



COMMITTEE ON

SCIENCE, SPACE, AND TECHNOLOGY

REPUBLICANS Frank Lucas, Ranking Member

Opening Statement of Ranking Member Frank Lucas

Full Committee Markup: H.R. 2225, the National Science Foundation for the Future Act;
H.R. 3593, the Department of Energy Science for the Future Act

June 15, 2021

Thank you, Chairwoman Johnson, for holding today's markup of the NSF for the Future Act and the DOE Science for the Future Act. These comprehensive reauthorization bills of the National Science Foundation and the Department of Energy Office of Science are the culmination of years of work by this Committee to consider the best path forward for two of the most important pieces of America's federal research enterprise.

America's scientific and technological competitiveness has been my highest priority as Ranking Member of this Committee. It's gratifying to see that there is now momentum on both sides of the aisle in the House and Senate for legislation to secure our global science and technology leadership.

The need to act now to redouble our research investment is best captured by two data points. First, as much as 85% of America's long-term economic growth is due to advances in science and technology. There's a direct connection between investment in research and development and job growth here at home. Second, China increased public R&D by 56% between 2011 and 2016, but U.S. investment in the same period fell by 12% in absolute terms. China has likely surpassed the U.S. in total R&D spending and—through both investment and theft—is working to overtake us as the global leader in science and technology. Our international competitiveness is at stake.

America's continued scientific leadership requires a comprehensive and strategic approach to research and development that provides long-term increased investment and stability across the research ecosystem. It also requires inter-agency collaboration and public-private partnerships. And it must focus on evolving technologies that are crucial to our national and economic security, like AI, semiconductors, and quantum sciences. I believe we have achieved that with these two bills.

In the NSF for the Future Act, we put a great deal of care into crafting a new directorate that improves NSF's ability to advance fundamental research, without duplicating or seeking to replace the missions of other federal research agencies. Our proposed Directorate for Science and Engineering Solutions takes the basic research funded by NSF and helps apply those discoveries to solving national challenges from

cybersecurity to climate change. We also propose a funding profile for the new directorate that is practical, sustainable, and in balance with the rest of the Foundation. Although most of the public attention has been on the new directorate, our bill also provides updated policy direction to the rest of the Foundation.

It has been four years since NSF received a comprehensive policy update, and 11 years since the last reauthorization, so these provisions are important. I will share a few highlights of the bill. NSF is the largest federal funder of STEM education, and our bill directs new mechanisms to improve the Foundation's investments in STEM at all levels.

The bill also includes provisions to improve the availability of research data, to more rapidly advance innovation, and to improve transparency and reproducibility of taxpayer funded research. Additionally, the bill includes important measures to protect American research from foreign influence and theft.

These policies were developed after months of input from stakeholders and bipartisan discussions. It's smart legislation, and I will discuss some other provisions in the bill when we consider the bipartisan Amendment in the Nature of a Substitute.

Next we will consider the DOE Science for the Future Act. The bill reauthorizes the Office of Science to increase our investments and provide a roadmap for DOE's research and development work. If it becomes law, it will be the first comprehensive authorization of the Office of Science, and it could not come at a better time.

The bill proposes nearly \$50 billion over 5 years, giving the Office of Science and our National Labs the resources they need to continue to excel.

We need cutting-edge facilities for our federal scientists and researchers from academia and industry to conduct big science—research that can't be done in individual labs and requires massive equipment that industry cannot provide, like advanced light sources and neutron sources. Our Nation's National Laboratories, hosted by DOE's Office of Science, are experts in conducting this type of complex, large-scale research.

Our bill authorizes funding timelines for DOE research facilities and equipment that will bring them online as quickly as possible, at the lowest possible total project cost.

I will discuss more provisions of this bill when we consider the bipartisan Amendment in the Nature of a Substitute.

Chairwoman Johnson and I have taken a deliberative and bipartisan approach to revitalizing American research. Together, the NSF for the Future Act and the DOE Science for the Future Act together are a sustainable strategy for American progress that comprehensively scales up our research enterprise.

Today we will consider many amendments that I think will improve these bills. I hope through the process we can maintain the bipartisan spirit that created these two groundbreaking pieces of legislation.

Thank you, Chairwoman, for your partnership in this process. Your leadership should serve as a model for all of how the Committee legislative process should work. I yield back the balance of my time.