

Building Science and Technology Expertise in Congress

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At a recent Senate hearing on artificial intelligence (AI), Connecticut Sen. Richard Blumenthal stated that the subcommittee’s goal was “to demystify and hold accountable these new technologies to avoid some of the mistakes of the past.”¹ Missouri Sen. Josh Hawley expressed a similar view. “We could be looking at one of the most important technological innovations in human history,” he said, and cautioned that AI might be immensely destructive, analogizing it to the atomic bomb.²

AI is just one of many highly technical issues confronting lawmakers. As Senator Blumenthal acknowledged, Congress has “failed to meet the moment on social media” — neither passing data privacy legislation nor modernizing platform regulation despite high-profile congressional hearings in 2018 that revealed not only social media’s role in election interference and data harvesting but also lawmakers’ ignorance of this technology.³ Since then, legislation has stalled, in part due to the dubious claims of lobbyists for technology companies that such legislation would have unintended consequences.⁴

Congress has similarly struggled for at least a decade with other urgent science and technology issues.⁵ For instance, in 2009 Congress passed legislation to digitize medical records but did not address how to transfer records between hospitals, a costly oversight that slowed imple-

mentation despite a \$30 billion federal investment.⁶ And in 2016 legislators drafted a bipartisan bill that received widespread criticism from technology privacy experts because it would have effectively banned end-to-end cellular encryption, which protects communications and data from hackers.⁷

Most public attention on Congress’s struggles to legislate has focused on partisan roadblocks — the increasingly sharp ideological divisions between the two parties and anachronistic procedural hurdles such as the Senate filibuster — that make decisive action a challenge, even during periods of unified party control.⁸ But a related driver of congressional dysfunction is lawmakers’ shrinking access to the high-quality research and data and non-partisan expertise needed for them to comprehend complex technical issues. In a 2016 survey, 81 percent of senior congressional staffers said that access to high-quality, nonpartisan policy expertise was “very important,” but only 24 percent were “very satisfied” with the resources available.⁹

Congress has many in-house subject matter experts. Each member has personal staff, and each committee has staff from each party. Legislators are also assisted by a number of support agencies, including the Library of Congress and the Congressional Research Service (CRS) housed therein, the Government Accountability Office

(GAO), the Congressional Budget Office, and the Government Publishing Office. Yet staff levels in Congress and at its support agencies have atrophied substantially over the past several decades, primarily as a result of cuts Congress has made to its own budget.¹⁰

Insufficient access to and absorption of high-quality, nonpartisan science and technology resources have many adverse consequences, including the allocation of billions of dollars in funding for technologies that do not work. These deficiencies also contribute to partisan gridlock because lawmakers increasingly rely on one-sided information from external sources — including those supported, directly and indirectly, by major political donors — making it harder to find common ground about basic facts and metrics for policy solutions.¹¹

Whether dealing with climate change, emerging AI technology, or myriad other complex issues, Congress has a need for science and technology support that continues to grow.¹² And while lawmakers have often issued broad statutory directives that defer to the expertise of executive branch agencies to fill in the gaps, the Supreme Court has put limits on the policymaking authority of those agencies.¹³ Congress itself will need to legislate with more frequency and greater detail in response to complex problems. It does not have the support it needs to fulfill this responsibility.

Lawmakers on both sides of the aisle agree that Congress would function better if it addressed its shrinking capacity to keep up with complex technical issues.¹⁴ It has already taken some positive steps, such as expanding GAO's Science, Technology Assessment, and Analytics (STAA) department, which provides in-depth assessments of key technologies and related policies, as well as support for oversight of federal science programs.¹⁵ Congress has also created a new human resources hub and enhanced other relevant support services to improve staff recruitment and retention.¹⁶ In addition, a growing number of fellowships bring science and technology experts to Congress.¹⁷

While these measures are important, significant deficits remain, including insufficient staff, atrophied support agencies, and the absence of a systematic way to solicit expertise.

Based in part on interviews with current and former congressional staffers and scientists, this report outlines several steps Congress can take to improve its access to science and technology resources.

Many deficits can be addressed efficiently by allocating additional resources to STAA to launch a hub for collecting research and brokering relationships with experts. This hub would build on the support STAA currently offers members and staff and institutionalize a process for soliciting and absorbing technical expertise.

