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to the
Committee on Science and Technology
United States House of Representatives
Research and Development Aspects of the President's Fiscal Year 2010 Budget
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Chairman Gordon, Ranking Member Hall, and Members of the Committee, I am pleased to be with you today to discuss the President's Budget for research and development (R&D) for the 2010 fiscal year.

Administration Initiatives in Science, Technology, and Innovation

Before I get to the details of the R&D budgets, I'd like to set the stage with a few comments on the array of initiatives in the domain of science, technology, and innovation (STI) that this Administration has gotten underway in its first few months in office. These initiatives all stem from the President's conviction, which I know the members of this Committee share, that nourishing and fully utilizing this country's world-leading capabilities in STI will be key to mastering practically every major challenge we face, from creating new and better jobs for economic recovery and growth, to providing improved health care for all Americans at lower cost, to reducing dependence on energy imports while also reducing the carbon pollution that is changing Earth's climate, to ensuring that we always have the defense, homeland security, and national intelligence technologies needed to protect our troops, our citizens, and our national interests.

The President has been clear, from the beginning of his campaign for the office, about his understanding of the importance of STI for meeting these national challenges and about his commitment to providing the resources, incentives, and ground rules that science, technology, and innovation need in order to realize their potential. He was clear about this in his inauguration speech, in his speech to the Joint Session of Congress on February 24, and most extensively and emphatically of all in his groundbreaking speech to the Annual Meeting of the National Academy of Sciences on April 27.

Of course, he and all of us are aware that the economic crisis compounds the difficulty of doing all that should be done to support and facilitate the realization of STI's full potential to help address the challenges we face. But this is no time to say it cannot be done. Here is what the President said about that in his speech to the National Academy:

"At such a difficult moment, there are those who say we cannot afford to invest in science—that support for research is somehow a luxury at moments defined by necessities. I fundamentally disagree. Science is more essential for our prosperity, our security, our health, our environment, and our quality of life than it has ever been before."

The initiatives that the Administration is already taking, based on this insight, to advance STI in this country are much broader than the increases in R&D budgets to which I will shortly turn. Let me mention a few of the most important that we in the White House Office of Science and Technology Policy (OSTP) have been focused on in collaboration with others in the Executive Office of the President:

Stem cell research: As you know, the President's March 9 Executive Order on stem cell research and the draft guidelines produced under that order by the National Institutes of Health are moving policy on Federal funding for potentially life-saving and life-enhancing biomedical research in this domain toward a stance that will allow faster progress while observing responsible boundaries and actually providing greater oversight than before.

Scientific integrity: In an Executive Memorandum also issued on March 9, the President asked OSTP to produce recommendations "to ensure that public policy is informed by the best possible science, and that political officials should not suppress or alter scientific or technological findings and conclusions." OSTP is well along in this process and has received input about existing guidelines and practices as well as about prospective improvements from across the Executive Branch departments and agencies with science missions and from other stakeholders.

Science, technology, engineering and mathematics (STEM) education: In his speech at the National Academy of Sciences, President Obama pledged that his Administration will help American students "move from the middle to the top of the pack in science and math education over the next decade." OSTP is working with the White House Domestic Policy Council, the Department of Education, and a number of the main science and technology agencies to identify and promote concrete actions to help meet this ambitious goal.

Preparing the next generation of clean-energy innovators: One of President Obama's top priorities is to build a clean-energy economy that creates green jobs, shrinks our dependence on foreign oil, and reduces the impact of climate change. OSTP is working with the National Science Foundation and the Department of Energy on a new initiative in clean-energy education. With investments from grade school to grad school, this program will inspire today's students to tackle this challenge in the same way that the "space race" motivated many students in the 1950s and 1960s to become scientists and engineers.

High-risk, high-return research: The National Academy of Sciences, the American Academy of Arts and Sciences, and others have concluded in recent reviews that the Federal government is under-investing in high-risk, high-return research. OSTP has been working with a number of the science agencies to address this problem. The National Institutes of Health, for example, have agreed to use their funds under the American Recovery and Reinvestment Act (ARRA) to increase the number of New Innovator Awards they are supporting. This program supports unusually creative new investigators with highly innovative research ideas at an early stage of their career when they may lack the preliminary data required for a typical NIH award.

