



COMMITTEE ON
SCIENCE, SPACE, AND TECHNOLOGY
REPUBLICANS Frank Lucas, Ranking Member

Opening Statement of Ranking Member Frank Lucas

Energy Subcommittee Hearing

Water and Geothermal Power: Unearthing the Next Wave of Energy Innovation

November 14, 2019

--As submitted for the record--

Thank you, Chairman Lamb, for hosting this hearing, which is especially relevant to the geothermal industry in my home state of Oklahoma.

Geothermal energy systems draw from the constant and naturally occurring heat that radiates beneath the surface of the earth. This heat is a source of clean and renewable energy that is always “on.” Our country has significant hydrothermal and geothermal energy resources, and if harnessed correctly, these resources have the capability to provide secure baseload power and energy storage for Americans across the country.

Yet although the United States leads the world in installed geothermal capacity, geothermal energy contributes less than one percent to the total utility-scale U.S. electricity generation.

In 2018, while wind energy generation accounted for 21 percent of the growing U.S. renewable energy portfolio, geothermal energy generation accounted for just 2 percent.

This is because today’s geothermal energy technologies are often too expensive, time consuming, or risky for industry to take to scale. While I’ve seen the potential of geothermal energy in my district of Oklahoma with our thriving geothermal heat pumps industry, more work needs to be done to allow the rest of the country to access the full power of this resource.

In order to effectively leverage these vast untapped energy resources, the next generation of geothermal technologies and techniques must become more efficient and less expensive for American consumers. Fortunately, we are uniquely positioned to prioritize the basic and early stage research that leads to groundbreaking technology.

Federally funded research programs at the Department of Energy (DOE) have a history of paving the way for industry innovation. So I am pleased to see DOE and its Geothermal Technologies Office taking the lead in this valuable science, and to see them here today. It is

critically important to our clean energy future that they have the support they need to pursue research that industry cannot undertake.

This is an issue that my draft bill, the Advanced Geothermal Research and Development Act of 2019, will address. This legislation will provide the DOE's Geothermal Technologies Office with critical funding and program direction to enable innovative research in advanced geothermal technologies, strengthen the U.S. geothermal workforce, and encourage international collaboration. More specifically, it will authorize and expand the Department of Energy's early-stage research in enhanced geothermal systems and the major facilities needed to support this work.

Today we will hear about one of these facilities from Dr. Joseph Moore, the manager of the Department's first Frontier Observatory for Research in Geothermal Energy (FORGE) field site in Utah. This facility will provide U.S. researchers with large-scale experimental capability to develop and test cutting edge geothermal technologies and validate experimental models. Using these tools, industry partners will be able to adapt techniques developed in the field for commercial use across the country. Dr. Moore, thank you for joining us today.

My bill will also authorize a new program in advanced geothermal computing and data science research and development. This will leverage DOE's best-in-the-world computational capabilities to provide geothermal researchers with modeling and simulation tools that will allow them to more accurately model complex subsurface systems.

With these tools, industry can improve the next generation of geothermal energy systems, using advanced designs to save time and money in planning, and producing power more efficiently with less impact on the environment. I believe this bill is an excellent opportunity for bipartisan cooperation, and I look forward to working with my friends across the aisle moving forward.

We know that American industry has the resources to successfully commercialize new technology – we've already seen it happen with wind and solar. What they often lack is the infrastructure to conduct early stage research and test new technologies. This is where DOE, the national labs, and academia can help, providing experimental facilities and computational tools that will drive costs down and innovation forward.

If we want to ensure a diverse portfolio of clean energy technologies now and in the future, we in Congress should prioritize this important fundamental research.

I want to thank you Chairman Lamb for holding this hearing, and I look forward to hearing from our witnesses today about the path forward for next generation clean energy technologies.

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