

**U.S. HOUSE OF REPRESENTATIVES  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY**

**HEARING CHARTER**

*The Office of Science and Technology Policy:  
Examining Priorities and Effectiveness of the Nation's Science Policies*

**Wednesday, June 20, 2012  
10:00 a.m. – 12:00 p.m.  
2318 Rayburn House Office Building**

**1. Purpose**

On Wednesday, June 20, 2012, the Committee on Science, Space, and Technology will hold a hearing to exercise the Committee's oversight authority of the Office of Science and Technology Policy (OSTP) by examining its roles, responsibilities, operations and management and its function in shaping our national science policy.

**2. Witness**

**Dr. John P. Holdren**, Assistant to the President for Science and Technology and Director of the Office of Science and Technology Policy.

**3. Overview**

- The National Science and Technology Policy, Organization, and Priorities Act of 1976 (P.L. 94-282) established in law the Office of Science and Technology Policy (OSTP). The primary purposes of the statute were "to establish a science and technology policy for the United States, to provide for scientific and technological advice and assistance to the President, to provide a comprehensive survey of ways and means for improving the Federal effort in scientific research and information handling, and in the use thereof."
- The Fiscal Year (FY13) Budget Request for OSTP is \$5.85 million, \$1.35 million (23 percent) above the FY12 appropriated amount. Currently, both the House and Senate Commerce, Justice, Science and Related Agencies Appropriations measures fully fund OSTP at the requested level.
- "The primary function of the [OSTP] Director is to provide, within the Executive Office of the President, advice on the scientific, engineering, and technological aspects of issues that require attention at the highest level of Government....The Office shall serve as a source of scientific and technological analysis and judgment for the President with respect to major policies, plans, and programs of the Federal Government."

- The Assistant to the President for Science and Technology serves as a Member of the National Science and Technology Council (NSTC). The NSTC was established by Executive Order 12881 in 1993 and is comprised of the President, Vice President, Cabinet Secretaries and Agency Heads with significant science and technology responsibilities. OSTP provides support for the NSTC.<sup>1</sup>
- The Assistant to the President for Science and Technology serves as a Co-Chair of the President's Council of Advisors on Science and Technology (PCAST). The current PCAST was established by Executive Order 13539 in 2010. Historically, OSTP has provided funding, administrative, and technical support to PCAST. Executive Order 13596, signed in December 2011, transferred these responsibilities to the Department of Energy.
- In February 2012, the Congressional Research Service (CRS) updated CRS Report RL34736, *The President's Office of Science and Technology Policy (OSTP): Issues for Congress*. In addition to providing an overview of OSTP, the report addresses various issues and options for Congress to consider.

#### 4. Background

##### *Historical Perspective<sup>2</sup>*

Throughout U.S. history, Presidents have chosen a variety of informal and formal methods to solicit science and technology advice. Trusted personal sources, advisory boards, and committees filled these roles for decades. Absent a statute in place, often these boards and committees would be disbanded or reorganized based on the needs of the President in office.

As World War II approached and the importance of research and development to our economic and military strength became more obvious, President Roosevelt established, through Executive Order, the Office of Scientific Research and Development (OSRD). The work of OSRD, under the leadership of Vannevar Bush, essentially provided the foundation for current U.S. science and technology policy by emphasizing the importance of science and technology to the Nation's economy and national security.

President Eisenhower created, within the Executive Office of the President, an Office of the Special Assistant to the President for Science and Technology. Presidents Kennedy and Johnson followed with the Office of Science and Technology (OST). President Nixon abolished OST, putting its civilian functions under the National Science Foundation and its security functions under the National Security Council. In addition, Nixon also abolished the President's Science Advisory Committee (PSAC), the external advisory group used by Eisenhower, Kennedy, and Johnson.

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<sup>1</sup> *Fiscal Year 2013 Appendix Budget of the U.S. Government*, p. 1214.

<sup>2</sup> CRS Report RL34736, *The President's Office of Science and Technology Policy (OSTP): Issues for Congress*. John F. Sargent, Jr., and Dana A. Shea, p. 1-3.