Nanotechnology: The President noted in his campaign that nanotechnology has enormous potential to lead to revolutionary advances -- in electronics, low-cost solar cells, next-generation energy storage, and smart anti-cancer therapeutics that deliver drugs only to tumors, among other

fields of application, but that this potential must be pursued with due attention to minimizing possible side effects. Consistent with this stance, OSTP has supported a substantial increase in the Federal government's investment in research related to the environment, health, and safety dimensions of nanotechnology.

International cooperation in science and technology: International cooperation in science and technology can accelerate the pace of progress by sharing insights, costs, and risks among the cooperating countries; can improve knowledge of and access to foreign technology markets by U.S. firms; can promote widespread adoption of solutions to problems that are global in nature (such as climate change, oil-import vulnerabilities, ocean pollution, and proliferation of nuclear weapons); and can contribute to improving relations with countries where such improvements can bring broad benefits. With the President's encouragement, OSTP is working to reduce unwarranted barriers to international exchanges in science and technology fields and to take advantage of the opportunities many other countries are eager to offer for collaborative efforts that are clearly in the U.S. interest.

Open Government: One of the first actions taken by the President following inauguration was to issue an Executive Memorandum on transparency in government, energizing a wide-ranging effort to use technology to help make government more open, collaborative, and participatory. An early manifestation of this effort is the recent launch of an interactive blog on science integrity on the OSTP website—the first such web feature ever set up to take public comments within the Executive Office of the President—that is allowing Americans from all across the country to weigh in with their thoughts on this topic.

Now I'd like to offer some thoughts on the STI components of the President's FY2010 Budget proposal, the details of which were released just under a week ago.

Overall STI Budget

The new Budget proposes \$147.6 billion current dollars for the total Federal investment in research and development (R&D) in FY2010, which under OMB's assumed 1.1% inflation rate from FY2009 to FY2010 would mean a drop of about 0.7% below the 2009 Omnibus in real spending power. But two elaborations are important here. One is that all of the real decrease and more is accounted for by a drop in the development part of defense R&D. Defense R&D in total would drop 3.0% in real terms from FY2009 to FY2010 under the President's proposal, while nondefense R&D would increase by 2.5% in real terms.

The second elaboration is that the real magnitude of the Federal R&D budgets for FY2009 and FY2010 can only be judged with the inclusion of the ARRA funding, which added an estimated \$18.3 billion for R&D in FY2009 dollars to be spent mostly over those two years, nearly all of it on the nondefense side. While no year-by-year allocation of these funds is currently available, it is clear that their addition to the approved regular Budget for FY2009 and the proposed one for FY 2010 would give these two years the two largest Federal investments in R&D in U.S. history.

The FY2009 and FY2010 budgets give particularly good treatment to research, both basic and applied (as contrasted with development), with the aims of bolstering the fundamental understandings that are at the root of all innovation and fostering significantly new and potentially transformative technologies. Without the ARRA funding, and expressed in constant FY2009 dollars, the FY2009 and proposed FY2010 figures are about equal at circa \$58.5 billion, more than 3 percent above the FY2008 figure in real terms. With the estimated \$13.3 billion in FY2009 dollars added by ARRA to the research funding for FY2009 and FY2010, and with Congressional approval of the President's proposal for the latter, these two years will provide the largest Federal investments in research in U.S. history. This follows four years of real decline in this category from FY2004 to FY2008.

Budgets of Science Agencies

The new Budget sustains the President's commitment to double the budgets for three key basic research agencies over a decade: the National Science Foundation, the National Institute of Standards and Technology (NIST) laboratories, and the Department of Energy's Office of Science. The President's Plan for Science and Innovation and the America COMPETES Act have identified these three agencies as key to our nation's future prosperity and to preserving America's place as the world leader in science and technology. Although the previous Administration supported an effort to double these agencies' budgets between 2006 and 2016, these efforts fell short in 2007 and 2008. But in 2009, this Congress and this Administration worked together to finally put these agencies on a doubling trajectory.

In his April 27 speech at the National Academy of Sciences, the President announced that his 2010 Budget would provide \$12.6 billion total for NSF, DOE Science, and the NIST labs, an increase of 5 percent in real terms above the 2009 enacted total. In addition, the Recovery Act provided \$5.2 billion in FY2009 dollars for the three agencies, to be spent mainly in FY2009 and FY2010. The overall increases keep these agencies on track for the fourth year of a doubling trajectory, and the 2010 Budget establishes a clear path toward completing the doubling effort in 2016.

