COMMITTEE ON SCIENCE SPACE AND TECHNOLOGY

# Opening Statement of Chairman Frank Lucas

Energy Subcommittee Hearing
*Unleashing American Power: The Development of Next Generation Energy Infrastructure*

March 23, 2023

---

Thank you, Chairman Williams, for holding this important and timely hearing.

This afternoon, we will examine several of the Department of Energy's cross-cutting research and development initiatives that are critical to the success of next generation energy infrastructure technologies. We will also have an opportunity to consider three draft bills that would provide critical support for these activities.

Safeguarding and upgrading our nation's energy infrastructure is essential to our national security, economic prosperity, energy independence, and international competitiveness.

Our current energy infrastructure, while impressive, is aging. In recent years, this infrastructure has faced an abundance of new threats, as well as challenges in modernizing the system for evolving energy needs.

These difficulties require the delivery of effective long-range scientific solutions. As a global leader in energy technology development and science innovation, DOE leads the way in addressing key energy infrastructure research challenges in areas like grid security, pipeline innovation, and hydrogen R&D.

In these areas and many others, DOE and its national laboratories work side by side with industry, academia, and utilities to modernize and secure the U.S. energy sector through both fundamental research initiatives and large-scale demonstration projects.

There is an urgent need for Congress to provide updated policy direction for these critical activities. Despite recent key reauthorizations of DOE programs through the Energy Act of 2020 and the CHIPS and Science Act, Congress has never fully authorized DOE's cross-cutting pipeline R&D activities and has not provided a comprehensive reauthorization of DOE's grid security or hydrogen R&D activities in over 15 years.

This is particularly concerning since some of these activities have recently received billions of dollars in additional appropriations through the Biden Administration's spending bills like the Infrastructure Investment and Jobs Act.

It is now more critical than ever that these programs receive proper guidance and oversight to ensure taxpayer dollars are being spent appropriately and that the next generation of American energy can be unleashed.

The first challenge we need to address is grid security and reliability. According to the DOE, last year the number of direct attacks threatening grid reliability rose an incredible seventy seven percent. This impacted almost one hundred thousand taxpayers across multiple states.

As the lead agency for grid security of the energy sector, the DOE has many programs operating across the country to combat these threats. Idaho National Laboratory operates the Critical Test Range Complex (CITRIC) which is designed to test large-scale grid technologies. This type of capability is crucial to protect industry-scale infrastructure systems from increasingly complex assaults.

It is equally critical that DOE coordinate with other federal agencies in developing a strategic plan that can identify crosscutting research and identify long-term goals. We also need to ensure that DOE is integrating with stakeholders to support workforce training and development.

Our draft legislation will update these activities and help ensure that the government and industry are prioritizing science and technology for grid security that will maintain our strategic advantage.

A second opportunity to strengthen our energy infrastructure lies with hydrogen. For a clean and resilient energy future, we must take an all-of-the-above approach that embraces a wide range of energy sources and technologies that support integrated energy systems.

Hydrogen must be in that mix. It has the potential to greatly reduce emissions coming from the industrial sector, which accounts for a quarter of the world's total emissions. Hydrogen can also be paired with other fuel types to increase efficiencies across the larger energy landscape. A reauthorization of hydrogen R&D activities would target challenges like fuel cell development and the utilization of hydrogen in industrial and agricultural applications. These technologies, given the right investment, mean hydrogen can be clean, plentiful, adaptable, and exportable. This would be beneficial to national security and the resilience and independence of the U.S. energy sector.

Finally, the backbone of our energy infrastructure is the oil and natural gas pipelines that crisscross our nation. Although these pipelines are ageing, it would be irresponsible to the taxpayers to not maintain and, in some areas, improve these assets since they are among the most reliable ways to bring affordable energy into Americans' homes.

There is a need for legislation to outline where DOE can coordinate with industry and other partners in the federal government to develop key pipeline technologies. These range from improving materials science research so that pipelines are more durable to creating centers of excellence that increase cost efficiency through collaboration.

As the emerging technology and hazard landscape continues to evolve, the health of the U.S. energy sector relies on an infrastructure that is reliable, resilient, cost effective, and secure. It is our job in Congress to deliver effective solutions that take a long-term and big picture approach. This includes supporting early-stage research that will spur innovation over a broad range of energy applications and provide for R&D to modernize and defend our critical energy infrastructure.

I want to thank our witnesses for their testimony today, and I look forward to a productive discussion.

Thank you Chairman and I yield back the balance of my time.