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Rice University's Baker Institute for Public Policy



Commissioned by Texas 2036

## Investing in Texas: 21<sup>st</sup> Century Energy Capital of the World

April 20, 2022

Texas is well-positioned to sustain and solidify its role as the energy capital of the world, thanks to abundant natural resources, existing infrastructure, a highly skilled energy workforce and leading research institutions.

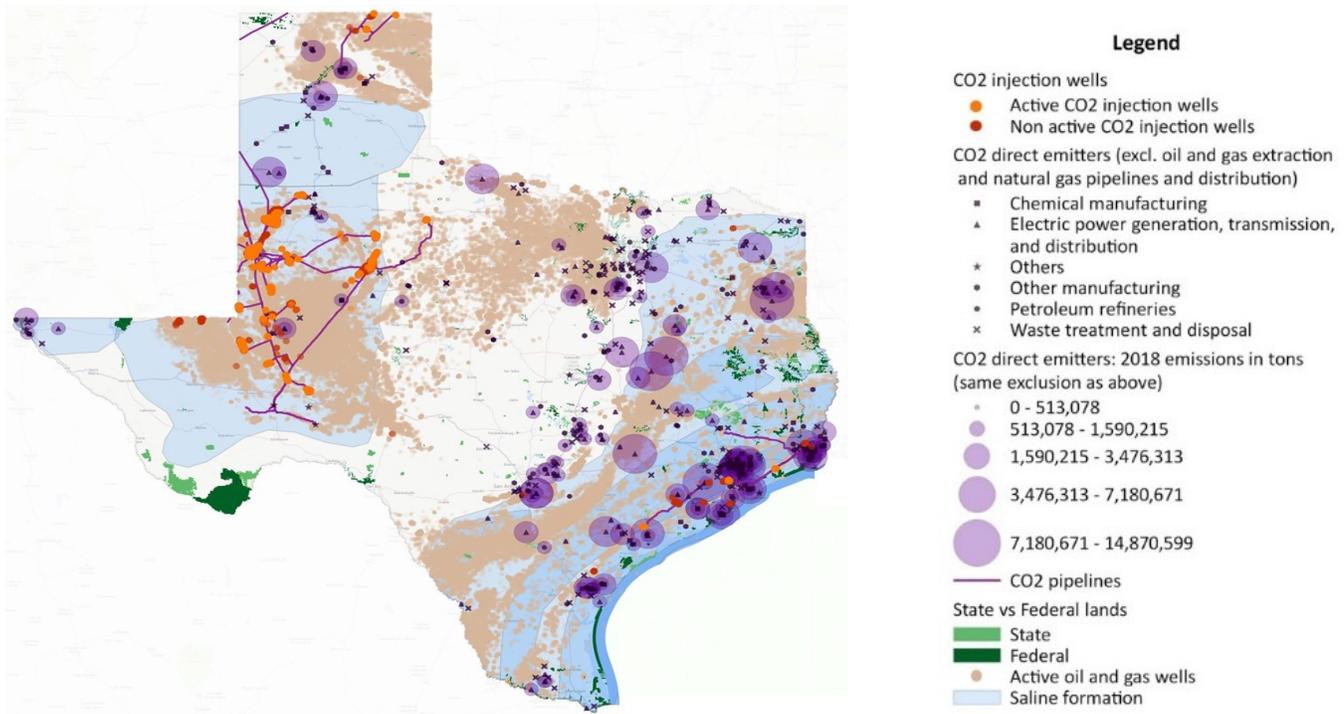
That is the key finding of a new report by researchers from the Center for Public Finance at Rice University's Baker Institute for Public Policy. The report is part of a new series of studies — sponsored by Texas 2036 — that are focused on key investment opportunities for the state.

Using carbon capture, geothermal energy and hydrogen as examples, the report shows how Texas can continue its energy leadership in the 21<sup>st</sup> century, as growing demand for clean energy fuels a global energy expansion.