In addition to the expansion of in-house resources, Congress should create a bipartisan commission to

consider ways to increase the use of evidence in its policymaking process, as Reps. Derek Kilmer and William Timmons propose in their recent Evidence-Based Policymaking Resolution.¹⁸

Lawmakers should also continue to fund and leverage recently added support resources, such as the new digital services team created for the House, to facilitate access to expertise across the country.¹⁹

Last, Congress should begin to institute longer-term structural reforms to better position itself to tackle complex, technical problems, for example by overhauling committee jurisdictions and investing in more staff with specialized expertise.

Congress must have the resources and support it needs to handle the nation's most pressing contemporary challenges. These reforms will help it get there.

Congress's Unmet Need for Expertise

In a 1956 speech, then Sen. John F. Kennedy articulated the necessary role of expertise in policymaking: "The political profession needs to have its temperature lowered in the cooling waters of the scholastic pool. We need both the technical judgment and the disinterested viewpoint of the scholar, to prevent us from becoming imprisoned by our own slogans."²⁰

Lawmakers need access to high-quality science and technology resources in order to legislate and conduct oversight over complex issues in which they do not specialize. Access to such resources can have a direct impact on the effectiveness of the legislative process. One study found that bills employing research language were 2.2 times more likely than other legislation to pass out of committee and 82 percent more likely to be enacted.²¹ Another study found that bills directly referencing scientific study designs were 65 percent more likely to pass out of committee and that those directly referring to research methods were 32 percent more likely to be enacted into law.²² Researchers found that bills about behavioral health that explicitly referenced scientific evidence were more than three times more likely to be enacted into law than bills that did not, with similar results in other federal policy areas, such as substance abuse and human trafficking.²³

Dwindling Science and Technology Support

Nonpartisan congressional support agencies are particularly important sources of needed expertise because congressional staffers across the ideological spectrum rely on and trust them.²⁴ No organization is immune to human biases or blind spots. However, unlike committee and personal staff, support agency staff are required to be nonpartisan.²⁵ One study found that both Democratic and

Republican congressional staffers (regardless of their members' ideologies or their own) trusted output from congressional support agencies.²⁶ Even staffers with the most ideologically pronounced views trusted support agencies twice as much as external sources that shared their ideological alignment.²⁷

Cultivating this level of trust is integral to the support agencies' missions. Kevin Kosar, a former employee of CRS who is now a senior fellow at the American Enterprise Institute (AEI), reflected, "As CRS, you have no skin in the game. You have no presupposed bias. You're not playing for team Democrat, team Republican." In contrast, Kosar noted, "In my current role, folks on the right come to me because they know that AEI is on the right, and they're workshopping within their worldview."²⁸ Richard Rowberg, a former employee of CRS and of the now-defunct Office of Technology Assessment (OTA) — a congressional support agency aimed at helping lawmakers understand science and technology issues — agreed. "CRS's and OTA's staff didn't work for an agency or industry. They worked solely for the Hill. That's a very important feature; that's the only thing the legislative agencies have that nobody else has."²⁹ Sen. Chuck Grassley, a former OTA board member, called OTA "one of the few truly neutral sources of information for the Congress."³⁰

As of 2015, CRS had 609 employees and a budget of approximately \$107 million.³¹ GAO had approximately 3,170 employees in 2020 and a budget of \$680.2 million.³² But over the last several decades, congressional support agencies such as CRS and GAO have atrophied. Due to Congress's budget cuts, from 1994 to 2015 GAO lost nearly 35 percent of its staff, and CRS lost more than 27 percent of its employees.³³ CRS no longer details experts to congressional committees, a practice that had bolstered committees' capacity to handle specialized technical issues, although the House Committee on Appropriations has recently explored restoring the practice.³⁴ OTA was completely defunded in 1995.³⁵

Staff shortages at congressional support agencies are one aspect of a much broader problem of diminishing in-house science and technology expertise. According to a 2022 analysis by the Congressional Management Foundation, funding for the legislative branch amounts to less than 1 percent of the total non-defense discretionary federal budget.³⁶ In 2015 the legislative branch had fewer than 20,000 employees, several thousand less than in the 1980s.³⁷ In the past three decades, congressional committees have lost more than 1,000 positions.³⁸ And staff levels for key committees with jurisdiction over science and technology issues have plummeted. For instance, staff on the House Committee on Science, Space, and Technology declined by nearly 45 percent between 1994 and 2016.³⁹ Due to inadequate pay and other hiring and retention issues, congressional staff also have high turnover.⁴⁰ Gaps are especially notable in niche areas of expertise: only 2

percent of congressional staff have PhDs.⁴¹ The erosion of staff resources across the legislative branch translates directly into a loss of in-house expertise.

