InterEnerStat

Harmonisation of Definitions of Energy Products and Flows

Flows: Consumption

Final consumption

Final consumption is all fuel and energy that is delivered to the consumption sectors, both for use as for energy needs and non–energy needs. Consumption sectors comprise:

- Industry (excluding the energy industry)
- Commerce
- Public administration
- Agriculture, Forestry and Fishing
- Residential
- Not elsewhere specified (includes military consumption)

Any fuel consumption by consumers which is used for electricity generation or for the production of heat for sale should not be included as final consumption but reported as part of the transformation sector.

Industry

Use of fuels within the manufacturing and construction industries. Use by the fuel and energy industries is excluded as is solid fuel use for coke manufacture and in blast furnaces within the iron and steel sector. Consumption of fuels for transport of goods should be reported as part of the transport sector.

Iron and steel

ISIC Group 271 and Class 2731 (NACE Divisions 27.1, 27.2, 27.3, 27.51, and 27.52). Fuels used in coke ovens and blast furnaces are defined as part of the transformation sector and the energy sector.

Chemical and petrochemical

ISIC Division 24 (NACE Division 24).

Non-ferrous metals

ISIC Group 272 and Class 2732 (NACE Division 27.4, 27.53 and 27.54).

Non-metallic minerals

ISIC Division 26. Report glass, ceramic, cement and other building materials industries (NACE Division 26).

Transport equipment

ISIC Division 34 and 35 (NACE Division 34 and 35).

Industry (ctd.)

Machinery
Fabricated metal products, machinery and equipment other than transport equipment. ISIC Division 28, 29, 30, 31 and 32 (NACE Division 28, 29, 30, 31 and 32).

Mining and quarrying
ISIC Divisions 13 and 14 (NACE Divisions 13 and 14). This is excludes the fuel extraction industries.

Food and tobacco
ISIC Division 15 and 16 (NACE Divisions 15, 16)

Paper, pulp and print
ISIC Division 21 and 22 (NACE 21, 22). Includes production of recorded media.

Wood and wood products
(Other than pulp and paper) - ISIC Division 20 (NACE Division 20)

Textile and leather
ISIC Divisions 17, 18 and 19. (NACE Divisions 17, 18, 19)

Construction
ISIC Division 45 (NACE Division 45)

Industries not elsewhere specified
ISIC Divisions 25, 33, 36 and 37 (NACE Divisions 25, 33, 36 and 37). This category covers any manufacturing industry not listed above.

Transport sector

Fuels and energy used in transport of goods or persons irrespective of the economic sector for which the activity occurs.

International aviation

Comprises deliveries of aviation fuels to aircraft of any nationality for international aviation. Whether a flight is international aviation should be determined on the basis of departure and landing locations and not by the nationality of the airline.

Fuels used by airlines for their road vehicles are excluded.

Domestic aviation

Domestic aviation includes deliveries of aviation fuels to aircraft for domestic aviation whether commercial, private or agricultural, etc. It includes deliveries used for purposes other than flying, e.g. bench testing of engines, but not airline use of fuel for road transport. Whether a flight is domestic aviation should be determined on the basis of departure and landing locations and *not* the nationality of the airline. Note that this may include journeys of considerable length between two airports in a country (e.g. San Francisco to Honolulu).

Military use of aviation fuels should not be included in domestic aviation but under 'not elsewhere specified'.

Transport sector (ctd.)

Road
Fuels consumed in vehicles using public roads. It includes tractors and heavy plant when they using public roads. It excludes military consumption as well as motor gasoline used in stationary engines.

Rail
All fuel consumption for use in rail traffic, including industrial railways.

Domestic navigation
Fuels delivered to vessels of all flags not engaged in international navigation (see International marine bunkers). Whether a voyage is domestic navigation should be determined on the basis of port of departure and port of arrival and not by the flag or nationality of the ship. Note that this may include journeys of considerable length between two ports in a country (e.g. San Francisco to Honolulu).

Pipeline transport
Pipeline transport includes fuel and energy used in the support and operation of pipelines transporting gases, liquids, slurries and other commodities. It comprises the consumption at pumping stations and for maintenance of the pipeline. Losses occurring during the transport between distributor and final users should be reported as distribution losses.

