



*Hands-on Exercises to fill
the JODI-Oil Questionnaire*

Exercise 1

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

2.248 kilo tonnes (kt) of crude oil production

450kt of crude oil imports

Closing stocks of crude oil on national territory stood at 1.260kt

Opening stocks of crude on national territory oil stood at 1.227kt

The inputs of biofuels from non-oil sources (renewables) amounted to 26kt

The crude oil refinery intake 2.665 kt

The other oil product refinery intake 26 kt

Exercise 1

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The crude oil refinery intake 2.665 kt

The other oil product refinery intake 26 kt

	Crude Oil	NGL	Other	Total (1)+(2)+(3)
	(1)	(2)	(3)	(4)
+ Production	0	0	0	0
+ From Other sources			0	0
+ Imports	0	0	0	0
- Exports	0	0	0	0
+ Products Transferred /Backflows			0	0
- Direct Use	0	0	0	0
- Stock Change	0	0	0	0
- Statistical Difference	0	0	0	0
= Refinery Intake	0	0	0	0
Closing stocks	0	0	0	0

Stock change is calculated as the closing stock level minus the opening stock level.

Opening stock level is the amount of primary stocks on national territory, measured on the first day of the month being reported (e.g. 1st June).

Closing stock is the amount of primary stocks on national territory measured on the last day of the month being reported (e.g. 30th June). Stock changes is closing – opening stock level: therefore, a stock build is shown as a positive number, and a stock draw as a negative number.

Solution Exercise 1

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450kt of crude oil imports

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The inputs of biofuels from non-oil sources (renewables) amounted to 26kt

The crude oil refinery intake 2.665 kt

The other oil product refinery intake 26 kt

	Crude Oil	NGL	Other	Total (1)+(2)+(3)
	(1)	(2)	(3)	(4)
+ Production	2248	0	0	2248
+ From Other sources			26	26
+ Imports	450	0	0	450
- Exports	0	0	0	0
+ Products Transferred /Backflows			0	0
- Direct Use	0	0	0	0
- Stock Change	33	0	0	33
- Statistical Difference	0	0	0	0
= Refinery Intake	2665	0	26	2691
Closing stocks	1260	0	0	1260

Exercise 2

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

In February 2014 the following figures for Refinery Gross Output by product were observed in your country:

LPG: 199kt

Naphtha: 356kt

Gasoline: 576kt

Kerosene (Type Jet Fuel): 391kt

Gas/Diesel Oil: 524kt

Fuel oil: 633kt

Refinery Gas: 5kt

Ethane: 4kt

Import of 100kt of other Kerosene

Export of 91kt of jet kerosene

Please, fill in the amounts of observed demand for the following products:

LPG: 200kt

Naphtha: 350kt

Gasoline: 576kt

Total Kerosene: 400kt

Kerosene (Type Jet Fuel): 300kt

Exercise 2

LPG:199kt
 Naphtha: 356kt
 Gasoline: 576kt
 Kerosene (Type Jet Fuel): 391kt
 Gas/Diesel Oil: 524kt

Fuel oil: 633kt
 Refinery Gas: 5kt
 Ethane: 4kt
 Import of 100kt of other Kerosene
 Export of 91kt of jet kerosene

Observed Demand:

LPG: 200kt
 Naphtha: 350kt
 Gasoline: 576kt
 Total Kerosene: 400kt

Kerosene (Type Jet Fuel): 300kt
 Gas/Diesel Oil: 524kt
 Fuel oil: 633kt
 Other Products: 9kt

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	0	0	0	0	0	0	0	0
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers	0	0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	0	0	= Demand	0	0	0	0	0	0	0	0	0
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Solution Exercise 2

LPG:199kt
 Naphtha: 356kt
 Gasoline: 576kt
 Kerosene (Type Jet Fuel): 391kt
 Gas/Diesel Oil: 524kt

Fuel oil: 633kt
 Refinery Gas: 5kt
 Ethane: 4kt
 Import of 100kt of other Kerosene
 Export of 91kt of jet kerosene

Observed Demand:
 LPG: 200kt
 Naphtha: 350kt
 Gasoline: 576kt
 Total Kerosene: 400kt

Kerosene (Type Jet Fuel): 300kt
 Gas/Diesel Oil: 524kt
 Fuel oil: 633kt
 Other Products: 9kt

Total Kerosene = Jet kerosene + Other Kerosene

Refinery Gas + Ethane = 5 + 4

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	199	356	576	391	391	524	633	9	2688
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	0	0	0	0	+ Imports	0	0	0	100	0	0	0	0	100
- Exports	0	0	0	0	- Exports	0	0	0	91	91	0	0	0	91
+ Products Transferred /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers	0	0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	1	6	0	0	0	0	0	0	5
= Refinery Intake	0	0	0	0	= Demand	200	350	576	400	300	524	633	9	2692
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Exercise 3

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

During October 2016, 800 kb/d of NGL have been produced; 600 kb/d served as input to the refinery, while the remaining quantity was consumed internally as LPG.

