

Natural gas

What is natural gas?

Natural gas is an incredibly important fuel. It supplies the UK with over 40 percent of its energy needs. It is a fossil fuel containing mainly methane but also amounts of ethane, propane, butane and pentane.

Where does natural gas come from?

Natural gas is produced from oil fields and can also be found in separate natural gas fields. In both cases, holes have to be drilled deep into the earth to retrieve it.¹

The UK is fortunate in having its own natural gas (and oil) resources in the North Sea. Gas has been extracted here since 1965 and since the late 1960s the UK has produced nearly 2000 billion cubic metres of gas from these fields. It has been estimated that there may be up to 1500 billion cubic metres still to be removed.²

However, demand for gas is rising and production from the North Sea fields is declining as the gas becomes harder to extract. This means that the UK now has to import some gas from Russia and other countries to meet its domestic needs.



Why is natural gas used as a fuel?

Natural gas contains a large amount of chemical potential energy that can be released by burning. In fact, the energy content of 1 litre of natural gas at (room temperature and pressure) is 38.4 mega joules (MJ). In comparison, one litre of oil contains 38.6 MJ. This makes it ideal for use as a fuel.

What happens when you burn natural gas?

If we assume that natural gas is pure methane, it will burn in plenty of oxygen to produce water and carbon dioxide.



If, however, the supply of oxygen is restricted highly toxic carbon monoxide will be formed instead of carbon dioxide. This is why all gas appliances should always be properly ventilated.

Distributing natural gas

Because of its low density, transporting and storing natural gas has its difficulties. Gas pipelines can be practical for transport overland, but not generally for long distances under oceans. Alternatively, the gas can be liquefied by pressurisation. It can then be transported in tanks by sea or land.

1 www.oilandgas.org.uk

2 www.oilandgas.org.uk