



The 16th APEC Workshop on Energy Statistics
Tokyo, Japan, 10-12 July 2018

4.1 Missing JODI Oil data

Energy Statistics and Training Office
Asia Pacific Energy Research Centre



**Asia-Pacific
Economic Cooperation**

Treatment of "0" and "NA"

	Crude Oil	NGL	Other	Total (1)+(2)+(3)		Petroleum Products								Total Products (5)+(6)+(7) +(8)+(10) +(11)+(12)
						LPG	Naphtha	Gasoline	Total Kerosene	Of which: Jet Kerosene	Gas/ Diesel Oil	Fuel Oil	Other Products	
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
+Production	799	0	27	826	+Refinery Output	29	0	304	67	0	399	18	27	843
+From Other sources				0	+Receipts	0								0
+Imports	376		6	382	+Imports	167		319	48	48	0	1	6	542
-Exports	311			311	-Exports		0		0	0			27	27
+Products Transferred +Backflows				0	-Products Transferred									0
-Direct Use	0	0		0	+Interproduct Transfers									0
-Stock Change	0			0	-Stock Change			-2	-1		-19	3		-19
-Statistical Difference	93	0	0	-93	-Statistical Difference	-275	0	28	18	48	59	-9	6	-172
=Refinery Intake	956		33	990	= Demand	471		597	97		359	25	0	1549
Closing stocks	0			0	Closing stocks			326	101		340	57		824

Flow is relevant

Member economies are requested not to leave a field blank

Treatment of "0" and "NA"

Apply "NA" if a data point is not available or confidential

	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	799	0	27	826	+Refinery Output	29	0	304	67	0	399	18	27	843
+From Other sources				0	+Receipts	0								0
+Imports	376		6	382	+Imports	167		319	48	48	0	1	6	542
-Exports	311			311	-Exports		0		0	0			27	27
+Products Transferred +Backflows				0	-Products Transferred									0
-Direct Use	0	0		0	+Interproduct Transfers									0
-Stock Change	0			0	-Stock Change			-2	-1		-19	3		-19
-Statistical Difference	93	0	0	-93	-Statistical Difference	-275	0	28	18	48	59	-9	6	-172
=Refinery Intake	956		33	990	= Demand	471		597	97		359	25	0	1549
Closing stocks	0			0	Closing stocks			326	101		340	57		824

Common mistake: Reporting a zero where data point is supposedly available

Smiley faces on Completeness (July – Dec 2017)

Economy	Completeness (%)	Smiley faces
Brunei Darussalam	100%	😊
China	83%	😐
Hong Kong	100%	😊
Indonesia	88%	😐
Malaysia	33%	😞
Papua New Guinea	100%	😊
Peru	100%	😊
Philippines	100%	😊
Russia	74%	😐
Singapore	36%	😞
Chinese Taipei	100%	😊
Thailand	100%	😊
Viet Nam	0%	😞



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JODI-Oil Participation Assessment: Completeness

- ✓ Tracks the number of data points submitted out of the maximum of 42 in the JODI Oil Questionnaire.



"good"

when more than 90% of the data are given for production, stock change/closing and demand



"fair"

when between 60% and 90% of the data are given



"less reliable"

when less than 60% of the data are given

China

	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	1551			1551	+Refinery Output	327	292	1148	386		483	189	1272	5098
+From Other sources				0	+Receipts									
+Imports	3946			3946	+Imports	134		0	34		1	151	115	435
-Exports	23			23	-Exports	9	0	121	120		182	87	2	521
+ Products Transferred + /Backflows				0	Products Transferred									
-Direct Use				0	Interproduct + Transfers									
-Stock Change	-190				-Stock Change			-33	119		784	59	-2	926.9
-Statistical Difference	0	0	0	0	Statistical Difference	0	0	0	0	0	0	0	0	0
=Refinery make	5664	0	0	5664	= Demand	433	292	1000	181	0	518	195	1387	4085
Closing stocks					Closing stocks									

China does not submit

- closing stock of all products
- All flows for NGL, Other hydrocarbons and Jet Kerosene

China

	Crude Oil	NGL	Other	Total (1)+(2)+(3)		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)
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
+Production	1551			1551	+Refinery Output	327	292	1148	386		1483	189	1272	5098
+From Other sources				0	+Receipts									
+Imports	3946			3946	+Imports	134		0	34		1	151	115	435
-Exports	23			23	-Exports	9	0	121	120		182	87	2	521
+Products Transferred +Backflows				0	Products Transferred									
-Direct Use				0	Interproduct +Transfers									
-Stock Change	-190				-Stock Change			-33	119		784	59	-2	926.9
-Statistical Difference	0	0	0	0	Statistical Difference	0	0	0	0	0	0	0	0	0
=Refinery Intake	5664	0	0	5664	= Demand	453	292	1060	181	0	518	195	1387	4085
Closing stocks					Closing stocks									

