



COMMITTEE ON  
**SCIENCE, SPACE, & TECHNOLOGY**  
Lamar Smith, Chairman

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## **Statement by Chairman Lamar Smith (R-Texas)**

*The Future of Fossil: Energy Technologies Leading the Way*

**Chairman Smith:** Energy produced from fossil fuel is abundant, affordable and vital to America's security and competitiveness. As global demand for fossil fuel energy increases, America is on tap to become a net energy exporter.

The research done at Department of Energy (DOE) national laboratories is vital to increasing the fossil fuels' efficiency and reducing environmental impacts of this vital power source.

Basic science discoveries at DOE national labs have led to a range of technological innovations used by private industry in fossil energy production and fossil power systems.

From horizontal drill and hydraulic fracturing, to improved sensors and geologic mapping, we've seen dramatic improvements in fossil fuel production technology that was developed from research conducted in the DOE lab system.

For example, field engineers today are using augmented reality and virtual reality technologies in maintenance, operations and exploration of reservoirs. Using this technology in the field can reduce the environmental footprint of energy production and increase oil and gas production.

And in fossil power production, new approaches like the use of supercritical carbon dioxide power systems can replace the use of steam power, improving efficiency and potentially producing virtually carbon-free energy. The Southwest Research Institute, located in my district, is partnering with DOE to lead early stage research efforts in developing these supercritical CO<sub>2</sub> systems.

In the past, the DOE's Office of Fossil Energy Research and Development programs focused primarily on reducing emissions from fossil power. While research in carbon capture, storage and sequestration technologies remains a priority, there is also potential to research ways to use carbon as an energy resource, rather than only considering it as a waste product.

At the National Energy Technology Laboratory (NETL), DOE is funding basic research to create usable substances from carbon waste, such as concrete or plastics. If these techniques are commercialized by industry, they could provide added revenue for fossil power plants, making carbon capture a cost-effective method to reduce emissions.

DOE's early-stage research should focus on developing a broad range of innovative technologies to improve the efficiency and effectiveness of fossil fuels, allowing us to use all our natural resources long into the future.

I look forward to hearing about the promise of fossil energy technologies from our witnesses today and how DOE-funded research supports technological innovations that improve the efficiency, environmental impact and safety of fossil fuels.

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