Using LNG for commercial and heavy goods vehicles, off-road trucks, marine vessels, trains, and buses can mean fuel savings of up to 50%, with lower particulate and carbon emissions, compared to diesel.

LNG-fueled vehicles can have smaller, simpler engines that still generate the high horsepower requirements of heavy-duty vehicles while using less fuel.

LNG has the greatest amount of energy per unit of mass of all conventional fuels. It packs the best punch for its weight.

With LNG less fuel is needed to cover greater distances, making LNG a good option for long-haul journeys.

Mining is a key sector where natural gas is used to fuel high horsepower vehicles. Some of the largest mining trucks in the world can have more than 100-ton capacity, and use between 150,000 and 400,000 gallons of fuel a year.

The switch to gas powered vehicles can bring major fuel and emissions savings across multiple mining operations.
The marine sector is increasingly turning to LNG as a bunker fuel for different sectors ranging from cargo vessels and tugboats, to cruise ships, tankers, and ferries. As a marine fuel, LNG is cleaner than conventional fuel alternatives: it meets or exceeds the current MARPOL* emission regulations for sulfur oxide (SO₂) and carbon dioxide (CO₂) as well as black particulate matter. Depending on the vessel’s engine type and design, nitrogen oxide (NOₓ) emissions are not just a function of fuel but also the engine cycle that is being operated. LNG helps reduce NOₓ emissions and meets the IMO Tier III regulations.

Railroad operators can gain similar benefits. The cost of switching to LNG locomotives or retrofitting existing units can be repaid swiftly due to the lower fuel costs for trains which use large amounts of fuel and can remain in service for many years.

In trials by a USA railway the LNG locomotive cost approximately 23% less to fuel on an energy-equivalent basis compared to diesel fuel. The LNG switcher locomotive established an estimated 92% reduction nitrogen oxides (NOₓ) and 76% less particulate matter (PM) compared to the baseline (uncontrolled) diesel locomotives. (Report by Patrick Couch Jon Leonard Helena Chiang, April 2010.)

**Technical Data**

Long-haul trucks can travel up to **750 miles** between fill-ups, while pulling heavy loads.

**Fuel cost savings** can recoup the higher investment costs for an LNG truck (US$70,000 to $90,000 compared to diesel) within about **three years**.

*The International Convention for the Prevention of Pollution from Ships’ Marine Pollution*