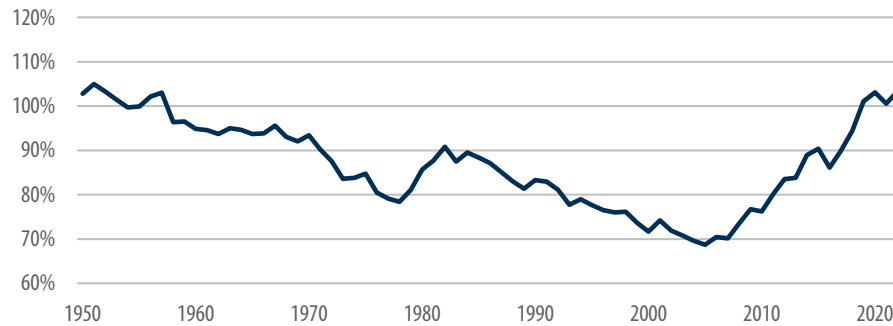


In this week's edition of "Three on Thursday," we explore the complex landscape of energy in the United States. Energy has been a central and highly debated theme, particularly in recent years, given the Biden administration's stance on the fossil fuel industry, which has often been portrayed as a villain, while concurrently supporting the growth of renewable energy sources. Remarkably, over the past two decades, despite the adversarial political climate towards fossil fuels, advancements such as hydraulic fracturing and horizontal drilling have led to a significant surge in fossil fuel production, particularly in oil and natural gas. This has propelled the United States into the position of being the world's largest producer of both oil and natural gas. Instead of vilifying fossil fuels, there's a compelling argument for recognizing their continued significance in meeting our long-term energy needs. To offer deeper insights, we've included three informative charts below.

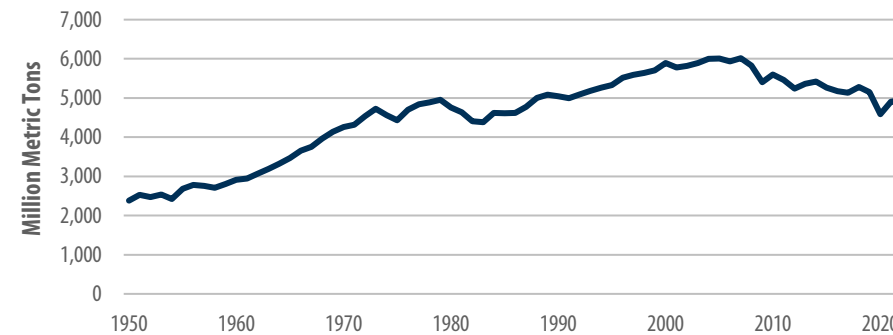
U.S. Energy Production as a Share of U.S. Energy Consumption



Source: Energy Information Administration (EIA), First Trust Advisors. Annual data 1950-2022.

Starting from 1950, the share of energy production relative to consumption plummeted from its peak of 105% in 1951 to a mere 68.7% in 2005. This decline raised concerns about the United States' growing dependence on foreign energy sources, all while the concept of reaching "peak oil" remained a recurring theme. Fortunately, a blend of traditional and innovative technologies, hydraulic fracturing and horizontal drilling, ignited an unprecedented energy revolution in the U.S., leading to a staggering surge in overall energy production. From 2005 onward, the United States has witnessed a remarkable 45.4% surge in total energy production. Notably, fossil fuels have been the driving force behind this increase, accounting for a substantial 87% of the overall production growth, while renewables have played a very modest role, contributing just 13%. As of 2022, the ratio of energy production to consumption has rebounded to a striking 103.3%, marking the highest point since 1953.

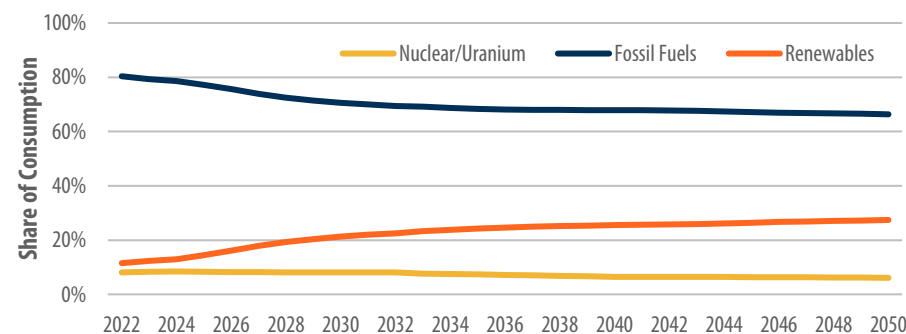
U.S. CO₂ Emissions from Energy Consumption



Source: U.S. Energy Information Administration (EIA), First Trust Advisors. Annual data 1950-2022.

CO₂ emissions in the United States soared by 153% from 1950 to 2007, but since then, they've steadily dropped by an impressive 17.9% through 2022, surpassing global progress. This reduction coincided with a significant boost in U.S. fossil fuel production, primarily due to fracking. This technology unlocked abundant natural gas reserves, displacing coal, leading to cleaner energy generation. What makes this achievement even more impressive is that it occurred despite an unfriendly regulatory environment for the fossil fuel industry.

U.S. Energy Consumption by Fuel Source



Source: U.S. Energy Information Administration (EIA), First Trust Advisors. Annual data 2022-2050. Data starting in 2023 are EIA projections.

Maybe someday renewables will have their day, but there is still a long road ahead to achieve that reality. According to the U.S. Energy Information Administration, it's projected that fossil fuels will still account for 66.4% of energy consumption by 2050, a decrease from 80.3% in 2022 but still a majority. In contrast, renewables are expected to rise from 11.5% in 2022 to 27.4% by 2050. Given our substantial reliance on fossil fuels, we believe it would be greatly beneficial for the U.S. government to empower and support entrepreneurs in this sector rather than demonizing it, as this could play a pivotal role in shaping our energy future.

This report was prepared by First Trust Advisors L.P., and reflects the current opinion of the authors. It is based upon sources and data believed to be accurate and reliable. Opinions and forward looking statements expressed are subject to change without notice. This information does not constitute a solicitation or an offer to buy or sell any security.