1. Is the production of NGL and Other zero? How about refinery intake?
2. Is the demand for Jet Kerosene 0 or NA?

Indonesia

Month

January
2017

Unit : MBCD

	Crude Oil	NGL	Other	Total (1)+(2)+(3)		Petroleum Products								Total Products (5)+(6)+(7) +(8)+(10) +(11)+(12)
						LPG	Naphtha	Gasoline	Total Kerosene	Of which: Jet Kerosene	Gas/ Diesel Oil	Fuel Oil	Other Products	
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
+Production	823.26	0.00	-2.64	820.61	+Refinery Output	26.19	6.67	235.27	68.14	7.09	337.34	32.68	17.43	723.72
+From Other sources				0.00	+Receipts	0.00								0
+Imports	252.62		11.94	264.57	+Imports	156.50		339.10	39.02	39.02	96.02	0.00	11.94	642.59
-Exports	244.72			244.72	-Exports		0.00		0.00	0.00			24.90	24.90
Products Transferred +/Backflows				0.00	-Products Transferred									0
-Direct Use	0.00	0.00		0.00	+Interproduct Transfers									0
-Stock Change	0.00			0.00	-Stock Change			16.74	2.86		47.05	-6.03		60.61
-Statistical Difference	13.18	0.00	0.00	13.18	-Statistical Difference	-20.91	6.67	5.42	4.44	46.12	-20.30	10.61	4.47	-9.60
=Refinery Intake	817.98		9.30	827.27	= Demand	203.61		552.22	99.87		406.61	28.10	0.00	1290.41
Closing stocks	0.00			0.00	Closing stocks			303.80	112.97		381.16	61.90		859.82

- Some progress were made from recent visit to **Indonesia** (JODI Oil data were submitted from June 2017 to March 2018, but yet to submit 4th quarter of 2016)
- However, **closing stocks of all products** in 2015 and 2016 were still missing, as well as closing stock data of **LPG, Naphtha, Jet kerosene and other products**

Malaysia

Missing trade data of crude oil

Energy : Crude Oil
Unit : 1000ton

Sector	Month	Jan.2017	Feb.2017	Mar.2017	Apr.2017	May2017	Jun.2017	Jul.2017	Aug.2017	Sep.2017	Oct.2017	Nov.2017	Dec.2017
Production		2,745	2,450	2,686	2,452	2,530	2,688	2,680	2,525	2,532	2,617	2,605	2,612
From Other sources													
Imports		1,000	1,021	NA	1,346	605	639	561	644	791	893	834	1,093
Exports		1,436	1,321	NA	1,366	1,248	1,266	1,357	1,273	1,073	1,664	1,433	1,456
Products Transferred													
Direct Use		0	0	0	0	0	0	0	0	0	0	0	0
Stocks Change		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Refinery Intake		2,309	2,141	2,686	2,432	1,887	2,061	1,884	1,896	2,250	1,846	2,006	2,249
Stocks Closing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Closing stock of crude oil not reported

Malaysia only submit data of refinery output, demand and closing stocks of secondary products when the data becomes available

Monthly Oil Data Exercise in APEC Region

Member : Malaysia
Sector : Refinery Output
Unit : 1000ton

Energy	Month	Jan.2014	Feb.2014	Mar.2014	Apr.2014	May2014	Jun.2014	Jul.2014	Aug.2014	Sep.2014	Oct.2014	Nov.2014	Dec.2014	Jan.2015	Feb.2015	Mar.2015	Apr.2015	May2015	Jun.2015	Jul.2015	Aug.2015	Sep.2015	Oct.2015	Nov.2015	Dec.2015	Jan.2016	Feb.2016	Mar.2016	Apr.2016	May2016	Jun.2016	Jul.2016
LPG		217	236	222	NA	NA	NA	217	181	170	197	197	199	199	161	199	189	179	206	217	183	NA	NA	189	199	209	193	23	NA	NA	NA	NA
Naphtha		337	309	338	NA	NA	NA	343	272	225	300	261	320	308	317	321	316	277	309	305	323	NA	NA	297	333	389	342	30	NA	NA	NA	NA
Gasoline		463	372	477	NA	NA	NA	461	389	419	432	454	457	459	454	491	431	489	464	446	400	NA	NA	421	455	448	391	49	NA	NA	NA	NA
Kerosene		311	283	271	NA	NA	NA	298	298	250	303	304	337	353	318	323	318	323	304	308	333	NA	NA	206	328	294	331	39	NA	NA	NA	NA
Of which:Jet Kerosene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gas/Diesel Oil		776	836	977	NA	NA	NA	1,025	872	844	961	889	971	977	955	1,012	960	970	1,016	981	831	NA	NA	825	996	903	927	1,08	NA	NA	NA	NA
Fuel Oil		316	298	222	NA	NA	NA	257	208	164	301	276	210	271	194	272	169	194	202	187	277	NA	NA	215	236	236	243	29	NA	NA	NA	NA
Other Petroleum Products		264	220	222	NA	NA	NA	255	232	259	293	264	248	266	278	272	204	241	252	238	226	NA	NA	340	313	286	283	35	NA	NA	NA	NA
Total Oil		2,684	2,554	2,609	NA	NA	NA	2,856	2,452	2,331	2,787	2,645	2,740	2,832	2,676	2,889	2,587	2,672	2,754	2,682	2,656	NA	NA	2,493	2,860	2,766	2,710	2,81	NA	NA	NA	NA