The President's FY 2010 Budget also fulfills the important visions established by Congress in the America COMPETES Act, which could not have become law without this Committee's strong leadership. Combined, the Omnibus Appropriations Act, the Recovery Act and the 2010 Budget meet the 2009 and 2010 America COMPETES Act authorizations for NSF, DOE Science, and NIST. America COMPETES Act authorizations extend to 2011; we look forward to working with Congress next year on reauthorizations for these important agencies.

Some further comments on the FY2010 Budget for individual agencies follow.

National Science Foundation (NSF)

The National Science Foundation (NSF) is the primary source of support for academic research for most non-biomedical disciplines, funding basic research across the entire spectrum of the sciences and engineering. It is well regarded for funding nearly all of its research through a competitive, peer-reviewed process. The 2010 Budget requests \$7.0 billion for NSF, an increase

of 7.4 percent in real terms above the FY2009 enacted level. This keeps NSF on track to double its budget over a decade as promised in the President's Plan for Science and Innovation. In addition, the Recovery Act provided \$3.0 billion for NSF.

Basic research funding is important not only because it leads to new knowledge but also because it trains the researchers and the technical workforce of the future. In recognition of this dual benefit to society and of NSF's special contribution, on April 27 the President announced that the 2010 Budget fulfills the President's commitment, made in his first weekly radio address, to triple the number of NSF's Graduate Research Fellowships to 3,000 by 2013. The 2010 Budget also requests an increase to \$64 million, the full authorized funding level, for the Advanced Technological Education (ATE) program to promote partnerships between higher education institutions and employers to educate technicians for the high-technology fields that drive our nation's economy.

NSF will also be collaborating with the Department of Energy (DOE) on the RE-ENERGYSE (Regaining our ENERGY Science and Engineering Edge) program to inspire tens of thousands of American students to pursue STEM careers, particularly in clean energy. I believe NSF is poised to play a vital part in this collaboration through programs such as Integrative Graduate Education Research Traineeship (IGERT) opportunities in clean energy, Research Experiences for Undergraduates (REU) in energy, and clean-energy ATE projects.

National Aeronautics and Space Administration (NASA)

The 2010 Budget requests \$18.7 billion for NASA, nearly \$1 billion more than the 2009 enacted level, in addition to the \$1 billion provided in the Recovery Act. These boosts reflect the Administration's commitment to a balanced and robust space program. Maintaining and expanding our capabilities in space is sometimes regarded as a luxury we should do less of in the face of more pressing earthbound concerns, but that would be a false economy. Space is crucial to our national defense; to civil as well as military communications and geo-positioning; to weather forecasting and storm monitoring; to observation and study of the condition of our home planet; and to study and exploration that is increasing our understanding of the physical universe and our place in it. The 2010 Budget and the Recovery Act add money that will be needed to keep vital satellite missions for gathering climate data on track, to sustain a full schedule of Space Shuttle flights, to complete assembly of the International Space Station, to restore funding for aeronautics research, and to develop the next generation of human spacecraft.

As President Obama has emphasized on a number of occasions, he remains committed to U.S. participation in human as well as robotic space exploration, including sending astronauts beyond low-earth orbit. Reconciling these aspirations with NASA's other missions in an era of budget constraint remains a great challenge, however, and to help with it as we contemplate the budgets looking forward from FY2010 to the "out years", the Administration is establishing a blue-ribbon team of experts who will work closely with NASA to re-examine human space flight activities beyond the scheduled retirement of the Space Shuttle at the end of calendar 2010. The goal for the review, which will report to me and the NASA Administrator, is to be sure that all of the options for achieving as many of our human spaceflight goals as possible in this crucial

period, consistent with also fulfilling NASA's other missions, have been identified and carefully analyzed.

Department of Commerce National Institute of Standards and Technology (NIST)

The National Institute of Standards and Technology (NIST) invests in technological innovation through research, advanced measurement, and standards development. NIST's intramural laboratories receive \$652 million in the FY2010 Budget to keep these important basic-science programs on track to double over a period of a decade. The 2010 Budget will improve NIST's capabilities by supporting high-performance laboratory research and facilities for a diverse portfolio of basic research. For NIST's extramural programs, the 2010 Budget requests \$125 million for the Hollings Manufacturing Extension Partnership (MEP), a \$15 million increase over the 2009 enacted level, as part of a separate commitment to double MEP funding between 2008 and 2015. The 2010 Budget also requests \$70 million for the Technology Innovation Program (TIP).

