



Joint Organisations Data Initiative - Oil
Monthly Questionnaire



Country _____

Month _____

Unit : _____

	Crude Oil	NGL	Other	Total (1)+(2)+(3)		Petroleum Products								
						LPG	Naphtha	Gasoline	Total Kerosene	Of which: Jet Kerosene	Gas/ Diesel Oil	Fuel Oil	Other Products	Total Products (5)+(6)+(7) +(8)+(10) +(11)+(12)
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
+ Production					+ Refinery Output									
+ From Other sources					+ Receipts									
+ Imports					+ Imports									
- Exports					- Exports									
+ Products Transferred /Backflows					- Products Transferred									
- Direct Use					+ Interproduct Transfers									
- Stock Change					- Stock Change									
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake					= Demand									
Closing stocks					Closing stocks									

Automatic Checks

Total sum
Statistical Difference
Stat. Diff./Refinery Intake
Products Transferred
Negative Products Transferred
Blocked out cells
Negative Stock Value:
Refinery Losses 0

Automatic Checks Petroleum Products

Total Products sum
Statistical Difference
Stat. Diff./Demand
Negative Products Transferred
Interproduct transfers
Jet Kerosene
Negative Stock Values

Joint Organisations Data Initiative - Oil (Short Definitions)

TIME

:M-1 is Last Month, or the month previous to the current month.

PRODUCTS

- 1. Crude Oil** : Including lease condensate – excluding NGL
- 2. NGL** : Liquid or liquefied hydrocarbons recovered from gas separation plants and gas processing facilities
- 3. Other** : Refinery Feedstocks + Additives/oxygenates + Other Hydrocarbons
- 4. Total** : Sum of categories (1) to (3)
Total = Crude Oil + NGL + Other
- 5. LPG** : Comprises propane and butane
- 6. Naptha** : Comprises naphtha used as feedstocks for producing high octane gasoline and also as feedstock for the chemical/petrochemical industries
- 7. Gasoline** : Comprises motor gasoline and aviation gasoline. Motorgasoline includes biogasoline, e.g. ethanol blends
- 8. Total Kerosene** : Comprises jet kerosene and other kerosene
- 9. Of which: Jet Kerosene** : Aviation fuel used for aviation turbine power units.
This amount is a subset of the amount reported under Total Kerosene
- 10. Gas/Diesel Oil** : For automotive and other purposes. Biodiesel is included
- 11. Heavy Fuel Oil** : Heavy residual oil / boiler oil, including bunker oil
- 12. Other Products** : Refinery gas, Ethane, Petroleum Coke, Lubricants, White Spirit & SPB, Bitumen , Paraffin Waxes and Other Petroleum Products
- 13. Total Products** : Sum of categories (5) to (12)
Demand for Total Products includes direct consumption of crude oil, NGL and Other Hydrocarbons

FLOWS

- Production** : Marketed production, after removal of impurities but including quantities consumed by the producer in the production process
- From Other Sources** : Inputs of Additives, Biofuels and Other Hydrocarbons that are produced from non-oil sources such as: coal,
- Imports/Exports** : Goods having physically crossed the international boundaries, excluding transit trade, international marine
- Products Transferred/ Backflows** : Sum of Products transferred and Backflows from the Petrochemical industry
- Direct Use** : Refers to crude oil, NGL and other hydrocarbons which are used directly, without being processed in oil refineries, for example: crude oil burned for electricity generation
- Stocks Changes** : Closing minus opening level. A positive number corresponds to stock build, negative number corresponds to
- Statistical Difference** : Differences between observed supply flows and Refinery Intake or Demand
- Refinery Intake** : Observed refinery throughputs
- Closing Stock** : Represents the primary stocks level at the end of the month within national territories; includes stocks held by importers, refiners, stock holding organisations and governments
- Refinery output** : Gross output (including refinery fuel)
- Receipts** : Primary Product Receipts (quantities of oil used directly without processing in a refinery) + Recycled Products
- Products Transferred** : Imported petroleum products which are reclassified as feedstocks for further processing in the refinery, without delivery to final consumers
- Interproduct Transfers** : Reclassification of products, because their specification has changed, or because they are blended into another product: a negative indicates a product that will be reclassified, a positive shows a reclassified product
Interproduct Transfers for Other Products includes interproduct transfers of crude oil and NGL
- Demand** : Deliveries or sales to the inland market (domestic consumption) plus Refinery Fuel plus International Marine and Aviation Bunkers

Joint Organisations Data Initiative - Oil (Long Definition of Products)

REFINERY INPUTS

1. CRUDE OIL

Crude oil is a mineral oil of natural origin comprising a mixture of hydrocarbons and associated impurities, such as sulphur. It exists in the liquid phase under normal surface temperature and pressure and its physical characteristics (density, viscosity, etc.) are highly variable. This category includes field or lease condensate recovered from associated and non-associated gas where it is commingled with the commercial crude oil stream.

