

Meeting the Moment

Deployable Load Growth Solutions Can Drive Economic Prosperity



After decades of relatively flat energy demand, the United States is suddenly experiencing skyrocketing energy use spurred by growth of artificial intelligence, data centers, electrification, and the onshoring of U.S. manufacturing.

This growing demand threatens the reliability of our nation's energy infrastructure and raises concerns of increased energy prices. Simply put, **America needs more energy now** to keep the lights on for homes and businesses.

As a coalition of companies and trade associations that deploy clean energy and decarbonization solutions – with a sector focus on energy efficiency, natural gas, and renewable energy – the [Business Council for Sustainable Energy \(BCSE\)](#) represents the solution providers ready to answer this call.

A broad portfolio of commercially-available technologies are actively being deployed to meet surging energy demand – while also contributing to a cleaner, more reliable, and affordable grid.

A broad portfolio of commercially-available technologies are ready to meet surging energy demand.

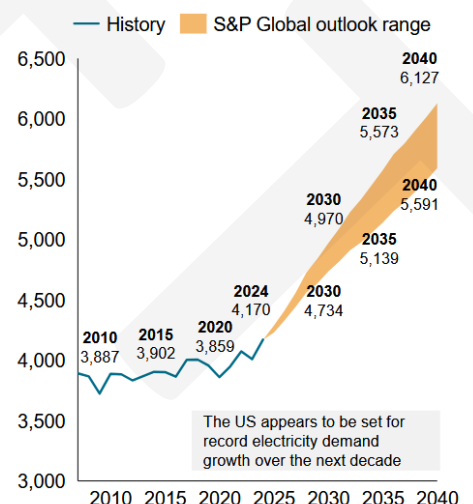
The Challenges of Load Growth

A recent report by S&P Global Commodity Insights predicts that [U.S. electricity demand will surge by 35-50%](#) by 2040. This unprecedented demand is driven by growth in artificial intelligence, data centers, electrification, and the onshoring of U.S. manufacturing. In the short term, these boons to the economy require vast amounts of energy that can be deployed quickly and affordably.

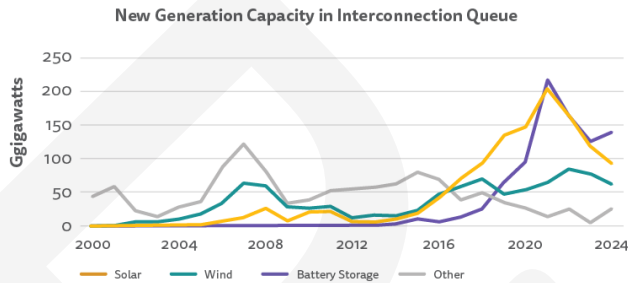
However, energy projects face difficulties in coming online at the local, state, and federal level. Permitting and siting processes cause bottlenecks and leave projects stranded in development for far too long. On federal lands, [it can take roughly four years](#) to construct utility-scale wind and solar projects, seven to ten years to obtain a mining permit, and ten years to build a new transmission line.

In 2024 alone, [317 GW of new capacity](#) applied to interconnect in the seven U.S. independent system operators, representing nearly a third of the current installed U.S. power system. Over two-thirds of this new capacity is solar and storage.

US Lower 48 net on-grid electricity demand
TWh



Source: [US National Power Demand Study \(2025\)](#)



Source: [2025 Sustainable Energy in America Factbook](#)

Sustainable Energy Solutions to Meet Demand

From building efficiency retrofits in Hawaii to wind farms in Minnesota to cutting-edge natural gas research in Oklahoma, sustainable energy is strengthening America's future and creating more than [3 million jobs](#).

Sustainable energy market growth is hard-wired into the U.S. economy. In 2024, the United States spent [\\$338 billion on the energy transition](#), up from \$303 billion in 2023. These investments were dominated by clean power and grid-related spending.

Strong state and federal policy signals over the past decades have translated into a robust sustainable energy

industry. Today, natural gas and renewables provide two-thirds of U.S. power, up from just 47% a decade ago.

Natural gas remains the largest electricity generation source, representing 43% of total output in 2024, while renewable energy's share grew to 24%. The contribution of wind, solar, biomass, waste-to-energy, geothermal, and hydropower rose at the fastest pace among all sources of energy consumed across the economy, rising 10.2% year on year.

A broad portfolio of commercially-available technology is ready to quickly deploy cost-effective and dependable energy. This portfolio can provide state-level solutions to prepare for growing energy demand, such as:

Energy Efficiency

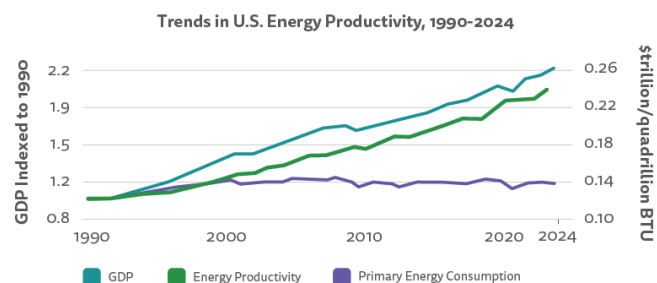
Energy efficiency plays an essential role in reducing waste and lowering energy costs for consumers and businesses. Smart energy efficiency and demand-side tools can help manage peak loads and balance consistent energy growth over time, while strengthening energy stability, reliability, and resilience in local communities.

