

The White House Office of Science and Technology Policy: Issues and Options for the 118th Congress

July 26, 2023

Congressional Research Service

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R47635



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Congress has a long-standing interest in the development and implementation of science and technology (S&T) policies across the federal government as well as the effective coordination of multi-agency research and development (R&D) initiatives. To ensure a permanent source of S&T-related advice and policy coordination within the White House, Congress established the Office of Science and Technology Policy (OSTP) within the Executive Office of the President (EOP) through the National Science and Technology Policy, Organization, and Priorities Act of 1976 (P.L. 94-282). The act charged it with serving 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.” OSTP develops and coordinates the implementation of federal S&T policies and R&D initiatives through the work of the National Science and Technology Council (NSTC). Established in 1993 by Executive Order 12881, the NSTC is composed of representatives from federal departments and agencies with significant S&T responsibilities and is charged with coordinating S&T policy across the federal government.

The 118th Congress may be interested in a number of recent and ongoing issues related to the policy and coordination duties of OSTP and the NSTC. For example, Congress may consider potential issues and policy options related to the status of unfilled OSTP leadership positions and general staffing practices under the Biden Administration as well as the role of OSTP and the NSTC in coordinating federal R&D initiatives and policies related to quantum information science (QIS), artificial intelligence (AI), and research security.

As of June 2023, President Biden has not nominated any of the four authorized Associate Director positions within OSTP. The OSTP Director has established Deputy Director positions (which do not require Senate confirmation) to lead OSTP’s six policy teams. The 118th Congress may consider whether these unfilled positions may influence OSTP’s ability to perform its mission or may impede congressional oversight of OSTP activities.

The ability of OSTP to perform its statutory duties related to developing and coordinating S&T policy depends, in part, on the size of its budget and staff. To increase staff levels beyond what is funded through congressional appropriations, OSTP has long relied on detailees, IPAs (Intergovernmental Personnel Act; individuals from outside the federal government appointed through the IPA Mobility Program), and fellows. The 118th Congress may continue consideration of OSTP staffing practices, including the recruitment of S&T experts from outside the government and methods to guard against potential conflicts of interest and undue influence of private interests on the development of public S&T policies and priorities.

The NSTC also receives direction from Congress through statutory mandates. For example, Congress has charged the NSTC with specific statutory duties related to the coordination of multi-agency R&D initiatives. The 118th Congress might consider the efficacy of NSTC coordination efforts in the congressionally mandated areas of QIS and AI R&D. In doing so, Congress may consider issues and options related to potential resource constraints as well as the adequacy of the NSTC’s organization and current authorities to maintain continuity across presidential Administrations.

Congress has charged OSTP, working through the NSTC, with standardizing agency policies related to research security. In January 2022, the NSTC Subcommittee on Research Security released guidance related to the required disclosure of potential conflicts of interest and commitment held by participants in the federally funded research and development (R&D) enterprise. Standardized “common disclosure forms,” which are to be required elements of all applications for federal R&D grants or cooperative agreements, are expected to be released in 2023, and their implementation may spur congressional oversight.

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OSTP develops and coordinates federal science and technology (S&T) policies and research and development (R&D) initiatives through the work of the National Science and Technology Council (NSTC). Established in 1993 by Executive Order 12881, the NSTC is composed of representatives from federal departments and agencies with significant S&T responsibilities and is charged with coordinating S&T policy across the federal government.

This report provides selected background on OSTP and the NSTC and discusses related issues and options that may be particularly relevant for the 118th Congress, including the status of unfilled OSTP leadership positions and general staffing practices under the Biden Administration as well as the role of OSTP and the NSTC in coordinating federal R&D initiatives and policies related to quantum information science (QIS), artificial intelligence (AI), and research security.

This report does not provide a comprehensive overview of the White House S&T advisory structure, which, in addition to OSTP and the NSTC, consists of the Assistant to the President for Science and Technology and the President’s Council of Advisors on Science and Technology (PCAST), among others. For such information and analysis, see CRS Report R47410, *The Office of Science and Technology Policy (OSTP): Overview and Issues for Congress*, by Emily G. Blevins.

Background

The Office of Science and Technology Policy (OSTP)

Situated within the Executive Office of the President (EOP), OSTP provides advice to the President on policies for the conduct and use of S&T in addressing national concerns or challenges. Within its statutory authorities, the composition and policy focus of OSTP have varied according to the priorities of different Administrations.

Under President Biden, OSTP describes its mission as working to “maximize the benefits of science and technology to advance health, prosperity, security, environmental quality, and justice for all Americans.” OSTP states that the specific duties it performs in service to this mission include:

providing advice to the President and the Executive Office of the President on all matters related to science and technology; stewarding the creation of bold visions, unified strategies, clear plans, wise policies, and effective, equitable programs for science and technology, working with departments and agencies across the federal government and with Congress; engaging with external partners, including industry, academia, philanthropic organizations, and civil society; state, local, tribal and territorial governments; and other nations; and working to ensure inclusion and integrity in all aspects of science and technology.¹

¹ The White House, “Office of Science and Technology Policy,” <https://www.whitehouse.gov/ostp>.

Additionally, OSTP has several roles not articulated in these formal statements, including serving as a conduit of information about S&T policy objectives and priorities to and from agency executives; facilitating agency coordination and integration of S&T strategies and activities; and helping resolve potential interagency conflicts over overlapping areas of responsibility. OSTP also plays a managerial and executive role with respect to other White House science and technology entities. OSTP exercises policy and programmatic oversight of PCAST and manages the NSTC.

The National Science and Technology Council (NSTC)

Created by Executive Order 12881, the NSTC is a Cabinet-level body composed of federal agency and department heads charged with coordinating S&T policy and advising the President. The main functions of the NSTC are to:

Coordinate the S&T policy-making process; ensure that S&T policy decisions and programs are consistent with the President's policy priorities; integrate the President's S&T policy agenda across the Federal Government; ensure that S&T are considered in developing and implementing Federal policies and programs; and to further international S&T cooperation.²

Under President Biden, the work of the NSTC is organized through six committees, which are each co-chaired by an OSTP representative and an agency or department representative. OSTP identifies the six committees as the Committee on Science (CoS), the Committee on STEM Education (CoSTEM), the Committee on Environment (CoE), the Committee on Technology (CoT), the Committee on Homeland and National Security (CHNS), and the Committee on Science and Technology Enterprise (CSTE).

Selected Issues and Policy Options

While OSTP's degree of influence and level of activity within presidential Administrations varies, certain issues persist related to the structure and function of OSTP and the NSTC that may be of interest to Congress. In particular, the 118th Congress may opt to consider:

- the implications of OSTP's four statutorily authorized Associate Director positions remaining unfilled;
- the adequacy of OSTP's staffing level in enabling it to execute its statutory responsibilities;
- efforts by OSTP and the NSTC to coordinate federal R&D initiatives, such as the National Quantum Initiative and the National Artificial Intelligence Initiative; and
- efforts by OSTP and the NSTC to coordinate federal R&D policies, such as the development and implementation of standardized disclosure requirements related to research security.

The following sections address each of these issues along with potential policy options for Congress.

² The White House, "National Science and Technology Council," <https://www.whitehouse.gov/ostp/nstc>.

OSTP's Unfilled Associate Director (AD) Positions

Congress established OSTP within the EOP through P.L. 94-282, which outlined the office's basic organizational structure and afforded the President significant flexibility in determining the number and types of positions to be established within OSTP. The statute (P.L. 94-282, as amended and codified at 42 U.S.C. §§6611 et seq.) allows for:

- one office head—the OSTP Director—to be nominated by the President and confirmed by the Senate;
- not more than four Associate Directors, for which topical foci are not ascribed in statute, to be nominated by the President and confirmed by the Senate; and
- a Chief Technology Officer (CTO), who counts as one of the four Associate Directors and is therefore to be nominated by the President and confirmed by the Senate.

As of June 2023, one of the five positions in statute is filled. The Senate confirmed Arati Prabhakar as OSTP Director on September 22, 2022. President Biden has not nominated individuals for the other positions.³

Congress has chosen not to authorize or require the creation of specific policy divisions or teams within OSTP. As a result, presidential Administrations may structure OSTP according to their preferences and policy priorities. This has typically included the creation of divisions or teams to organize the office's advisory and coordination duties into specific policy areas. As **Figure 1** illustrates, the Biden Administration's OSTP is composed of the Director's Office and six policy teams: Climate and Environment; Energy; Health and Life Sciences; National Security; Science and Society; and the U.S. Chief Technology Officer (also referred to as the Tech Team). During the Trump Administration, OSTP had three divisions: Science, Technology, and National Security. Previous Administrations selected other structures.

Figure 1. OSTP Organization Under President Biden



Source: OSTP organization as of February 2023. White House, "OSTP's Teams," <https://www.whitehouse.gov/ostp/ostps-teams>. CRS graphic.

The number of Senate-confirmed Associate Director positions has varied under different presidential Administrations.⁴ President Biden's Administration has appointed Deputy Directors, Principal Assistant Directors or a Principal Deputy U.S. CTO—positions that do not require

³ The Partnership for Public Service and the *Washington Post*, "Political Appointee Tracker," <https://ourpublicservice.org/performance-measures/political-appointee-tracker/>.

⁴ Office of Science and Technology Policy (OSTP), "OSTP Full of Firsts," White House OSTP Blog, September 24, 2010, <https://obamawhitehouse.archives.gov/blog/2010/09/24/ostp-full-first>; Jim Dawson, "OSTP Associate Directors Confirmed," *Physics Today*, September 2002, p. 33, <https://physicstoday.scitation.org/doi/abs/10.1063/1.4796856>; "Clinton Nominates Physicists for Key OSTP Positions," *APS News*, November 1997, <https://www.aps.org/publications/apsnews/199711/ostp.cfm>; CRS discussions with Stanley Sokul, Chief of Staff, George W. Bush Administration OSTP, August 14, 2008.

presidential nomination or Senate confirmation, to lead the six core policy teams.⁵ President Trump appointed three Principal Assistant Directors and nominated one Associate Director, whom the Senate confirmed.⁶

It is most common to have fewer than four confirmed Associate Directors. During the 45 years of OSTP's existence (1977-2022), there have been three periods during which OSTP had four presidentially nominated and Senate-confirmed Associate Directors simultaneously. These periods amounted to a total of approximately five years:

- 1991-1993 (2-year span)
- 1994-1996 (2-year span)
- 1998-1999 (1-year span)

For a period of eight years (2003-2010), the *U.S. Government Manual* lists two OSTP policy divisions or teams, both led by an individual who had been nominated by the President and confirmed by the Senate. During the remaining 32 of 45 years, OSTP had at least one policy division or team led by an individual who was neither nominated by the President nor confirmed by the Senate.⁷

Table 1 summarizes the number of OSTP Associate Director nominations issued during each Administration and the number of those nominations that were confirmed by the Senate (see **Appendix A** for detailed information regarding each nomination).