President Ford supported the return of a formal science advisory mechanism to the White House through statute versus Executive Order, leading to the creation of the current Office of Science and Technology Policy (OSTP).

### *Office of Science and Technology Policy (OSTP)*

The National Science and Technology Policy, Organization, and Priorities Act of 1976 (P.L. 94-282) established in law the Office of Science and Technology Policy (OSTP), the position of OSTP Director, and the President's Committee on Science and Technology (PCST).<sup>3</sup> The House Committee on Science and Technology was instrumental in the passage of this Act. While the Director of OSTP has appeared before this Committee on numerous occasions throughout the years, it has primarily been for budget hearings or specific to a particular topic. The Committee has not held a hearing specific to the general oversight of OSTP since the adoption of this Act.

The statute states that OSTP “shall serve as a source of scientific and technological analysis and judgment for the President with respect to major policies, plans, and programs of the Federal Government.”<sup>4</sup> The primary function of the OSTP Director, who is appointed by the President with the advice and consent of the Senate, is to provide “advice on the scientific, engineering, and technological aspects of issues that require attention at the highest levels of Government” and:

- 1) Advise the President of scientific and technological considerations involved in areas of national concern including, but not limited to, the economy, national security, homeland security, health, foreign relations, the environment, and the technological recovery and use of resources;
- 2) Evaluate the scale, quality, and effectiveness of the Federal effort in science and technology and advise on appropriate actions;
- 3) Advise the President on scientific and technological considerations with regard to the Federal budgets, assist the Office of Management and Budget with an annual review and analysis of funding proposed for research and development in budgets of all Federal agencies, and aid the Office of Management and Budget and the agencies throughout the budget development process; and
- 4) Assist the President in providing general leadership and coordination of the research and development programs of the Federal government.<sup>5</sup>

Currently, OSTP defines its mission as being threefold: “first, to provide the President and his senior staff with accurate, relevant, and timely scientific and technical advice on all matters of consequence; second, to ensure that the policies of the Executive Branch are informed by sound science; and third, to ensure that the scientific and technical work of the Executive Branch is properly coordinated so as to provide the greatest benefit to society.”<sup>6</sup>

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<sup>3</sup> PCST is the forerunner to the current PCAST.

<sup>4</sup> P.L. 94-282 Section 205 (a)

<sup>5</sup> Ibid. Section 204 (a) and (b)

<sup>6</sup> <http://www.whitehouse.gov/administration/eop/ostp/about>

OSTP outlines its strategic goals and objectives as follows:

- Ensure that Federal investment in science and technology is making the greatest possible contribution to economic prosperity, public health, environmental quality, and national security;
- Energize and nurture the processes by which government programs in science and technology are resourced, evaluated, and coordinated;
- Sustain the core professional and scientific relationships with government officials, academics, and industry representatives that are required to understand the depth and breadth of the Nation’s scientific and technical enterprise, evaluate scientific advances, and identify potential policy proposals; and
- Generate a core workforce of world-class expertise capable of providing policy-relevant advice, analysis, and judgment for the President and his senior staff regarding the scientific and technical aspects of the major policies, plans, and programs of the Federal government.<sup>7</sup>

In addition to a Director, the statute authorizes up to four Associate Directors, also appointed by the President and with the advice and consent of the Senate. Currently, OSTP has no Senate confirmed Associate Directors, but is operating with four fully staffed divisions: Environment and Energy, National Security and International Affairs, Science, and Technology.

#### Environment and Energy Division<sup>8</sup>

The current Administration and OSTP view “climate change, sustainable development, and the need to foster new and cleaner sources of energy” as the most pressing issue facing the nation. OSTP goals for addressing this issue include:

- Reducing greenhouse gas emissions 80 percent below 1990 levels by 2050;
- Implementing a market-based cap-and-trade system;
- Establishing a national low carbon standard;
- Doubling fuel economy standards within 18 years and get 1 million plug-in hybrid cars on the road by 2015;
- Demanding that federal government use renewable sources of electricity and making federal building “zero-emission” by 2025;
- Reducing dependence on foreign energy sources;
- Promulgating policies that make the U.S. a leader in marine stewardship;
- Creating millions of new green jobs;
- Strictly monitoring and regulating pollution from large Concentrated Animal Feeding Operations;
- Protecting the public from nuclear material; and
- Encouraging organic and sustainable agriculture.