No submission since

Russia

Month

March 2018

Unit : 1000ton

	Crude Oil ^(*)	NGL	Other	Total (1)+(2)+(3)		Petroleum Products								Total Products 5)+(6)+(7) +(8)+(10) +(11)+(12)	
						LPG	Naphtha	Gasoline**)	Total Kerosene	Of which: Jet Kerosene	Gas/ Diesel Oil	Fuel Oil***	Other Products		
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
+Production	43500	2900	NA	46400	+	Refinery Output	2500	1200	3300	NA	NA	6400	4200	6300	NA
+From Other sources			NA	0	+	Receipts	0	0	0	0	0	0	NA	NA	NA
+Imports	0	100	NA	100	+	Imports	0	0	0	0	0	0	NA	NA	0
-Exports	19200	0	NA	19200	-	Exports	300	1900	600	100	100	5400	2600	NA	13800
+ Products Transferred + Backflows			NA	0	-	Products Transferred	NA	NA	NA	NA	NA	NA	NA	NA	NA
-Direct Use	NA	NA	NA	0	+	Interproduct Transfers	NA	NA	NA	NA	NA	NA	NA	NA	NA
-Stock Change	NA	NA	NA	NA	-	Stock Change	0	NA	200	NA	NA	-100	0	NA	NA
-Statistical Difference	0	0	0	0	-	Statistical Difference	0	0	0	0	0	0	0	0	0
=Refinery Intake	24500	NA	NA	24500	=	Demand ⁵⁾	2200	NA	2500	NA	NA	1100	1600	NA	NA
Closing stocks	NA	NA	NA	0		Closing stocks	200	NA	1100	NA	NA	2100	700	NA	NA

NGL and Naphtha – production/refinery output and trade only

No data on other products except refinery output

Russia does not submit

- closing stock of Crude Oil and NGL
- Refinery output of Kerosene and Total Products

Singapore

Member : Singapore

Month : Mar.2018

Unit : 1000ton

Energy Sector	Crude Oil	NGL	Others	Total
Production	0	0	0	0
From Other sources			NA	NA
Imports	3,935	NA	NA	3,935
Exports	0	NA	NA	0
Products Transferred			NA	NA
Direct Use	NA	NA	NA	NA
Stocks Change	NA	NA	NA	NA
Statistical Difference	3,935	NA	NA	3,935
Refinery Intake	NA	NA	NA	NA
Stocks Closing	NA	NA	NA	NA

Energy Sector	LPG	Naphtha	Gasoline	Kerosene	Of which:Jet Kerosene	Gas/Diesel Oil	Fuel Oil	Other Petroleum Products	Total Oil
Refinery Output	NA	NA	NA	NA	NA	NA	NA	NA	NA
Receipts	NA	NA	NA	NA	NA	NA	NA	NA	NA
Imports	24	726	983	0	0	1,463	5,257	1,458	9,911
Exports	34	111	1,820	17	0	2,112	2,750	1,249	8,092
Products Transferred	NA	NA	NA	NA	NA	NA	NA	NA	NA
Interproduct Transfers	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stocks Change	NA	NA	NA	NA	NA	NA	NA	NA	NA
Statistical Difference	-9	615	-837	-17	NA	-650	2,508	209	1,819
Demand	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stocks Closing	NA	NA	NA	NA	NA	NA	NA	NA	NA

Singapore only reports trade data (imports and exports) of ***all products***

Papua New Guinea

PNG submitted (complete) data, however:

- Crude oil imports, refinery outputs, product imports and exports, stock changes and demand are reported by the sole refinery
- Trade data, stocks and demand (sales of the refinery) of other oil companies are not reported/accounted for

Conclusions

Member economies are requested to identify real “0”s and “NA”s



Thank you for your kind attention

<http://aperc.ieej.or.jp/>