Lower-Carbon Fuels Can Support Affordable, Reliable Energy While Reducing Emissions in New Jersey

SJI

What are lower-carbon fuels?

Lower-carbon fuels like renewable natural gas (RNG) and hydrogen can significantly reduce emissions while leveraging New Jersey's existing energy system.

- **RNG:** Produced from waste and compatible with today's gas network, can reduce emissions and in some cases delivering **carbon-negative benefits**[1]
- **Hydrogen:** A versatile energy carrier that can support heating, power, and transportation, with **near-zero emissions when produced from clean electricity**[2]

Why now?

Lower-carbon fuels can offer a **practical and cost-effective pathway to decarbonization** while allowing customers to continue relying on natural gas for home heating.

- Delivers near-term emissions reductions
- Supports lower-carbon home heating while helping maintain reliability during peak winter demand

LOWER-CARBON FUELS CAN OFFER A RANGE OF BENEFITS FOR NEW JERSEY

Helps Limit Customer Bill Impacts

Uses existing infrastructure to help avoid broader system rebuild costs, which can reduce potential bill impacts.

Supports Cost-Effective Decarbonization

Can enable emissions reductions in sectors where full electrification may be costly, difficult, or slower to deploy.

Avoids Major Infrastructure Overbuild

Reduces the need for large-scale energy system upgrades by using existing fuel delivery systems where practical.

Supports Local Jobs

Preserves skilled work tied to the existing gas system while supporting new jobs in lower-carbon fuel production, project development, and construction

Enhances Energy Security

Utilizes domestic renewable resources and diverse hydrogen production pathways to reduce reliance on imported fuels.

Leverages Existing Infrastructure

Integrates with existing gas pipelines, storage, and fueling systems, accelerating deployment.

Improves Air Quality

Reduces NOx and particulate matter compared to diesel, delivering public health benefits in high-traffic and industrial areas.

Supports Hard-to-Electrify Sectors

Provides lower-carbon options for applications that are difficult to electrify, including long-haul trucking, heavy-duty fleets, and industrial processes.

Typically Reduces GHG Emissions

Can lower lifecycle emissions: RNG can be carbon-negative[1] and hydrogen in fuel cells produces zero-emission at end use.[2]

1: U.S. Environmental Protection Agency. An Overview Of Renewable Natural Gas From Biogas (Jan. 2024).

2: U.S. Department of Energy. U.S. National Clean Hydrogen Strategy and Roadmap (June 2023).

Lower-Carbon Fuels Can Support Affordable, Reliable Energy While Reducing Emissions in New Jersey

South Jersey Industries (SJI) is investing in lower-carbon fuels to reduce emissions while helping to maintain the reliable gas service customers depend on for home heating, using existing infrastructure to help manage costs.

LOWER-CARBON FUEL PROJECT CASE STUDIES

Turning Landfill Waste into Energy

SJI's landfill gas-to-RNG project in Egg Harbor Township captures methane from landfill waste and converts it into usable energy for homes, businesses, and transportation.

- Produces enough energy to serve thousands of homes annually
- Replaces over four million gallons of traditional fuel each year
- Uses existing infrastructure, avoiding costly system upgrades

Converting Food Waste into Energy

SJI's Linden, New Jersey RNG project will convert food waste into usable energy delivered through the existing gas system, helping replace conventional natural gas. Once operational, the project is expected to:

- Process 1,400+ tons of food waste per day, diverting it from landfills
- Produce renewable energy equivalent to 30,000+ gallons of fuel daily
- Avoid ~120,000 metric tons of greenhouse gas emissions annually

Supporting a Dairy Farm While Lowering Emissions

SJI's RNG facility in Auburn, New York converts manure from approximately 10,000 dairy cattle into renewable energy delivered through the local gas system.

- Processes ~85 million gallons of manure annually
- Captures methane from agricultural waste, a high-impact greenhouse gas
- Produces local energy continuously for homes and businesses
- Creates additional value for local farms by turning waste into energy

Blending Hydrogen For Cleaner Energy

SJI's green hydrogen project in South Harrison, New Jersey uses solar-powered electrolysis to produce hydrogen that is blended into the existing gas system.

- Will generate an amount of hydrogen annually equivalent to the energy of 33,000 gallons of gasoline with no carbon footprint
- Utilizes existing natural gas pipelines, reducing the need for new expensive infrastructure and keeping utility costs stable
- Created more than 67 construction jobs during project implementation