Ramifications of Declining Support

Without the expertise needed to understand highly technical issues, Congress makes mistakes. To take just one example, between 2005 and 2011 it spent nearly \$1 billion on an ineffective virtual border fence constructed by the Boeing Corporation. The plan was to build a system of sensors, radars, and cameras to help border agents identify illegal crossings, but the technology Boeing built was not adequately tested. On implementation, it did not function properly.⁴² Evidence of technical problems was apparent as early as 2007 but appears to have never been raised in the oversight process.⁴³ Instead, Congress evidently relied on Boeing's representations, including testimony submitted in 2007 that the fence would "utiliz[e] proven technology and a systems architecture that will allow for continuous improvement as new technology comes on the market throughout the deployment."⁴⁴ The program was ultimately canceled in 2011.

Congress would be better positioned to avoid problems like this if it had greater ability to access and absorb high-quality technical information. The episode illustrates Congress's tendency, in the face of staff shortages in personal offices, committees, and support agencies, to rely on external sources for guidance. This is not a phenomenon unique to the decades following mid-1990s budget cuts; outside expertise has long been used to fill critical gaps. As former Rep. E. Thomas Coleman recalled, "I relied very much on my staff to brief me on highly technical issues, as well as outside sources I developed through personal relationships. The Congressional Research Service provided great baseline background information, but we often needed other experts to fully brief us on the issues."⁴⁵

Without adequate in-house neutral resources, however, Congress's reliance on outside expertise poses significant risks. First, the external advice on which members and staff rely often reflects particular ideological views and is often funded by financially and politically powerful industries and sectors with vested interests in policymaking outcomes. At congressional hearings, for instance, political scientist Kevin Leyden notes that "the types of organized interests most likely to testify are those that can afford to hire their own Washington-based lobbyists and supporting staff."⁴⁶ These lobbyists, as a Republican congressman on the House Committee on Science, Space, and Technology put it, tend to themselves "have experience working on a committee or working on the Hill," and so they "get it" in terms of understanding the sort of information that will be useful to members.⁴⁷

Whereas nonpartisan in-house resources such as OTA have a track record of identifying flaws in technology —

information lawmakers use to avoid wasting money — Congress’s dependence on skewed expertise can distort the information on which lawmakers rely to make critical decisions. For example, Congress’s outsize reliance on the technology industry to help it come to grips with developments such as social media and now AI risks curtailing the possibility for effective regulations that the industry opposes.⁴⁸

External expertise also exacerbates polarization, because members and staff tend to gravitate toward sources that align with them ideologically. When members of different political parties receive different sets of facts on key issues, it can be difficult or even impossible to find common ground about policy solutions.⁴⁹

In 2017, for instance, a subcommittee of the House Committee on Science, Space, and Technology conducted a high-profile hearing featuring three witnesses who expressed pointed skepticism regarding the overwhelming scientific consensus that human activity is causing global climate change.⁵⁰ A Democratic staffer who worked on the hearing explained, “We thought to ourselves, if you are going to bring in these three people . . . we’re going to bring in the loudest and most prolific person we can think of. . . . You have to fight fire with fire.”⁵¹ The hearing’s partisan tenor helps explain Congress’s larger failure to take decisive action in the face of a threat that policymakers in other countries have generally recognized to be dire.⁵² Without ways for Congress to gain access to more science and technology expertise, many other emerging problems could suffer the same fate.

Recent Reforms

The good news is that in the past few years, a remarkable bipartisan consensus has emerged. Leaders of both parties have sought to improve Congress’s access to and absorption of high-quality research and nonpartisan expertise. Much of this work fell to the House Select Committee on the Modernization of Congress, whose remit has now been transferred to a subcommittee of the House Committee on House Administration.⁵³

The expansion of GAO’s STAA department was a critical step. From 2019 to 2022, STAA’s staff grew from 49 to 129 and produced 46 technology assessments and short-form explainers.⁵⁴ As of August 31, 2023, STAA’s staff stood at 157, with plans to reach 165 in fiscal year 2024.⁵⁵

