NESTE MY
Renewable Diesel

Compressed Natural Gas, Electricity and Renewable Diesel: **What's the Difference?**

Though all three are better for the environment than conventional diesel, each are very different from one another. From the way they're produced, to their cost of production and impact on society and the environment, explore the chart below and see for yourself how compressed natural gas, electricity, and renewable diesel stack up.

	Compressed Natural Gas (CNG)	Electricity	Renewable Diesel
What Is It?	Natural gas that is compressed for storage and transport. Is used to fuel CNG spark-ignited engines.	Energy stored in batteries. Is used to power electric motors to drive a vehicle.	Diesel fuel that meets all ASTM D975 and state and federal diesel specifications.
Fuel Material (Feedstocks)	Can be non-renewable or renewable. Non-renewable CNG (CNG) comes from underground reserves by drilling and fracking. Renewable CNG (RNG) is renewable biogas from farm and refuse operations.	Can be non-renewable or renewable. Non-renewable electricity includes coal, nuclear, and natural gas powered generators. Renewable electricity includes hydro, wind, and solar powered generators.	Made completely from renewable and sustainable biomass including wastes and residues from animal and fish fat, as well as used cooking oils and vegetable oils.
Carbon Intensity **CARB approved pathways*	CNG: Minimal reductions from the baseline. RNG: Average of 50% lower than baseline (source dependent).	Electricity for transportation: Average of greater than 150% of baseline.	45% - 81% lower than baseline (source dependent).
Security of Supply	Multiple producers, but dependent on single pipeline network supply. Cannot be interchanged with other fuel types.	Multiple producers, but dependent on single electricity grid supply. Limited local, backup emergency electricity generation available.	Multiple national and international producers and production sites. Renewable diesel can be seamlessly interchanged with CARB diesel.
Logistics	Pipeline infrastructure; compressors; limited, specialized fueling stations	Electricity grid; limited, specialized charging locations	Fully fungible with conventional diesel; multiple, standard fueling stations; seamlessly interchangeable with CARB diesel
Quality Control	Meets ASTM WK40094, and state and federal specifications.	N/A	Meets ASTM D975 and state and federal specifications.
Cost to Switch	Requires new engine investment plus additional fueling and distribution infrastructure, especially if project is new.	Requires new equipment investment plus additional charging infrastructure, especially if project is new.	$0 - zero cost
Challenges	Reduced engine power and range compared to diesel. Limited fueling locations.	Reduced vehicle range and payload capacity compared to diesel. Limited charging locations.	None
Maintenance Issues	High-pressure tanks require periodic inspection and certification. Additional permitting and regulation on fueling and maintenance locations.	Battery will usually need replacement before vehicle is retired.	None
Environmental Impact	Natural gas methane emissions prior to compression are a significant contributor to greenhouse gases.	Power plant emissions can result in air pollution. EV batteries contain rare-earth metals which are limited.	Converts wastes and residues that would normally go unused into high-quality, premium fuels.