#### National Security and International Affairs Division<sup>9</sup>

OSTP’s Organic Act includes provisions for OSTP to “assess and advise on policies for international cooperation in science and technology which will advance the national and

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<sup>7</sup> Ibid.

<sup>8</sup> <http://www.whitehouse.gov/administration/eop/ostp/divisions/energyenvironment>

<sup>9</sup> <http://www.whitehouse.gov/adminsitration/eop/ostp/divisions/natsecintaff>

international objectives of the United States” and to “identify and assess emerging and future areas in which science and technology can be used effectively in addressing national and international problems.”<sup>10</sup>

The current Administration and OSTP have identified bio-terror, cyber-sabotage, and avian flu as a few natural and manmade threats facing the U.S. OSTP goals for assessing and addressing these types of issues include increasing funding for defense, homeland security, and intelligence agencies in the areas of basic and applied research and development; building a stronger and more productive cybersecurity research program; and strengthening U.S. intelligence collection to be more pro-active rather than reactive in identifying bioterrorist threats.

Nuclear goals include:

- Securing all loose nuclear materials in the world within four years;
- Strengthening the Nuclear Non-Proliferation Treaty; and
- Achieving the goal of eliminating nuclear weapons worldwide.

#### Science Division<sup>11</sup>

The current Administration and OSTP’s vision for science in America include:

- Dramatic increases in funding for biomedical research and the physical sciences and engineering;
- Increased support for high-risk/high-payoff research that has the most potential to produce real breakthroughs;
- Making the R&D tax credit permanent while eliminating all capital gains taxes on start-up and small businesses;
- Ensuring that all Americans have the science, technology, engineering and mathematics (STEM) education they need to participate in modern society.

#### Technology Division<sup>12</sup>

The current Administration and OSTP’s plan to advance comprehensive technology and innovation include:

- Connecting Americans to a modern broadband communications infrastructure;
- Lowering health care costs by advancing health IT;
- Modernizing public safety communications;
- Upgrading education to meet the needs of the 21<sup>st</sup> century;
- Developing new clean energy sources; and
- Developing next generation manufacturing technologies.

The Fiscal Year (FY13) Budget Request for OSTP is \$5.85 million, \$1.35 million (23 percent) above the FY12 appropriated amount.<sup>13</sup> Currently, both the House and Senate FY13 Commerce,

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<sup>10</sup> P.L. 94-282 Section 205 (a) (9) and (10)

<sup>11</sup> <http://www.whitehouse.gov/administration/eop/ostp/divisions/science>

<sup>12</sup> <http://www.whitehouse.gov/administration/eop/ostp/divisions/technology>

<sup>13</sup> FY12 Appropriations for OSTP were \$4.5 million, or 32.3 percent below the FY11 level, due to Appropriator’s concern over OSTP activities with China.

Justice, Science and Related Agencies Appropriations measures fully fund OSTP at the requested level.

*National Science and Technology Council (NSTC)*

The National Science and Technology Council (NSTC) was established by Executive Order 12881 in 1993. According to the NSTC website, “This Cabinet-level Council is the principal means within the executive branch to coordinate science and technology policy across the diverse entities that make up the Federal research and development enterprise.”<sup>14</sup>

The functions of the Council are:

- To coordinate the science and technology policy-making process;
- To ensure science and technology policy decisions and programs are consistent with the President’s stated goals;
- To help integrate the President’s science and technology policy agenda across the Federal Government;
- To ensure science and technology are considered in development and implementation of Federal policies and programs; and
- To further international cooperation in science and technology.<sup>15</sup>

The Council recommends to the Office of Management and Budget (OMB) research and development budgets that reflect national goals and provides advice to the OMB Director on agencies’ budget submissions.

The Council is comprised of the President, the Vice President, Cabinet Secretaries and Agency Heads with significant science and technology responsibilities. The Assistant to the President for Science and Technology (Assistant) is a Member. The OSTP Director is not a Member, but OSTP provides support for NSTC.