Lawmakers have also benefited from new tools to create networks of experts to advise them. In 2020 the Federation of American Scientists (FAS) connected scientists with policymakers to advise on issues related to the Covid-19 pandemic, including aerosol science, vaccine technology, infection mitigation, and treatment techniques. An FAS staffer suggested that more such arrangements, with more in-house support, could improve effectiveness, asking,

“Wouldn’t it be great if you had a network of experts to support every committee in Congress?”⁵⁶

New technological tools have helped build out those networks. In 2019 the House Natural Resources Committee used an interactive online platform to engage a diverse set of experts in the drafting process for the Environmental Justice for All Act.⁵⁷ About half of the comments collected on the online platform PopVox — many of which were about technical topics such as the health risks of chemical exposure, the impact of immigration, and the geography and demography of different regions of the country — were incorporated into the final bill text.⁵⁸ Chris Espinosa, then the Natural Resources Committee’s outreach director, explained that the online platform “was an equalizer. You did not need to have a federal lobbyist living in DC to be part of the process.”⁵⁹ Committee staff spoke of the value of the platform in soliciting and incorporating feedback from diverse environmental justice communities.⁶⁰

Several initiatives that the modernization committee championed may also improve pathways to expertise in Congress, even though they were not designed with that purpose.⁶¹ Personnel reforms, such as decoupling staff pay from member pay and creating new hubs for hiring and intern resources, have the potential to pay dividends as Congress tries to deepen and broaden its pool of experts.⁶² The House of Representatives has also implemented a new digital services team to facilitate members’ use of technology. The team could help Congress access a broader array of expert and technical resources, as discussed below.

The Path Forward

The developments above are all important steps to improve pathways to high-quality, nonpartisan expertise in Congress. It is critical that lawmakers maintain and expand existing programs and services.

But they are not enough. According to a recent National Academy of Public Administration report, there is a “gap in the areas of networking, consultative support, and medium-term S&T [science and technology] studies/reports.”⁶³ Other experts concur.⁶⁴ For instance, a report by the Belfer Center finds that “while many consider Congress ‘the most advised body in the world,’ many of the resources available are less useful than they could be.”⁶⁵ It emphasizes that resources could be more timely, concise, and customized and notes that it is important for external experts to build consistent relationships with members and committees.⁶⁶ As Representative Kilmer, the ranking member of the House Select Committee on the Modernization of Congress, put it: “Congress actually needs to invest in . . . the way we learn and encourage members and encourage staff to continue learning on behalf of the folks that we serve. If you look at the trend line . . . Congress has sort of

disinvested in itself as an institution and it's sort of self-lobotomizing."⁶⁷

To fill the glaring gaps in science and technology expertise and support and ensure that lawmakers are prepared to respond to complex technical challenges, Congress should take the following steps.

Building Congressional Support Agency Capacity

The now defunct OTA used to supply some of the support that Representative Kilmer envisions. It not only employed in-house experts but also convened groups of experts from across the country to advise members of Congress on highly technical issues, from Alzheimer's disease to alternative energy.⁶⁸ After OTA was defunded, some of its duties were absorbed by other support agencies — primarily GAO — but Congress's need for the services OTA provided has only grown.

The expansion of GAO's STAA department responds to some of these concerns. For example, the staff we interviewed characterized STAA as focused primarily on increasing the number of technology assessments it produces and building in-house proficiency by hiring scientists and engineers with a wide range of subject matter knowledge. STAA regularly convenes expert panels for most technology assessments. It also plans to build a repository of external expertise, which will allow it to broker connections between experts and Congress. More broadly, STAA staffers characterized the majority of the work they do as responsive to specific requests from Congress, but the department also conducts regular outreach to identify topic areas of broad interest to congressional members and staff. STAA plans to continue to expand its outreach to conduct long-term exploration and network building.⁶⁹ Between 2019 and 2022, STAA consulted 280 experts.⁷⁰ Still, more support in consistent networking is needed, along with more resources to collate the mountain of expertise on these topics.⁷¹

>> Establish a new science and technology hub in STAA.