	WHAT IS IT?	WHY TEXAS?
<b>Carbon Capture, Use and Storage</b>	Carbon capture, use and storage captures carbon dioxide produced by power generation or industrial activity, transports it and then uses it or stores it underground.	<ul style="list-style-type: none"> <li>Nearby geological formations in the Gulf Coast are ideal storage sites</li> <li>A concentration of existing oil and gas wells offer many sites to capture CO2</li> <li>Experts in engineering, geology, chemistry, and supply chain management simplify the transition</li> <li>Job creation and revenue offset costs as the industry shifts to low-carbon energy sources</li> </ul>
<b>Geothermal Energy</b>	Geothermal energy is tapped by drilling a mile or more underground to reservoirs of hot water and steam to drive turbines for electricity production.	<ul style="list-style-type: none"> <li>Existing oil and gas industry skills in areas including directional drilling, chemical and structural engineering, and geology all lend themselves to geothermal exploration</li> <li>This established technology provides a clean source of energy</li> <li>Geothermal power plants produce dispatchable power supplies, increasing power grid reliability</li> <li>Geothermal boosts GDP and creates more jobs relative to wind and solar</li> </ul>
<b>Hydrogen Energy</b>	Hydrogen, which can be produced from natural gas or renewable energy, can be transported to where can be stored energy or used in transportation or production.	<ul style="list-style-type: none"> <li>More than half of U.S. hydrogen pipelines — and roughly a third of the world's hydrogen pipelines — are in Texas</li> <li>The state's access to ports makes it ideal for future exportation</li> <li>Texas has natural geological hydrogen storage capacity currently in use</li> <li>Innovations in hydrogen-powered long-haul trucking and the use of liquefied hydrogen in aerospace rocket fuel create opportunities for future industry growth</li> </ul>

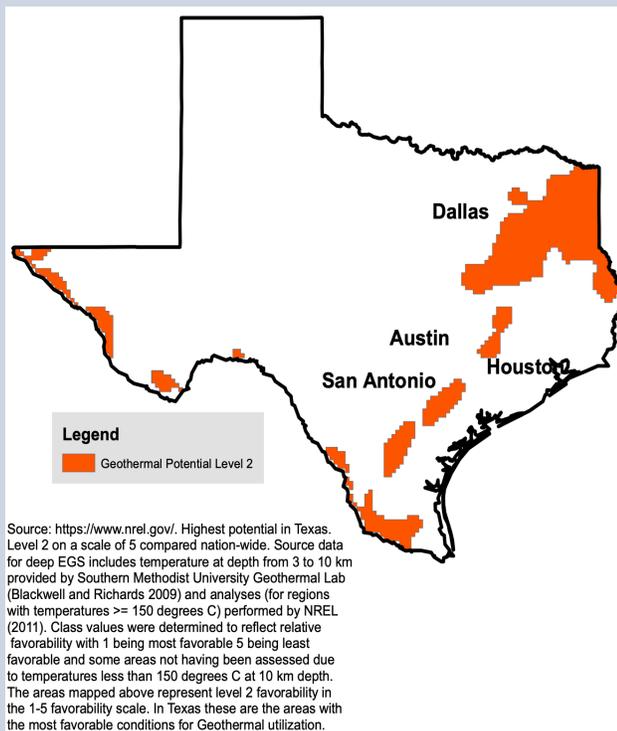
To download a copy of the report, visit [www.texas2036.org/investing-in-texas](http://www.texas2036.org/investing-in-texas)

# The Carbon Capture Landscape in Texas



Source: Medlock, III, Kenneth B. and Keily Miller, 2021. "Carbon Capture in Texas." Baker Institute Center for Energy Studies, January.  
<https://www.bakerinstitute.org/research/carbon-capture-texas/>

## The Greatest Texas Geothermal Potential:



## The Greatest Texas Hydrogen Potential:

