

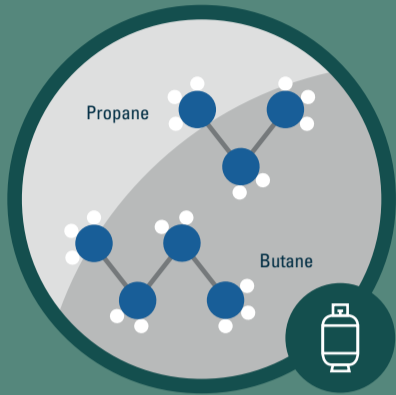
KNOW YOUR FUEL GASES

– responsible sources of energy

LPG

Liquefied Petroleum Gas

C_3H_8 / C_4H_{10}



A mix of propane and butane, which are vapour at room temperature and pressure, but can be liquefied by compressing them lightly.

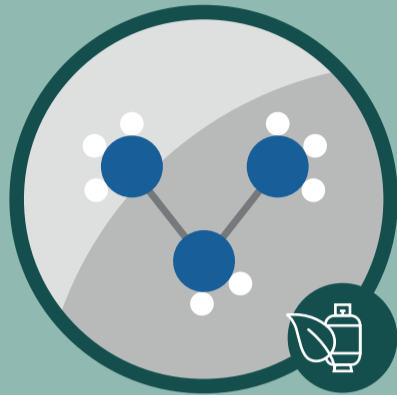
Advantages Clean, low emissions, readily available, and easy to store and transport at moderate pressure.

Applications Cooking, heating/cooling, automotive (autogas), power production, weed burning, drying, aerosol propellant, and much more.

Bio-propane

LPG from renewable sources

C_3H_8



Chemically identical to conventional LPG but created entirely from renewable and sustainable biomass.

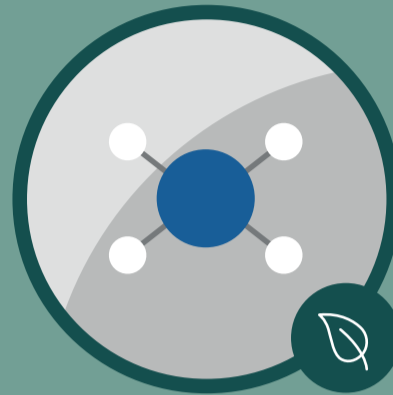
Advantages Clean, easy to store and transport, and even better for the environment than LPG.

Applications Cooking, heating/cooling, automotive (autogas), power production, weed burning, drying, aerosol propellant, and much more.

Natural gas

Gas extracted from the earth

CH_4



Consists mostly of methane and was formed by decomposing biomass deep underground over millions of years. Distributed by grid.

Advantages Clean burning and low emissions.

Applications Cooking, power generation, heating/cooling, drying, many other industrial uses.

Biogas

Natural gas from biomass

CH_4 (mostly)



Derived from sustainable biomass being digested by bacteria in oxygen-free environments. Usually distributed by grid in its gaseous form.

Advantages Clean burning and CO_2 neutral.

Applications Cooking, power generation, heating/cooling, drying, many other industrial uses.

CNG

Compressed Natural Gas

CH_4



Natural gas put into cylinder / High pressure storage at 200-220 bar.

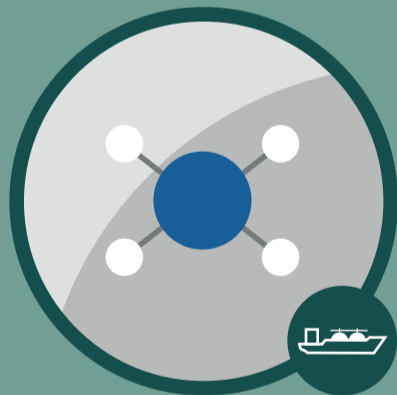
Advantages Easy to transport, although less so than LPG.

Applications Most commonly used for Automotive purposes such as city busses.

LNG

Liquefied Natural Gas

CH_4



Natural gas cooled down to $-162^\circ C / -260 F$, whereby it is liquefied to 1/600 of original volume.

Advantages Easily transportable, though requires cooling and insulated storage vessels.

Applications Ship fuel, automotive, heating/cooling, drying.

SNG

Synthetic Natural Gas

$C_3H_8 + air$



Essentially propane mixed with atmospheric air. Can be used in place of natural gas with no change in equipment.

Advantages Useful as a backup for natural gas and for peak shaving*.

Applications Cooking, power generation, heating/cooling, drying, many other industrial uses.

Hydrogen

Emits only water when burned

H_2



Zero harmful emissions, but expensive to produce. Hydrogen is the most lightweight fuel gas available. It is made by electrolysis of water or refining natural gas. Portable in high-pressure tanks.

Advantages Clean burning, no harmful emissions.

Applications Motor fuel, power production, spacecraft.

* Peak shaving is the cost-reducing measure of purchasing less energy from one's utility company during hours when the demand (and price) is at its highest.