ties conducted pursuant to the Initiative.
15 (B) FUNDING.—The operation of the Of-
16 fice shall be supported by funds contributed
17 from each agency represented on the inter-
18 agency committee.
19 (c) NATIONAL WATER RESEARCH AND ASSESSMENT
20 PLAN.—
21 (1) PLAN DEVELOPMENT.—The plan required
22 under subsection (b)(3)(A) shall establish the prior-
23 ities for Federal water research, including federally
24 funded research, and assessment for the 4-year pe-
25 riod beginning in the year in which the plan is sub-

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1 mitted to Congress. In the development of the plan,
2 the Committee shall consider and utilize rec-
3 ommendations and information in reports that have
4 addressed water research needs, including the 2007
5 report issued by the Subcommittee on Water Avail-
6 ability and Quality (SWAQ) of the National Science
7 and Technology Council's Committee on Environ-
8 ment and Natural Resources and recommendations
9 of the National Academy of Sciences.
10 (2) SPECIFIC REQUIREMENTS.—The plan
11 shall—
12 (A) identify each current program and ac-
13 tivity of each Federal agency related to the Ini-
14 tiative;
15 (B) identify funding levels for the previous
16 fiscal year for each program and, if applicable,
17 each activity identified in subparagraph (A);
18 (C) set forth a strategy and a timeline to
19 achieve the outcomes described in subsection
20 (d) and shall describe—
21 (i) each activity required of each
22 agency responsible for contributing to each
23 such outcome;
24 (ii) the funding levels necessary to
25 achieve each such outcome; and

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

(D) be subject to a 90-day public comment period and shall address suggestions received and incorporate public input received, as appropriate; and

(E) be submitted to Congress not later than 1 year after the date of enactment of this Act.

(d) WATER RESEARCH OUTCOMES.—The plan shall outline and direct agencies under the interagency committee to work to achieve the following outcomes:

(1) Implementation of a National Water Census, which shall include the collection of data on national water resources to create a comprehensive database that includes information about the quantity, availability, and quality of ground water and surface water resources.

(2) Development of a new generation of water monitoring techniques.

(3) Development of technologies for enhancing reliable water supply.

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(4) Development of innovative technologies and tools to enhance water-use efficiency and tools to encourage public acceptance of such technologies.

(5) Development of tools and processes to facilitate resolution of conflicts over water resources.

(6) Improvement of understanding of water-related ecosystem services and ecosystem needs for water.

(7) Improvement of hydrologic prediction models and their applications.

(8) Analyses of the energy required to provide reliable water supplies and the water required to provide reliable energy supplies throughout the United States.

(e) ADVISORY COMMITTEE.—The President shall establish, or designate, an advisory committee to advise the interagency committee established under subsection (b).

SEC. 3. BUDGET COORDINATION.

(a) IN GENERAL.—The President shall provide guidance to each Federal agency participating in the Initiative with respect to the preparation of requests for appropriations for activities related to the plan.

(b) CONSIDERATION IN THE PRESIDENT'S BUDGET.—The President shall submit, at the time of the President's annual budget request to Congress, a description

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of those items in each agency's budget which are elements of the plan or help to achieve the outcomes of the plan.

SEC. 4. ANNUAL REPORT.

Concurrent with the annual submission of the President's budget to Congress, the President shall submit to Congress a report that describes the activities and results of the Initiative during the previous fiscal year and outlines the objectives for the next fiscal year. The report shall include detailed information on all programs and activities involved in the Initiative, including an analysis of progress towards achieving the outcomes listed in section 2(d).

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SECTION-BY-SECTION ANALYSIS OF
H.R. 1145, NATIONAL WATER RESEARCH AND
DEVELOPMENT INITIATIVE ACT

Title: *National Water Research and Development Initiative Act*

Purpose: To improve the Federal Government's role in water research, development, demonstration, data collection, education, and technology transfer activities to address changes in water use, supply, and demand in the United States.

Section 1: Short Title

The National Water Research and Development Initiative Act of 2009

Section 2: National Water Research and Development Initiative

Section 2 directs the President to implement a National Water Research and Development Initiative to improve federal activities on water, including: research, development, demonstration, data collection and dissemination, education, and technology transfer. As part of the Initiative, the President shall establish or designate an interagency committee with representation from all federal agencies dealing with water and the Office of Management and Budget. The Office of Science and Technology Policy will chair the Committee.

The Committee is charged with developing a National Water Availability Research and Assessment Plan, coordinating all federal activities on water that include research, development, demonstration, data collection and dissemination, education, and technology transfer, and promoting cooperation among agencies with respect to water research. The Committee is also responsible for facilitating technology transfer, communication, and opportunities for exchange with non-governmental organizations.

The President is directed to create a National Water Initiative Coordination Office to provide technical and administrative support to the Committee. The Office will disseminate information to the public and serve as a point of contact for the Initiative.