Table 1. OSTP Associate Director Nominations and Confirmations: Summary

Administration	Total Associate Director Nominations	Total Senate-Confirmed Associate Directors
Jimmy Carter (1977-1981)	0	0
Ronald Reagan (1981-1989) ^a	4	4
George H.W. Bush (1989-1993)	6	6
William Clinton (1993-2001)	12	10
George W. Bush (2001-2009)	3	3
Barack Obama (2009-2017)	11	5
Donald Trump (2017-2021)	1	1
Joseph R. Biden (2021-present)	0	0

Source: CRS analysis of results collected by searching the *Congressional Record* and the "Nominations" collection in Congress.gov as well as the *Congressional Record* in ProQuest Congressional for the following terms and phrases: *associate director*, *Office of Science and Technology Policy*, *nomination*, and *confirmation*.

Notes: Nominations totals may include multiple nominations of the same individual for the same position and may not reflect the number of nominations issued simultaneously during one Administration. The Ford

⁵ Will Thomas, "Biden Rounding Out Appointments to Top Science Positions," *FYI Bulletin*, American Institute for Physics, September 8, 2021, <https://ww2.aip.org/fyi/2021/biden-rounding-out-appointments-top-science-positions>.

⁶ Email communication from OSTP to CRS, May 2, 2019.

⁷ Though President Obama issued nominations to fill all four Associate Director positions authorized by Congress, his nomination for Associate Director for National Security and International Affairs, Phil Coyle, was not confirmed by the Senate. See Archived White House, President Barack Obama, "OSTP Full of Firsts," September 24, 2010, <https://obamawhitehouse.archives.gov/blog/2010/09/24/ostp-full-first>.

Administration has been excluded from this list because OSTP was established near the end of that Administration. Totals for the Biden Administration are current as of July 26, 2023.

- a. During the Reagan Administration, Associate Directors were referred to as “Deputy Directors” and, based on information provided in the *U.S. Government Manual*, did not appear to lead policy divisions, with one exception: from 1985-1986 Bernadine H. Bulkley served concurrently as OSTP Deputy Director and head of the Life Sciences policy division.

Vacancies in leadership positions could also affect the ability of OSTP to perform its mission and meet its objectives. For example, some Members of Congress have urged President Biden to nominate an individual to serve as the United States Chief Technology Officer (CTO), arguing the need for a CTO “to support the development and execution of the Administration’s spectrum policy.”⁸

Some observers have argued that President Biden’s decision not to nominate a CTO could negatively impact federal technology policy across a number of areas and hamper the adoption of best practices for the use of new technologies in federal agency operations.⁹ Echoing such concerns in their first formal report released in May 2023, the National Artificial Intelligence Advisory Committee (NAIAC)¹⁰ recommended that the President immediately appoint a CTO, given the role’s importance to “ensuring leadership and consistency in AI preparedness, policy organization, and implementation across the executive branch.”¹¹

Congress may consider a number of legislative options and oversight activities to influence OSTP’s organization and activities. For example, Congress might opt to limit the President’s administrative discretion over whether and how to establish OSTP Associate Director positions and make related appointments. Currently, statutory language specifically *establishes* the position of OSTP Director and, by contrast, *authorizes* the appointment of “not more than four” Associate Directors as well as the potential designation of one of those Associate Directors as CTO.

In 42 U.S.C. §6612(a), Congress specifies the following about the OSTP Director position:

There shall be at the head of the Office a Director who shall be appointed by the President, by and with the advice and consent of the Senate....

42 U.S.C. §6612(b) and 42 U.S.C. §6612(c) specify the following about the Associate Director and CTO positions within OSTP:

The President is authorized to appoint not more than four Associate Directors, by and with the advice and consent of the Senate, ...

Subject to subsection (b), the President is authorized to designate 1 of the Associate Directors under that subsection as a United States Chief Technology Officer.

⁸ Letter from Doris Matsui, Member of Congress, Anna G. Eshoo, Member of Congress, and Ann McLane Kuster, Member of Congress, et al. to The Honorable Joseph R. Biden, Jr., President, February 3, 2022, <https://matsui.house.gov/sites/evo-subsites/matsui.house.gov/files/evo-media-document/Matsui%20Spectrum%20Letter%202.22.pdf>; Congresswoman Doris Matsui (CA-07), “Matsui and Colleagues Urge Biden Administration to Bolster NTIA, Nominate CTO,” press release, February 4, 2022, <https://matsui.house.gov/media/press-releases/matsui-and-colleagues-urge-biden-administration-bolster-ntia-nominate-cto>.

⁹ Stephen Levy, “Joe Biden, and the Country, Could Really Use a CTO,” *Wired*, April 22, 2022, <https://www.wired.com/story/plaintext-joe-biden-cto/>; Kathy Kemper, “The U.S. Needs a New Chief Technology Officer Sooner Rather Than Later,” *The Hill*, December 3, 2022, Opinion, <https://thehill.com/opinion/technology/3759910-the-us-needs-a-new-chief-technology-officer-sooner-rather-than-later/>.

¹⁰ The National Artificial Intelligence Advisory Committee (NAIAC) was created by P.L. 116-283 to advise the President and National Artificial Intelligence Initiative Office on matters related to artificial intelligence.

¹¹ P.L. 116-283; National Artificial Intelligence Advisory Committee, *National Artificial Intelligence Advisory Committee (NAIAC): Year 1*, May 2023, p. 19, <https://www.ai.gov/wp-content/uploads/2023/05/NAIAC-Report-Year1.pdf>.

Mandate a Fixed Number of Associate Directors in Statute

Congress could opt to mandate a fixed number of Associate Directors by amending 42 U.S.C. §6612(b). Though this could create a stronger statutory basis for the establishment of Associate Director positions, the President might still not issue nominations for the positions.¹² In such cases, Congress might still choose to exercise oversight authority in urging the President to issue nominations. The creation of a stronger statutory mandate for the establishment of Associate Director positions might lend additional emphasis to related oversight activity.

Specify Areas of Policy Focus for Associate Director Positions

Congress could seek to specify certain areas of responsibility for Associate Directors to ensure that OSTP is adequately addressing S&T areas of importance to Congress. Statute requires the OSTP Director to fulfill a number of functions and responsibilities.¹³ However, Congress has specified that one Associate Director shall also be designated as U.S. CTO and not assigned roles to the others. 42 U.S.C. §6612(b) states that Associate Directors “shall perform such functions as the Director may prescribe.”¹⁴ Assigning specific functions in statute might strengthen congressional influence over OSTP policy priorities. On the other hand, assigning specific statutory policy functions to Associate Directors may create structural rigidity that could impede OSTP’s ability to remain responsive to the changing S&T landscape.

Leave Leadership Selection to the OSTP Director’s Discretion

Congress could opt to leave the selection of OSTP leadership positions to the discretion of the President or OSTP Director, either by retaining the statutory status quo or potentially by repealing the current statutory direction regarding Associate Directors and the CTO. This could give the OSTP Director maximum flexibility to adapt to changes in technology and evolving S&T policy priorities. It might also acknowledge the possibility that even if Congress mandated a certain number of Associate Directors, potentially with statutorily specified areas of responsibility, the President might still opt not to issue corresponding nominations. For example, though President Biden has not nominated a U.S. CTO, the OSTP Director has established the position of Principal Deputy U.S. CTO within OSTP, which appears to perform some of the activities envisioned by Congress.¹⁵ As previously noted (see the above analysis of content contained in **Table 1** and **Appendix A**), OSTP Directors have often created such assistant or deputy-level positions to lead the office’s policy divisions.¹⁶

On the other hand, it is sometimes the case that individuals in positions that require nomination by the President and confirmation by the Senate (known as PAS positions) have greater authority and influence in agency and interagency deliberations. Congress may consider whether OSTP’s reliance on leadership positions that lack the authority vested in a PAS Associate Director might impede the office’s ability to effectively coordinate S&T policy across federal agencies and

¹² For more information, see CRS Report RS21412, *Temporarily Filling Presidentially Appointed, Senate-Confirmed Positions*, by Henry B. Hogue.

¹³ 42 U.S.C. §6613.

¹⁴ 42 U.S.C. §6612(b).

¹⁵ Though the Principal Deputy U.S. CTO is listed, the duties and responsibilities are not enumerated. See The White House, OSTP Teams, “U.S. Chief Technology Officer,” <https://www.whitehouse.gov/ostp/ostps-teams/u-s-chief-technology-officer>.

¹⁶ For a description of OSTP’s policy teams under President Biden, see Table 1, “OSTP Policy Teams Under President Biden” in CRS Report R47410, *The Office of Science and Technology Policy (OSTP): Overview and Issues for Congress*, by Emily G. Blevins.

departments, especially when working with colleagues in other agencies who occupy PAS positions. For associated considerations and options related to OSTP's role in coordinating federal S&T policies, see the below section, "OSTP and NSTC Coordination of Federal R&D Initiatives."

OSTP Staffing Levels

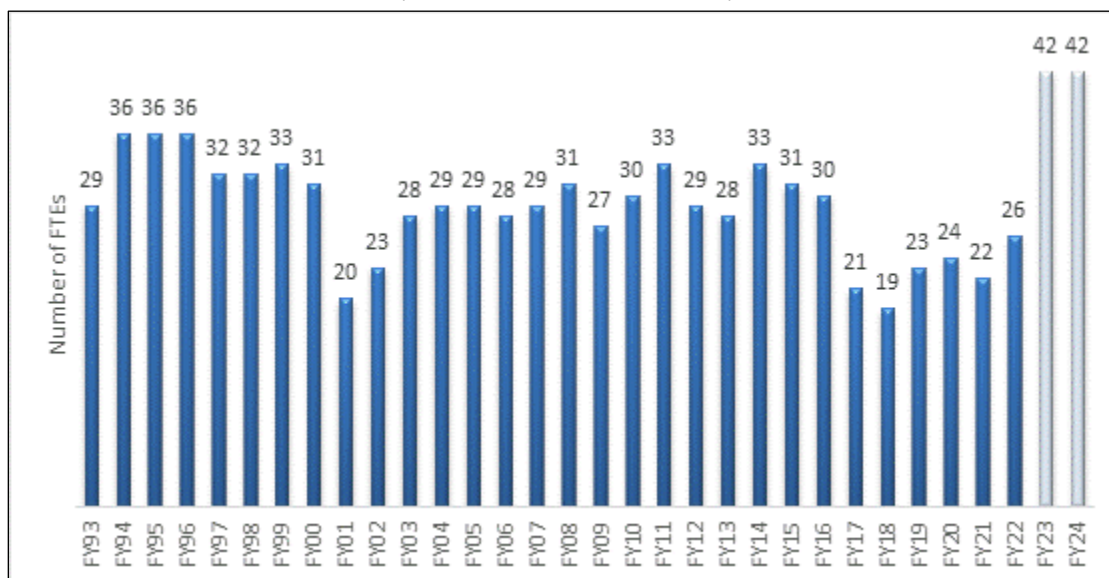
OSTP's ability to perform its statutory duties depends, in part, on the size of its budget and staff. To increase staff levels beyond what annual congressional appropriations support, OSTP has long relied on detailees, fellows, and Intergovernmental Personnel Act (IPA) appointments (see shaded box below for a description of each staffing categories). The historical use of non-permanent staff within OSTP across Administrations may indicate a consistent view of a need for more staff capacity within OSTP. This use of non-permanent staff may pose particular challenges regarding funding, conflicts of interest, and institutional knowledge.