Transport not elsewhere specified.
Consumption of fuels used for transport activities not included elsewhere in the other transport sub-sectors.

Other sectors

Residential (Households)

Fuels and energy consumed by all households including "households with employed persons." ISIC Division 95 (NACE Division 95). Exclude fuel used for transport.

Commercial and public services

Fuels consumed by business and offices in the public and private sectors. ISIC Divisions 41, 50, 51, 52, 55, 63, 64, 65, 66, 67, 70, 71, 72, 73, 74, 75, 80, 85, 90, 91, 92, 93 and 99 (NACE Divisions 50, 51, 52, 41, 55, 63, 64, 65, 66, 67, 70, 71, 72, 74, 75, 80, 85, 90, 91, 92, 93, 99).

Agriculture/Forestry

Deliveries to users classified as agriculture, hunting and forestry by the ISIC. It therefore includes fuels and energy consumed by such users whether for traction (excluding agriculture highway use), power or heating (agricultural and domestic) (ISIC Divisions 01 and 02) (NACE 01 and 02).

Other sectors (ctd.)

Fishing

Report fuels consumed in ocean, coastal and inland fishing, irrespective of the flag of the vessel, as well as aquaculture and fisheries (ISIC Division 05 and NACE 05). Include also fuel and energy use in processing and preserving of fish; gathering of marine materials: natural pearls, sponges, coral and algae; and service activities incidental to fishing.

Not elsewhere specified

Activities not included elsewhere. This category includes military fuel use for all mobile and stationary consumption (e.g. ships, aircraft, road and energy used in living quarters), regardless of whether the fuel delivered is for the nation's military services or for the military services of another country.

Non-energy use

The final use of fuels for purposes other than combustion. Note that the carbon and hydrogen contained within fuels used for non-energy purposes may eventually be combusted at a point beyond the declared final use of the fuels or in an eventual waste stream.

The non-energy use of fuels is broken into three categories

- **Feedstock**
  During the feedstock use of fuel the hydrogen and/or carbon are used as raw materials for the manufacture of other chemicals, compounds or finished goods which contain the hydrogen or carbon. Typical examples are the use of naphtha to make ethylene (C_2H_4) or the use of natural gas (mostly CH_4) to make ammonia (NH_3).

Non-energy use (ctd.)

- **Reductants**
  Coke, which is mostly carbon, is used to reduce metal oxides to obtain the metal. The electrical heating and reduction of metals uses carbon electrodes made from petroleum cokes. The oxidation of the coke may also provide necessary heat to the process.
- **Non-energy products**
  These are fuel derived products used for their physical properties. Such as solvents (white spirit, industrial spirits), waxes, lubricants and bitumen.

Net maximum electrical capacity

The net maximum capacity is the maximum active power that can be supplied, continuously, with all plant running, at the point of outlet (i.e. after taking the power supplies for the station auxiliaries and allowing for the losses in those transformers considered integral to the station) on a given date. This assumes no restriction of interconnection to the network. Does not include overload capacity that can only be sustained for a short period of time (e.g. internal combustion engines momentarily running above their rated capacity). The net maximum electricity-generating capacity represents the sum of all individual plants' maximum capacities available to run continuously throughout a prolonged period of operation in a day.

Peak load

The highest value of the power absorbed or supplied by a network or combination of networks within the country.

Peak load demand

The peak load demand is the highest simultaneous demand for electricity satisfied during the year. The electricity supply at the time of peak demand may include demand satisfied by imported electricity or alternatively the demand may include exports of electricity.

Note: Total peak load on the national grid is not the sum of the peak loads during the year on every power station as they may occur at different times.

Available capacity at time of peak

The available capacity at peak period is the maximum power at which installations can be operated under the prevailing conditions at the time, assuming no external constraints. It depends on the technical state of the equipment and its ability to operate, and may differ from the *Net Maximum Capacity* due to lack of water for hydro capacity, plant maintenance, unanticipated shutdown, or other outages at the time of peak load.

Peak load occurrence

Date/time on which the peak load was reached.

Solar collectors surface

The surface area of all solar collectors; glazed and unglazed collectors, flat-plate and vacuum tube with a liquid or air as the energy carrier.

Liquid biofuels plants capacity

The production capacity, at the end of the year, in terms of tonnes of products per year.