The most consequential immediate reform that Congress can undertake is to create, within STAA, a new science and technology hub that would collect and disseminate research and expertise to committees and individual members by drawing on the department's existing infrastructure and building on recent initiatives. Although Congress will never be able to house all the experts it needs for every policy area, in-house experts would help members and staff access credible outside resources.⁷² The new hub, which would consist of nonpartisan staff akin to those employed at OTA, CRS, and GAO, should broker relationships between experts and lawmakers and help Congress digest scientific information. It should interact not only with committees and their leadership, as did OTA, but also

with rank-and-file members, as CRS and GAO do through a range of technical assistance and consulting services, in order to build broad and sustained support for the hub across diverse constituencies in Congress.

The science and technology hub's nonpartisan staff would ensure that lawmakers have access to a range of perspectives. They would also monitor for potential biases, including through the use of a conflict-of-interest screening process for outside experts they connect with lawmakers similar to that used for advisory committees in the executive branch.⁷³ As a starting point, the hub would focus on emerging issues where partisan battle lines have not yet been drawn, such as the regulation of AI. Over time, it would ideally build up institutional trust — as did OTA and CRS — and play a constructive role in advising on more clearly partisan issues.

The hub would fulfill two primary functions. First, it would connect Congress to outside experts and research. Researcher–policymaker interactions are most productive when they facilitate enduring working relationships built on trust.⁷⁴ In addition, as a scientist who participated in the FAS task force reflected, a “repository of information that experts provided to lawmakers would be helpful.”⁷⁵ Although ad hoc pairings of experts with lawmakers have developed in recent years, Congress does not have an institutionalized avenue for soliciting and processing external information in a coordinated and streamlined fashion. To fill this gap, the hub could set up advisory councils of experts representing different viewpoints, akin to advisory committees in the executive branch and at the National Academies of Sciences, Engineering, and Medicine.⁷⁶ This would provide Congress sustained contact with experts who could advise for the duration of a policy debate.

OTA had an advisory council composed of members from industry, academia, and elsewhere outside of government to help set Congress's research agenda, and it convened panels of experts with diverse experiences to advise on its reports.⁷⁷ As Peter Blair, who served as the assistant director of OTA, explained: “OTA's project teams and associated advisory panels were charged with providing independent, impartial assessments of highly technical issues, not just their advocacy point of view or their constituent interest.”⁷⁸ Thanks in part to the expertise of the advisory councils, OTA guided the development of landmark legislation. For example, during the Clean Air Act debates in the 1980s and 1990s, OTA staff wrote a report on air pollution and provided modeling expertise to help the House Energy and Commerce Committee and the Senate Environment and Public Works Committee understand the consequences of different provisions in the law.⁷⁹ Legislatures in other countries have created similar advisory councils under the auspices of support agencies that organize and maintain them.⁸⁰

Contemporary advisory councils could build on the

benefits that OTA offered. For example, OTA did not proactively focus on diversity when composing advisory councils. The new hub should take affirmative steps to increase such diversity and representation. Research indicates that thoughtful brokering of relationships between researchers and lawmakers — something the hub would do — increases the diversity of experts influencing the legislative process.⁸¹ In turn, increasing the diversity of experts advising policymakers has been shown to help dismantle inequities in policy outcomes.⁸² In the United Kingdom, Parliament’s Knowledge Exchange Unit, created in 2018 to help connect researchers and members of Parliament, has pioneered such an approach, working to increase the number of women and people of color Parliament hears from.⁸³

The second function the new hub’s staff would perform is translating technical information for Congress while building a reserve of institutional knowledge that could counteract the effects of staff turnover in personal and committee offices. The hub could also organize regular briefings with subject matter experts on emerging issues. Useful models in this regard include the chief administrative officer’s training for lawmakers and staff to help them get acclimated to Congress, and briefings on substantive issues that STAA hosts for lawmakers and staff.⁸⁴

The total cost of a new hub could be modest. Ideally the office would have roughly 100 full time–equivalent in-house subject matter experts. Similarly sized research support agencies, such as OTA, have proved effective.⁸⁵ But even a small staff serving primarily as a liaison between lawmakers and external experts, such as the staff on committees at the National Academies of Sciences, Engineering, and Medicine, could be a powerful resource.⁸⁶ This has been demonstrated by the success of newly created small offices on the Hill, such as the Office of the Whistleblower Ombuds, which provided 49 foundational trainings with 341 staff from 135 House offices in 2021, the second year it was in operation.⁸⁷

Legislative support resources typically provide a substantial return on investment. For instance, in fiscal year 2022, GAO saved the federal government an estimated \$55.6 billion, or a return of approximately \$74 for every dollar invested in GAO.⁸⁸ Over the past five years, GAO estimated an average return on investment of \$145 for every dollar in its budget.⁸⁹ In its time, OTA also saved the government money by helping lawmakers make cost-effective investments. According to Senator Grassley, OTA’s study of the Social Security Administration’s plan to purchase computers saved \$368 million, and its research on the Synthetic Fuels Corporation helped save \$60 billion. OTA’s studies on preventive services for Medicare showed cost savings and influenced legislative decisions for 15 years.⁹⁰ A new science and technology hub has the potential to provide even greater benefits to Congress and the government as a whole, at relatively little cost.

