

According to the Interstate Renewable Energy Council (IREC), solar energy jobs nationwide were up in 42 states, increasing 3.5 percent from 2021 to 2022. <sup>11</sup> In 2022, Texas ranked fourth in the U.S. for most solar jobs and has a projected employment growth of 7.5 percent for 2023. <sup>12</sup> IREC anticipates that achieving annual benchmarks set in the



Texas leads the nation in energy production, providing about one-fourth of the country's domestically produced primary energy. <sup>1</sup> Second only to Alaska in total land area, Texas occupies 7% of the nation's total area and stretches about 800 miles at its widest points, east to west and north to south. <sup>2</sup> Crude oil and natural gas fields are present across much of that ???



Many renewable energy facilities are planned and underway in the state, but we may not see the benefit of those projects for decades to come. Even with such immense energy production capabilities, the current Texas electricity ???

# TEXAS RENEWABLE ENERGY PRODUCTION



We project combined wind and solar generating capacity in Texas's power market will double by 2035, fueling a growing renewable share of total generation. However, without upgrades to the state's transmission system, wind and solar generation will increasingly be curtailed, according to our recent analysis, A Case Study of Transmission Limits



One of the big announcements at the UN climate conference this weekend in Dubai was a pledge by more than 110 countries to triple the amount of renewable energy they are generating by 2030. That

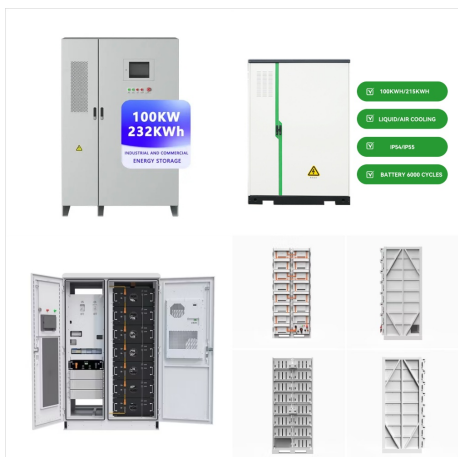


Renewable Energy Capacity: Texas: Share of U.S. Period: find more: Total Renewable Energy Electricity Net Summer Capacity 2.4% 2024 Renewable Energy Production: Texas: Share of U.S. Period: find more: Utility-Scale Hydroelectric Net Electricity Generation 20 thousand MWh 0.1% Jul-24 Utility-Scale Solar, Wind, and Geothermal Net Electricity

# TEXAS RENEWABLE ENERGY PRODUCTION



According to data from the US Energy Information Administration, renewable energy accounted for 8.4% of total primary energy production [1] and 21% of total utility-scale electricity generation in the United States in 2022. [3] Since 2019, wind power has been the largest producer of renewable electricity in the country. Wind power generated 434 terawatt-hours of electricity in 2022, which

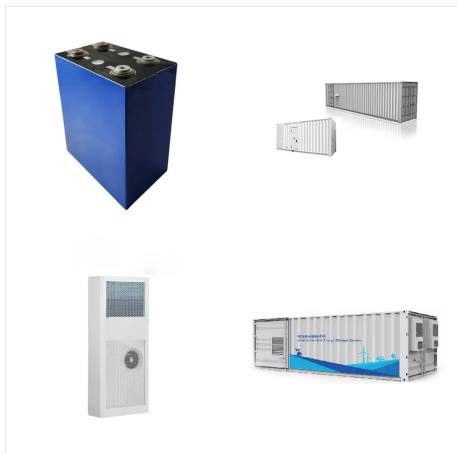


While renewable energy production will be a part of Texas' economic future, our daily lives are more interconnected to the oil and gas industry than ever before. Natural gas provides the majority of our energy with the reliability to fill in as renewables fluctuate.



Michael Webber, a UT Austin engineering professor and an energy expert, spoke to the Texas Standard to discuss the future of renewable energy in Texas and what that may entail for the state's

# TEXAS RENEWABLE ENERGY PRODUCTION



Energy Information Administration - EIA - Official Energy Statistics from the U.S. Government In 2023, Texas accounted for 43% of the nation's crude oil production and 27% of its natural gas gross withdrawals. Texas is the largest energy-consuming state and is the largest net supplier of energy to other states. The industrial sector



Surging renewable energy in Texas prompts electricity generation adequacy questions. Garrett Golding. August 17, 2021. Renewable electricity amounted to one-quarter of the power consumed in 2020, up from just 8 percent in 2010 (Chart 1). More is on the way, with solar capacity set to quadruple by 2024 from comparatively low levels today.



The massive share of renewable energy on the grid is a positive sign for efforts to combat climate change. It will become ever-more common as solar, wind and battery-storage facilities are added. As Texas increases renewable energy production, grid capacity and transmission haven't caught up. Gabriella Ybarra.