Exercise 3

During October 2016, 800 kb/d of NGL have been produced; 600 kb/d served as input to the refinery, while the remaining quantity was consumed internally as LPG.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	0	0	0	0	0	0	0	0
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers	0	0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	0	0	= Demand	0	0	0	0	0	0	0	0	0
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Direct use

- Crude oil, NGL and other hydrocarbons which are used directly without being processed in oil refineries (e.g.: crude oil burned for electricity generation).
- Amount reported as direct use (crude, NGL & other hydrocarbons) should also be reported to receipts of other products.
- Direct use would be counted under 'demand'

Solution Exercise 3

During October 2016, 800 kb/d of NGL have been produced; 600 kb/d served as input to the refinery, while the remaining quantity was consumed internally as LPG.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	800	0	800	+ Refinery Output	0	0	0	0	0	0	0	0	0
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	200	200
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
Products Transferred + /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	200	0	200	+ Interproduct Transfers	200	0	0	0	0	0	0	-200	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	600	0	600	= Demand	200	0	0	0	0	0	0	0	200
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Exercise 4

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

During April 2016, 15 kb/d of imported crude and 10 kb/d of diesel have been directly burned for electricity generation.

Exercise 4

During April 2016, 15 kb/d of imported crude and 10 kb/d of diesel have been directly burned for electricity generation.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	0	0	0	0	0	0	0	0
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers	0	0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	0	0	= Demand	0	0	0	0	0	0	0	0	0
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Solution Exercise 4

During April 2016, 15 kb/d of imported crude and 10 kb/d of diesel have been directly burned for electricity generation.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	0	0	0	0	0	0	0	0
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	15	15
+ Imports	15	0	0	15	+ Imports	0	0	0	0	0	10	0	0	10
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred + Backflows			0	0	+ Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	15	0	0	15	+ Interproduct Transfers		0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	0	0	= Demand	0	0	0	0	0	10	0	15	25
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Exercise 5

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

During January 2016, the refinery produced 250 kb/d of kerosene and 300 kb/d of naphtha. 150 kb/d of kerosene was consumed internally while the remaining quantity was reclassified as gasoil after being blended with the latter in order to meet its winter diesel specification. 100 kb/d of naphtha was used for upgrading and 200 kb/d was reformed to gasoline.

Exercise 5

During January 2016, the refinery produced 250 kb/d of kerosene and 300 kb/d of naphtha. 150 kb/d of kerosene was consumed internally while the remaining quantity was reclassified as gasoil after being blended with the latter in order to meet its winter diesel specification. 100 kb/d of naphtha was used for upgrading and 200 kb/d was reformed to gasoline.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	0	0	0	0	0	0	0	0
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers	0	0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	0	0	= Demand	0	0	0	0	0	0	0	0	0
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Solution Exercise 5

During January 2016, the refinery produced 250 kb/d of kerosene and 300 kb/d of naphtha. 150 kb/d of kerosene was consumed internally while the remaining quantity was reclassified as gasoil after being blended with the latter in order to meet its winter diesel specification. 100 kb/d of naphtha was used for upgrading and 200 kb/d was reformed to gasoline.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	300	0	250	0	0	0	0	550
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred + /Backflows			100	100	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers		-200	200	-100	0	100	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	100	100	= Demand	0	100	200	150	0	100	0	0	550
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Exercise 6

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

The refinery produced 310 kb/d of gasoline and 350 kb/d of diesel oil. Prior to final consumption 30 kb/d of ethanol and 60 kb/d of biodiesel is added to each product.

Exercise 6

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

The refinery produced 310 kb/d of gasoline and 350 kb/d of diesel oil. Prior to final consumption 30 kb/d of ethanol and 60 kb/d of biodiesel is added to each product.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	0	0	0	0	0	0	0	0
+ From Other sources			0	0	+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers	0	0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	0	0	= Demand	0	0	0	0	0	0	0	0	0
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Solution Exercise 6

Fill the amounts in the appropriate cells of the JODI Extended Questionnaire:

The refinery produced 310 kb/d of gasoline and 350 kb/d of diesel oil. Prior to final consumption 30 kb/d of ethanol and 60 kb/d of biodiesel is added to each product.

