OGP

International Association of Oil & Gas Producers

...Finding & producing oil & gas – some basic facts

Oil & natural gas: the basics

According to the International Energy Agency (IEA), oil and natural gas currently meet some 60% of the world's primary energy needs. They also provide the building blocks for a wide range of products, including consumer goods, pharmaceuticals and road surfaces.

But what are oil and gas?

Essentially, they are hydrocarbons. That means they are chemical compounds of hydrogen and carbon atoms.

A 19th century oil well

Oil & gas are known as fossil fuels. They derive from the remains of plants and animals that died millions of years ago and have since been subject to extremes of both heat and pressure.

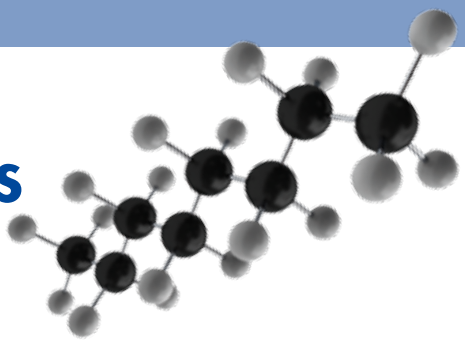
Oil is a natural mix of liquid hydrocarbons. It is contained in the pores of sedimentary rocks in deposits known as 'reservoirs'. There are no subterranean lakes of oil – which is why extracting oil is such a challenge.

Natural gas is also a mixture of hydrocarbons – mostly methane with other gases such as carbon dioxide, nitrogen, hydrogen sulphide and helium. Because it is lighter than oil, gas is usually found at the top of a hydrocarbon reservoir, with oil lower down. Depending on the geological history of a reservoir, the ratio of gas to oil can vary significantly.

Oil & gas are both primary energy sources. This means that once they are extracted and refined or processed, they can be used for heating, transport and power generation.

Oil is also an essential lubricant for transport and industry.

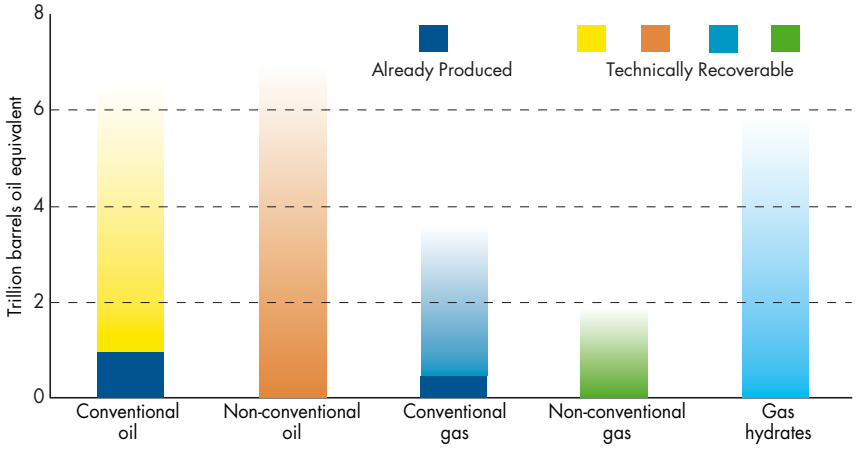
Natural gas, because of its cleaner burning properties compared to other fossil fuels, is preferable environmentally as a fuel of choice for power generation.



Representation of a hydrocarbon molecule

In 150 years of increasingly intensive use of oil, the world has consumed about 1 trillion barrels. One barrel is about 159 litres, 35 Imperial gallons and 42 US gallons. According to the International Energy Agency, there are another 4 trillion barrels of oil equivalent left in the ground† – in principle enough to meet demand until alternative forms of energy become technically and economically viable. The most significant challenge of producing them lies above the ground in the stimulation of technology and the creation of the right investment conditions.

† *IEA, WEO, 2006*



Oil & gas: what's been produced & what's left

About OGP

OGP represents the upstream oil & gas industry before international organisations including the International Maritime Organisation, the United Nations Environment Programme (UNEP), Regional Seas Conventions and other groups under the UN umbrella. At the regional level, OGP is the industry representative to the European Commission and Parliament and the OSPAR Commission for the North East Atlantic. Equally important is OGP's role in promulgating best practices, particularly in the areas of health, safety, the environment and social responsibility.

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