

THE VIEWS AND ESTIMATES
OF THE
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
FOR FISCAL YEAR 2018

In 2017, the House Committee on Science, Space, and Technology will continue to oversee and implement a legislative agenda with a focus on open and transparent taxpayer-supported science, basic research in the national interest, and mission-supporting technology development. It is this core focus, coupled with tax and regulatory reform, border security, and a budget on a path to balance, which is required for robust entrepreneurial economic growth, the creation of millions of good-paying, skilled private sector jobs, faster technological innovation, higher productivity gains, and enhanced international competitiveness and security.

The Committee on Science, Space, and Technology oversees agency budgets totaling over \$42 billion, most of which are focused on research and development (R&D). A full reauthorization of the science agencies under the Committee's jurisdiction will allow the Committee to rebalance priorities and ensure that our nation's science agencies are on a trajectory to keep America at the forefront of scientific knowledge and discovery. To maintain our competitive advantage, we must continue to support the fundamental R&D that encourages innovation in the creation and design of next generation technology.

The Committee seeks to increase support for basic research in the physical sciences. These are the areas with the greatest potential for scientific breakthroughs that will benefit new industries and U.S. jobs. America's universities and research institutions carry out federally-funded basic and fundamental scientific research that drives new discoveries and innovations - creating new companies, new industries, more private sector jobs, and economic growth and security.

During the 115th Congress, the Committee will review the authorizations of agencies and programs within its jurisdiction and, specifically with regard to lapsed authorizations, determine whether programs should be reauthorized or terminated. Each subcommittee will conduct oversight of the programs and offices within its jurisdiction, including holding hearings and requesting information from the Executive Branch in order to gather the necessary information to support these determinations.

The Committee expects to reauthorize key federal science agencies, including the National Aeronautics and Space Administration (NASA), the Department of Energy's (DOE's) Office of Science, the National Science Foundation (NSF), the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration's research, data, and weather programs, science and technology at the Department of Homeland Security, and research and development components within the Federal Aviation Administration, through which much of the research benefitting America's economic and national security is performed. The Committee will reauthorize these agencies in a pro-science, fiscally responsible manner.

The Committee began this effort in the 114th Congress with the passage of both H.R. 1806, the "America COMPETES Reauthorization Act of 2015," which authorized NIST, NSF, and the DOE's Office of Science, and H.R. 810, the "National Aeronautics and Space Administration Authorization Act of 2015."

The America COMPETES Reauthorization Act, though it was not signed into law, is one of 11 Science Committee bills from which various provisions were included in S. 3084, the "American Innovation and Competitiveness Act," which was enacted on January 6, 2017. The American Innovation and Competitiveness Act authorizes the activities, but not the spending, at NSF, NIST, the Office of Science and Technology Policy, and other federal interagency science programs.

In reauthorizing the agencies within the Science Committee’s jurisdiction, the Committee seeks to improve accountability and transparency, reduce administrative burdens on researchers, enhance agency oversight, improve research coordination, and reform federal science agency programs to increase the impact of taxpayer-funded research. The Committee will continue its ongoing legislative efforts to reduce the cost of research through efficiency, and eliminate bureaucratic overhead, red-tape, and costly regulations. The Committee also will make certain that research across the federal agencies is not duplicative and that taxpayer resources are used in an efficient and effective manner.

National Science Foundation (NSF)

- The Committee will require that NSF research funding be appropriated at the Directorate level with 70 percent of the research funding allocated to the Mathematical and Physical Sciences Directorate, the Computer and Information Science and Engineering Directorate, the Biological Sciences Directorate, and the Engineering Directorate.
- The Committee will ensure that federally funded research conducted through NSF, and all agencies, is in the national interest. Throughout its history, the NSF has played an integral part in funding breakthrough discoveries in fields as diverse as mathematics, physics, chemistry, computer science, engineering and biology. A defined “national interest” requirement and criteria, enacted this year as part of the American Innovation and Competitiveness Act (P.L. 114-329), will go a long way towards ensuring the grant-making process at NSF is transparent and accountable to the American public.
- Last Congress, the president signed into law H.R. 1020, the “STEM Education Act of 2015.” The Committee will build off this progress and continue its work to improve coordination of science, technology, engineering, mathematics, and cyber (STEM) education activities across the Federal government and ensure the American workforce consists of experts in STEM fields. Unfortunately, America lags behind many other nations