Department of Commerce National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration (NOAA) plays a vital role in research on the earth's ocean, atmosphere, and marine habitats. The NOAA Budget of \$4.5 billion is an increase of about 1.3% in real terms over the 2009 enacted level. More important than this modest overall gain is that NOAA satellite systems, which are essential to our understanding of weather and climate, are a top priority in the 2010 Budget with over \$1.3 billion, intended to cover increases for the Geostationary Operational Environmental Satellite R-series (GOES-R) and National Polar-orbiting Operational Environmental Satellite System (NPOESS) projects. These resources are designed to ensure continuity of satellite coverage needed for weather forecasting and climate data records that are important for the Administration's initiatives to understand and respond to climate change. Data from these satellites will be utilized by NOAA's climate research programs, which total \$295 million in the FY2010 Budget, as well as by researchers funded by other agencies.

I share this committee's concern about past schedule delays and cost increases in the NPOESS program. NOAA is using Recovery Act funds to restore climate sensors to NPOESS, which is a welcome step, and I can assure the committee that OSTP is actively engaged in overseeing the progress of this program, including convening the responsible NOAA, NASA, and DOD staff to work more effectively together to stabilize this joint program.

Department of Energy (DOE)

The Department of Energy (DOE) R&D portfolio (which does not include non-R&D cleanup, weapons, and energy-demonstration programs), totals \$10.7 billion in the 2010 Budget, about the same as in FY2009 in real terms. That figure is 7 percent above the FY2008 enacted figure. In addition, DOE received \$2.4 billion in preliminary allocations of Recovery Act funds for R&D activities, which will be spent primarily in 2009 and 2010, and these additions boost the DOE R&D spending level for FY2009 and FY2010 to the range of 20 percent above the FY2008 level.

DOE is investing in science to achieve transformational discoveries through novel approaches. For example, the 2010 Budget launches Energy Innovation Hubs with \$280 million spread over eight centers to support cross-disciplinary R&D on the barriers to transforming advances in energy science into commercially deployable materials, devices, and systems. The 2010 Budget will also continue to support the 46 Energy Frontier Research Center (EFRC) grants announced on April 27 to address the fundamental scientific roadblocks to clean energy and energy security through collaborations among universities, national labs, industry, and nonprofit organizations. It will also continue to support the Advanced Research Projects Agency-Energy (ARPA-E), authorized in the America COMPETES Act and first funded in the Recovery Act. ARPA-E, modeled on DOD's Defense Advanced Research Projects Agency (DARPA), will fund high-risk, high-reward research to yield revolutionary changes in how we produce, distribute, and use energy.

DOE's Office of Science (DOE SC) supports grants and infrastructure for a wide range of basic research impacting economically significant areas such as nanotechnology, high-end computing, energy, and climate change. The FY2010 Budget of \$4.9 billion for this office increases funding for both research and cutting-edge facilities, and will be augmented by the 2010 share of the \$1.6 billion for DOE SC in the Recovery Act. These funds will improve our understanding of climate science, continue the U.S. commitment to international science and energy experiments, and add to the expansion of Federal support at the frontiers of energy research.

The President's 2010 Budget also invests in DOE's clean-energy R&D programs to reduce dependence on foreign oil and to accelerate the transition to a low-carbon economy. It provides \$320 million for solar energy R&D, nearly double the 2009 enacted level of \$175 million, and \$238 million for energy conservation building technologies, also nearly double the 2009 enacted level of \$140 million.

Environmental Protection Agency (EPA)

EPA's R&D investment is managed by the Office of Research and Development (ORD), with the majority residing in the Science and Technology (S&T) account, which receives an Agency-wide total of \$842 million in the 2010 Budget, 5.4% above the 2009 enacted level. R&D priorities in the 2010 Budget include green infrastructure research for water quality; climate-change research consistent with directions outlined in a recent National Academy of Sciences review of the government's efforts in this domain; and continuing efforts in computational toxicology research. EPA's nanotechnology research program continues to fund research designed to support and inform health and environmental nanotechnology safety decisions. EPA is also proposing to increase its efforts to inventory greenhouse gas emissions.

