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# Largest ever continuous oil and gas resource found in the United States

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Some 46.3 billion barrels of oil, 281 trillion cubic feet of natural gas, and 20 billion barrels of natural gas liquids are estimated to be under Texas and New Mexico (Credit: [bluebay2014/Depositphotos](#))

As the United States becomes a net oil exporter for the first time in 75 years, the US Department of the Interior has announced the discovery of the largest continuous oil and gas field ever found. Situated in the Wolfcamp Shale and overlying Bone Spring Formation in Texas and the Permian Basin in New Mexico, the new resource is estimated to contain 46.3 billion barrels of oil, 281 trillion cu ft of natural gas, and 20 billion barrels of natural gas liquids worth trillions of dollars.

One of the problems when it comes to understanding the oil and gas industry is that the terminology can be misleading. For example, when someone asks how much oil or gas there is, the answer is almost invariably that we have enough to last 20 years. That seems straightforward enough and argues for the phasing out of increasingly scarce fossil fuels, but the curious thing is that 20 years ago we had 20 years worth of oil and gas, and the same was true 20 years before that, and will probably be true in 20 years time.

This is because what that 20-year figure deals with are reserves or, rather proven reserves. These are oil and gas fields that have been found with 90 percent certainty and can be recovered given the economic, technological, and political conditions of today. Because oil and gas prospecting is incredibly expensive, the oil companies like to find enough reserves to last a generation and call it good.

But it isn't as simple as that. Behind the proven reserves are the probable reserves, which are 50 percent certain, and the possible reserves, which are 10 percent certain. And there tend to be a lot more of these than the proven reserves.

Then there are the resources, which is what the Department of the Interior is talking about. Resources are large areas where oil and gas are known to be, but it hasn't been determined if it's economically practical to recover them. Yet.

The "yet" is the big variable here because as new surveying, drilling, and recovery technologies like fracking are developed, resources can very rapidly shift up the ladder to proven reserves in the same way that wells that were once "dry" when they were three-quarters full are now productive again.

This is effectively how the new giant oil and gas field was found. According to the Department of the Interior, the US Geological Survey (USGS) had already made assessments of the Permian Basin province, though the Wolfcamp shale and Bone Spring Formation weren't originally included. The area is already highly productive in oil and gas, but it was only with the introduction of new technology and studying their effects on output that the size and wealth of the resource could be assessed. How economical it will be to recover the oil and gas there has yet to be determined.

"In the 1980s, during my time in the petroleum industry, the Permian and similar mature basins were not considered viable for producing large new recoverable resources," says Dr Jim Reilly, USGS Director. "Today, thanks to advances in technology, the Permian Basin continues to impress in terms of resource potential. The results of this most recent assessment and that of the Wolfcamp Formation in the Midland Basin in 2016 are our largest continuous oil and gas assessments ever released. Knowing where these resources are located and how much exists is crucial to ensuring both our energy independence and energy dominance."

Of course, advances in technology have also opened up alternative energy pathways based on renewable energy. Even if the new oil and gas resources prove reachable, the case for economic viability could weaken as the cost of renewables continues to drop – that's without even factoring in the predicted economic and environmental concerns around climate change.

Source: US Department of the Interior