As of this report's publication date, OSTP has not publicly disclosed the total number of detailees, IPAs, and fellows employed by the office during the Biden Administration. CRS analysis of available staffing information suggests that OSTP currently employs a high ratio of such staffing categories compared to reported full-time equivalent (FTE) levels. FTE positions (expressed in terms of the number of regular hours worked by a full-time employee over one year) represent the number of staff Congress has authorized OSTP to directly support through appropriations.¹⁷ OSTP's annual budget contains authorized FTE levels for each fiscal year. The most recent budget reported 26 FTEs for FY2022 and an estimated 42 FTEs for FY2023 (see **Figure 2**). For comparison, OSTP published a staff list on October 20, 2022, showing a total of 136 staff.¹⁸

¹⁷ For example, one employee working 40 hours per week for a year equals 1 FTE, and two employees each working 20 hours per week for a year also equals 1 FTE.

¹⁸ White House, "OSTP Staff," October 2022, <https://www.whitehouse.gov/wp-content/uploads/2022/10/OSTP-Staff-10-20-2022.pdf>.

Figure 2. OSTP Full-Time Equivalent (FTE) Levels, FY1993-FY2024
(FY2023-FY2024 are estimates)



Source: CRS analysis of data from OMB, *Budget of the United States Government*, FY1993-FY2024. Actual staffing numbers are provided two years later. For example, actual staffing for FY2018 comes from the FY2020 budget. OMB did not provide data for FY2001; CRS has estimated the number of FTEs for FY2001 based on information provided by OSTP. FY2023 and FY2024 FTE levels are listed as “estimates” in the FY2024 budget.

Notes: Data reported are in full-time equivalents (FTE, the number of regular hours worked by a full-time employee over one year) and may not equal number of staff as some staff may be part-time or may be employed for less than a full year. Data do not include staff or FTEs funded by agencies or organizations other than OSTP, such as detailees, IPAs, and fellows. Historical data includes full-time equivalent of holiday and overtime hours.

CRS analysis of historical staffing data suggests that the Biden Administration’s estimated reliance on non-FTE positions at OSTP is comparable to previous administrations. For example, during the Trump and G.W. Bush Administrations, detailees, IPAs, and fellows accounted for more than half of OSTP’s total staff, and during the Clinton and Obama Administrations, they accounted for approximately two-thirds of total staff.¹⁹

Some might argue that OSTP’s reliance on non-permanent staff such as detailees, fellows, and IPAs has served a vital function in enabling OSTP to fulfill its statutory duties. Potential rationales for this view may include the ability for non-permanent staff to contribute new ideas and considerations to OSTP activities, strengthen OSTP’s connections with federal science agencies, and increase OSTP’s S&T expertise—specifically its ability to remain responsive to the latest developments and changes within the S&T landscape.

The 118th Congress may consider a range of issues and options associated with OSTP’s long-standing reliance on staffing categories that involve temporary appointments of individuals from within and outside the federal government and that may involve partial or full support from external funding sources.

¹⁹ Email communication from OSTP to CRS, July 27, 2017.

Overview of Select Mechanisms Used by OSTP to Staff Positions

OSTP has traditionally relied on a number of hiring mechanisms to employ a combination of permanent staff, political appointees, individuals on assignment from federal agencies, individuals on temporary assignment from outside the federal government, and fellows. Selected staffing categories include:

- **Detailees**—A detail is an officially approved temporary assignment of a civil service employee (informally called a “detailee”) to a different position in another federal agency. The employee’s official title, series, grade, rate of compensation, and permanent employer do not change. Detailees are typically funded by their home agencies, though some associated costs may be reimbursed by the assigned agency.
- **IPAs**—The Office of Personnel Management’s Intergovernmental Personnel Act Mobility Program provides for the temporary assignment of personnel (IPAs) between the federal government and state and local governments, colleges and universities, Indian tribal governments, federally funded research and development centers, and other eligible organizations. IPAs may be funded by OSTP, their home organizations, or a combination of the two.
- **Fellows**—In the OSTP context, fellows are scientists and engineers who come to Washington, DC, to gain experience in public policy and provide science and technical advice to policymakers. Their salaries are often funded by external organizations, such as academic societies and foundations. Most are recent graduates of doctoral programs, but some are more experienced staff from industry or universities. Fellows generally come for one year, but that time can be extended.

Request Staffing Category Data

To assess the adequacy of OSTP staffing levels and potential issues stemming from over-reliance on one staffing category versus another, Congress may exercise oversight of OSTP by directing it to report on the total number of employees serving under each staffing category. OSTP has typically made this information available upon request during previous presidential Administrations. For example, according to OSTP, as of February 14, 2020, OSTP’s workforce under the Trump Administration consisted of 4 political staff, 21 career staff, 2 unpaid consultants, 1 paid consultant, 34 detailees, 4 IPAs, and 5 fellows. During the Obama Administration, OSTP began with approximately 30 and ended with approximately 70 detailees, IPAs, and fellows.²⁰ During the G.W. Bush Administration, OSTP had approximately 30-40 detailees per year. Toward the end of the Clinton Administration, OSTP had approximately 60 detailees and fellows.²¹

Limit OSTP’s Use of IPA Appointments

Because OSTP has not publicly disclosed staffing category totals, it is difficult to assess whether OSTP currently relies on one staffing category more than another. OSTP’s use of one staffing category—IPA appointments—however, has faced increased scrutiny. News reports and congressional oversight inquiries have questioned whether individuals serving on IPA appointments might shape federal S&T policy in ways that could raise concerns about potential conflicts of interest.²²

²⁰ OSTP staffing details during the Trump and Obama Administration provided via email communication from OSTP to CRS, February 26, 2020.

²¹ Email communication from OSTP to CRS, July 27, 2017.

²² Concern surrounding the use of IPA appointments has not been limited to OSTP. Congress has directed GAO to study potential issues pertaining to IPA appointments at the Department of Homeland Security and the National Science Foundation. See U.S. Government Accountability Office, *Homeland Security: DHS’s Actions to Recruit and Retain Staff and Comply with the Vacancies Reform Act*, GAO-07-758, July 2007, <https://www.gao.gov/assets/gao-07-758.pdf>; U.S. Government Accountability Office, *Homeland Security: DHS Needs to Improve Ethics-Related Management Controls for the Science and Technology Directorate*, GAO-06-206, December 2005; and U.S. (continued...)

For example, *Politico* reported that former Google CEO Eric Schmidt contributed money to the nonprofit Federation of American Scientists (FAS) to support the salaries of “more than two dozen officials in the Biden Administration” including at least two individuals who worked at OSTP as IPAs from FAS, including the chief of staff for a six-week period.²³ The Tech Transparency Project, a nonprofit watchdog organization, has argued that Schmidt’s alleged financial contributions to staff salaries pose a significant conflict of interest given that, while employed at OSTP, such staff may be in the position to shape policy priorities in areas where Schmidt holds a financial interest.²⁴

On March 28, 2022, Schmidt Futures issued a “Statement on Science Funding,” which refuted *Politico*’s charges of exerting “undue influence” over policy decisions at OSTP. The statement explained that Schmidt Futures had joined 20 other organizations or initiatives in contributing funds to the Federation of American Scientists’ Talent Hub fund that supports fellowships (or in this case, IPA appointments) in the federal government.²⁵ Referring to OSTP as “chronically underfunded,” the statement cited the office’s long history of bringing in technical expertise to address a rapidly changing S&T landscape and argued that the practice was explicitly permitted by a section of OSTP’s founding statute codified at 42 U.S.C. §6617(a)(4), which states that, in exercising the office’s functions, the OSTP Director shall:

Utilize with their consent to the fullest extent possible the services, personnel, equipment, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order to avoid duplication of effort and expense, and may transfer funds made available pursuant this chapter to other Federal agencies as reimbursement for the utilization of such personnel, services, facilities, equipment, and information.

Based on such concerns, the 118th Congress might consider limiting OSTP’s reliance on IPA appointments by amending statute to restrict the types of duties an IPA appointee may perform.²⁶ For example, potential conflict of interest concerns might be greater if an IPA appointee is serving in a senior position with significant policymaking responsibilities.

The Intergovernmental Personnel Act (as amended and codified at 5 U.S.C. §§3371-3375) provides the legal authority underpinning the Office of Personnel Management (OPM) IPA Mobility Program. OPM, which is responsible for implementing the IPA Mobility Program, issues implementing regulations, which are codified in the Code of Federal Regulations (C.F.R.) at 5 C.F.R. Part 334.²⁷

Government Accountability Office, *National Science Foundation: A Workforce Strategy and Evaluation of Results Could Improve Use of Rotating Scientists, Engineers, and Educators*, GAO-18-533, September 2018, <https://www.gao.gov/assets/gao-18-533.pdf>.

²³ Alex Thompson, “A Google Billionaire’s Fingerprints Are All Over Biden’s Science Office,” *Politico*, March 28, 2022, <https://www.politico.com/news/2022/03/28/google-billionaire-joe-biden-science-office-00020712>.

²⁴ OSTP’s former general counsel raised such concerns in internal emails obtained by Politico as cited in *ibid.*; a Brookings Institution fellow claims Schmidt is attempting to influence AI policy in Alex Thompson, “Ex-Google Boss Helps Fund Dozens of Jobs in Biden’s Administration,” *Politico*, December 22, 2022; and Tech Transparency Project, “Eric Schmidt’s Expanding Influence Apparatus,” December 20, 2022, <https://www.techtransparencyproject.org/articles/eric-schmidts-expanding-influence-apparatus>.

²⁵ Schmidt Futures, “Statement on Science Funding,” March 28, 2022, <https://www.schmidtfutures.com/our-work/statement-on-science-funding>.

²⁶ Similar conflict of interest issues could potentially also apply to fellows, but to date such concerns have mostly focused on IPA appointments rather than fellows, possibly because fellows tend to be at an earlier stage in their careers and may therefore tend to have fewer potential conflicts of interest.

²⁷ 71 *Federal Register* 54565, September 18, 2006.