# TEXAS RENEWABLE ENERGY PRODUCTION



But Texas remains the centre of the US oil and gas industry; production of oil in the Permian basin ??? which stretches from west Texas to New Mexico ??? rose from a million barrels a day in 2011 to 4.5 million in 2019. The ???



Texas leads the nation in energy consumption across all end-use sectors: residential, commercial, industrial and transportation. More than half of Texas energy consumption comes from industrial end-use, according to the EIA (Exhibit 2) dustrial end-use includes large refineries and petrochemical plants and accounts for 23 percent of the nation's total industrial sector energy ???



Energy. Since the discovery of the Spindletop oilfield in 1901, Texas has been a leader in energy production. Today, Texas is the top energy producer in the nation and is set to become the energy capital of the world???for both traditional and renewable sources.

# TEXAS RENEWABLE ENERGY PRODUCTION



The energy industry is confronting a quickly evolving transition to renewable resources from CO<sub>2</sub>-emitting fossil fuels. Reducing such emissions is important because CO<sub>2</sub> is a greenhouse gas that traps heat in Earth's atmosphere. The burning of fossil fuels contributed substantially to a 40 percent net increase in atmospheric CO<sub>2</sub> from 1750 to 2011.. The "greening" of the U.S. and ???



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook (STEO), September 2024 Note: The Electric Reliability Council of Texas (ERCOT) defines large flexible load as any facility drawing power from the grid with an expected peak demand capacity of 75 megawatts or more.



To reduce CO<sub>2</sub> emissions and local air pollution, the world needs to rapidly shift towards low-carbon sources of energy ??? nuclear and renewable technologies. Renewable energy will play a key role in decarbonizing our energy systems in the coming decades. But how rapidly is our production of renewable energy changing?

# TEXAS RENEWABLE ENERGY PRODUCTION



Investment in Texas's renewable energy production has grown rapidly in recent years, especially wind and solar ??? even as natural gas remains roughly half of the state's source of electricity

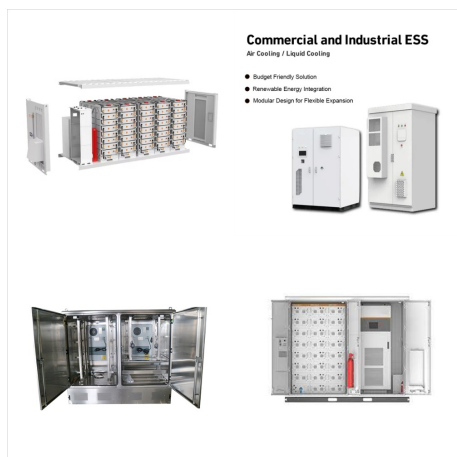


Texans to subsidize renewable energy. ??? The Texas renewable portfolio standard (RPS) requires the purchase of renewable energy credits (RECs) that have cost Texas consumers more than \$500 million. ??? Competitive Renewable Energy Zone (CREZ) transmission lines were built exclusively to promote wind and solar generation in Texas.



But Texas remains the centre of the US oil and gas industry; production of oil in the Permian basin ??? which stretches from west Texas to New Mexico ??? rose from a million barrels a day in 2011 to 4.5 million in 2019. The production of natural gas has tripled since 2013.

# TEXAS RENEWABLE ENERGY PRODUCTION



Texas Renewable Energy Industries Alliance. Join thought leaders from across the utility industry and renewable energy sectors in creating a vision for the grid of the future and advocating for its implementation. The Texas Renewable Energy Industries Alliance provides a platform for a diverse renewable energy industry membership to connect



For the past 17 years, Texas has led the U.S. in wind energy production. In 2022, Texas had 40,556 MW of installed capacity ??? more than a quarter of all wind-sourced electricity in the U.S. Office of Energy Efficiency and Renewable Energy, "Wind Energy in ???



In the race to build renewable energy projects in 2021, Texas lapped the competition. The state had 7,352 megawatts of new wind, solar and energy storage projects come online during the year



# TEXAS RENEWABLE ENERGY PRODUCTION



Texas, long known for oil and gas production, is experiencing a boom in utility-scale solar power. Among renewable energy producers, Texas has been a powerhouse in wind power for more than a decade and has more installed capacity than any other state in the country. However, installed solar capacity has lagged wind for many years.



renewable energy production and services. As a result, Texas has become the top state in wind generation capacity and biodiesel production. Texas is the No. 1 state for total energy production. Texas produces more electricity than any other state, generating almost twice as much as the second highest-producing state. Electric energy costs are an



synonymous with energy production; it leads the nation in production 4, the sector is valued at more than \$170 billion in Texas 5, Renewable Energy Potential Texas has an incredible amount of renewable energy potential and is currently exploiting more of that potential than any other state. In 2022, Texas generated 139.3 TWh from wind, solar