How to Play in the Sandbox: Understanding the Interplay of the Mineral Estate and the Surface Estate and Strategies for Successful Surface Project Development in Texas, California and Elsewhere.

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1. California and Texas – Renewable and Fossil Energy Dynamos.

Since the first producing oil well was drilled near Oil Springs in 1866[1], the Texas oil and gas industry has grown to become a major economic and political force in the state. While not as dominant as it once was, the industry still comprises a significant share of the state's economy in terms of GDP, jobs and tax revenues.[2]

Texas has proven oil reserves of about 18.6 billion barrels, and stands first among US states in terms of established reserves.[3] It is also by far the largest exporter of energy products among U.S. states, at almost $250 billion in 2022 alone.[4] In other words, the oil and gas industry will remain a big player in Texas for years to come, even as the industry, and the Texas energy sector more broadly, diversifies beyond traditional oil and gas production, refining and fossil fuel-based power generation.[5]

California has a well-deserved reputation for stringent environmental regulation and policy initiatives that encourage renewable energy development. But it is worth reminding people that California also has historically been a major oil producing state. The largest oilfields in the Golden State (such as Midway-Sunset in the San Joaquin Valley) have been in production for well over a century.[6] The economic base of 1920s Los Angeles and Long Beach was founded on the oil derricks that then lined the southern California shores. With proven oil reserves of about 2 billion barrels, California stands sixth among US states in terms of established reserves. However, California plans to phase down oil and gas extraction in line with reduced demand, estimating an 89 percent decrease in production by 2045.[7]

Texas leads the country in terms of the total MW of installed wind generation capacity by a wide margin, with 40,555.7 MW of wind generation facilities installed in Texas as of the third quarter of 2023, while California ranks sixth among the states in terms of total installed wind generation capacity with 6,103.1 MW of wind generation facilities installed as of the third quarter of 2023.[8] California leads the country in terms of the total MW of installed solar generation capacity, with 41,675 MW of solar generation facilities installed as of the third quarter of 2023, and Texas ranks second among the states in terms of total installed solar generation capacity with 18,801 MW of solar

[1] TEXAS STATE HISTORICAL ASSOCIATION, "First producing oil well in Texas comes in", https://www.tshaonline.org/texas-day-by-day/entry/1139#:~:text=On%20this%20day%20in%201866,in%20the%20summer%20of%201866.

[2] Brandon Mulder, AUSTIN AMERICAN-STATESMAN, "Fact-check: Is the Texas oil and gas industry 35% of the state economy?" https://www.statesman.com/story/news/politifact/2020/12/22/fact-check-texas-oil-and-gas-industry-35-state-economy/4009134001/; Amanda Drane, "Texas Made Record Shattering $27.8B off oil and gas last year" https://www.houstonchronicle.com/business/energy/article/oil-gas-taxes-new-record-17736663.php

[3] US Energy Information Administration, 2021 data; https://www.eia.gov/naturalgas/crudeoilreserves/#:~:text=The%20largest%20extensions%20and%20discoveries,billion%20barrels%20in%20North%20Dakota.

[4] U.S. BUREAU OF LABOR STATISTICS. *Louisiana and Texas: Price Movements of Top Energy Exports and Other Highlights* https://www.bls.gov/mxp/publications/regional-publications/texas-louisiana-energy-exports.htm#:~:text=Texas%20was%20the%20largest%20energy,percent%20of%20the%20U.S.%20total.

[5] https://www.reuters.com/markets/commodities/texas-trumps-california-key-us-energy-transition-driver-2023-05-04/

[6] California Oil and Gas Law, Robert James

[7] California Air Resources Board, 2022 Scoping Plan for Achieving Carbon Neutrality, 102, https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

[8] United States Office of Energy Efficiency & Renewable Energy, https://windexchange.energy.gov/maps-data/321

generation facilities installed as of the third quarter of 2023.[9]

The fact that Texas and California respectively lead the country in terms of the total installed volume of wind and solar energy generating capacity, while at the same time maintaining major oil and gas production operations, evidences that it is possible for these uses to successfully coexist, even if doing so can be complicated.

The purpose of this article is to provide the reader with an understanding of the interplay between the rights of the surface estate and the mineral estate, and overview some basic strategies for working with the mineral estate holders to resolve shared surface use issues in a manner which will allow for successful development and financing of solar and wind energy generating projects in areas where mineral development may also be active.

2. Considering the Compatibility of Wind and Solar Development with the Mineral Estate

Wind energy projects are typically sited pursuant to ground leases encompassing thousands of acres of land, but wind energy projects use only a very small percentage of the surface of the leased land. Wind leases typically require full restoration of the surface and near subsurface of the land at the end of the useful life of the wind energy project. Therefore, utilizing the surface of land to install and operate a wind energy project will generally have a minimal impact on the ability of the holder of the mineral estate to access the oil and mineral resources under the surface of the land, and sharing of the surface of land for both wind energy project operations and oil and gas operations is typically very feasible.

Solar energy projects are also typically sited utilizing ground leases which cover hundreds or thousands of acres, but the total area required for solar projects is generally smaller than the total area required for wind projects. However, solar panel arrays typically cover a much larger percentage of the land surface than a wind project, and so solar energy project development often poses more intensive compatibility issues with the mineral estate holder(s) that need to be addressed before a solar energy project can be constructed and financed. As such, the remainder of this paper primarily focuses on solar energy projects, although many of the issues and potential solutions discussed can be relevant to wind energy, battery storage and other hybrid or alternative energy projects.

3. Understanding the Rights of the Holder of the Subsurface Estate (Why You Need to be Concerned About the Subsurface Estate)

When the mineral and surface estates are held separately in Texas, courts have recognized the mineral estate to be dominant over the surface estate. The subsurface owner has a right to utilize as much of the surface as is reasonably necessary to "exploit" or produce and remove the oil, gas and/or minerals below the surface.[10] The subsurface owner's right to use the surface arose out of the reasoning that without the right to enter upon the surface to explore for and extract the oil, gas or minerals below the surface, such subsurface rights would be "wholly worthless."[11] As such, the subsurface owner's right to use the surface to exploit its subsurface mineral interests has been described as a "mineral easement" over the surface of the land.[12]

Subsurface or mineral estate holders right to access the surface of the land in California is functionally the same as in Texas. When a Californian mineral estate is severed from the surface estate, it maintains an implied easement to use the surface of the land in order

[9] Cumulative Solar PV Capacity through Q3 2023, Solar Energy Industries Association, https://www.seia.org/solar-industry-research-data

[10] *Coyote Lake Ranch, LLC v. City of Lubbock*, 2016 Tex. LEXIS 415 (Tex. 2016)(citing *Plainsman Trading Co. v. Crews*, 898 S.W.2d 786, 788 (Tex. 1995); *Acker v. Guinn*, 464 S.W.2d. 348, 352 (Tex. 1971); *Humble Oil & Refining Co. v. Williams*, 420 S.W.2d 133, 134 (Tex. 1967)).

[11] *Harris v. Currie*, 176 S.W.2d 302, 305 (Tex. 1943).

[12] *Id.*; *Empire Gas & Fuel Co. v. Texas*, 47 S.W.2d 265, 268 (Tex. 1932).

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