According to the Executive Order, “The President or, upon his direction, the [Assistant] may convene meetings of the Council.” The Assistant presides over meetings of the Council in the absence of the President or Vice President. “In practice, the NSTC rarely meets with the President or Cabinet-level officials present. Rather, OSTP staff and detailees manage NSTC activities in conjunction with federal agency staff.”<sup>16</sup>

The Council may function through established or ad hoc committees, task forces, or interagency groups. Currently, the Council has five Committees:

- Environment, Natural Resources, and Sustainability (CENRS)
- Homeland and National Security (CHNS)
- Science (CoS)
- Science, Technology, Engineering, and Math Education (CoSTEM)

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<sup>14</sup> <http://www.whitehouse.gov/administration/eop/ostp/nstc>

<sup>15</sup> Executive Order 12881

<sup>16</sup> CRS Report RL34736, *The President’s Office of Science and Technology Policy (OSTP): Issues for Congress*. John F. Sargent, Jr., and Dana A. Shea, p. 10.

- Technology (CoT)

Executive departments and agencies make resources available to the Council including, but not limited to, personnel, office support, and printing, as requested by the Assistant.

*President's Council of Advisors on Science and Technology (PCAST)*

The Assistant to the President for Science and Technology (Assistant) serves as a Co-Chair of the President's Council of Advisors on Science and Technology (PCAST). The current PCAST was established by Executive Order 13539 in 2010. "PCAST is an advisory group of the nation's leading scientists and engineers who directly advise the President and the Executive Office of the President. PCAST makes policy recommendations in the many areas where understanding of science, technology, and innovation is key to strengthening our economy and forming policy that works for the American people."<sup>17</sup>

PCAST is comprised of not more than 20 non-federal Members appointed by the President. The President designates one of them to be Co-Chair with the Assistant. Members serve without compensation. PCAST meets regularly to respond to requests from the President or the Assistant for information, analysis, evaluation, or advice on a variety of topics; and to solicit information and ideas for a broad range of stakeholders including the research community, the private sector, universities, national laboratories, state and local governments, foundations, and nonprofit organizations.

PCAST also serves as the advisory committee for the Networking and Information Technology Research and Development program (NITRD) and the National Nanotechnology Initiative (NNI).

Through consultation with the Assistant, PCAST can create standing committees and ad hoc groups such as technical advisory groups to assist it. While PCAST has recently released reports on nanotechnology and undergraduate STEM education, the Advanced Manufacturing Partnership (AMP) is the only active issue on the PCAST website. This partnership is in response to a PCAST Report released in June 2011 on *Ensuring American Leadership in Advanced Manufacturing*. The AMP is a "national effort bringing together the Federal government, industry, universities, and other stakeholders to identify and invest in emerging technologies with the potential to create high-quality domestic manufacturing jobs and enhance the global competitiveness of the United States."<sup>18</sup>

Historically, OSTP has provided funding, administrative, and technical support to PCAST. Executive Order 13596, signed in December 2011, transferred these responsibilities to the Department of Energy.

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<sup>17</sup> <http://www.whitehouse.gov/administration/eop/ostp/pcast/about>

<sup>18</sup> <http://www.whitehouse.gov/administration/eop/ostp/pcast/amp>

## *Issues and Options for Congress*

In February 2012, the Congressional Research Service (CRS) updated CRS Report RL34736, *The President's Office of Science and Technology Policy (OSTP): Issues for Congress*. In addition to providing an overview of OSTP, the report addresses various issues and options for Congress to consider. Among them are:

### Need for science advice within the Executive Office of the President

History has shown that different Presidents prefer different methods of receiving science and technology advice. Does the President require high-level science and technology advice, in what form should this advice come, and what are the legislative and executive branch roles for this function? Does the current OSTP mechanism work?

### Compliance of OSTP with statutory restrictions on the use of appropriated funds

Recently, Congressional appropriators sought to restrict OSTP from engaging in certain activities related to China with appropriated funds. OSTP spent a portion of its FY11 appropriations on the activities the appropriators sought to proscribe. OSTP claimed that action infringed upon the President's constitutional authority to conduct foreign diplomacy. The Department of Justice concurred. The Government Accountability Office, however, agreed with the Appropriators that OSTP violated the prohibition on the use of funds. Congress may continue to assert its authority to restrict OSTP activities.