						Petroleum Products								
	Crude Oil	NGL	Other	Total (1)+(2)+(3)		LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	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	0	0	0	0	+ Refinery Output	0	0	310	0	0	350	0	0	660
+ From Other sources			90	90	+ Receipts	0	0	30	0	0	60	0	0	90
+ Imports	0	0	0	0	+ Imports	0	0	0	0	0	0	0	0	0
- Exports	0	0	0	0	- Exports	0	0	0	0	0	0	0	0	0
+ Products Transferred /Backflows			0	0	- Products Transferred	0	0	0	0	0	0	0	0	0
- Direct Use	0	0	0	0	+ Interproduct Transfers		0	0	0	0	0	0	0	0
- Stock Change	0	0	0	0	- Stock Change	0	0	0	0	0	0	0	0	0
- Statistical Difference	0	0	0	0	- Statistical Difference	0	0	0	0	0	0	0	0	0
= Refinery Intake	0	0	90	90	= Demand	0	0	340	0	0	410	0	0	750
Closing stocks	0	0	0	0	Closing stocks	0	0	0	0	0	0	0	0	0

Verification of Data Quality

- ✓ *Balance check*
- ✓ *Stock Check*
- ✓ *Time series check*

Balance check

- **Primary oil**

*Calculated Refinery Intake = production + From Other Sources + Imports – Exports + Products transferred/Backflows –
Direct use - Stock change*

- **Oil products**

Demand = Refinery output + Receipts + Imports – Exports - Products transferred + Interproduct transfers - Stock change

Total oil products = LPG + Naphtha + Motor/aviation gasolines + Kerosenes + Gas/diesel oil + Fuel oil + Other oil products

Statistical difference

Differences between observed supply flows and calculated Refinery intake or Demand

Primary supply

Statistical Difference =

- + Production
- + From other sources
- + Imports
- Exports
- + Products Transferred/Backflows
- Direct use
- Stock change
- Refinery intake

Secondary oil products supply

Statistical Difference =

- + Refinery Output
- + Receipts
- + Imports
- Exports
- Products Transferred
- + Interproduct Transfers
- Stock change
- Demand

Example 1: Fuel balance check

	Petroleum Products								
	LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	Gas/ Diesel Oil	Fuel Oil	Other Products	Total Products (5)+(6)+(7)+(8)+(10)+(11)+(12)
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
+ Refinery Output	126	160	866	334	331	1083	942	994	4505
+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	59	0	0	0	0	0	60	2	1021
- Exports	13	160	208	143	140	555	26	117	1222
- Products Transferred	0	0	0	0	0	0	0	0	0
+ Interproduct Transfers	0	0	0	0	0	55	-55	0	0
- Stock Change	-2	0	-47	-10	-10	101	-92	-40	-90
- Statistical Difference	-2	0	5	0	0	0	0	0	903
= Demand	176	0	700	201	201	482	1013	919	3491
Closing stocks	95	0	884	317	317	1065	1154	511	4026

Import of Total Products= 59+60+2=121

Statistical Difference=4394-3491=903

Calculated Demand of Total Products=4394

- The sum of Imports for individual products is lower than Total oil products Imports.
- This suggests that the Imports data of Total oil products is misreported or there are missing Imports data for some products. As the statistical difference is very high, it is likely that the Imports of Total oil products is misreported.
- Hence there is a need for statisticians to check the values of all the products including Total oil products.

Example 2: Fuel balance check

	Petroleum Products								
	LPG	Naphtha	Gasoline	Total Kerosene	<i>Of which: Jet Kerosene</i>	Gas/ Diesel Oil	Fuel Oil	Other Products	Total Products (5)+(6)+(7)+(8)+(10)+(11)+(12)
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
+ Refinery Output	126	160	866	334	331	1083	942	994	2338
+ Receipts	0	0	0	0	0	0	0	0	0
+ Imports	59	0	0	0	0	0	60	2	121
- Exports	13	160	208	143	140	555	26	117	1222
- Products Transferred	0	0	0	0	0	0	0	0	0
+ Interproduct Transfers	0	0	0	0	0	55	-55	0	0
- Stock Change	-2	0	-47	-10	-10	101	-92	-40	-90
- Statistical Difference	2	0	5	0	0	0	0	0	2164
= Demand	176	0	700	201	201	482	1013	919	3491
Closing stocks	95	0	884	317	317	1065	1154	511	4026

$$2338+2164+5-2=4505$$

Total Products Refinery Output = 4505

Statistical Difference=3491-1327=2164

Calculated Total Products Demand =1327

- The sum of all products for Refinery output is larger than the corresponding Total oil products. As a result there is a considerable statistical difference observed. Therefore, there is an error in the data for that particular flow.