The statute and regulations outline the types of duties IPA appointees may perform while serving in federal positions. For example, OPM guidance explains:

A non-Federal employee who is assigned to a Federal position, either by detail or appointment, may serve as a project lead and perform project management leadership activities such as assigning work, establishing project milestones, completion dates, etc. A non-Federal employee who is assigned to a Federal position, either by detail or appointment, cannot perform other aspects of the Federal supervisory function, such as conducting an employee's annual performance rating, engaging in performance based or adverse action procedures, rewarding employees, etc.²⁸

Though this guidance doesn't specifically address policymaking activities, Congress might consider whether to narrow the scope of duties IPAs can perform at OSTP to exclude policymaking functions. The exclusion of policymaking duties might limit the ability of IPAs to influence federal policy in areas where their institutional affiliations might pose certain conflicts of interest. On the other hand, such an exclusion might also limit OSTP's ability to recruit staff with S&T expertise that might inform the development of federal S&T policies.

Congress may pursue a variety of staffing options that may have the indirect effect of reducing OSTP's reliance on IPAs. Such options include, for example, increasing the number of staff supported directly through appropriations (for a discussion of this policy option, see "Increase the Number of FTE Positions") or increasing the number of federal agency detailees (for a discussion of this policy option, see "Increase the Number of Detailees from Federal Science Agencies"). It is unclear, however, whether these policy options might reduce the number of IPA appointments at OSTP due to the limited data available regarding current staffing category totals.

Continue Use of IPA Appointments

Congress may also choose not to limit OSTP's use of IPA appointments, either directly or indirectly, as some contend that IPA positions serve a vital function in recruiting S&T experts to inform federal policies. In a January 2022 report evaluating federal agency use of the Personnel Mobility Program (which implements IPA appointments), GAO found that the program functioned as an important mechanism by which to address agency "skills gaps in highly technical or complex mission areas."²⁹ GAO affirmed that the program "holds promise as a tool" for agencies to address skills gaps and concluded that additional data on program use as well as increased program oversight may be warranted.³⁰ The GAO study examined IPA use across the federal government, not specifically at OSTP.

Increase Oversight of IPA Appointments

Congress might increase its oversight of OSTP use of IPA appointments. Specifically, Congress might consider whether current statute and regulations address instances where an individual might be serving on an IPA appointment from an organization that receives funding from industry or other private sources.

²⁸ Office of Personnel Management, "Intergovernment [sic] Personnel Act: Assignments," see subsection titled "Status of Employee," <https://www.opm.gov/policy-data-oversight/hiring-information/intergovernment-personnel-act/#url=Assignment>.

²⁹ U.S. Government Accountability Office (GAO), *Personnel Mobility Program: Improved Guidance Could Help Federal Agencies Address Skills Gaps and Maximize Other Benefits*, GAO-22-104414, January 2022, <https://www.gao.gov/assets/gao-22-104414.pdf>.

³⁰ *Ibid.*, p. 28.

The IPA Mobility Program allows for the temporary assignment of personnel between the federal government and state and local governments, colleges and universities, Indian tribal governments, federally funded research and development centers, and *other eligible organizations*.³¹ 5 C.F.R. §334.102 specifies that “other organization” as defined in 5 U.S.C. §3371(4) means the following, which does not include commercial companies:

- (1) A national, regional, Statewide, area wide, or metropolitan organization representing member State or local government;
- (2) An association of State or local public officials;
- (3) A nonprofit organization which offers, as one of its principal functions, professional advisory, research, educational, or development services, or related services, to governments or universities concerned with public management; or
- (4) A federally funded research and development center.

Congress may also choose to assess the efficacy of OSTP policies and procedures designed to mitigate conflicts of interest that IPAs might encounter during their appointment. OPM’s IPA Mobility Program Guidance states that nonfederal employees are subject to the Ethics in Government Act of 1978, as amended and codified at 5 U.S.C. §§13121-13126, which regulates employee responsibilities and conduct; as well as agency standards of conduct regulations.³² Further, OPM states that nonfederal employees are also subject to additional laws governing ethical or other conduct while serving on an appointment or detail to a federal agency, which program guidance listed on OPM.gov provides along with associated *U.S. Code* citations.³³

Congress may seek clarification regarding whether any conflict-of-interest policies were violated in particular cases and what, if any, actions were taken to remedy potential violations. Congress might also request information from OSTP regarding the internal processes that are in place to monitor allegations of conflicts of interest in order to assess their efficacy. According to accounts published in *Politico* and the *Washington Post*, as well as a formal whistleblower complaint filed by the Government Accountability Project, OSTP’s legal team had flagged potential conflicts of interest related to Schmidt Futures over the course of a year and were bullied by the then-OSTP Director, Eric Lander, as a result.³⁴ Lander subsequently resigned from his position as OSTP Director in February 2022. News coverage of his resignation largely cited his violations of the Biden Administration’s policies related to workplace conduct.³⁵

³¹ Emphasis added.

³² For an overview of the act and the Office of Government Ethics, which gives direction to executive branch conflict of interest policies, see CRS In Focus IF10634, *Office of Government Ethics: A Primer*, by Jacob R. Straus.

³³ Office of Personnel Management, “Intergovernment [sic] Personnel Act: Provisions,” see subsection titled “Standards of Conduct and Conflict-of-Interest Provisions,” <https://www.opm.gov/policy-data-oversight/hiring-information/intergovernment-personnel-act/#url=Provisions>.

³⁴ Alex Thompson, “A Google Billionaire’s Fingerprints Are All Over Biden’s Science Office,” *Politico*, March 28, 2022, <https://www.politico.com/news/2022/03/28/google-billionaire-joe-biden-science-office-00020712>; Tyler Pager, “Whistleblower Alleges Bullying; Ethical Lapses at White House Science Office,” *Washington Post*, March 10, 2022, <https://www.washingtonpost.com/politics/2022/03/10/whistleblower-alleges-bullying-ethical-lapses-white-house-science-office/>; and Letter from David Z. Seide, Government Accountability Project, and Dana Gold, Government Accountability Project, to U.S. Office of Special Counsel, “Protected Whistleblower Disclosures of Abuse of Authority and Gross Mismanagement at the White House Office of Science and Technology Policy,” March 10, 2022, <https://whistleblower.org/wp-content/uploads/2022/03/Government-Accountability-Project-OSTP-Disclosure-Letter-3-10-2022-1.pdf>.

³⁵ Katie Rogers, “Biden’s Top Science Adviser Resigns After Acknowledging Demeaning Behavior,” *New York Times*, February 7, 2022, <https://www.nytimes.com/2022/02/07/us/politics/eric-lander-resigns-white-house.html>; Alex (continued...)

In overseeing OSTP's use of IPAs, more generally, Congress might consider the following questions:

- What guidance or policies does OSTP have regarding the type of work typically assigned to different employment categories (detailees, IPAs, fellows, etc.)?
- How many individuals from "other eligible organizations" are currently serving on IPA appointments at OSTP (not including individuals from state and local governments, colleges and universities, Indian tribal governments, and federally funded research and development centers)?
- What mechanisms does OSTP currently have in place to mitigate potential conflicts of interest?
- Which nongovernmental, nonprofit organizations contribute financial support to OSTP (in the form of employee salaries and benefits) and what is the total contribution from each organization?

Increase the Number of FTE Positions

Congress could increase the number of FTEs supported by OSTP through the annual appropriations process. This might have a range of outcomes. For example, increasing OSTP's FTE level might lead to an increase in the number of career civil service professional staff at OSTP. Some in the S&T community have long advocated for more career staff whose tenure at OSTP might be more likely to span multiple presidential Administrations. They argue that career staff would maintain institutional knowledge and provide a solid understanding of government operations, potentially enabling a new Administration to move more quickly on S&T policy issues and providing enhanced support to political appointees during presidential transitions.³⁶

Those expressing such views assert that increasing the office's career staff would bring OSTP staffing practices more in line with other EOP offices that rely on expert staff, such as the Office of Management and Budget (OMB).³⁷ Significant differences exist, however, in the scope of duties and responsibilities Congress has assigned to OSTP and OMB, with the scope of OMB's duties being much broader.³⁸ OSTP appropriations and staffing levels are correspondingly lower than those of OMB. The President requested just under \$8 million and an estimated 42 FTEs for OSTP in FY2024, versus and about \$137 million and an estimated 533 FTEs for OMB.³⁹

Thompson, "Biden's Top Science Adviser, Eric Lander, Resigns Amid Reports of Bullying," *Politico*, February 7, 2022, <https://www.politico.com/news/2022/02/07/eric-lander-resigns-00006545>; Jocelyn Kaiser, "Updated: White House Science Adviser Eric Lander Resigns After Bullying Investigation," *Science*, February 7, 2022, <https://www.science.org/content/article/white-house-science-adviser-eric-lander-under-fire-bullying>.

³⁶ Henry Kelly, Ivan Oelrich, Steven Aftergood, and Benn H. Tannenbaum, *Flying Blind: The Rise, Fall and Possible Resurrection of Science Policy Advice in the United States* (Washington, DC: Federation of American Scientists, 2004), http://www.fas.org/pubs/_docs/flying_blind.pdf; and Jennifer Sue Bond, Mark Schaefer, David Rejeski, Rodney W. Nichols, *OSTP 2.0: Critical Upgrade: Enhancing Capacity for White House Science and Technology Policymaking: Recommendations for the Next President* (Washington, DC: Woodrow Wilson International Center for Scholars, June 2008).

³⁷ Ibid.

³⁸ 31 U.S.C. §501 et seq.

³⁹ OMB, Detailed Budget Estimate of the Executive Office of the President, *Budget of the United States Government, FY2024*, https://www.whitehouse.gov/wp-content/uploads/2023/03/eop_fy2024.pdf.

Increase the Number of Detailees from Federal Science Agencies

Congress may consider directing federal agencies to increase the number of staff serving on detail to OSTP. For example, Congress may create new statutory requirements or direction in report language that increase or encourage agency detailees to OSTP either to support work in specific policy areas or without specifying a particular purpose. Federal agencies, however, may be reluctant to increase the number of employees they detail to OSTP given the associated human capital costs involved. Such potential concerns may be greater for some agencies than others, depending on the number of staff and size of the agency.

Though increasing the number of individuals serving on detail at OSTP from federal science agencies might mitigate potential conflict of interest concerns associated with IPA appointments, Congress may weigh this intended goal against other potential policy outcomes. For example, individuals detailed to OSTP from a particular federal agency may influence policymaking activities in ways that could have outsized benefits for their home agency. Considering the potential human capital costs involved, federal agencies may also be reluctant to detail senior level staff to OSTP, which could potentially impact the efficacy of OSTP policy development and implementation activities.