2. NATURAL GAS LIQUIDS (NGL)

NGL are liquid or liquefied hydrocarbons recovered from natural gas in separation facilities or gas processing plants. Natural gas liquids include ethane, propane, butane (normal and iso-), (iso) pentane and pentanes plus (sometimes referred to as natural gasoline or plant condensate).

3. OTHERS

a. Refinery Feedstocks

A refinery feedstock is a processed oil destined for further processing (e.g. straight run fuel oil or vacuum gas oil) excluding blending. With further processing, it will be transformed into one or more components and/or finished products. This definition also covers returns from the petrochemical industry to the refining industry (e.g. pyrolysis gasoline, C4 fractions, gas oil and fuel oil fractions).

b.1 Additives/Oxygenates

Additives are non-hydrocarbon compounds added to or blended with a product to modify fuel properties (octane, cetane, cold properties, etc.):

- i. oxygenates, such as alcohols (methanol, ethanol), ethers (such as MTBE (methyl tertiary butyl ether), ETBE (ethyl tertiary butyl ether), TAME (tertiary amyl methyl ether));
- ii. esters (e.g. rapeseed or dimethylester, etc.);
- iii. chemical compounds (such as TML, TEL and detergents).

b.2 Biofuels

Biofuels such as biogasoline and biodiesel that are blended into gasoline and diesel at oil refineries.

- i. Biogasoline: a gasoline quality liquid fuel produced from biomass or used cooking oils consists of bioethanol, biomethanol, BioETBE and
- ii. Biodiesel: a diesel quality liquid fuel produced from biomass or used cooking oils, consists of Biodiesel, bio-dimethylether, Fischer-Tropsh and cold pressed biooil.
- iii. Bioethanol: ethanol produced from biomass and/or biodegradable fraction of waste;
- iv. Biomethanol: methanol produced from biomass and/or the biodegradable fraction of waste;
- v. Biodimethylether: a diesel quality fuel produced from biomass and/or the biodegradable fraction of waste;
- vi. Biooil: a pyrolysis oil fuel produced from biomass

c. Other Hydrocarbons

This category includes synthetic crude oil from tar sands, shale oil, etc., liquids from coal liquefaction, output of liquids from natural gas conversion into gasoline, hydrogen and emulsified oils (e.g. Orimulsion).

Joint Organisations Data Initiative - Oil (Long Definition of Products)

PETROLEUM PRODUCTS

1. LIQUEFIED PETROLEUM GASES (LPG)

LPG are light paraffinic hydrocarbons derived from the refinery processes, crude oil stabilisation and natural gas processing plants. They consist mainly of propane (C₃H₈) and butane (C₄H₁₀) or a combination of the two. They could also include propylene, butylene, isobutene and isobutylene. LPG are normally liquefied under pressure for transportation and storage.

2. NAPHTHA

Naphtha is a feedstock destined for either the petrochemical industry (e.g. ethylene manufacture or aromatics production). Naphtha comprises material in the 30°C and 210°C distillation range or part of this range. Naphtha imported for blending is reported as an import of naphtha, then shown on the interproduct transfer row, as a negative entry for Naphtha, and a positive entry for the corresponding finished product.

3. GASOLINE

Gasoline includes motor gasoline, aviation gasoline and gasoline type jet fuel as defined below:

a. Motor Gasoline

Motor gasoline consists of a mixture of light hydrocarbons distilling between 35°C and 215°C. It is used as a fuel for land based spark ignition engines. Motor gasoline may include additives, oxygenates and octane enhancers, including lead compounds such as TEL (Tetraethyl lead) and

b. Aviation Gasoline

This is motor spirit prepared especially for aviation piston engines, with an octane number suited to the engine, a freezing point of -60°C and a distillation range usually within the limits of 30°C and 180°C.

c. Gasoline Type Jet Fuel (Naphtha type Jet Fuel or JP4)