Joint Organisations Data Initiative - Oil
Monthly Questionnaire

Country _____

Month _____

Unit: _____

					Petroleum Products									Checks (14)	
	Crude oil	NGL	Other	Total (1)+(2)+(3)	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	126	160	866	334	331	1083	942	994	4505	
From other sources					+Receipts	0	0	0	0	0	0	0	0	0	
Imports					+Imports	59	0	0	0	0	0	60	2	1021	Total is not sum of the elements
Exports					-Exports	13	160	208	143	140	555	26	117	1222	
Products transferred /Backflows					-Products transferred	0	0	0	0	0	0	0	0	0	
Direct use					+Interproduct transfers	0	0	0	0	0	55	-55	0	0	
Stock change					-Stock change	-2	0	-47	-10	-10	101	-92	-40	-90	
Statistical difference					-Statistical difference	-2	0	5	0	0	0	0	0	903	Total is not sum of the elements
Refinery intake					= Demand	176	0	700	201	201	482	1013	919	3491	
Closing stocks					Closing stocks	95	0	884	317	317	1065	1154	511	4026	

Total sum OK
 Statistical difference OK
 Stat. diff./Refinery intake OK
 Products transferred OK
 Negative products transferred OK
 Blocked out cells OK
 Negative stock values OK
 Refinery losses -4.505 Reported figures imply a refinery gain. Losses should not be negative

Automatic Checks Petroleum Products

Total products sum Total Products column is not the sum of the elements
 Statistical difference OK
 Stat. diff. /Demand Statistical Difference above 10% of Demand, please investigate
 Negative Products transferred OK
 Interproduct transfers OK
 Jet kerosene OK
 Negative stock values OK

Joint Organisations Data Initiative - Oil
Monthly Questionnaire

Country _____

Month _____

Unit: _____

						Petroleum Products								Checks	
	Crude oil	NGL	Other	Total (1)+(2)+(3)		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	0	0	0	0	+Refinery output	126	160	866	334	331	1083	942	994	2338	Total is not sum of the elements
+From other sources			0	0	+Receipts	0	0	0	0	0	0	0	0	0	
+Imports	0	0	0	0	+Imports	59	0	0	0	0	0	60	2	121	
-Exports	0	0	0	0	-Exports	13	160	208	143	140	555	26	117	1222	
+Products transferred +/Backflows			0	0	-Products transferred	0	0	0	0	0	0	0	0	0	
-Direct use	0	0	0	0	+Interproduct transfers	0	0	0	0	0	55	-55	0	0	
-Stock change	0	0	0	0	-Stock change	-2	0	-47	-10	-10	101	-92	-40	-90	
-Statistical difference	0	0	0	0	-Statistical difference	-2	0	5	0	0	0	0	0	2184	Total is not sum of the elements
=Refinery intake	0	0	0	0	= Demand	176	0	700	201	201	482	1013	919	3491	
Closing stocks	0	0	0	0	Closing stocks	95	0	884	317	317	1065	1154	511	4026	

Automatic Checks

Total sum	OK	
Statistical difference	OK	
Stat. diff./Refinery intake	OK	
Products transferred	OK	
Negative products transferred	OK	
Blocked out cells	OK	
Negative stock values	OK	
Refinery losses	-2.338	Reported figures imply a refinery gain. Losses should not be negative

Automatic Checks Petroleum Products

Total products sum	Total Products column is not the sum of the elements
Statistical difference	OK
Stat. diff./Demand	Statistical Difference above 10% of Demand, please investigate
Negative Products transferred	OK
Interproduct transfers	OK
Jet kerosene	OK
Negative stock values	OK

Stocks check

Stock change = Closing stock for M-1 – Closing stock for M-2

	Crude oil	LPG	Motor /aviation Gasoline	Total Kerosene	Gas/ Diesel Oil	Fuel Oil	Total Oil Products
Closing stock level							
M-1 (Jan)	1637	181	660	259	533	214	2685
M-2 (Dec)	1618	192	778	213	676	260	2880
Stock change in M-1 (Jan)	19	-18	-118	54	-143	-48	-195
Calculated stock change (M-1 – M-2 or Jan – Dec)	19	-11	-118	46	-143	-46	-195
Difference (Calculated – Reported)	0	-7	0	8	0	-2	0
Percentage difference (Difference/Stock change)	0%	39%	0%	15%	0%	4%	0%

Time series check

$$\text{Percentage change (\%)} = \frac{\text{Current month data} - \text{Previous month data}}{\text{Previous month data}} \times 100$$

	Monthly Growth Rate (Previous 12 months)			March
	Minimum	Maximum	Average	
LPG	-9.2%	11.1%	0.8%	15.0%
Motor/aviation gasoline	-10.1%	8.9%	0.0%	8.0%
Kerosenes	-10.3%	8.1%	0.5%	-10.4%
Gas/diesel oil	-12.0%	9.4%	-0.6%	-3.0%
Fuel oil	-25.3%	23.0%	1.0%	5.0%
Total oil products	-7.1%	7.3%	-0.5%	2.0%



Thank you for your attention!

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