when it comes to STEM education. American students rank 19th in science and 31st in math out of 35 developed countries. A well-educated and trained high-tech workforce ensures our future economic prosperity. This means motivating more American students to study science, math, computing, and engineering so they will want to pursue these careers.

National Institute of Standards and Technology (NIST)

- Increase the core lab funding for generic technology transition to innovation by the NIST Scientific and Technical Research and Services account and the NIST Facilities account. This amount will be offset by reducing the NIST Industrial Technology Services account.
- The Committee will ensure that NIST remains a global leader in cybersecurity knowledge, scientific standards-setting, and research and analysis of federal agencies' cyber security readiness. We must take advantage of NIST's unique capabilities to both develop cybersecurity standards and guidelines, which NIST does now, and go further and evaluate and assess the extent of federal agencies' compliance with them. NIST agency audits will help achieve this goal and must be fully funded.

Department of Energy (DOE)

- The Committee seeks to prioritize basic research and science at the DOE national labs consistent with H.R. 589, the "Department of Energy Research and Innovation Act," which has already passed the House this Congress. The Committee seeks to enable researchers in all 50 states to have access to world-class user facilities, including supercomputers and high intensity light sources. Government subsidies that pick winners and losers diminish competition and rarely benefit the American taxpayer. A better role for the government is to support investments in basic scientific research in our universities and national labs.

- In addition to sustaining DOE's Office of Science account funding level in Function 250, as with NSF Directorate-level funding, allocate DOE Office of Science National Laboratories funding by basic research program. The Committee will seek to prioritize Basic Energy Sciences, Advanced Scientific Computing Research, and Fusion Energy Sciences offset by reducing Biological and Environmental Research.
- Reduce Energy Efficiency and Renewable Energy R&D and ARPA-E funding in Function 270 by at least \$750 million.
- The Committee will authorize nuclear R&D activities at DOE in accordance with House-passed H.R. 589 and H.R. 431, the "Nuclear Energy Innovation Capabilities Act of 2017." The Committee's nuclear R&D policies will harness and combine the strengths of the National Labs, universities, and the private sector in a joint innovation initiative. Advanced nuclear reactor technology provides a great opportunity to make reliable, emission-free electricity available throughout the industrial and developing world.

National Oceanic and Atmospheric Association (NOAA)

- Fund priority public safety NOAA Weather Research in the Office of Oceanic and Atmospheric Research at \$125 million in Function 300. Saving lives and protecting property must be NOAA's primary mission.
- Provide \$6 million for the NOAA Commercial Weather Data Pilot project out of existing funding in the NOAA Procurement, Acquisition, and Construction account.
- Improve weather observation data through the required use of observing system simulation experiments and next generation computing and modeling capabilities consistent with H.R. 353, the "Weather Research and Forecasting Innovation Act of 2017," which passed the House on January 9, 2017, and is pending imminent Senate passage. It provides NOAA with the flexibility to buy new, affordable, and potentially better sources of data from the private sector that have the power to make real improvements to our weather forecasting capabilities and creates a much-needed new \$20

million technology transfer initiative in NOAA's Office of Oceanic and Atmospheric Research.

- Hundreds of millions of dollars in savings are available by reducing NOAA climate change programs and big, government satellite system costs.