This includes all light hydrocarbon oils for use in aviation turbine power units, distilling between 100°C and 250°C. They are obtained by blending kerosenes and gasoline or naphtha in such a way that the aromatic content does not exceed 25% in volume, and the vapour pressure is between

4. TOTAL KEROSENE

This category includes kerosene type Jet Fuel and Other Kerosene as defined below:

a. Kerosene Type Jet Fuel

This is a distillate used for aviation turbine power units. It has the same distillation characteristics between 150°C and 300°C (generally not above 250°C) and flash point as kerosene. In addition, it has particular specifications (such as freezing point) which are established by the International Air Transport Association (IATA). This category includes kerosene blending components

b. Other Kerosene

Kerosene comprises refined petroleum distillate and is used in sectors other than aircraft transport. It distils between 150°C and 300°C.

Joint Organisations Data Initiative - Oil (Long Definition of Products)

5. GAS/DIESEL OIL (DISTILLATE FUEL OIL)

Gas/diesel oil is primarily a medium distillate distilling between 180°C and 380°C, and mainly used for diesel compression ignition (cars, trucks, etc.), usually of low sulphur content.

6. FUEL OIL

This covers all residual (heavy) fuel oils (including those obtained by blending). Kinematic viscosity is above 10 cSt at 80°C. The flash point is always above 50°C and density is always more than 0.90 kg/l.

7. OTHER PRODUCTS

Other Products is the sum of Refinery Gas (not liquefied), Ethane, Petroleum Coke, Lubricants, White Spirit & SBP, Bitumen, Paraffin Waxes and Other products as defined below:

a. Refinery Gas (not liquefied)

Refinery gas includes a mixture of non-condensable gases mainly consisting of hydrogen, methane, ethane and olefins obtained during distillation of crude oil or treatment of oil products (e.g. cracking) in refineries. This also includes gases which are returned from the petrochemical industry.

b. Ethane

A naturally gaseous straight-chain hydrocarbon, (C₂H₆) extracted from natural gas and refinery gas streams.

c. Petroleum Coke

Petroleum coke is a black solid by-product, obtained mainly by cracking and carbonising petroleum derived feedstock, vacuum bottoms, tar and pitches in processes such as delayed coking or fluid coking. It consists mainly of carbon (90 to 95%) and has a low ash content. It is used as a feedstock in coke ovens for the steel industry, for heating purposes, for electrode manufacture and for production of chemicals. The two most important qualities are "green coke" and "calcinated coke". This category also includes "catalyst coke" deposited on the catalyst during refining processes; this coke is not recoverable and is usually burned as refinery fuel.

d. Lubricants

includes all finished grades of lubricating oil, from spindle oil to cylinder oil, and those used in greases, including motor oils and all grades of lubricating oil base stocks.

e. White Spirit and SBP

White Spirit and SBP are defined as refined distillate intermediates with a distillation in the naphtha/kerosene range. They are sub-divided as:

- i. Industrial Spirit (SBP): Light oils distilling between 30° and 200°C. There are 7 or 8 grades of industrial spirit, depending on the position of the cut in the distillation range. The grades are defined according to the temperature difference between the 5% volume and 90% volume distillation points (which is not more than 60°C).
- ii. White Spirit: Industrial spirit with a flash point above 30°C. The distillation range of white spirit is 135° to 200°C.

Joint Organisations Data Initiative - Oil (Long Definition of Products)

f. Bitumen

Bitumen is a solid, semi-solid or viscous hydrocarbon with a colloidal structure, being brown to black in colour, obtained as a residue in the distillation of crude oil, by vacuum distillation of oil residues from atmospheric distillation. Bitumen is often referred to as asphalt and is primarily used for construction of roads and for roofing material. This category includes fluidized and cut back bitumen.

g. Paraffin Waxes

These are saturated aliphatic hydrocarbons. These waxes are residues extracted when dewaxing lubricant oils. They have a crystalline structure which is more-or-less fine according to the grade. Their main characteristics are as follows: they are colourless, odourless and translucent, with a melting point above 45°C.

h. Other Products

All products not specifically mentioned above, for example: tar and sulphur. This category also includes aromatics (e.g. BTX or benzene, toluene and xylene) and olefins (e.g. propylene) produced within refineries. This should not be confused with "**7. OTHER PRODUCTS**" above.

8. TOTAL PRODUCTS

Total Products is the total output of the refinery which is the sum of all petroleum products mentioned above.

