



Opening Statement of Energy Subcommittee Chairman Randy Weber

Energy Subcommittee Hearing

Igniting America's Energy Future: The Promise and Progress of Fusion Power

September 18, 2025

Good morning. Welcome to today's Energy Subcommittee hearing titled, "Igniting America's Energy Future: The Promise and Progress of Fusion Power." After a decade of stagnation, U.S. energy demand is once again on the rise. This surge is driven by several factors, including the onshoring of supply chains crucial to our national security and the rapid growth of commercial artificial intelligence technologies across the country.

At our last subcommittee hearing, witnesses discussed nuclear energy's potential role in powering AI data centers. That conversation focused on nuclear fission, which is commercially viable today. This hearing will spotlight nuclear fusion, a field that, after decades of promise, has made remarkable progress across various technology readiness levels in recent years.

These advancements have highlighted a growing need for workforce development. The challenge is not simply producing more PhDs, but building a robust, skilled trades workforce. According to the Fusion Industry Association, only 23 percent of employees in the sector are scientists, and 44 percent are engineers, leaving a significant portion of the workforce without advanced degrees. The industry is expanding rapidly—growing by a staggering 50 percent in just the last two years—while the supply chain has tripled in size. Many fusion companies project operational pilot plants by 2035, with workforce needs expected to increase sixfold at this stage, not including additional supply chain demand.

To address these needs, our National Labs are considering apprenticeship programs to help prevent potential worker shortages.

Such programs would complement the cutting-edge research conducted at Department of Energy (DOE) facilities, which house much of the specialized equipment necessary for fusion science. Due to these unique capabilities, DOE's collaboration with the private sector is vital for advancing commercialization. To foster these partnerships, DOE has launched several initiatives to connect, support, and accelerate industry growth. These include a public-private partnership program, a milestone-based fusion development program, and ongoing funding for fusion projects through the ARPA-E office. Public-private partnerships leverage DOE's expertise while encouraging private sector investment. Milestone programs tie federal funding to demonstrated progress. And ARPA-E's early fusion projects have already generated over \$700 million in private investment. These efforts are prime examples of responsible use of taxpayer dollars.

For decades, fusion energy was seen as a dream always 20 or 30 years away. But recent successes at the National Ignition Facility (NIF) have begun to change that perception. NIF

became the first facility in the world to achieve a positive net energy output from a fusion reaction, as well as the first to achieve burning plasma.

It's important to note that critical basic science questions still exist before we can see operational fusion power plants connected to the grid. Fortunately, academia, along with DOE user facilities, is working closely with the private sector to both identify and solve these remaining challenges. Continued federal investment is essential to ensuring these foundational science gaps are addressed in a coordinated manner.

The progress we've seen is undeniable, and the fusion industry is steadily advancing toward delivering fusion power to the grid. I want to thank our witnesses for their testimony, and I look forward to today's discussion on how the federal government can support academia, the National Labs, and private companies to ensure America leads in this critical race. I yield back the balance of my time.