

# Concepts and conversion factors

## RESOURCES

Petroleum resources are a collective term which embraces technically recoverable volumes of oil, gas and natural gas liquids (NGLs). They are broken down into discovered and undiscovered resources, with the former further subdivided into fields and discoveries. By definition, a discovery is made when an exploration well identifies recoverable petroleum. A discovery will be re-defined as a field when its plan for development and operation (PDO) has been approved by the authorities. Undiscovered resources are subdivided into mapped resources (prospects) and unmapped resources (exploration models).

## RESERVES

Reserves are defined in accordance with the Norwegian Petroleum Directorate's classification system, and include recoverable volumes of petroleum as specified in approved plans for fields in production or under development. Reserves may be regarded as the economically recoverable part of the petroleum in a field. A distinction is made between original and remaining recoverable reserves.

Estimated resources and reserves change from year to year as a result of new discoveries, production, and adjustments to earlier estimates

for fields and discoveries based on new studies or innovations in production technology. Volumes are given in standard cubic metres (scm) for oil and gas, and in tonnes for NGLs. Total resources, which combine the various types of petroleum, are given in scm of oil equivalent (scm oe). Conversion factors for oil equivalent are calculated from the average calorific value for each petroleum type:

1 scm oil	=	1.0 scm o.e
1000 scm gas	=	1.0 scm o.e
1 tonne NGL	=	1.3 scm o.e

Total resources and reserves were given earlier in tonnes of oil equivalents (toe).

Gas		
1 cubic foot		1 000.00 Btu
1 cubic metre		9 000.00 kcal
1 cubic metre		35.30 cubic foot

Crude oil		
1 scm		6.29 barrels
1 scm		0.84 toe
1 tonne		7.48 barrels
1 barrel		159.00 litres
1 barrel/day		48.80 tonnes/year
1 barrel/day		58.00 scm/year

	MJ	kWh	TCE	TOE	Scm of natural gas	Barrels of oil
1 MJ, megajoule	1	0.278	0.0000341	0.0000236	0.0281	0.000176
1 kWh, kilowatt hour	3.60	1	0.000123	0.000085	0.0927	0.000635
1 TCE, tonne coal equivalent	29 300	8 140	1	0.69	825	5.18
1 TOE, tonne oil equivalent	42 300	11 788	1.44	1	1 190	7.49
1 scm natural gas	35.54	9.87	0.00121	0.00084	1	0.00629
1 barrel of crude oil (159 litres)	5 650	1 569	0.193	0.134	159	1