Joint Organisations Data Initiative - Oil (Long Definition of Flows)

1. PRODUCTION

Refers to **Indigenous Production** of Crude Oil, NGL and other Hydrocarbons: Report all production within national boundaries including off-shore production. Production should only include marketable production, excluding volumes returned to formation. Such production should include all crude oil, NGL, condensates and oil from shale and tar sands, etc. It should also include the receipts of additives/oxygenates by refineries and blending plants from outside the refinery sector.

2. FROM OTHER SOURCES

These refers to supplies of **Additives, Biofuels and Other Hydrocarbons** that are produced from non-oil sources such as: coal, natural gas and renewable energy such as biofuels.

3. IMPORTS AND EXPORTS

Imports and Exports data should reflect amounts having crossed the national territorial boundaries, whether customs clearance has taken place or not. Quantities of crude oil and products imported or exported under processing agreements (i.e. refining on account) should be included. **stry** should be included.

Note 1: Re-exports of oil imported for processing within bonded areas should be included as an export of product from the processing country to the final destination.

Note 2: Imports or exports of ethanol (reported in the Additives/Oxygenate column) should relate to the quantities destined for fuel use.

4. PRODUCTS TRANSFERS/BACKFLOWS (Sum of Products Transfers and Backflows from Petrochemical Industry)

Products Transferred are imported petroleum products which are reclassified as feedstocks for further processing in the refinery, without delivery to final consumers. For example, naphtha imported for upgrading would be first reported as imports of naphtha, and then appear also as products transferred of naphtha.

Backflows from Petrochemical Industry are finished or semi-finished products which are returned from final consumers to refineries for processing, blending or sale. They are usually by-products of petrochemical manufacturing. For integrated petrochemical industries this flow should be estimated. Transfers from one refinery to another within the country should be excluded.

5. DIRECT USE

Direct Use refers to Crude oil, NGL and other hydrocarbons which are used directly without being processed in oil refineries are reported as Direct use. This includes, for example, crude oil burned for electricity generation.

6. STOCK CLOSING

incoming ocean vessels, stocks held in bonded areas and stocks held for others, whether under bilateral government agreement or not. In JODI, this refers to stock closing in the end of the month.

7. STOCK CHANGES

Stock changes should reflect the difference between opening stock level and closing stock level for stocks held on national territory. A stock build is shown as a negative number, and a stock draw as a positive number.

8. STATISTICAL DIFFERENCES

These are calculated as (Production + Imports - Exports + Product Transfers/Backflows - Direct Use \pm Stock Change) - Refinery Intake.

9. REFINERY INTAKE

This refers to the total amount of crude oil, NGL, other hydrocarbons and additives that are observed to have entered the refinery process.

Joint Organisations Data Initiative - Oil (Long Definition of Flows)

10. REFINERY OUTPUT

This is production of finished products at a refinery or blending plant. This category excludes Refinery Losses, but includes Refinery Fuel.

11. RECEIPTS (Includes primary product receipts and recycled products)

Primary Product Receipts: Quantities of indigenous or imported crude oil (including condensate) and indigenous NGL which are *used directly* without being processed in an oil refinery. For example, crude oil used to generate electricity should be placed in primary product receipts of crude oil. Quantities of indigenous NGL which are not included in refinery intake should be reported in primary product receipts of NGL, then transferred through the Interproduct transfers line to the allocated product type. Please note that this flow includes the amounts of backflows from the petrochemical industry which, although not primary fuel, are used

Recycled Products: These are finished products which pass a second time through the marketing network, **after** having been once delivered to final consumers (e.g. used lubricants which are reprocessed). These quantities should be distinguished from petrochemical Backflows.

12. INTERPRODUCT TRANSFERS

Interproduct Transfers Result from reclassification of products either because their specification has changed, or because they are blended into another product. For example, quantities of kerosene may be reclassified as gasoil after blending with the latter in order to meet its winter diesel specification. A negative entry for one product must be compensated by a positive entry (or several entries) for one or several products and vice versa. The total net effect should be zero.

13. DEMAND

The total demand of oil in a country includes the volume of oil required, on the one hand to supply all final consumers, energy transformation units (including refineries), energy producers within the country and on the other hand to provide all the national and foreign customers with fuels which they will use in international navigation and aviation (e.g. international aviation, marine bunkers, fishing etc.).

Total oil demand also includes volumes of crude oil, NGL and other hydrocarbons which are used directly without being processed in petroleum refineries (direct use). It concerns mainly oil which can be used unprocessed by power plants to generate electricity and heat.