OSTP and NSTC Coordination of Federal R&D Initiatives

Congress has a long-standing interest in the effective coordination of multi-agency R&D initiatives, recognizing that certain lines of research or national challenges are best confronted when the nation's S&T resources work in concert. The decentralized nature of the federal government's support for R&D (largely owing to the ad-hoc way in which federal science agencies proliferated during World War II and immediately after) has posed a perennial challenge for effective coordination.⁴⁰ To encourage coordination, Congress has mandated a number of multi-agency R&D initiatives in statute, including the Networking and Information Technology Research and Development (NITRD) program,⁴¹ the National Nanotechnology Initiative (NNI),⁴² the U.S. Global Change Research Program (USGCRP),⁴³ the National Quantum Initiative (NQI), and the National Artificial Intelligence Initiative (NAII).⁴⁴

For each of the above multi-agency R&D initiatives, Congress has tasked OSTP and the NSTC with varying roles in coordinating and administering cross-agency planning and collaboration. In addition to the roles and responsibilities executed by the OSTP Director, OSTP exercises its science advisory and policy coordination duties through:

- **the work of its six policy teams**, which help coordinate government-wide initiatives that fall within specific policy areas (for example, OSTP's Climate and

⁴⁰ Examples include the Office of Scientific Research and Development (created in 1941), the Office of Naval Research (created in 1946), and the Atomic Energy Commission (created in 1946). For more on federal support for science research during the 1930s and 1940s, see Hunter Dupree, *Science in the Federal Government: A History of Policies and Activities*, Johns Hopkins Paperbacks edition ed. (Baltimore: Johns Hopkins University Press, 1986).

⁴¹ For an overview, see CRS Report RL33586, *The Federal Networking and Information Technology Research and Development Program: Background, Funding, and Activities*, by Patricia Moloney Figliola.

⁴² For an overview, see CRS Report RL34511, *Nanotechnology: A Policy Primer*, by John F. Sargent Jr., and CRS Report RL34401, *The National Nanotechnology Initiative: Overview, Reauthorization, and Appropriations Issues*, by John F. Sargent Jr.

⁴³ For an overview, see the USGCRP subsection of CRS Report R47564, *Federal Research and Development (R&D) Funding: FY2024*, coordinated by John F. Sargent Jr.

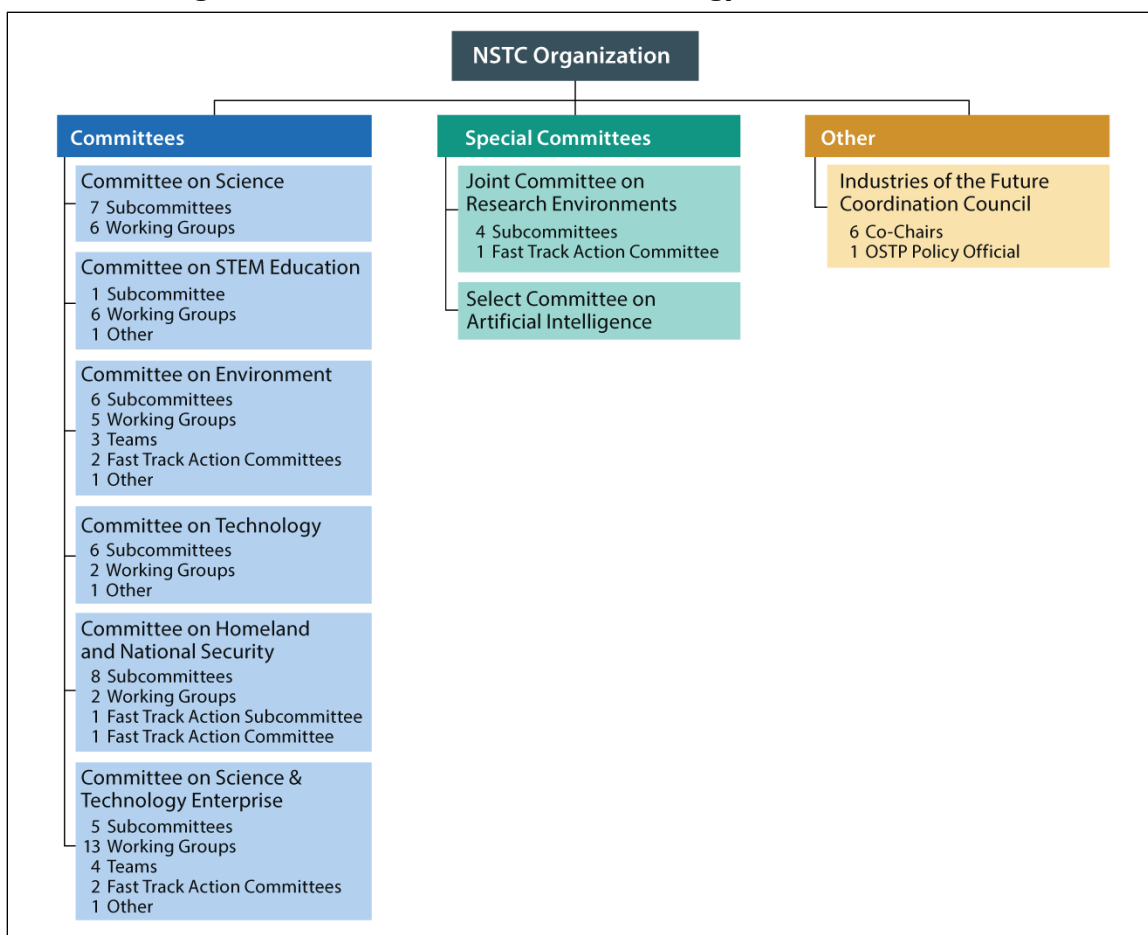
⁴⁴ For an overview, see CRS Report R46795, *Artificial Intelligence: Background, Selected Issues, and Policy Considerations*, by Laurie A. Harris.

Environment Team supports the participation of the Director, or the Director's designee, in federal coordinating bodies such as the Arctic Executive Steering Committee, which "meets regularly to shape priorities, establish strategic direction, oversee implementation, and ensure coordination of Federal activities in the Arctic");⁴⁵

- **the federal budget process**, during which OSTP works with the Office of Management and Budget (OMB) to develop the President's budget proposal to Congress for each fiscal year; and
- **the work of the NSTC's committees, subcommittees, and working groups**, which are generally co-chaired by representatives from OSTP and designees of participating federal agencies.

The NSTC largely executes its coordination responsibilities through the work of its subcommittees and interagency working groups (see **Figure 3**). In some cases, the coordination of a multi-agency R&D initiative is also supported by a national coordination office (NCO). Each of these entities play distinct roles in the coordination, assessment, and execution of multi-agency R&D initiatives.

⁴⁵ The White House, OSTP Climate and Environment Team, "Arctic Executive Steering Committee (AESC)," <https://www.whitehouse.gov/ostp/ostps-teams/climate-and-environment/arctic-executive-steering-committee-aesc/>. The Climate and Environment Team's Deputy Director has also participated in cross-government initiatives such as the Northern Bering Sea Climate Resilience Area (NBSCRA); see The White House, "Readout of the Northern Bering Sea Climate Resilience Area (NBSCRA) Joint Bering Federal Task Force and Bering Intergovernmental Tribal Advisory Council Meeting, June 3, 2022," <https://www.whitehouse.gov/wp-content/uploads/2022/06/06-2022-Readout-of-the-NBSCRA-JOINT-BFTF-BITAC-Meeting.pdf>.

Figure 3. National Science and Technology Council Overview

Source: CRS visualization of NSTC organization chart provided by OSTP via email communication on October 28, 2022.

Given its interest in ensuring U.S. global competitiveness and a robust S&T ecosystem, Congress may consider the efficacy of OSTP and NSTC coordination efforts. For example, in a May 10, 2023, letter to OSTP Director Arati Prabhakar, GAO highlighted seven priority recommendations which, if implemented, could improve OSTP operations.⁴⁶ GAO grouped the seven recommendations into three categories, two of which directly pertained to the efficacy of OSTP's coordination and assessment duties: strengthening interagency collaboration and tracking progress toward national goals.⁴⁷ GAO urged OSTP to more effectively use the committees and subcommittees of the NSTC to sustain coordination of national research and development priorities and develop mechanisms to track and evaluate interagency progress toward addressing cross-cutting S&T issues.

Potential Resource Constraints

Congress might consider the sufficiency of OSTP and NSTC funding and staffing available to execute the congressionally mandated coordination functions of the previously cited multi-agency

⁴⁶ Letter from Gene L. Dodaro, Comptroller General, to The Honorable Arati Prabhakar, Director, Office of Science and Technology Policy, May 10, 2023, <https://www.gao.gov/assets/gao-23-106571.pdf>.

⁴⁷ "Managing climate risks" was the third category identified by GAO, *ibid*.

R&D initiatives (e.g., NNI and USGCRP). The NSTC does not receive direct appropriations for coordinating multi-agency R&D programs; rather, it primarily relies on support from OSTP staff and the resources provided by participating agencies in the form of staff appointed to serve on NSTC committees, subcommittees, and working groups. Congress might provide dedicated funding to increase the robustness of its coordinating functions, which include supporting NCOs, studies, advisory committees, and administrative costs.

If Congress chose to fund NSTC activities directly, Congress might authorize or appropriate general NSTC funding or direct funding amounts to support specific functions, such as the coordination and support activities NCOs provide to each multi-agency R&D initiative. **Error! Reference source not found.** lists funding levels for selected NCOs, including NNI, NITRD, and the USGCRP, which are funded through a distributed cost budget. Under such arrangements, participating agencies typically contribute a percentage of NCO funding based on the total share of initiative-related R&D they support.

In contrast to the NCOs for NITRD, NNI, and USGCRP, the more recently established National AI Initiative Office (NAIIO) and the National Quantum Coordination Office (NQCO) do not have budgets. The National Quantum Initiative Act (P.L. 115-368, as amended and codified at 15 U.S.C. §§8801 et seq.) and the National Artificial Intelligence Initiative Act of 2020 (Division E of P.L. 116-283, as amended and codified at 15 U.S.C. §§9411 et seq.) indicate that federal agencies supporting R&D related to the initiatives should contribute funding necessary to carry out the activities of each office.

Table 2. Selected National Coordination Office (NCO) Budgets

FY2020	
Multi-agency R&D Initiative NCO	Funding Contributions of Participating Agencies
NITRD NCO	\$4.4 million
NNI NCO	\$2.9 million
USGCRP NCO	\$8.1 million

Source: U.S. Government Accountability Office, *Federal Research and Development: Funding Has Grown Since 2012 and Is Concentrated Within a Few Agencies*, GAO-23-105396, December 2022, available at <https://www.gao.gov/assets/gao-23-105396.pdf>.

Regarding NQCO funding, 15 U.S.C. §8812(c) specifies:

Funds necessary to carry out the activities of the Coordination Office shall be made available each fiscal year by the Federal departments and agencies described in section 8813(b) of this title, as determined by the Director of the Office of Science and Technology Policy.

Regarding NAIIO funding, 15 U.S.C. §9412(c) specifies:

The Director of the Office of Science and Technology Policy, in coordination with each participating Federal department and agency, as appropriate, shall develop and annually update an estimate of the funds necessary to carry out the activities of the Initiative Coordination Office and submit such estimate with an agreed summary of contributions from each agency to Congress as part of the President's annual budget request to Congress.

