

DEFINITIONS, ABBREVIATIONS AND ACRONYMS

This annex provides general information on definitions, abbreviations and acronyms used throughout *WEO-2005*. Readers interested in obtaining more detailed information should consult the annual IEA publications *Energy Balances of OECD Countries*; *Energy Balances of Non-OECD Countries*; *Coal Information*; *Oil Information*; *Gas Information and Renewables Information*.

Fuel and Process Definitions

Coal

Coal includes all coal: both primary coal (including hard coal and lignite) and derived fuels (including patent fuel, brown-coal briquettes, coke-oven coke, gas coke, coke-oven gas and blast-furnace gas). Peat is also included in this category.

Oil

Oil includes crude oil, condensates, natural gas liquids, refinery feedstocks and additives, other hydrocarbons and petroleum products (refinery gas, ethane, liquefied petroleum gas, aviation gasoline, motor gasoline, jet fuels, kerosene, gas/diesel oil, heavy fuel oil, naphtha, white spirit, lubricants, bitumen, paraffin waxes, petroleum coke and other petroleum products).

Gas

Gas includes natural gas (both associated and non-associated with petroleum deposits but excluding natural gas liquids) and gas-works gas. Marketed gas excludes gas used for re-injection, flared gas, and gas leakage and theft.

Biomass and Waste

Biomass includes solid biomass and animal products, gas and liquids derived from biomass, industrial waste and municipal waste.

Other Renewables

Other renewables include geothermal, solar, wind, tide and wave energy for electricity generation. Direct use of geothermal and solar heat is also included in this category.

Nuclear

Nuclear refers to the primary heat equivalent of the electricity produced by a nuclear plant with an average thermal efficiency of 33%.

Hydro

Hydro refers to the energy content of the electricity produced in hydropower plants, assuming 100% efficiency.

Condensates

Condensates are liquid hydrocarbon mixtures recovered from non-associated gas reservoirs. They are composed of C₄ and higher carbon number hydrocarbons and normally have an API between 50° and 85°.

Natural Gas Liquids

Natural gas liquids (NGLs) are the liquid or liquefied hydrocarbons produced in the manufacture, purification and stabilisation of natural gas. These are those portions of natural gas which are recovered as liquids in separators, field facilities, or gas-processing plants. NGLs include but are not limited to ethane, propane, butane, pentane, natural gasoline and condensates. They may also include small quantities of non-hydrocarbons.

Gas-to-Liquids

Fischer-Tropsch technology is used to convert natural gas into synthesis gas (syngas) and then, through catalytic reforming or synthesis, into very clean conventional oil products. The main fuel produced in most GTL plants is diesel.

Gasoil

Gasoil is an intermediate product in oil refining, used as a feedstock for lubricants or made lighter to make gasoline or kerosene through a process known as “cracking”.

Light Petroleum Products

Light petroleum products include liquefied petroleum gas, naphtha and gasoline.

Middle Distillates

Middle distillates include jet fuel, diesel and heating oil.

Heavy Petroleum Products

Heavy petroleum products include heavy fuel oil.

Other Petroleum Products

Other petroleum products include refinery gas, ethane, lubricants, bitumen, petroleum coke and waxes.

Hard Coal

Coal of gross calorific value greater than 5 700 kcal/kg on an ash-free but moist basis and with a mean random reflectance of vitrinite of at least 0.6. Hard coal is further disaggregated into coking coal and steam coal.

Coking Coal

Coking coal is hard coal with a quality that allows the production of coke suitable to support a blast furnace charge.

Brown Coal

Sub-bituminous coal and lignite. Sub-bituminous coal is defined as non-agglomerating coal with a gross calorific value between 4 165 kcal/kg and 5 700 kcal/kg. Lignite is defined as non-agglomerating coal with a gross calorific value less than 4 165 kcal/kg.

Clean Coal Technologies

Clean coal technologies (CCTs) are designed to enhance the efficiency and the environmental acceptability of coal extraction, preparation and use.

Total Primary Energy Supply

Total primary energy supply is equivalent to primary energy demand. This represents domestic demand only and, except for world energy demand, excludes international marine bunkers.

International Marine Bunkers

International marine bunkers cover those quantities delivered to sea-going ships of all flags, including warships. Consumption by ships plying in inland and coastal waters is not included.

Power Generation

Power generation refers to fuel use in electricity plants, heat plants and combined heat and power (CHP) plants. Both public plants and small plants that produce fuel for their own use (autoproducers) are included.

Total Final Consumption

Total final consumption is the sum of consumption by the different end-use sectors. TFC is broken down into energy demand in the following sectors: industry, transport, other (includes agriculture, residential, commercial and public services) and non-energy use. Industry includes manufacturing, construction and mining industries. In final consumption, petrochemical feedstocks appear under *industry use*. Other non-energy uses are shown under *non-energy use*.

Other Transformation, Own Use and Losses

Other transformation, own use and losses covers the use of energy by transformation industries and the energy losses in converting primary energy into a form that can be used in the final consuming sectors. It includes energy use and loss by gas works, petroleum refineries, coal and gas transformation and liquefaction. It also includes energy used in coal mines, in oil and gas extraction and in electricity and heat production. Transfers and statistical differences are also included in this category

Electricity Generation

Electricity generation shows the total amount of electricity generated by power plants. It includes own use and transmission and distribution losses.