Improving the Use of Research and Data in the Legislative Process

Congress should also explore more systematic and consistent ways of integrating research and data into its work. More enthusiasm, awareness, and new ideas for including data experts in legislation and oversight would supplement the work of the new science and technology hub in connecting lawmakers to external experts.

>> Create a bipartisan commission to better integrate research in the policymaking process.

Earlier this year, Representatives Kilmer and Timmons introduced a bipartisan resolution on evidence-based policymaking that would create a new commission to consider structures and guidelines to support greater use of research and data in the legislative process. Bipartisan commissions or special committees not only provide concrete, well-researched recommendations but also build bipartisan support for structural changes. A new commission focused on evidence-based policymaking may help to build broad buy-in, similar to the successful work of the House Select Committee on Modernization.

Creating a commission would be a good first step toward implementing a variety of reforms to strengthen and systematize how Congress uses research and data as well as transparency measures to provide greater public accountability.⁹¹ For example, Congress could set up procedures for disclosing the data and evidence that bills rely on. It could create guides to make it easier for members, staff, and committees to use evidence in their work. Congress could also establish designated positions, such as a chief data officer, to oversee these processes and coordinate collaboration with data experts.

Similar work has already been pioneered by the executive branch as a result of the 2019 Foundations for Evidence-Based Policymaking Act.⁹² This legislation requires agencies to submit an annual plan for the use of evidence in their work and designate senior employees to coordinate evidence-building activities.⁹³ This can provide a helpful model for the legislative branch as it improves its own use of evidence.

>> Increase members’ access to expertise through the use of emerging digital technologies.

Congress should explore ways to expand its use of digital technologies to broaden its access to expertise. Some lawmakers and committees have started to use technologies to solicit feedback from experts across the country. As noted, the committee staff who used an online platform when drafting the Environmental Justice for All Act reflected that the digital tool allowed them to access a wider range of feedback.⁹⁴ Around the world, legislatures are using such tools to draw on the diverse perspectives of constituents. For example, Brazil’s e-Cidadania program, which began in 2016,

allows citizens and other stakeholders to participate in legislative hearings online or by phone. By late 2020, more than 10 million people had shared opinions through the platform.⁹⁵ In the United States, more congressional committees and offices should follow suit.

To help members use new tools to solicit expertise from diverse constituencies — such as frontline communities and researchers at institutions across the country — Congress should continue to invest in recent institutional reforms such as the House’s new digital services team, which is already providing member offices with access to other new technologies.⁹⁶ The team should expand its activities, for example by setting guidelines for appropriate and unbiased use of emerging technologies and holding trainings for members and staff on how to use such tools to incorporate insights from diverse groups of experts.

>> Enact additional structural reforms and increase staffing.

In the longer term, Congress needs to implement major structural reforms to grapple with increasingly complex technical issues. One starting point is committee jurisdictions. Committees allow members to take ownership of and specialize in certain policy areas. Yet technology policy issues are currently spread across multiple congressional committees in each chamber, which hampers Congress’s ability to tackle issues like AI and social media. Creating a technology committee in each chamber would help Congress deepen its knowledge as well as better coordi-

nate its work.⁹⁷ As an interim step to help prevent things from falling through the cracks, Congress could also refine the jurisdictions of existing committees to define which ones oversee which aspects of certain issues.

Congress also needs to increase staffing. The number of personal staff each member office may hire is currently set at 18.⁹⁸ Lifting this cap and allocating more resources to allow committees and existing support agencies to hire staff and increase pay are critical reforms that deserve further attention.

Structural reforms necessitate reallocation of power and money. Historically these changes have required a blend of political will and fortuitous timing.⁹⁹ While these reforms are politically challenging, they are essential to setting Congress up for success.

