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'Massive' untapped oil and gas reserves discovered beneath the Permian. What will it take to tap it?

By **Amanda Drane**, *Staff Writer*

Jan 16, 2026

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The USGS said Wednesday it found 28.3 trillion cubic feet of gas and 1.6 billion barrels of oil in the Woodford and Barnett areas of the larger Permian Basin, which straddles West Texas and New Mexico. USGS

The U.S. Geological Survey, the federal government's earth sciences arm, discovered new oil and gas reserves in the Permian Basin — enough to supply the United States for 10 months.

The USGS said Wednesday it found 28.3 trillion cubic feet of gas and 1.6 billion barrels of oil in the Woodford and Barnett shale formations, part of the larger Permian Basin, which straddles West Texas and New Mexico.

The USGS began assessing available petroleum reserves 50 years ago after the Arab oil embargo sent the U.S. into a supply crisis. Domestic oil supplies have exploded since then, especially after fracking ushered in the shale boom in the early 2000s, turning the U.S. into an oil-producing powerhouse.

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But whether the U.S. will have enough oil and gas to meet growing demand in the decades to come has been increasingly in question. Declining availability of shale reserves has begun challenging Houston's oil companies to explore new areas and deeper formations in order to meet demand projections 10 years into the future and beyond.



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“When you hear that there's increased activity in Woodford, Barnett, what that's telling you is that they're looking beyond the sort of traditional landing zones,” said Toti Larson, principal investigator at the Bureau of Economic Geology's Mudrock Systems Research Laboratory at the University of Texas, which

specializes in shale research.

The potential in the area is “massive,” Larson said, but producing these newfound reserves presents new challenges. Larson said he has been studying the area as it is increasingly of interest to the companies involved in his research consortium.

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The reserves are deeper than the formations where oil companies traditionally drill. It’s also hotter, meaning there will be more associated gas. Both the depth and the additional gas pose cost challenges to oil and gas producers.

Additionally, in the Barnett, there’s more clay, posing drilling hazards.

“And then the other complexity is just really trying to identify the sort of sweet spots,” Larson said. “Where across the Permian Basin is the Woodford most likely going to produce oil? And so I think that’s what makes the Woodford still an exploration target.”

Flagging oil prices don’t help these exploration efforts, Larson said. But if the price

signals change and oil companies increase drilling efforts, the Woodford and Barnett present an untapped opportunity.

“Neither of them are small. And so if they are successful,” he said, “then that really does have a strong potential to increase oil and gas production out of the Permian Basin.”

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Amanda Drane

INVESTIGATIVE REPORTER, ENERGY



Amanda Drane is an investigative reporter for the Houston Chronicle.

Her work covering leaking oil and gas wells has won national recognition, including a first-place award for excellence in science reporting from the Online News Association in 2025.

Amanda's work on so-called "zombie wells" – long-dead oil and gas wells bursting with toxic water – received top honors in the Texas Managing Editors awards and helped inform a growing movement to reform how Houston's oil and gas industry is regulated.

Coverage that Amanda contributed to won national and local awards in 2025. A project highlighting lax enforcement of poisonous gas leaking from oil and gas wells won top honors from the Society for Advancing Business Editing and Writing and was a semifinalist for the 2025 Goldsmith Prize for Investigative Reporting. "Powerless," the Chronicle's package of stories that dug into how CenterPoint kept millions in the dark in the wake of Hurricane Beryl, was also a Goldsmith semifinalist and was recognized by The Headliners Foundation.

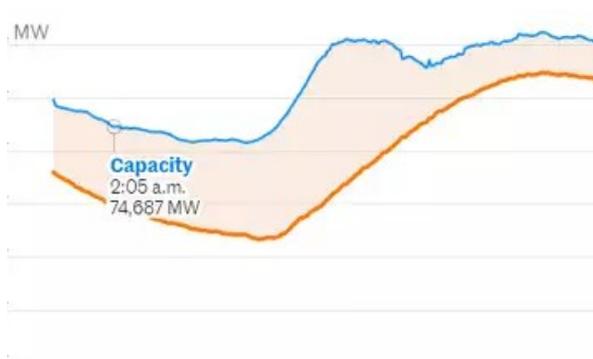
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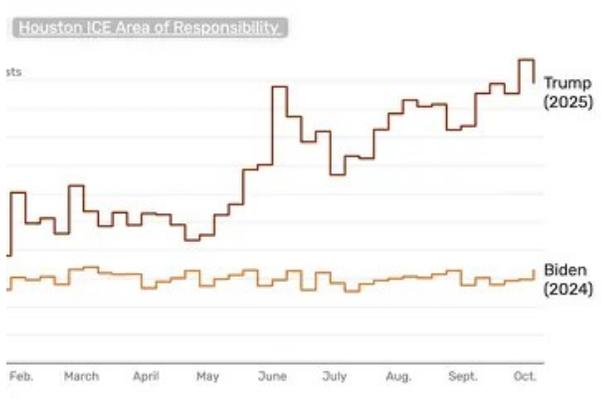
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