



Share this post

Researchers from the University of Texas at Austin have identified significant geothermal energy resources near the U.S.-Mexico border, particularly in the town of Presidio. This hidden energy source could provide low-emission power for the state, offering a new frontier in the world of clean energy.

Geothermal energy is often overshadowed by wind and solar power when it comes to renewable energy discussions in the U.S. However, the U.S. is already the global leader in geothermal electricity generation, contributing 4 gigawatts to the power grid, though this still **represents a modest 0.4 percent** of the nation's energy.

 [Himalayan Glaciers Are Disappearing Faster Than You Think – Scientists Warn](#)

In contrast, countries like **Iceland rely heavily on geothermal** energy, with it accounting for up to 66 percent of their primary energy supply. With this in mind, the findings from the University of Texas researchers come at a crucial time, offering the possibility to boost geothermal production in the U.S., particularly in underdeveloped areas such as Presidio, Texas.

A Geothermal Hotspot in Texas

The region around Presidio, located along the U.S.-Mexico border, may not be a major population center, but it is rich with geothermal potential. According to the Bureau of Economic Geology (BEG) at the University of Texas at Austin, this area contains some of the hottest subsurface rock east of the Rocky Mountains, a critical factor for geothermal energy production.

The researchers received \$15,000 in funding from the Presidio Municipal Development District in mid-2023 to conduct a nine-month study, which concluded that the area is highly suitable for geothermal development. The Permian Basin, to the north of Presidio, is already known for its oil and gas reserves, but the untapped geothermal potential in the region is now emerging as an exciting opportunity for renewable energy.



Ken Wisian's presentation to the Presidio Municipal Development District highlighted three zones in Presidio County, showing the highest geothermal potential along the border, with cooler temperatures in the interior and limited data from the state park – © Jackson School of Geosciences / The University of Texas at Austin

The technique being explored by the researchers involves injecting water into hot subsurface rock, a process inspired by the hydraulic fracturing (fracking) technology used in the oil and gas industry. By heating the water as it travels through the rock, it can be used to generate electricity via turbines.

This method allows for geothermal energy generation even in areas that lack natural hot springs or permeable rock formations, which are typically the focus of traditional geothermal power plants. **Ken Wisian, the lead researcher at UT Austin** , emphasized that the area surrounding Presidio, as well as the rest of the county, presents an excellent opportunity for geothermal development.

Balancing Benefits and Risks

The potential for geothermal energy in Presidio comes with both promise and challenges. On one hand, the development of this resource could provide low-emission power, which would be a significant boon for the environment. On the other hand, the injection of water into the ground, similar to the fracking process, could pose risks, reports *Popular Mechanics* .

In 2018, South Korea experienced a large earthquake, **the second largest in its modern history** , due to water injection in a geothermal plant. The risk of seismic activity from geothermal energy production is something that researchers and local officials must take into account as they move forward with the project.

Despite these risks, the benefits of geothermal energy are clear. The process could provide a valuable renewable energy source, reduce reliance on fossil fuels, and contribute to the U.S.'s goals of increasing clean energy production. Additionally, because geothermal energy production can make use of existing oil and gas infrastructure, it could offer an opportunity for the energy industry to transition into renewable energy without needing to overhaul its entire framework.

Economic Opportunities in a Rural Region

Geothermal energy development could also bring significant economic benefits to the rural area around Presidio. While the region is not densely populated, the growth of a geothermal energy industry could create jobs, attract investment, and stimulate local economies.

The transition from oil and gas production to geothermal energy could provide a seamless shift for workers in the energy sector, using many of the same technologies and methods. Local officials are optimistic about the possibilities, seeing geothermal energy as a way to diversify the area's economy and boost its economic prospects.

Spread the word with a share!

Share this post



About the author, **Sarah Talbi**

Sarah is a writer passionate about the connections between nature, archaeology, climate, space, and technology. A graduate of Mouloud Mammeri University in Tizi-Ouzou, Algeria, she holds a master's degree in Foreign Language Teaching, specializing in French language. Her writing in Indian Defence Review weaves connections between science, culture, and history, exploring how technological and environmental discoveries shed light on humanity's past and future. Passionate about ancient civilizations and archaeological research, Sarah strives to make knowledge accessible through clear, thoughtful narratives that immerse the reader in the wonder of discovery. sara.t@indiandefencereview.com

Social medias: 

Indian Defence Review is an independent media. Support us by adding us to your Google News favorites:

Follow us on Google News



See also in “Science”