The National Water Research and Assessment Plan establishes priorities for federal water research and assessment and shall utilize the recommendation from a 2007 Report issued by SWAQ (Subcommittee on Water Availability and Quality of the National Science and Technology Council) and recommendations by the National Academy of Sciences. This section also identifies required elements of the Plan. The Plan lists a number of water research outcomes to be achieved by the agencies participating in the Initiative.

The Plan will be subject to a 90 day public comment period and must be submitted to Congress within one year of enactment.

Section 2 also requires the President to establish or designate an advisory committee including non-governmental experts to provide guidance and recommendations to the interagency committee governing the Initiative.

Section 3: Budget Coordination

Section 3 directs the President to provide guidance to each federal agency in the Initiative with respect to the President's annual budget request. The President is required to describe and list the items in the request that are intended to achieve the outcomes of the Plan.

Section 4: Annual Report

Section 4 directs the President submit an annual report to Congress describing the activities and results of the Initiative.

COMMITTEE ON SCIENCE AND TECHNOLOGY
FULL COMMITTEE MARKUP
MARCH 25, 2009

AMENDMENT ROSTER

H.R. 1145, the National Water Research and Development Initiative Act of 2009

No.	Sponsor	Description	Results
1	Mr. Gordon	Manager's amendment adds tribal governments to the list of entities for tech transfer, communication and information exchange; adds "analyses of the social, behavioral, and economic barriers to sustainable use of water resources in the United States" to the list of water research outcomes; adds a new section requiring the interagency committee to coordinate activities of the initiative with the US Global Change Research Program; expands the Industrial Technologies Program to include "research to develop water efficient technologies that increase energy efficiency, including utilization of impaired water sources in production"; and, adds authorization levels for NOAA for coordination and outreach activities conducted under the Act ($2 million for each of FY 2010 – FY 2012).	Agreed to by voice vote
2	Mr. Smith	Amends Section 2 to add State, local, and tribal governments in the following areas: (1) coordination with respect to the development of a National Water Research and Assessment Plan by the interagency committee; (2) encouraging cooperation with respect to water-related research, development, and technological innovation activities to avoid duplication of effort and to ensure optimal use of resources and expertise; and (3) the source of information to be considered in the development of the research and assessment plan.	Agreed to by voice vote
3	Ms. Johnson	Amends Section 2 to require the interagency committee to provide guidance on outreach to minority serving institutions to encourage such institutions to apply for funding opportunities under the research and assessment plan.	Agreed to by voice vote

4	Ms. Edwards	Amends Section 2 to add "encourage cooperation between Federal agencies, State and local governments, and tribal governments to develop standard methods for collecting, managing, and disseminating data on water" to the functions of the interagency committee.	Agreed to by voice vote
5	Mr. Rohrabacher	Amends Section 2 to require the interagency committee to identify the statutory or regulatory barriers preventing the use of any technology, technique, data collection method, or model that would contribute to greater availability of water resources in the United States through enhanced efficiency and conservation and requires a report of the findings to Congress.	Agreed to by voice vote
6	Mr. Matheson	Amends Section 2 to add three new water research outcomes.	Agreed to by voice vote
7	Ms. Giffords	Amends Section 2 to add two new water research outcomes.	Agreed to by voice vote
8	Mr. Tonko	Amends Section 2 to add "development of information technology systems to enhance water quality and supply" as a water research outcome. Requires the Comptroller General to complete a study examining the feasibility and practicality of creating a national water pilot testing facility.	Agreed to by voice vote

AMENDMENT TO H.R. 1145

OFFERED BY MR. GORDON OF TENNESSEE

Page 3, line 12, strike "and" after the semicolon.

Page 3, line 16, insert "tribal governments," after "local governments,".

Page 5, line 2, strike "Committee" and insert "interagency committee".

Page 7, line 3, strike the period at the end and insert "and tools.".

Page 7, after line 14, insert the following:

1 (9) Analyses of the social, behavioral, and eco-
2 nomic barriers to sustainable use of water resources
3 in the United States.

Page 8, after line 2, insert the following (and correct sequential provisions designations accordingly):

4 **SEC. 4. COORDINATION.**
5 The interagency committee shall coordinate the ac-
6 tivities of the Initiative with the United States Global
7 Change Research Program.

Page 8, after line 12, insert the following:

1 **SEC. 6. DOE WATER TECHNOLOGIES FOR INCREASED EN-**
2 **ERGY EFFICIENCY ACTIVITIES.**

3 Section 452(c)(2) of the Energy Independence and
4 Security Act of 2007 (Public Law 110-140) is amended—
5 (1) in subparagraph (C), by deleting "and"
6 after the semicolon;
7 (2) by redesignating subparagraphs (D)
8 through (F) as subparagraphs (E) through (G), re-
9 spectively; and
10 (3) by inserting after subparagraph (C) the fol-
11 lowing:
12 "(D) research to develop water efficient
13 technologies that increase energy efficiency, in-
14 cluding utilization of impaired water sources in
15 production;".

