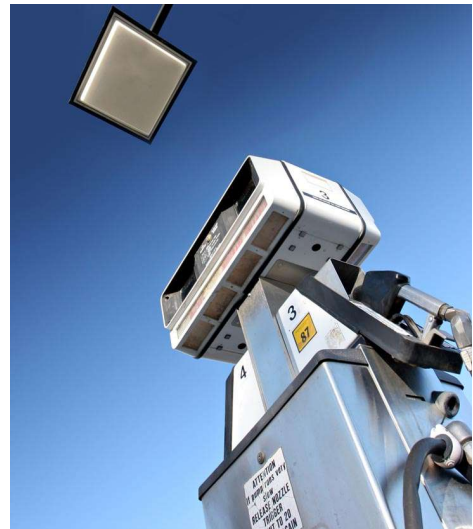


COMPRESSED NATURAL GAS (CNG) AND LIQUEFIED NATURAL GAS (LNG) NGV - Natural Gas Vehicles

Properties

Natural gas is composed of a series of light hydrocarbons whose main component is methane (CH₄), the proportion of which is no less than 70%. It is obtained from reserves that are located underground at depths ranging from 500 m to 3500 m.

Natural gas may be transported on board the vehicle, both in gas form- Compressed Natural Gas (GNC) - or in liquid form- Liquefied Natural Gas (LNG). In either case, the engine is supplied in gas form and the use of one or the other depends on the actual vehicle.



CNG is used far more extensively than LNG. Use of LNG does, nevertheless, provide the vehicle with greater autonomy, given its greater energy density.

CNG is obtained by compressing natural gas to a pressure that varies between 200 and 250 bar and it is generally stored in metal cylinders. This application is of special interest for its use as a fuel in vehicles.

LNG is reduced or liquefied through a cryogenic process where the temperature is decreased to - 160°C, reducing its volume and facilitating its storage and transport by methane tankers to the regasification facilities.

Advantages

The extensive benefits of VNG (Vehicular Natural Gas), both environmental and energetic as well as economic, are key points in its development and use, leading to it becoming a rapidly increasing energy source.

Due to its characteristics, it does not generate solid particles in burning gases when used in vehicles, it produces less CO₂, (thereby reducing the greenhouse gas effect), it removes emissions derived from the presence of sulphur and makes it possible to greatly reduce NO_x and CO.

VNG provides higher energy content per mass unit than other traditional or gaseous fuels, and with a higher octane level, thereby facilitating its use in higher compression engines. This makes it an interesting fuel from an economic point of view, being a lower cost fuel and obtaining major savings with respect to other fuels.