

NiuEnergy is a natural gas aggregator focused on commercialising the distribution and consumption of domestic gas in Papua New Guinea.

Why use Natural Gas?

- Natural Gas consists primarily of methane.
- Natural Gas produces lower quantities of greenhouse gases compared to LPG.
- Natural Gas is cheaper than diesel on an energy equivalent basis.
- Natural Gas is less flammable than LPG and, being lighter than air, Natural Gas disperses rapidly if there is a spillage, significantly minimising ignition risk.

NiuEnergy has a 15-year gas sales agreement with the PNG LNG Project and has supplied gas to its 58MW NiuPower plant since 2019. NiuEnergy is now testing the establishment of a PNG domestic gas market, to supply Natural Gas from a purpose-built small-scale modular pilot plant.

Is your business an actual or potential user of gas?

As part of its market testing in the Port Moresby area, NiuEnergy wishes to contact all potential users of this easily transportable energy source, possibly as a substitute for diesel. NiuEnergy could supply in isotainers or to onsite storage, and can offer advice on gas conversion if necessary.

Natural Gas is used for both residential as well industrial purposes. Some of its uses are:

- As you already know Natural Gas is widely used by the transportation sector for powering cars, trains, ships, and other vehicles.
- The gas is used by end consumers for cooking and heating.
- Dryers use Natural Gas for drying clothes. It is 50% more cost-effective than electricity.
- Some countries also use Natural Gas for generating electricity.
- Manufacturing a huge range of chemicals like acetic acid, ammonia, methanol, butane, propane, ethane, etc. Even fertilizers are made using Natural Gas.

- It is heavily used as chemical feedstock for manufacturing plastic and other commercially important organic chemicals.
- Natural Gas is used in the production of glass, fabric, steel, paint, etc.
- Protein-rich animal and fish feed is produced by feeding Natural Gas.
- Natural Gas has applications in both industrial as well as in the home but it is primarily used for transportation.

Case Study

COGENERATION PLANT



All Coopers' electricity and steam requirements are drawn from a 4.4 megawatt (MW) natural gas-powered cogeneration plant located on site. The plant, built in partnership with AGL, burns natural gas in a turbine to drive an electricity generator, and uses the waste heat to produce steam used in the brewing and malting process. As a result, the plant achieves an energy use efficiency of 80%, which is approximately 2.5 times greater than a conventional power station. This has reduced carbon dioxide emissions by up to 15,000 tonnes per annum compared with a conventional power plant – the equivalent of taking an estimated 3,200 standard vehicles off the road for a year.

The cogeneration plant produces 12,000 megawatt hours (MWh) of power per year for the brewery and the maltings, while a further 13,000 MWh is fed into the South Australian power grid. The plant also generates 50,000 tonnes of steam a year, used for heating in brewing and production processes, and for pre-heating in the maltings kiln.