National Aeronautics and Space Administration (NASA)

- The Committee will reignite America's pioneering spirit for exploration of new frontiers and worlds through reinvigoration of our space science program with the entrepreneurial drive of commercial incentives and ideas. This includes ensuring that the Space Launch System and Orion programs receive adequate funding to ensure that NASA astronauts are able to explore the cosmos as opposed to having their feet tied to earth.
- The Committee will push for full implementation of the policy provisions in the House Authorization bills that passed the House several times last Congress with broad bipartisan support, as well as the House's proposed NASA Fiscal Year 2017 funding level of \$19.5 billion. That level and policy is authorized in S. 442, the NASA Transition Authorization Act, which is expected to pass the House on March 7, clearing it for the President's signature into law.
- Maintain the overall level of investment in NASA by reducing NASA Earth Science funding to \$1.45 billion, the level authorized in Committee-approved H.R. 2039 last Congress, and reallocate the resulting \$471 million to Planetary Science, Astrophysics, Heliophysics, the Orion Space Exploration Multi-purpose Crew Vehicle, the Commercial Crew Program, and Exploration R&D.
- Reject any proposed cut to Space Launch System funding that would delay the launch of Exploration Mission 1 or Exploration Mission 2.
- No NASA resources should be provided or permitted for planning and development of technologies unique to an Asteroid Redirect Mission (ARM). Near Earth Object (NEO) survey, detection, and characterization are not unique to ARM, and additional NASA resources could be used to help

NASA meet the long-standing goals of the Congressionally-mandated George E. Brown, Jr. NEO Survey Program.

Federal Aviation Administration (FAA)

- The Committee will reauthorize the FAA's Research, Engineering, and Development (RED) account to become part of overall FAA authorization legislation. FAA R&D should rebalance its efforts to prioritize the funding of aviation safety through the periodic testing and evaluation, verification and validation, and sustainment of the FAA's full spectrum of aviation systems. FAA R&D must also support FAA certification of new technologies, particularly unmanned aerial systems (UAS), into the national airspace system (NAS).
- FAA's Office of Commercial Space Transportation should be adequately funded to license and permit commercial launch or reentry activities, and to encourage, facilitate, and promote U.S. commercial space transportation. The Office should focus and prioritize its resources in order to execute these statutory responsibilities.

Department of Transportation Surface Transportation Research & Development

- On December 4, 2015, President Obama signed into law a five-year highway bill as P.L. 114-94. Among its provisions, the law authorizes funding for two technology deployment programs that cost \$80 million annually to be paid partially from highway research programs that are authorized at \$225 million a year. This will result in a one-third cut to highway R&D, effectively slashing future innovation in exchange for current infrastructure implementation. While not opposing technology deployment, doing so at the expense of R&D funds, without which there will be less transformational technology to deploy, is ill-advised.

Environmental Protection Agency (EPA) Science and Technology

- Reduced EPA Science and Technology account funding should be provided only if the EPA Administrator requires that all scientific and technical information and data relied on to support a risk, exposure, or hazard assessment; criteria document; standard; limitation; regulation; regulatory impact analysis; or guidance issued by the EPA is publicly available. This requirement is fully consistent with and would enforce Chairman Smith's Honest and Open New EPA Science Treatment Act (HONEST Act) of 2017.

Department of Homeland Security Science and Technology (DHS S&T)

- R&D plays a critical role in supporting DHS' mission and the DHS S&T Directorate needs to be reorganized and reformed to better and more quickly support DHS component efforts to detect, prevent, mitigate, respond to, and recover from terrorist attacks. The DHS Domestic Nuclear Detection Office combines R&D with acquisition and deployment in effectively carrying out its mission to address nuclear terrorism. That model deserves serious consideration regarding chemical, biological, explosives, cybersecurity, border security, and lone wolf threats.

U.S. Global Change Research Program (USGCRP)

- The USGCRP is an interagency accounting of over \$2 billion of spending on climate change research. Involving NASA, NSF, NOAA, NIST, DOE, EPA, and even the Department of Interior's U.S. Geological Survey, much is duplicative and poorly defined based on the Science Committee's oversight of these agencies under its jurisdiction. Given this fiscal irresponsibility, any funding that is part of the USGCRP should only be available contingent on a finding by the administration that it is not duplicative or wasteful based on a government-wide review of climate change research.