United States Geological Survey (USGS)

The total USGS Budget of \$1.1 billion is a \$54 million increase over the 2009 enacted level. I am pleased that the highest budget priorities are increases in the areas of climate change, renewable energy, and education and training programs. The 2010 USGS Budget expands climate-change science activities, requesting \$58 million for the Global Change program – a real

increase of over 40% from the 2009 enacted level. These funds include \$22 million for climate-change impacts. The increases will fund a National Climate Change and Wildlife Science Center to develop regional collaborative research hubs, support carbon sequestration research, and develop an Interior Climate Effects Network.

Department of Homeland Security (DHS)

Department of Homeland Security (DHS) R&D increases to \$1.125 billion in the 2010 Budget, an increase of about 1.5% in real terms from 2009 enacted level. DHS's Science and Technology Directorate is responsible for most of this R&D investment. Within that directorate's 2010 Budget of \$968 million, I call your attention particularly to the \$44 million request for the cross-cutting Innovation portfolio focused on work that could lead to revolutionary technology breakthroughs, which is \$11 million increase over the 2009 enacted funding level.

Department of Transportation / Federal Aviation Administration (FAA)

Department of Transportation (DOT) R&D programs receive \$939 million in the 2010 Budget, an increase of about 1.7% in real terms over the 2009 enacted level. Central to DOT's R&D activities is the Federal Aviation Administration's (FAA) Research, Engineering, and Development program. The 2010 Budget for that program requests \$180 million, up from the \$171 million 2009 enacted funding level. I am pleased that the request includes funding for several R&D activities in the Next Generation Air Transportation System (NextGen) as well as the Joint Planning and Development Office which coordinates this important, high priority interagency effort with NASA.

National Institutes of Health (NIH)

Federal R&D investments in health result in knowledge and technologies that are vital for promoting longer, healthier lives for all Americans and have the potential for doing so at lower costs. The Administration is committed to funding biomedical and health research and to policies that increase the impact of these investments on health outcomes. The 2010 Budget proposes \$30.8 billion for the National Institutes of Health (NIH), a modest 0.4% in real terms above the enacted FY2009 figure but 3.4% above FY2008. In addition, NIH received \$10.4 billion in Recovery Act funding, mainly to be spent in 2009 and 2010. As a result, this year and next year NIH will make the two largest investments in biomedical research in history in real terms. I note also that the FY2010 Budget includes over \$6 billion to support cancer research, as part of the President's multi-year plan to double NIH-wide funding for cancer research while also maintaining growth for non-cancer research.

Department of Defense (DOD)

The new Budget proposes \$79.7 billion for DOD R&D, down 3.4% in real terms from the FY2009 enacted figure and 3.0% below FY2008, due primarily to proposed cuts in lower-priority weapons development programs. The Budget contains an increase of about 3 percent in real terms for the Defense Advanced Research Projects Agency (DARPA), which focuses on longer-term, breakthrough research; and it keeps support for basic research across the

Department about the same in as in FY2009, at a level some 11 percent higher in real terms than the FY2008 enacted figure.

White House Office of Science and Technology Policy (OSTP)

The White House Office of Science and Technology Policy has primary responsibility in the White House, in partnership with OMB, for shaping R&D priorities across the agencies with significant portfolios in this domain, and OSTP also has the primary responsibility, with the help of the National Science and Technology Council (NSTC) that is administered out of our office, for coordinating interagency research initiatives. The FY2010 Budget's request for OSTP's operations is \$6.2 million, about a 15% increase in real terms from the FY2009 enacted figure.

The increase is in recognition of OSTP's responsibilities have been significantly increased by virtue of the President's determination to elevate the role of S&T in the Executive Branch generally and the White House particularly. We are returning to the four Senate-confirmed Associate Directors authorized by statute (only two of which positions were filled in the last Administration); and one of the four – the Associate Director for Technology – also will hold the new position of Chief Technology Officer for the Nation and Assistant to the President, with expanded duties including guiding and resourcing the President's Open Government Initiative. We are also reinvigorating the President's Council of Advisors on Science and Technology (PCAST), ramping up the activities of the NSTC, and coordinating the nation-wide effort to enhance scientific integrity in the policy-making process.

Interagency Initiatives

A number of priority interagency S&T initiatives are highlighted in the new Budget. All of these are coordinated through the NSTC, which as noted above is administered by OSTP.