For governors and state leaders seeking to attract new businesses, energy efficiency is a competitive advantage. By [reducing peak demand and improving load flexibility](#), efficiency solutions ease pressure on local utilities and mitigate the need for new power plants or transmission lines. Unlike large infrastructure projects



with multi-year timelines, [efficiency upgrades](#) can be installed in weeks or months, delivering savings immediately. This speed is essential for states facing real-time reliability challenges.

Specifically, due to investment in energy-efficient technologies and practices across buildings, industry, and transportation, energy consumption has remained relatively flat over the past few decades while the economy has expanded. [U.S. energy productivity has improved by 29.3%](#) over the last 10 years. According to the American Council for an Energy Efficient Economy (ACEEE), approximately [60% of the energy intensity gains](#) achieved over time can be attributed to energy efficiency. With supportive energy efficiency policies at the state level, state economies can continue to grow without increasing energy consumption.



Source: [2025 Sustainable Energy in America Factbook](#)

Grid Enhancing Technologies (GETs)

Consumers expect stable and resilient energy supply, but the grid requires major upgrades and is sensitive to load fluctuations and bi-directional power flow. As the United States expands its energy production and data center development, energy supply chains will be pushed to the limit.

In the short term, [grid enhancing technologies \(GETs\)](#), including hardware and software, can be cost-effective solutions to enhance grid reliability and increase transmission quickly. GETs can be deployed in [under a year](#), as opposed to a traditional transmission project, which can take between [five to ten years](#) to be completed.

Additionally, research by the Brattle Group found that GETs could provide annual benefits nationwide in the range of [20,000 long term jobs](#) in energy generation



and 330,000 short term jobs in construction for energy generation, as well \$1.5 billion in local benefits.

California, Maine, Massachusetts, Minnesota, and Virginia all [passed state-level GETs legislation](#) in 2024 to support these technologies.

Supply-Side Solutions

Natural gas, renewable natural gas, solar power, wind power, hydropower, geothermal, hydrogen, energy storage, and more are part of a broad portfolio of solutions ready to meet growing energy demand.

Over the past two years, the [falling price of natural gas](#) has helped stabilize wholesale power prices. Maintaining existing natural gas infrastructure is key to providing reliable energy services for more than [189 million Americans](#) and 5.8 million businesses, as well as for supporting renewable energy resources.



In 2024, utility-scale solar, wind, and energy storage accounted for 93% of all new power capacity. These shovel-ready renewable energy and storage projects can be added to the grid in the next five years while additional natural gas resources are in development. Although inflation and higher interest rates boosted levelized costs of electricity (LCOEs) for renewable energy technologies in 2023, solar energy is now one of the most affordable new bulk power sources. Plus, energy storage costs are decreasing thanks to lower battery prices.

Together, the decreasing costs of natural gas, solar, and storage – and the stabilized cost of wind – can contribute to increased grid reliability and affordability.



Case Studies: Sustainable Energy in Practice

Across the country, the private sector is deploying energy solutions to reduce costs and meet operational goals. The following case studies speak to the innovative solutions that are ready to meet today's energy needs, as well as highlight the benefits of public-private partnerships.

Missouri: Johnson Controls' Building Portfolio Improvements

Highlights:

- **Federal grants and loans** enabled financing for the project, with a guarantee on energy performance and cost savings
- **Replicable across public and private buildings and campuses**
- **Role for states:** Education to energy users and enabling state policy

The West Plains Housing Authority (WPHA) in Missouri partnered with Johnson Controls to launch a comprehensive modernization project in 2024 aimed at enhancing 273 low-income housing units, including 101 single-family and duplex units along with two apartment towers. This initiative, supported by multiple funding sources and requiring no initial capital investment, aims to achieve a 32% reduction in carbon emissions and a 40% decrease in water consumption. Projected savings are estimated to approach nearly \$200,000 annually, offering significant benefits to taxpayers, residents and the community.



Johnson Controls facilitated WPHA in securing funding from multiple sources, including grants from the U.S. Department of Housing and Urban Development (HUD), grants and rebates from the federal Inflation Reduction Act, utility savings from the Small Rural Frozen Rolling Base Program (SR-FRB), and a low-interest loan from a Green Fund lending program.

Multi-State: Metrus Energy's Energy-as-a-Service Upgrades

Highlights:

- **Energy as a Service model** provided third party financing for energy management and infrastructure modernization
- **Replicable across public and private buildings and campuses**
- **Role for states:** Education to energy users and enabling state policy

Together with its Energy Service Contractor (ESCO) partner Centrica Business Solutions, Metrus is utilizing a [Sustainable Energy as a Service](#) program to finance over \$74 million of projects at 56 sites across the United States for Amazon.

Metrus financed and implemented a programmatic Sustainable Energy Services Agreement (SESA) that allows Amazon to blend the economics of different utility rates across regions to ensure that all sites are able to benefit from the efficiency upgrades. By combining sites where utility rates and operating conditions are more favorable with sites that have less favorable conditions, Metrus was able to make the projects economically viable and provide project uniformity across sites.



The project will reduce total electricity use for lighting at these 56 sites by 71%, thereby eliminating 66,495 tons of annual CO2 emissions – the equivalent of taking 14,461 cars off the road annually.

There have been eight project tranches in two years, with more projects underway. The rapid rollout across a far-flung operation provides a powerful demonstration of the scalability and flexibility of Metrus' SESA. In May 2025, Metrus received an [award for Finance Innovation](#) from the U.S. Department of Energy for this work.