

REPORT PREVIEW:

A Clean Energy Pathway for Western Pennsylvania



Transitioning to clean energy means job growth, shared prosperity, and a safer, cleaner future for Western Pennsylvania. ORVI's forthcoming decarbonization study, produced by Strategen Consulting, describes an energy transition pathway for the ten-county region of Western Pennsylvania that reduces emissions, cuts costs, and creates jobs more effectively than any fossil fuel-based pathway.

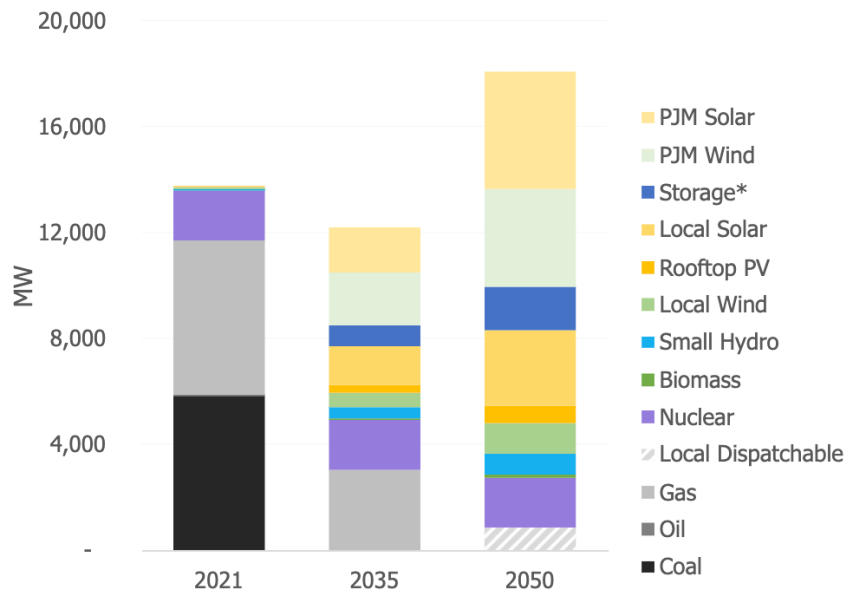
Key Takeaways:

- **A renewables-based decarbonization pathway is the most cost-effective.** Transitioning to a clean, renewable energy and maximizing energy efficiency will be much more cost-effective than continuing to rely on oil and gas, especially if expensive, unproven carbon capture is involved.
- **A renewables-based pathway curbs climate-warming emissions.** Our clean energy pathway will reduce carbon emissions by 94% by 2035 and at least 97% by 2050.
- A renewables-based pathway, which includes energy efficiency and grid-integrated distributed resources, will result in **more jobs, more bill savings, and a greater economic impact than fossil fuel-based decarbonization.**
- **The renewables-based pathway leverages resources from throughout the PJM region to achieve maximum efficiency.** About two-thirds of Western Pennsylvania's energy will be produced locally; the rest will be imported through the PJM market.

Transitioning to clean energy is viable, economical, and necessary for our planet’s future. Here’s how the region’s energy mix will evolve:

- **Retiring coal- and gas-fired power plants.** All coal plants and a significant portion of natural gas plants will retire or reduce output by 2035, drastically reducing carbon emissions going forward. A limited portion of natural gas plants may be kept to meet demand spikes and ensure reliability.
- **Combining energy efficiency and electrification.** The renewables-based pathway invests heavily in energy efficiency to reduce electricity costs, create jobs, and make the region a healthier, safer place to live. At the same time, electrifying transportation and buildings will drastically cut the region’s carbon emissions. With energy efficiency offsetting a significant share of demand growth that may result from building and transportation electrification, overall load growth by 2050 can be limited to just 33%.
- **Cutting off dirty natural gas.** The renewables-based pathway substantially reduces reliance on natural gas for power generation and building usage, resulting in 96% and 98% decreases in natural gas consumption, respectively, for these sectors by 2050.

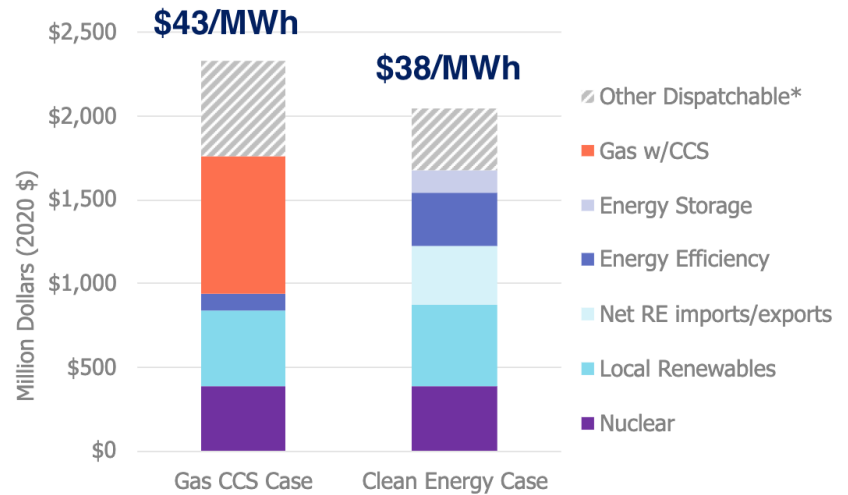
Figure 1: Power Generation in the 10-County Region



By the Numbers:

- Continued reliance on locally sourced fossil fuels and carbon capture will be **12% more costly** than a clean energy pathway that is focused on renewables and energy efficiency, and leverages imports from outside the 10-county region.
- A renewables-based pathway results in a **97% reduction of CO2 emissions** from the power sector by 2050, resulting in **annual benefits of \$2.69B**, higher than those associated with a natural gas and carbon capture pathway.
- Energy efficiency combined with electrification of the buildings and transportation sectors results in **load growth totaling 33% over the period.**

Figure 2: Per-MWh Energy Cost Comparison, Gas/CCS Case vs. Clean Energy Case



Energy Snapshot: How would a clean energy pathway meet energy load in 2050?

Figure 3: Power-Supply Solution Over a Three-Day Period, 2050