Networking and Information Technology R&D

The multi-agency Networking and Information Technology Research and Development (NITRD) Program plans and coordinates agency research efforts in cyber security, high-end computing systems, advanced networking, software development, high-confidence systems, information management, and other information technologies. The FY2010 Budget provides \$3.9 billion for NITRD. NITRD programs are also receiving about \$0.7 billion in Recovery Act funding, based on preliminary agency allocations, spread across 2009 and 2010. The FY2010 Budget for NITRD retains the important focus on investment in high-end computing research for both national security and large-scale scientific applications, particularly in advanced scalable simulations. The new Budget also emphasizes foundations for assured computing and secure hardware, software, and network design and engineering to address the goal of making Internet communications more secure and reliable.

National Nanotechnology Initiative

The FY2010 Budget provides \$1.6 billion for the multi-agency National Nanotechnology Initiative (NNI), a slight cut of \$17 million from the enacted 2009 level excluding Recovery Act funds. But NNI programs are receiving \$140 million in Recovery Act funding spread across 2009 and 2010, based on preliminary agency allocations. The NNI focuses on R&D that creates materials, devices, and systems that exploit the fundamentally distinct properties of matter as it is manipulated at the nanoscale (roughly 1 to 100 nanometers). The results of NNI-supported R&D are enabling breakthroughs in biomedical detection and treatment, manufacturing at or near the nanoscale, environmental monitoring and protection, energy conversion and storage, and novel electronic devices, among many others.

Guided by the NNI Strategic Plan, participating agencies will continue to support nanoscience and nanotechnology development through investigator-led research; multidisciplinary centers of excellence; education and training; and infrastructure and standards development, including user facilities and networks that are broadly available to support research and innovation. In addition, consistent with the NNI Strategy for Nanotechnology-Related Environmental Health, and Safety (EHS) Research, agencies continue to maintain a focus on developing nanotechnology responsibly, with attention to the human and environmental health impacts, as well as ethical, legal, and other societal issues. I know that these issues are of special interest to this committee, so I'm pleased to say that the 2010 Budget increases the priority of nano EHS research with a request of \$88 million for nano EHS research, more than 20 percent above the 2009 level in real terms. There is an additional \$36 million for nano educational and societal dimensions research, which is a 7 percent increase over the 2009 level in real terms.

Climate Change Science Program

The U.S. Climate Change Science Program (CCSP) coordinates climate research among 13 participating departments and agencies. The FY2010 Budget provides \$2.0 billion for CCSP programs, which is only about 1.2% above the regular FY2009 Budget in real terms. But CCSP programs also received \$461 million in Recovery Act funding spread across 2009 and 2010, based on preliminary agency allocations, including \$237 million for NASA climate activities. Research activities to be supported by these funds include the development of an integrated Earth-system analysis capability; creation of a high-quality record of the state of the atmosphere and ocean since 1979; development of an end-to-end hydrologic projection and application capability; enhanced carbon-cycle research on high latitude systems; quantification of climate forcing and feedbacks by aerosols, non-carbon dioxide greenhouse gases, water vapor, and clouds; assessment of possibilities for abrupt change in a warming climate; examination of the feasibility of development an abrupt-change early warning system; understanding climate change impacts on ecosystem functions; and refining ecological forecasting.

Science, Technology, Engineering, and Mathematics (STEM) Education

OSTP shares this Committee's longstanding interest in a coordinated interagency effort on Federal STEM education activities. A study by the Academic Competitiveness Council found that Federal STEM programs are contained in 10 cabinet departments and 4 independent

agencies, making effective coordination a necessity. The 2010 Budget proposes \$3.7 billion for these STEM programs, an increase of about 1.6% in real terms above the enacted FY2009 level. There is another \$276 million for these programs in the Recovery Act according to preliminary assessments. OSTP will be working with this Committee and the relevant Federal agencies to improve interagency planning and coordination for these STEM education activities.

Conclusion

While the nation faces immense challenges in the economy, health, energy, the environment, and national and homeland security, among other domains, it is clear that science and technology can help turn many of these challenges into opportunities. The President understands this thoroughly, and his FY2010 Budget reflects that understanding, proposing a robust investment in science, technology, and STEM education today to produce the new knowledge, the new technologies, and the scientists, engineers, mathematicians, and S&T-literate citizens of the future that our country will need to meet the challenges and seize the opportunities.

I look forward to working with the Committee to make the vision of the President's FY2010 Budget proposal into a reality. I will be pleased to try to answer any questions the Members may have.