### Title, rank, roles, and responsibilities of the OSTP Director

While the roles of the OSTP Director are in statute, to some degree, Presidential discretion dictates the breadth of those roles and responsibilities. The OSTP Director is appointed by the President and confirmed by the Senate. The Assistant to the President for Science and Technology, on the other hand is not, and can claim executive privilege. It is the Assistant to the President that serves on the NSTC and co-Chairs PCAST, not the OSTP Director. Currently, Dr. John P. Holdren holds both titles in the Obama Administration, similar to the practice followed by Presidents Reagan, Bush, and Clinton. Former President George W. Bush only appointed an OSTP Director. No President has ever appointed two separate people to fill these roles. While no individual serving both roles concurrently has ever refused to testify before Congress, there remains the potential for this to occur in the future.

### Number and policy foci of OSTP Associate Directors

Statute provides up to four Associate Directors, all requiring Senate confirmation. The previous Administration had two Associate Directors (Science and Technology); the current Administration has four foci areas (Environment and Energy, National Security and International Affairs, Science, and Technology). All of the foci areas are fully staffed, but currently none have a Senate confirmed Associate Director.<sup>19</sup>

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<sup>19</sup> Patricia K. Falcone was appointed by President Obama on March 29, 2012, to be Assistant Director for National Security and International Affairs. She is awaiting Senate confirmation. Carl Wieman stepped down as Assistant Director for Science on June 2, 2012.



### Funding and staffing levels provided for OSTP

Funding and staffing levels fluctuate for OSTP. OSTP has 40 full-time equivalent (FTE) staff positions. As of February 2012, OSTP had a total of 92 staff members, detailees, fellows, and those on Intergovernmental Personnel Agreement (IPAs): 10 political, 17 career, one consultant, 49 detailees, nine IPAs and six fellows. The number of detailees and fellows per President also fluctuates greatly with 11 during President George H.W. Bush's Administration to 65 in the current Administration.

### Participation of OSTP and NSTC in federal agency coordination, priority-setting, and budget allocation

Both OSTP and NSTC participate in federal agency coordination, priority-setting, and budget allocations but at different levels and to varying degrees depending on the particular Administration.

### Role of OSTP in ensuring scientific integrity in federally funded and supported research, including the communication of scientific and technical information by federal agency scientists and engineers

On March 9, 2009, the President issued a memorandum on scientific integrity calling on the Director of the office of Science and Technology Policy to develop a plan to ensure "the highest level of integrity in all aspects of the executive branch's involvement with scientific and technological processes" within 120 days.<sup>20</sup> On December 17, 2010, the Director of the Office of Science and Technology policy issued a memorandum on scientific integrity calling on agencies to develop their own plans within 120 days.<sup>21</sup> Efforts to implement scientific integrity principles have been delayed,<sup>22</sup> and concerns have been raised about the thoroughness of Administration directives.<sup>23</sup>

### The stature and influence of PCAST

The stature and influence of PCAST also fluctuates at the discretion of the President. A variety of opinions exist on the status and influence of PCAST ranging from a declining stature based on a narrow set of issues not likely to get presidential interest to the need for more issue-focused advisory committees to concern over who should chair the entity.

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<sup>20</sup> <http://www.whitehouse.gov/the-press-office/memorandum-heads-executive-departments-and-agencies-3-9-09>

<sup>21</sup> <http://www.whitehouse.gov/sites/default/files/microsites/ostp/scientific-integrity-memo-12172010.pdf>

<sup>22</sup> John Holdren, "Scientific Integrity policies Released." Office of Science and Technology Policy Blog, April 6, 2012. Available at: <http://www.whitehouse.gov/blog/2012/04/06/scientific-integrity-policies-released>

<sup>23</sup> Andrew Wyner, "POGO Questions Scientific Integrity Plans for Contractors and Grantees," Project on Government Oversight, June 1, 2012. Available at: <http://pogoblog.typepad.com/pogo/2012/06/pogo-questions-scientific-integrity-plans-for-contractors-and-grantees.html>