To assess whether the NQCO and NAIIO have adequate funding to carry out the coordination functions mandated in statute, Congress might request that OSTP provide additional information about the past, present, and future funding needs of each office. For example, the NQI Program's annual report, which was included as a supplement to the President's budget for FY2021,

FY2022, and FY2023, did not include information regarding any funding allocated to support NQCO activities. Congress might amend 15 U.S.C. §8812(c) to require the submission of NQCO budget information each year, beginning with the NQI Supplement to the President's FY2024 Budget.

Though Congress directed OSTP to submit an annual budget estimate for the NAIIO, it was not included in any of the supplemental information that accompanied the President's FY2023 budget request. Rather, NITRD and NAIIO submitted a combined Supplement to the President's FY2023 Budget, which explained that the "supplement also meets NAIIO's obligation to submit NAIIA-related budget and program information to Congress as part of the President's annual budget request."⁴⁸ The joint supplement, however, did not contain the NAIIO budget estimate mandated in 15 U.S.C. §9412(c). Congress may exercise oversight of OSTP in requesting the statutorily required budget estimate.

The National AI Advisory Committee (NAIAC), authorized by P.L. 116-283 to advise the President and NAIIO on matters related to AI, published a report in May 2023 summarizing its recommendations. The report highlighted the potential implications of the NAIIO being under-resourced, stating:

The National AI Initiative Office (NAIIO) is tasked with significant responsibility of interagency coordination on matters relating to AI. For most of NAIIO's existence, it has been staffed by three full-time equivalent (FTE) detailed employees, nine advisors in total. Without adequate staffing and leadership, NAIIO cannot maintain the level of output needed to meet its ongoing statutory requirements, nor provide the required interagency coordination to ensure U.S. AI leadership.⁴⁹

The NAIAC issued the following related recommendation:

NAIAC recommends the President or Congress provide sufficient resources for NAIIO's statutorily mandated coordinating functions and oversight responsibilities, including providing no less than six full-time equivalent employees. These roles should be filled by permanent staff with expertise in both trustworthy AI governance and executive branch coordination.⁵⁰

If accepted, the NAIAC's staffing recommendation would bring NAIIO's staff size to the level of NQCO, which GAO reported included five individuals serving on details from participating agencies (as of August 2022).⁵¹ Testifying before the House Committee on Science, Space, and Technology's June 7, 2023, hearing "Advancing American Leadership in Quantum Technology," the NQCO Director reported that the office consists of a team of "government experts in quantum physics and computer science detailed from the Department of Energy (DOE), the National Science Foundation (NSF), the National Institute of Standards and Technology (NIST), the Department of Defense (DOD), and the Intelligence Community (IC)."⁵²

⁴⁸ NSTC Subcommittee on Networking and Information Technology Research and Development and NSTC Machine Learning and Artificial Intelligence Subcommittee, *The Networking & Information Technology R&D Program and the National Artificial Intelligence Initiative Office Supplement to the President's FY2023 Budget*, National Science and Technology Council, November 2022, p. 3, <https://www.nitrd.gov/pubs/FY2023-NITRD-NAIIO-Supplement.pdf>.

⁴⁹ National Artificial Intelligence Advisory Committee, *Year 1*, May 2023, p. 19, <https://www.ai.gov/wp-content/uploads/2023/05/NAIAC-Report-Year1.pdf>.

⁵⁰ *Ibid.*, p. 19.

⁵¹ U.S. Government Accountability Office, *Federal Research and Development: Funding Has Grown Since 2012 and Is Concentrated Within a Few Agencies*, GAO-23-105396, December 2022, p. 48, <https://www.gao.gov/assets/gao-23-105396.pdf>.

⁵² Written Testimony of Dr. Charles Tahan, Assistant Director of Quantum Information Science and Director of the (continued...)

After evaluating the staffing and funding levels of the NQCO and NAIIO, Congress may determine that the NCOs are adequately funded and staffed. Alternatively, Congress may determine that the NCOs require additional funds and staff, opting to authorize or appropriate funding directed to support the coordination duties carried out by each office.

If Congress chooses to increase funding for NQCO and NAIIO coordination duties, it may direct individual agencies to contribute specific amounts from available appropriations or increase agency appropriations by a specified amount to be directed toward coordination efforts. Agencies may be reluctant to direct funds from available appropriations toward NQCO and NAIIO budgets. Congress might also direct a portion of OSTP appropriations for the purpose of supporting the coordination efforts of the NQCO and NAIIO, as both offices are situated within OSTP's organizational structure.

Potential Organizational or Structural Constraints

In addition to evaluating potential challenges the NSTC faces regarding resources, Congress might consider whether formalizing the NSTC structure and organization would strengthen OSTP's ability to coordinate federal R&D efforts through the work of its committees, subcommittees, and working groups. Currently, NSTC responsibilities are derived by executive order and congressional mandates in statute. Though the NSTC was established by Executive Order 12881,⁵³ Congress has also charged it with specific statutory responsibilities, including the coordination of a number of federal initiatives and programs, including ocean acidification research and mitigation efforts;⁵⁴ STEM education support;⁵⁵ advanced manufacturing research and development activities;⁵⁶ the dissemination and long-term stewardship of the results of unclassified research;⁵⁷ and research facilities and major instrumentation planning and evaluation.⁵⁸

Congress's ability to evaluate the efficacy of NSTC coordination efforts might be limited by a lack of comprehensive public information about its current structure, as OSTP does not maintain a current public organizational chart for the NSTC or a public list of its statutory responsibilities. As such, CRS performed a custom search of select databases to identify relevant federal statutes, executive orders, and presidential memoranda tasking the NSTC with various responsibilities related to the coordination of federal R&D policies and programs.⁵⁹

National Quantum Coordination Office, OSTP, U.S. Congress, House Science, Space, and Technology, *Advancing American Leadership in Quantum Technology*, 117th Cong., 1st sess., June 7, 2023, https://republicans-science.house.gov/_cache/files/2/3/23dd7b1c-5140-418f-b811-21e4eafb848/F2FDE1E06B20EBCAF869EFC86A7B3442.2023-06-07-tahan-testimony.pdf.

⁵³ Executive Order 12881, "Establishment of the National Science and Technology Council," 58 *Federal Register* 62491-62492, November 23, 1993.

⁵⁴ P.L. 111-11, "The Omnibus Public Land Management Act of 2009," §12403.

⁵⁵ P.L. 111-358, "America COMPETES Reauthorization Act of 2010," §101.

⁵⁶ P.L. 111-358, "America COMPETES Reauthorization Act of 2010," §102.

⁵⁷ P.L. 111-358, "America COMPETES Reauthorization Act of 2010," §103.

⁵⁸ P.L. 110-69, "America COMPETES Act," §1007.

⁵⁹ CRS performed a search of the Lexis+ database for federal statutes, executive orders (EOs), and presidential memoranda (PMs) containing the phrase "National Science and Technology Council" within 15 words of at least one of the following terms: *committee*, *subcommittee*, *working group*, *council*, *task force*, and *team*. In addition, CRS searched for instances that include the NSTC and titles of each of its sub-entities based on a list of NSTC sub-entities provided by the White House Office of Science and Technology Policy (OSTP) in email communication to CRS on October 28, 2022. CRS used wildcard characters to search for alternate spellings and variations of the root search terms (continued...)

CRS analyzed the search results to identify 32 citations in the *U.S. Code*, four executive orders, and two presidential memoranda containing references to the creation of, or assignment of duties to, various bodies of the NSTC. CRS aggregated these results and mapped them in a table to correspond to the NSTC sub-entities provided through correspondence with OSTP (see **Appendix B** for a full list).⁶⁰ An analysis of these citations illustrates the varying approaches Congress and presidential Administrations may take in assigning responsibilities to the NSTC. Congress may assign the NSTC responsibilities to meet non-specific mandates, such as requiring the creation of an entity or coordinating body, and the President or OSTP Director may then delegate that responsibility to the NSTC. Congress may specify the creation of a specific NSTC entity in statute (a working group, for example) whereas the naming convention of the type of body established within the NSTC may differ (e.g., a subcommittee is established instead of a working group). The NSTC may also have an established body to meet certain statutory requirements, even though the statute does not designate these requirements specifically to the NSTC.

Congress may choose to formalize the NSTC's structure by codifying it more explicitly in statute. If Congress decides to do this, it might consider how specific to make its direction. Congress may set broad statutory guidelines regarding NSTC's organization, codify NSTC's existing structure, or some combination of these approaches. Congress may consider whether mandating a specific organizational structure might have the unintended consequence of limiting the NSTCs flexibility and utility as a coordinating mechanism capable of adapting to the changing S&T landscape.

Congress might also consider a range of questions related to how the NSTC's structure and processes related to coordinating federal R&D initiatives might be formalized and standardized through codification, including:

- Should Congress mandate additional reporting requirements for NSTC entities?
- Should the OSTP Director, in consultation with Congress or relevant advisory groups, be required to periodically update the NSTC's structure to identify potential redundancies or multi-agency R&D efforts that no longer require the same level of coordination (e.g., a dedicated NCO)?
- Should new NSTC entities or multi-agency R&D initiatives terminate after a standard period of time?

OSTP and NSTC Coordination of Federal R&D Policies

In addition to the coordination of multi-agency R&D initiatives, Congress has a long-standing interest in the effective coordination of R&D-related policies across federal agencies that support S&T R&D. The decentralized nature of the federal government's support for R&D and existing variations in federal agency missions (as well as the specific operational needs related to such varied missions) have posed a perennial challenge for the coordination of policies governing a number of aspects related to the performance and management of federally sponsored R&D.

OSTP and the NSTC have played key roles in coordinating the development and implementation of R&D policies in response to presidential priorities and congressional direction. For example, in August 2022, OSTP directed federal agencies to develop and implement "public access plans" by December 31, 2025, that would require scientific publications resulting from federally funded

to identify relevant statutes, EOs, and PMs. The search yielded 72 citations in statute and 33 citations in EOs and PMs, which CRS analyzed and narrowed to 32 relevant *U.S. Code* citations, four EOs, and two PMs.

⁶⁰ NSTC sub-entities provided by OSTP in email communication to CRS on October 28, 2022.

research to be publicly available immediately upon publication.⁶¹ OSTP, working through the NSTC, has also directed federal efforts to develop policies regarding scientific integrity and to ensure the consistency of such policies across R&D agencies.⁶²

Given its interest in ensuring U.S. global competitiveness and a robust S&T ecosystem, Congress may consider the efficacy of OSTP and NSTC efforts to coordinate and standardize federal R&D policies such as those cited above, as well as others, including research security-related policies.

Standardizing Research Security Disclosure Policies

Federal and legislative efforts to develop a comprehensive research security strategy have intensified over roughly the past five years based on a growing awareness and concern for the threats posed by foreign talent recruitment programs like China's Thousand Talents Program to the U.S. R&D ecosystem.⁶³ In shaping such a strategy, Congress has charged OSTP with playing a leading role in ensuring that policies and requirements related to research security practices are developed and implemented consistently across the federal government.

