

Oil and Gas reserves

Oil reserves include both oil and the liquids and liquefied products obtained from gas fields, gas-condensate fields and from the associated gas in oil fields. Gas reserves are the quantity of gas expected to be available for sale from dry gas fields, gas-condensate fields and oil fields with associated gas. Gas which is expected to be flared or used offshore is not included.

This publication uses new terminology introduced by the Department of Trade and Industry (DTI) to describe UK reserves of oil and gas. Descriptions are now more closely aligned to those used by the oil and gas industry in order to improve general understanding and ensure consistency. Reserves are classified into the following categories: reserves, potential additional reserves and undiscovered resources. Undiscovered resources relate to those resources as yet undiscovered but potentially recoverable in mapped leads. Potential additional reserves are defined as discovered reserves that are not currently technically or economically producible. Reserves are classified as discovered, remaining reserves which are recoverable and commercial. These can be subdivided into proven, probable or possible depending on confidence level.

Simulation models using Monte Carlo techniques are used each year by the DTI to assess the likely existence and size of undiscovered oil and gas fields on the UK continental shelf (UKCS). The assessments are presented as a range, but the limits of the range should not be regarded as maxima or minima. Estimates of the volume of undiscovered reserves have fluctuated considerably in recent years as new areas of UKCS have been subjected to statistical analysis and older areas have been reassessed. Estimates are published annually by the DTI and are taken from the DTI Brown Book¹.

The lower end of the range of total reserves shown in the table is the sum of estimated proven reserves and the lower end of the range of undiscovered resources for that year, net of cumulative production.

The upper end of the range of total reserves is the sum of estimated proven, possible and probable reserves, plus the upper end range of undiscovered resources, for that year, net of cumulative production.

The expected level of reserves is calculated as the sum of proven and probable reserves and the lower end of the range of undiscovered resources.

Other volume changes are calculated as the difference between the expected level of reserves at the start of the year less production within that year, and the estimated level of reserves at the start of the following year.

Life expectancy is calculated as the expected level of reserves at the end of the year divided by the current rate of annual extraction. This calculation gives an indication of the theoretical number of years for which extraction could be sustained at current levels. In practice, towards the end of the period, the rate of extraction is likely to decrease as individual oil and gas fields are exhausted, so the period of extraction will be longer than that implied by the life expectancy calculation.

1. Department of Trade and Industry http://www.dti.gov.uk/energy/inform/energy_stats/oil/index.shtml