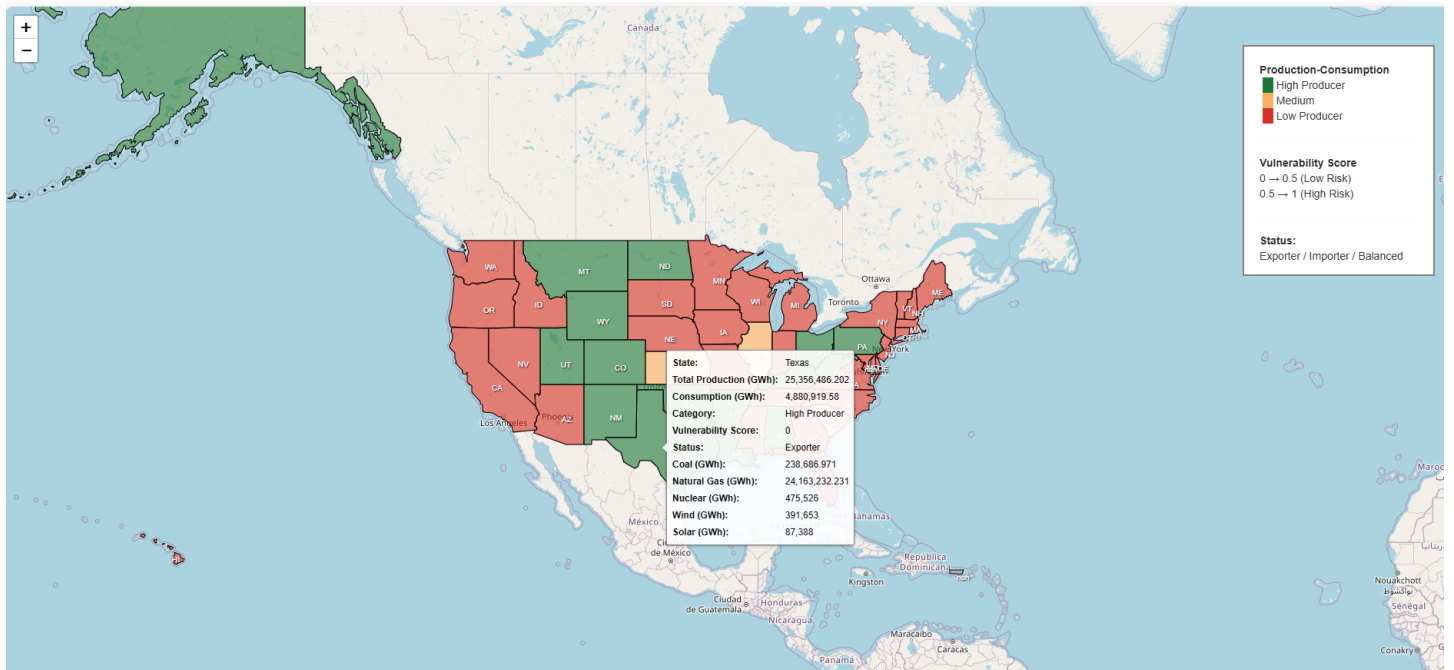# Story 7: U.S. Energy Production Analysis

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Interactive Map Screenshot

State:	Texas
Total Production (GWh):	25,356,486.202
Consumption (GWh):	4,880,919.58
Category:	High Producer
Vulnerability Score:	0
Status:	Exporter
Coal (GWh):	238,686.971
Natural Gas (GWh):	24,163,232.231
Nuclear (GWh):	475,526
Wind (GWh):	391,653
Solar (GWh):	87,388

Production-Consumption
- High Producer
- Medium
- Low Producer

Vulnerability Score
0 → 0.5 (Low Risk)
0.5 → 1 (High Risk)

Status:
Exporter / Importer / Balanced

View the interactive map here:

https://umais.github.io/DATA_608/energy_production_map.html

Insights & Observations

The U.S. energy production map shows clear regional distinctions. States in the central and western U.S., such as Texas, Oklahoma, and Wyoming, stand out as high energy producers, marked in green. These states not only generate significant amounts of energy but also act as net exporters. In contrast, states along the East and West Coasts, including California, New York, and most of New England, are marked as low producers and are likely dependent on imported energy, indicated by the red shading.

Hydropower appears to be significant in the Pacific Northwest (e.g., Washington), while natural gas and wind dominate in high-production states like Texas. The map also categorizes states by their vulnerability scores, with lower scores reflecting stronger energy resilience. Texas, for example, shows a vulnerability score of 0, suggesting a diverse and robust energy profile with minimal supply risk.

The vulnerability score ranges from 0.0 to 1.0, where lower values indicate stronger energy resilience. A score of 0.0, as seen in Texas, represents a state with highly diversified energy sources and minimal dependency on imports. In contrast, states shaded in red with higher scores may face challenges such as reliance on a single energy type or exposure to supply disruptions. Monitoring and addressing these vulnerabilities is essential for national energy security.

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