Conclusion

In the face of massive technological shifts with profound societal and economic implications, Congress desperately needs increased access to and absorption of high-quality nonpartisan science and technology expertise to fulfill its legislative and oversight functions. With bipartisan momentum and demonstrated results from existing reforms, now is the time for lawmakers to equip themselves with more targeted resources. A new science and technology hub, together with continued funding for existing resources, can help Congress tackle the most pressing issues facing this country.

Appendix: Interviewees

The authors are grateful to experts who generously agreed to be interviewed. They include the following:

K. L. Akerlof, assistant professor, Environmental Science and Policy Department, George Mason University

Peter Blair, distinguished senior fellow, Schar School of Policy and Government, George Mason University; former executive director, Division on Engineering and Physical Sciences, National Academies of Sciences, Engineering, and Medicine; and former assistant director, U.S. Congress Office of Technology Assessment

Olivia Brochu, policy associate, Scholars Strategy Network

Jacob Carter, senior research analyst, Center for Science and Democracy, Union of Concerned Scientists

Megan Coffee, clinical assistant professor, Department of Medicine, NYU Grossman School of Medicine

E. Thomas Coleman, former U.S. representative

Robert Cook-Deegan, professor, Arizona State University, Barrett & O'Connor Washington Center

Marian Currinder, senior professional staff, U.S. House Committee on Administration

James Davis, senior member services adviser, U.S. House Committee on Natural Resources

Michael A. Fisher, senior fellow, Federation of American Scientists (through January 2023)

Erica Goldman, director of science policy, Federation of American Scientists

Julian Gonzalez, senior legislative counsel, Earthjustice

Zach Graves, executive director, Foundation for American Innovation

Marci Harris, executive director, PopVox Foundation

Theresa Hebert, director of communications, Quorum

Jill Horowitz, executive director of strategic operations, Laboratory of Molecular Immunology, Rockefeller University

Matt Hourihan, associate director of research and development and advanced industry,
Federation of American Scientists

James Jones, assistant professor of Africana studies and sociology, Rutgers University–Newark

Kevin Kosar, senior fellow, American Enterprise Institute

Adam Seth Levine, SNF Agora Institute Associate Professor of Health Policy and Management,
Bloomberg School of Public Health, Johns Hopkins University

William Mallison, staff director, Subcommittee on Technology Modernization; senior adviser for oversight,
House Committee on Veterans' Affairs

Linsey C. Marr, Charles P. Lunsford Professor and university distinguished professor, Charles E. Via Jr.
Department of Civil and Environmental Engineering, Virginia Tech

Paola Maynard-Moll, executive director, Scholars Strategy Network

James G. Mazol, policy director, U.S. Senate Committee on Armed Services (minority staff)

Michell McIntyre, policy director, Center for Science and Democracy, Union of Concerned Scientists

Donald K. Milton, MPower Professor, professor of environmental and occupational health,
School of Public Health, University of Maryland

Ben Miyamoto, principal associate, Pew Charitable Trusts

Matthew Muirragui, deputy staff director, U.S. House Committee on Natural Resources

John Neumann, managing director, Science, Technology Assessment, and Analytics,
Government Accountability Office

Heather Painter, legislative director, Rep. Derek Kilmer

J. D. Rackey, director of legislative studies, Sunwater Institute

Molly E. Reynolds, senior fellow, governance studies, Brookings Institution

Richard Rowberg, senior adviser, Division of Engineering and Physical Sciences, National Academies of Sciences,
Engineering, and Medicine (retired)

Marilyn Zepeda Salazar, director of public engagement, U.S. House Committee on Natural Resources

Phil Schiliro, cofounder, Co-Equal; former director of legislative affairs for President Obama

Matthew Schlesinger, oversight counsel, Committee on House Administration, U.S. House of Representatives

Daniel Schuman, governance director, PopVox Foundation

Taylor Scott, research translation platform director, Evidence-to-Impact Collaborative; associate research professor,
Edna Bennett Pierce Prevention Research Center, Penn State; president, TrestleLink; codirector, Research-
to-Policy Collaboration

Jessica Smith, director of operations and communications, Science, Technology Assessment, and Analytics,
Government Accountability Office

Dahlia Sokolov, policy director, U.S. House Committee on Science, Space, and Technology

Aubrey Wilson, director of government innovation, PopVox; former deputy staff director,
U.S. House Committee on House Administration

Endnotes

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