Other Sectors

Other sectors include the residential, commercial and public services and agriculture sectors.

Regional Definitions

OECD Europe

OECD Europe consists of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

OECD North America

OECD North America consists of the United States of America, Canada and Mexico.

OECD Pacific

OECD Pacific consists of Japan, Korea, Australia and New Zealand.

European Union

The EU consists of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom.

Transition Economies

The transition economies include: Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Estonia, the Federal Republic of Yugoslavia, the former Yugoslav Republic of Macedonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Romania, Russia, Slovenia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. For statistical reasons, this region also includes Cyprus, Gibraltar and Malta.

China

China refers to the People's Republic of China, including Hong Kong.

East Asia

East Asia includes: Afghanistan, Bhutan, Brunei, Chinese Taipei, Fiji, French Polynesia, Indonesia, Kiribati, Democratic People's Republic of Korea, Malaysia, Maldives, Myanmar, New Caledonia, Papua New Guinea, the Philippines, Samoa, Singapore, Solomon Islands, Thailand, Vietnam and Vanuatu.

South Asia

South Asia consists of Bangladesh, India, Nepal, Pakistan and Sri Lanka.

Latin America

Latin America includes: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, the Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, St.

Kitts-Nevis-Anguilla, Saint Lucia, St. Vincent-Grenadines and Suriname, Trinidad and Tobago, Uruguay and Venezuela.

Africa

Africa comprises Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Congo, the Democratic Republic of Congo, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, the United Republic of Tanzania, Togo, Tunisia, Uganda, Zambia and Zimbabwe.

Middle East

The Middle East is defined as Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates and Yemen. It includes the neutral zone between Saudi Arabia and Iraq.

North Africa

North Africa includes Algeria, Egypt, Libya, Morocco and Tunisia.

MENA

The MENA region is comprised of all Middle Eastern and North African countries.

In addition to the WEO regions, the following groupings are also referred to in the text.

Developing Asia

China, East Asia and South Asia.

Gulf Co-operation Council (GCC)

Bahrain, Kuwait, Qatar, Oman, Saudi Arabia and the United Arab Emirates.

Organization of Arab Petroleum Exporting Countries (OAPEC)

Algeria, Bahrain, Egypt, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, Syria, and the United Arab Emirates.

Organization of the Petroleum Exporting Countries (OPEC)

Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates and Venezuela.

Abbreviations and Acronyms

bcm	billion cubic metres
b/d	barrels per day
boe	barrels of oil equivalent
BOO	build-operate-own
BOOT	build-own-operate-transfer
BOT	build-operate-transfer
CCGT	combined-cycle gas turbine
CDM	Clean Development Mechanism (under the Kyoto Protocol)
CDU	crude distillation unit
CHP	combined production of heat and power; when referring to industrial CHP, the term co-generation is sometimes used
CNG	compressed natural gas
CWP	combined water and power
CO ₂	carbon dioxide
DIS	Deferred Investment Scenario
E&P	exploration and production
EOR	enhanced oil recovery
EPC	engineering, procurement and construction
EU	European Union
FDI	foreign direct investment
FSU	former Soviet Union
GCC	Gulf Co-operation Council
GDP	gross domestic product
GHG	greenhouse gas
Gt	gigatonne (1 tonne x 10 ⁹)

GTL	gas-to-liquids
GW	gigawatt (1 watt x 10 ⁹)
GWh	gigawatt-hour
IEA	International Energy Agency
IMF	International Monetary Fund
IOC	international oil company
IPP	independent power producer
IWPP	independent water and power producer
kb/d	thousand barrels per day
kt	kilotonne
kW	kilowatt (1 watt × 1 000)
kWh	kilowatt-hour
LNG	liquefied natural gas
LPG	liquefied petroleum gas
mb/d	million barrels per day
MBtu	million British thermal units
mcm	million cubic metres
MSC	multiple service contract
Mt	million tonnes
Mtoe	million tonnes of oil equivalent
MW	megawatt (1 watt × 10 ⁶)
MWh	megawatt-hour
NGL	natural gas liquid
NOC	national oil company
OCGT	open-cycle gas turbine
OECD	Organisation for Economic Co-operation and Development
OAPEC	Organization of Arab Petroleum Exporting Countries
OPEC	Organization of the Petroleum Exporting Countries

PPP	purchasing power parity; the rate of currency conversion that equalises the purchasing power of different currencies. PPPs compare costs in different currencies of a fixed basket of traded and non-traded goods and services and yield a widely-based measure of standard of living
ppm	parts per million
PSA	production-sharing agreement
SOE	state-owned enterprise
tcf	thousand cubic feet
tcm	trillion cubic metres
TFC	total final consumption
toe	tonne of oil equivalent
tonne	metric ton
TPES	total primary energy supply
TWh	terawatt-hour
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USGS	United States Geological Survey
WAPS	World Alternative Policy Scenario
WEM	World Energy Model