16 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

17 There are authorized to be appropriated to the Na-
18 tional Oceanic and Atmospheric Administration for coordi-
19 nation and outreach activities conducted under this Act
20 through the Office established in section 2(b)(4)—
21 (1) $2,000,000 for fiscal year 2010;
22 (2) $2,000,000 for fiscal year 2011; and
23 (3) $2,000,000 for fiscal year 2012.

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AMENDMENT TO H.R. 1145

OFFERED BY MR. SMITH OF NEBRASKA

Page 3, line 8, strike "subsection (c)" and insert "subsection (c) and in coordination with State, local, and tribal governments".

Page 3, line 9, strike "agencies" and insert "agencies and State, local, and tribal governments".

Page 5, line 3, strike "information" and insert "information from State, local, and tribal governments and contained".

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AMENDMENT TO H.R. 1145
OFFERED BY MS. EDDIE BERNICE JOHNSON OF TEXAS

Page 3, line 12, strike "and" after the semicolon.

Page 3, line 18, strike the period at the end and insert "; and".

Page 3, after line 18, insert the following:

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

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AMENDMENT TO H.R. 1145

OFFERED BY MS. EDWARDS OF MARYLAND

Page 3, line 18, strike the period at the end and insert "; and".

Page 3, after line 18, insert the following:

1 (E) encourage cooperation between Federal
2 agencies, State and local governments, and trib-
3 al governments to develop standard methods for
4 collecting, managing, and disseminating data on
5 water.

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AMENDMENT TO H.R. 1145

OFFERED BY MR. ROHRABACHER OF CALIFORNIA

Page 3, line 12, strike "and" after the semicolon.

Page 3, line 18, strike the period at the end and insert "; and".

Page 3, after line 18, insert the following:

(E) not later than 1 year after the date of enactment of this Act and every 3 years thereafter—

(i) identify from each agency described in paragraph (2) the statutory or regulatory barriers preventing the use of any technology, technique, data collection method, or model that would contribute to greater availability of water resources in the United States through enhanced efficiency and conservation; and

(ii) submit a report of the findings from clause (i) to Congress.

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AMENDMENT TO H.R. 1145

OFFERED BY MR. MATHESON OF UTAH

Page 6, line 11, insert "AND ASSESSMENTS" after "OUTCOMES".

Page 7, after line 14, insert the following new paragraphs:

1 (9) Assessment of national water availability
2 and use.
3 (10) Regional assessments of the status of
4 water supplies and evaluation of potential changes in
5 such status due to changes in land use, population
6 size and distribution, and economic activity.
7 (11) Assessment of water quality, availability,
8 and use in rural areas, including—
9 (A) maintaining water quality and enhanc-
10 ing energy efficiency of water treatment and de-
11 livery through the use of technologies or prac-
12 tices developed to address rural communities;
13 and
14 (B) developing data and information to
15 support water planning and conservation.

AMENDMENT TO H.R. 1145

OFFERED BY MS. GIFFORDS OF ARIZONA, MS. DAHLKEMPER OF PENNSYLVANIA, AND MR. GRAYSON OF FLORIDA

Page 6, line 23, strike "supply" and insert "supply, water reuse, and pollution prevention".

Page 6, after line 23, insert the following (and conform subsequent paragraph designations accordingly):

1 (4) Development of innovative technologies and
2 tools to enhance water quality, including advanced
3 water treatment and water purification technologies.

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AMENDMENT TO H.R. 1145

OFFERED BY MR. TONKO OF NEW YORK

Page 7, after line 5, insert the following (and redesignate succeeding paragraphs accordingly):

1 (6) Development of information technology sys-
2 tems to enhance water quality and supply.

Page 8, after line 12, add the following:

3 **SEC. 5. NATIONAL WATER PILOT TESTING FACILITY FEASI-**
4 **BILITY STUDY AND REPORT.**
5 (a) STUDY.—
6 (1) REQUIREMENT.—The Comptroller General
7 of the United States shall complete a study exam-
8 ining the feasibility and practicality of creating a na-
9 tional water pilot testing facility.
10 (2) CONTENTS.—The study shall—
11 (A) examine Federal programs and facili-
12 ties that currently engage in some form of
13 water technology testing;
14 (B) evaluate the practicality and identify
15 the potential costs of establishing a national
16 water pilot testing facility; and

1 (C) examine the efforts of Federal agencies
2 to establish testing facilities related to other
3 technologies, including wind and solar, and the
4 lessons learned from implementing these pro-
5 grams.
6 (b) REPORT.—Not later than 2 years after the date
7 of enactment of this Act, the Comptroller General shall
8 transmit to Congress a report on the key findings of the
9 study conducted under subsection (a).