For example, the 117th Congress mandated research security-related requirements as part of the legislation referred to as CHIPS and Science Act (P.L. 117-167), which, among other things, directed federal agencies to establish policies prohibiting agency personnel from participating in any foreign talent recruitment program and policies prohibiting covered individuals involved with federally funded R&D awards from participating in malign foreign talent recruitment programs.⁶⁴ Congress specifically tasked OSTP with publishing and distributing a uniform set of guidelines for federal research agencies regarding foreign talent recruitment programs by February 9, 2023.⁶⁵ As of July 2023, OSTP has not distributed such uniform guidelines.

Congress also established new requirements for federal R&D award applicants to disclose information about research support received from other sources in an effort to identify potential conflicts of interest and ties to foreign entities.⁶⁶ Congress specifically charged OSTP, acting through the NSTC Research Security Subcommittee, with ensuring the consistency of such requirements established by federal agencies.⁶⁷ Acting on behalf of the Research Security Subcommittee, the National Science Foundation (NSF) responded on August 31, 2022, with the release of draft common disclosure forms for public comment. The draft forms, titled "Biographical Sketch" and "Current and Pending (Other) Support," are intended for inclusion in all federal research grant applications to increase the consistency of disclosure forms currently used by federal research agencies and to reduce administrative burden.⁶⁸ The comment period on

⁶¹ Memorandum from Alondra Nelson, Deputy Assistant to the President and Deputy Director for Science and Society, to The Heads of Executive Departments and Agencies, "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research, August 25, 2022, <https://www.whitehouse.gov/wp-content/uploads/2022/08/08-2022-OSTP-Public-Access-Memo.pdf>. See also CRS Insight IN12049, *Public Access to Scientific Publications Resulting from Federally Funded R&D*, by Marcy E. Gallo.

⁶² CRS Report R46614, *Federal Scientific Integrity Policies: A Primer*, by Marcy E. Gallo.

⁶³ Smriti Mallapaty, "China Hides Identities of Top Scientific Recruits Amidst Growing US Scrutiny," *Nature*, October 24, 2018, <https://www.nature.com/articles/d41586-018-07167-6>.

⁶⁴ 42 U.S.C. §19231(a)

⁶⁵ The language specifies that policies should be distributed not later than 180 days after August 9, 2022, 42 U.S.C. §19231(b).

⁶⁶ Section 223, National Defense Authorization Act for Fiscal Year 2021 (P.L. 116-283); 42 U.S.C. §6605.

⁶⁷ 42 U.S.C. §6605(b).

⁶⁸ National Science Foundation on behalf of the National Science and Technology Council's Research Security Subcommittee, "Agency Information Collection Activities: Request for Comment Regarding Common Disclosure (continued...)"

the draft common disclosure forms closed on October 31, 2022. As of this report's publication date, the finalized forms have not been released.

Given continuing interest in potential foreign influence over U.S. academic R&D, Congress may exercise oversight in evaluating OSTP and NSTC efforts to coordinate statutorily mandated disclosure policies and uniform policies regarding foreign talent recruitment programs. For example, Congress might require OSTP and the NSTC Subcommittee on Research Security to update relevant oversight committees on the progress of finalizing common disclosure forms, including an expected publication date, and plans to ensure their consistent use across federal agencies.

Congress might also evaluate the scope of reporting requirements as posed by the draft forms posted for public comment on August 31, 2022.⁶⁹ For example, the "Proposed Template and Instructions for Submission of Current and Pending (Other) Support Information," specifies that only individuals identified as "senior/key personnel" will be required to disclose current and pending support.⁷⁰ The form defines senior/key personnel as "individuals listed by the applicant/awardee organization and approved by the Federal research funding agency who contribute in a substantive, meaningful way to the scientific development or execution of a research and development project proposed to be carried out with a research and development award."⁷¹ Congress might consider whether the proposed definition of senior/key personnel, which generally would not include graduate students, is sufficient.

Congress may consider a number of additional questions related to OSTP's coordination and implementation of disclosure policies across federal R&D funding agencies, including:

- Do proposed disclosure requirements related to current and pending support adequately clarify the types of support that R&D funding applicants?
- To what degree should OSTP also issue standardized requirements and procedures for federal agencies to follow in investigating alleged violations of disclosure requirements and issuing enforcement actions?
- Do federal agencies currently have the authorities and resources necessary to monitor disclosures for policy violations and what additional resources might they need?

Forms for the Biographical Sketch and Current and Pending (Other) Support," 87 *Federal Register* 53505-53507, August 31, 2022. See also Office of Science and Technology Policy, "An Update on Research Security: Streamlining Disclosure Standards to Enhance Clarity, Transparency, and Equity," August 31, 2022, <https://www.whitehouse.gov/ostp/news-updates/2022/08/31/an-update-on-research-securitystreamlining-disclosure-standards-to-enhance-clarity-transparency-and-equity>.

⁶⁹ National Science Foundation on behalf of the National Science and Technology Council's Research Security Subcommittee, "Agency Information Collection Activities: Request for Comment Regarding Common Disclosure Forms for the Biographical Sketch and Current and Pending (Other) Support," 87 *Federal Register* 53505-53507, August 31, 2022.

⁷⁰ "Proposed Template and Instructions for Submission of Current and Pending (Other) Support Information," in National Science Foundation on behalf of the National Science and Technology Council's Research Security Subcommittee, "Agency Information Collection Activities: Request for Comment Regarding Common Disclosure Forms for the Biographical Sketch and Current and Pending (Other) Support," 87 *Federal Register* 53505-53507, August 31, 2022, <https://www.nsf.gov/bfa/dias/policy/researchprotection/FederalRegisterCPSfinal.pdf>.

⁷¹ *Ibid.*

Concluding Observations

Congress has expressed an abiding interest in the health of the federal S&T enterprise and the roles that it plays in meeting federal mission needs, expanding the frontiers of human knowledge, addressing societal needs, developing the U.S. science and engineering workforce, and promoting U.S. technological leadership, innovation, and competitiveness.

OSTP has played a significant role in coordinating and integrating the activities of the federal S&T enterprise, acquiring scientific and technical advice and information from the private sector, and advising the President on related matters.

Congress may explore issues and legislative options related to the structure and authorities of OSTP and the NSTC as well as provide oversight of OSTP in the execution of its statutory authorities described in this report. In addition, Congress might consider potential oversight activity related to OSTP and the NSTC's roles in coordinating federal R&D initiatives and the development and implementation of government-wide R&D policies.

Appendix A. Nominations and Confirmations of Associate Directors in the Office of Science Technology and Policy, 1976-2023

(Current as of June 8, 2023)

Nomination Number	Congress	President Issuing the Nomination	Nominee Name/ Prospective Title	Confirmed/ Not Confirmed
PN1274	97 th (1981-1982)	Ronald Reagan	Ronald B. Frankum Associate Director of the Office of Science and Technology Policy	Confirmed
PN776	98 th (1983-1984)	Ronald Reagan	Deputy Science Adviser to the President and Deputy Director of OSTP John P. McTague Associate Director of the Office of Science and Technology Policy	Confirmed
PN833	98 th (1983-1984)	Ronald Reagan	Deputy Director of OSTP Bernadine Healy Bulkley Associate Director of the Office of Science and Technology Policy	Confirmed
PN434	100 th (1987-1988)	Ronald Reagan	Deputy Director of OSTP Thomas P. Rona Associate Director of the Office of Science and Technology Policy	Confirmed
PN783	101 st (1989-1990)	George H.W. Bush	Deputy Director of OSTP James B. Wyngaarden Associate Director of the Office of Science and Technology Policy	Confirmed

Nomination Number	Congress	President Issuing the Nomination	Nominee Name/ Prospective Title	Confirmed/ Not Confirmed
PN782	101 st (1989-1990)	George H.W. Bush	J. Thomas Ratchford Associate Director of the Office of Science and Technology Policy	Confirmed
PN936-2	101 st (1989-1990)	George H.W. Bush	Associate Director for Policy and International Affairs Eugene Wong	Confirmed
PN936-1	101 st (1989-1990)	George H.W. Bush	Associate Director of the Office of Science and Technology Policy Associate Director for Physical Sciences and International Affairs William D. Phillips	Confirmed
PN4	102 nd (1991-1992)	George H.W. Bush	Associate Director of the Office of Science and Technology Policy Associate Director for Industrial Technology Donald A. Henderson	Confirmed
PN1007	102 nd (1991-1992)	George H.W. Bush	Associate Director for Life Sciences Associate Director of the Office of Science and Technology Policy Associate Director for Physical Sciences and Engineering Karl A. Erb	Confirmed

Nomination Number	Congress	President Issuing the Nomination	Nominee Name/ Prospective Title	Confirmed/ Not Confirmed
PN357	103 rd (1993-1994)	William Clinton	Lionel Skipwith Johns Associate Director of the Office of Science and Technology Policy	Confirmed
PN496	103 rd (1993-1994)	William Clinton	Associate Director for Technology Robert T. Watson	Confirmed
			Associate Director of the Office of Science and Technology Policy	
PN758	103 rd (1993-1994)	William Clinton	Associate Director for Environment Jane M. Wales	Confirmed
			Associate Director of the Office of Science and Technology Policy	
PN762	103 rd (1993-1994)	William Clinton	Associate Director for National Security and International Affairs Mary Rita Cooke Greenwood	Confirmed
			Associate Director of the Office of Science and Technology Policy	
PN522	104 th (1995-1996)	William Clinton	Associate Director for Science Ernest J. Moniz	Confirmed
			Associate Director of the Office of Science and Technology Policy	
PN1120	104 th (1995-1996)	William Clinton	Associate Director for Science Jerry M. Melillo	Not Confirmed
			Associate Director of the Office of Science and Technology Policy	

Nomination Number	Congress	President Issuing the Nomination	Nominee Name/ Prospective Title	Confirmed/ Not Confirmed
PN1115	104 th (1995-1996)	William Clinton	Kerri-Ann Jones	Not Confirmed
			Associate Director of the Office of Science and Technology Policy	
PN108	105 th (1997-1998)	William Clinton	Kerri-Ann Jones	Confirmed
			Office of Science and Technology Policy	
			Associate Director for National Security and International Affairs	
PN107	105 th (1997-1998)	William Clinton	Jerry M. Melillo	Confirmed
			Associate Director of the Office of Science and Technology Policy	
			Associate Director for Environment	
PN674	105 th (1997-1998)	William Clinton	Arthur Bienenstock	Confirmed
			Associate Director of the Office of Science and Technology Policy	
			Associate Director for Science	
PN683	105 th (1997-1998)	William Clinton	Duncan T. Moore	Confirmed
			Associate Director of the Office of Science and Technology Policy	
			Associate Director for Technology	
PN1019	105 th (1997-1998)	William Clinton	Rosina M. Bierbaum	Confirmed
			Associate Director of the Office of Science and Technology Policy	
			Associate Director for Environment	

Nomination Number	Congress	President Issuing the Nomination	Nominee Name/ Prospective Title	Confirmed/ Not Confirmed
PN1538	107 th (2001-2002)	George W. Bush	Kathie L. Olsen Associate Director of the Office of Science and Technology Policy	Confirmed
PN1694	107 th (2001-2002)	George W. Bush	Associate Director for Science Richard M. Russell	Confirmed
PN1829	109 th (2005-2006)	George W. Bush	Associate Director of the Office of Science and Technology Policy Associate Director for Technology Sharon Lynn Hays	Confirmed
PN150	111 th (2009-2010)	Barack Obama	Associate Director of the Office of Science and Technology Policy Associate Director for Science Sherburne B. Abbott	Confirmed
PN426	111 th (2009-2010)	Barack Obama	Associate Director of the Office of Science and Technology Policy Associate Director for Energy and Environment Aneesh Chopra	Confirmed
PN1120	111 th (2009-2010)	Barack Obama	Associate Director of the Office of Science and Technology Policy Associate Director and Chief Technology Officer Philip E. Coyle, III	Not Confirmed
			Associate Director of the Office of Science and Technology Policy	

Nomination Number	Congress	President Issuing the Nomination	Nominee Name/ Prospective Title	Confirmed/ Not Confirmed
PN1571	111 th (2009-2010)	Barack Obama	Carl Wieman Associate Director of the Office of Science and Technology Policy	Confirmed
PN1986	111 th (2009-2010)	Barack Obama	Associate Director for Science Philip E. Coyle, III	Not Confirmed
PN100	112 th (2011-2012)	Barack Obama	Associate Director of the Office of Science and Technology Policy Philip E. Coyle, III	Not Confirmed
PN1510	112 th (2011-2012)	Barack Obama	Associate Director of the Office of Science and Technology Policy Patricia K. Falcone	Confirmed
PN719	113 th (2013-2014)	Barack Obama	Associate Director of the Office of Science and Technology Policy Associate Director for National Security and International Affairs Robert Michael Simon	Not Confirmed
PN743	113 th (2013-2014)	Barack Obama	Associate Director of the Office of Science and Technology Policy Jo Emily Handelsman	Not Confirmed
PN1066	113 th (2013-2014)	Barack Obama	Associate Director of the Office of Science and Technology Policy Jo Emily Handelsman	Confirmed
			Associate Director of the Office of Science and Technology Policy Associate Director for Science	

Nomination Number	Congress	President Issuing the Nomination	Nominee Name/ Prospective Title	Confirmed/ Not Confirmed
PN1061	113 th (2013-2014)	Barack Obama	Robert Michael Simon	Not Confirmed
			Associate Director of the Office of Science and Technology Policy	
PN563	116 th (2019-2020)	Donald Trump	Michael J.K. Kratsios	Confirmed
			Associate Director of the Office of Science and Technology Policy	
			U.S. Chief Technology Officer	

Source: Compiled by CRS using the *Congressional Record* and the “Nominations” collection in Congress.gov and the *Congressional Record* in ProQuest Congressional for the following terms and phrases: *associate director*, *Office of Science and Technology Policy*, *nomination*, and *confirmation*. Position titles noted in *The U.S. Government Manual* and thus available only for confirmed nominees.

Appendix B. NSTC Committees, Subcommittees, Working Groups, and Other Sub-organizations Authorized in Law or by Executive Order

(Current as of June 8, 2023)

ENTITY	U.S. CODE OR PUBLIC LAW	EXECUTIVE ORDER OR PRESIDENTIAL MEMORANDUM
Committee on Science^a		
Subcommittee on Quantum Information Science	Created by 15 U.S.C. §8813	
<i>Quantum Networking Group</i>	Created by 15 U.S.C. §8813(h)	
<i>Workforce Interagency Working Group</i>	Associated duties referenced at 42 U.S.C. §19261	
Physical Sciences Subcommittee	Associated duties referenced at 42 U.S.C. §6601 note (Pub. L. 114–329, Title I, §106, Jan. 6, 2017, 130 Stat. 2985); also referenced at 42 U.S.C. §18644	
Subcommittee on Open Science	Associated duties referenced at 42 U.S.C. §6623 ^b	
Subcommittee on Social and Behavioral Sciences		Associated duties derived from E.O. 13707, 80 <i>Federal Register</i> 56365 ^c
Committee on STEM Education Created by 42 U.S.C. §6621		
Federal Coordination in STEM Education Subcommittee ^a		
<i>Interagency Working Group on Inclusion in STEM</i>	Created by 42 U.S.C. §6626	

ENTITY	U.S. CODE OR PUBLIC LAW	EXECUTIVE ORDER OR PRESIDENTIAL MEMORANDUM
Committee on Environment^a		
Interagency Arctic Research Policy Committee (IARPC)	Associated duties referenced at 15 U.S.C. §4106	President assigned NSTC coordination duties for IARPC by Presidential Memorandum of July 22, 2010, <i>Designation of the National Science and Technology Council to Coordinate Certain Activities Under the Arctic Research and Policy Act of 1984</i> , 75 Federal Register 44063
Subcommittee on Global Change Research	Associated duties referenced at 15 U.S.C. §2934	
Subcommittee on Ocean Science and Technology	Created by 33 U.S.C. §3703	
<i>Interagency Working Group on Harmful Algal Blooms and Hypoxia</i>	Created by 33 U.S.C. §4001 ^d	
<i>Interagency Working Group on Ocean Acidification</i>	Created by 33 U.S.C. §3703	
Joint Subcommittee on Environment, Innovation, and Public Health ^a		
<i>Contaminants of Emerging Concern Strategy Team^e</i>		
<i>Sustainable Chemistry Strategy Team</i>	Created by 15 U.S.C. §9301 ^f	
<i>Per- and Poly-fluoroalkyl Substances Research and Development Strategy Team</i>	Created by 15 U.S.C. §8963 ^g	

ENTITY	U.S. CODE OR PUBLIC LAW	EXECUTIVE ORDER OR PRESIDENTIAL MEMORANDUM
Committee on Technology^a Created by 42 U.S.C. §6622		
Subcommittee on Advanced Manufacturing	Associated duties referenced at 42 U.S.C. §6622	
Nanoscale Science, Engineering and Technology Subcommittee	Associated duties referenced at 15 U.S.C. §7501(c)	
Subcommittee on Microelectronics Leadership	Created by 15 U.S.C. §4656	
Select Committee on Artificial Intelligence	Associated duties referenced at 15 U.S.C. §9413	Created by E.O. 13859, 84 <i>Federal Register</i> 3967
Committee on Homeland and National Security^a		
Critical Minerals Subcommittee	Created by 42 U.S.C. §18743(c)	
Subcommittee on the Economic and Security Implications of Quantum Science	Created by 15 U.S.C. §8814(a)	
Space Weather Operations, Research, and Mitigation Subcommittee	Codified at 51 U.S.C. §60601(c)	Created by E.O. 13744, 81 <i>Federal Register</i> 71573
Committee on Science and Technology Enterprise^a		
Subcommittee on Research and Development Infrastructure	Associated duties referenced at 42 U.S.C. §6619	
<i>Scientific Collections Interagency Working Group</i>	Associated duties referenced at 42 U.S.C. §6624	

ENTITY	U.S. CODE OR PUBLIC LAW	EXECUTIVE ORDER OR PRESIDENTIAL MEMORANDUM
Networking Information Technology Research and Development Subcommittee	Created by 15 U.S.C. §5511	
Artificial Intelligence Research and Development Interagency Working Group	Associated duties referenced at 15 U.S.C. §9413	
Cyber Security and Information Assurance Interagency Working Group	Associated duties referenced at 15 U.S.C. §7431	
Subcommittee on International Science and Technology Coordination	Created by 42 U.S.C. §6625 ^h	
Joint Committee on Research Environments^a		
Subcommittee on Research Security	Associated duties referenced at 42 U.S.C. §6601, note Pub. L. 116–92, div. A, title XVII, §1746, Dec. 20, 2019, 133 Stat. 1843	
Subcommittee on Safe and Inclusive Research Environments	Associated duties referenced at 42 U.S.C. §19195	
Scientific Integrity Fast-Track Action Committee		Created by January 27, 2021, Presidential Memorandum, <i>Restoring Trust in Government Through Scientific Integrity and Evidence-Based Policymaking</i> , 86 Federal Register 8845 ⁱ
Subcommittee on Coordinating Administrative Requirements for Research	Associated duties referenced at 42 U.S.C. §6604(d)	
Industries of the Future Council Created by 42 U.S.C. §6601 note (P.L. 116-283, Division H, Title XCIV, §9412, Jan. 1, 2021, 134 Stat. 4818) ^j		

Source: CRS.

Notes: Compiled by CRS using the Lexis+ database and searching for federal statutes, executive orders (EOs), and presidential memoranda (PMs containing the phrase “National Science and Technology Council” within 15 words of at least one of the following terms: *committee*, *subcommittee*, *working group*, *council*, *task force*, and *team*). In addition, CRS searched for instances that include the NSTC and titles of each of its sub-entities based on a list of NSTC sub-entities provided by OSTP in email communication to CRS on October 28, 2022. CRS used wildcard characters to search for alternate spellings and variations of the root search terms to identify relevant statutes, EOs, and PMs. The search yielded 72 citations in statute and 33 citations in EOs and PMs, which CRS analyzed and narrowed to 32 relevant U.S.C. citations, four EOs, and two PMs. STEM = Science, Technology, Engineering, and Mathematics. Note, the results reflect a search by the indicated keywords and may not be comprehensive given the varied nature in which entities and their associated activities are codified in the U.S. Code.

The search also resulted in two U.S. Code citations, enacted by P.L. 117-167, that directed OSTP to establish two interagency working groups: 42 U.S.C. §19195(a) and 42 U.S.C. §19251(a). These interagency working groups are not included in the above table as they were not included in the list of NSTC sub-entities that OSTP provided to CRS on October 28, 2022. As such, CRS is unable to determine whether the two interagency working groups cited above have been established as of June 2023. For reference, 42 U.S.C. §19195(a) relates to the creation of an interagency working group for the purpose of “coordinating Federal research agency efforts to reduce the prevalence of sex-based and sexual harassment involving award personnel”; and 42 U.S.C. §19251(a) relates to the creation of an interagency working group to coordinate a number of specified activities including federal-wide research efforts in support of “key technology focus areas.”

- a. Committee/Subcommittee included as an organizational reference point for a sub-organization established in law or by Executive Order or Presidential Memorandum
- b. Creates a working group
- c. Creates a Social and Behavioral Sciences Team (SBST)
- d. Creates an Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia
- e. Associated duties referenced in S.Rept. 115-139 to P.L. 115-141
- f. Creates an “interagency entity”
- g. Creates an interagency working group
- h. 42 U.S.C. §6625(g) states that the Subcommittee will terminate 10 years after January 6, 2017
- i. Creates an interagency task force
- j. “(6) Sunset.—The Council shall terminate on the date that is 6 years after the date of the enactment of this Act [January 1, 2021].”

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