APEC EGCFE Oil and Gas Meeting

11 April 2019

Sendai, Japan

EGEDA Data on Oil and Gas

Edito Barcelona
Energy Statistics and Training Office (ESTO)
Asia Pacific Energy Research Centre (APERC)

APERC
Asia Pacific Energy Research Centre

APEC
Asia-Pacific
Economic Cooperation

Outline

What is EGEDA?

EGEDA data collection

- Annual oil and gas supply/demand data
- Quarterly oil and gas supply demand data
- Monthly oil and gas data (JODI)

APEC energy database

Concluding notes

What is EGEDA?

EGEDA stands for Expert Group on Energy Data and Analysis

- Established in 1991 as Energy Data Expert Group during the 2nd APEC EWG meeting, responsible for managing and reviewing the operation of the APEC energy database
- Renamed Energy Data and Outlook Expert Group during the 12th APEC EWG meeting in 1996, with a new role of advising the Asia Pacific Energy Research Centre (APERC) in the preparation of its energy outlook and research activities
- The current name, EGEDA was obtained during the 18th APEC EWG meeting in 1999

The overall objectives of EGEDA are:

- to contribute to improve the quality of energy policies and decision-making in APEC member economies, and
- to enhance the efficiency of the regional energy market by improving the quality, availability and accessibility of energy data and projections and by analysing regional energy trends

What is EGEDA?

With members from 21 APEC economies

Holds one meeting, one workshop and two training courses on energy statistics per year

Chair: Mr. James Kendell, APERC Vice-president (from November 2017)

Vice-chair: Mr. Jen-yi Hou (Chinese Taipei)

Secretariat: Energy Statistics and Training Office (ESTO), Asia Pacific Energy Research Centre

EGEDA data collection

Annual data

- Deadline: December of the following year (usually)
- Energy supply and demand (energy balance table)
  - Supply, transformation, own-use and losses, consumption by sector and sub-sectors
- Energy prices (import, wholesale and consumer prices)
- CO_2 emissions from energy consumption
- Energy efficiency indicators

Quarterly supply data

- Coal, crude oil and oil products, natural gas and electricity
- Production, imports, exports, stock change, and total primary energy supply

EGEDA data collection

Monthly data (JODI Oil)

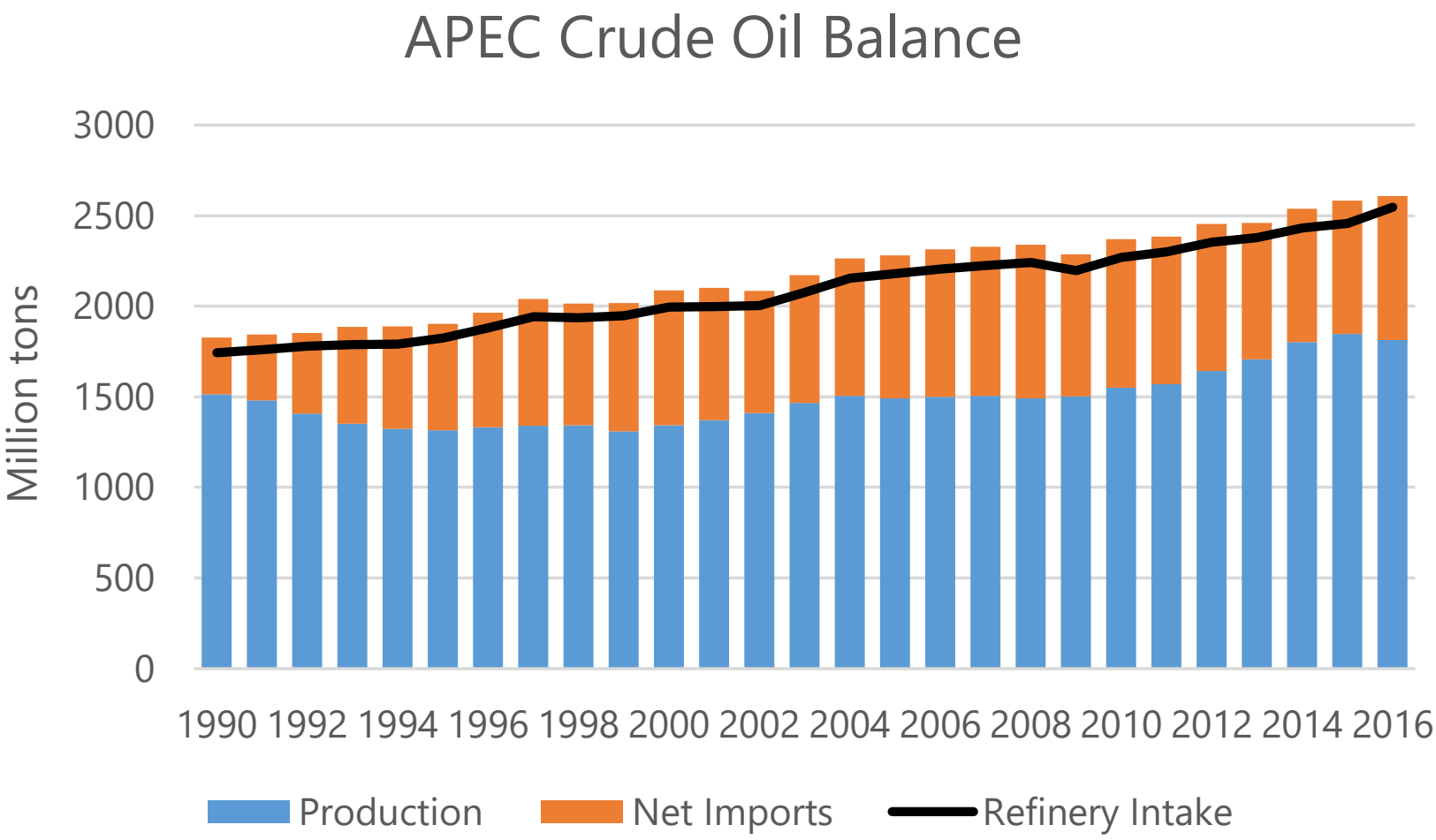
- Indigenous production and refinery output
- Imports and exports
- Stock changes
- Transfers
- Stock closing and stock changes
- Refinery intake and Demand

Monthly data (JODI Gas, million m^3 and TJ)

- Indigenous production
- Imports and exports
  - via pipelines and LNG (tons and TJ for LNG)
- Stock closing and stock changes
- Gross inland deliveries (observed)
- Consumption for electricity generation
- Imports/Exports by source/destination

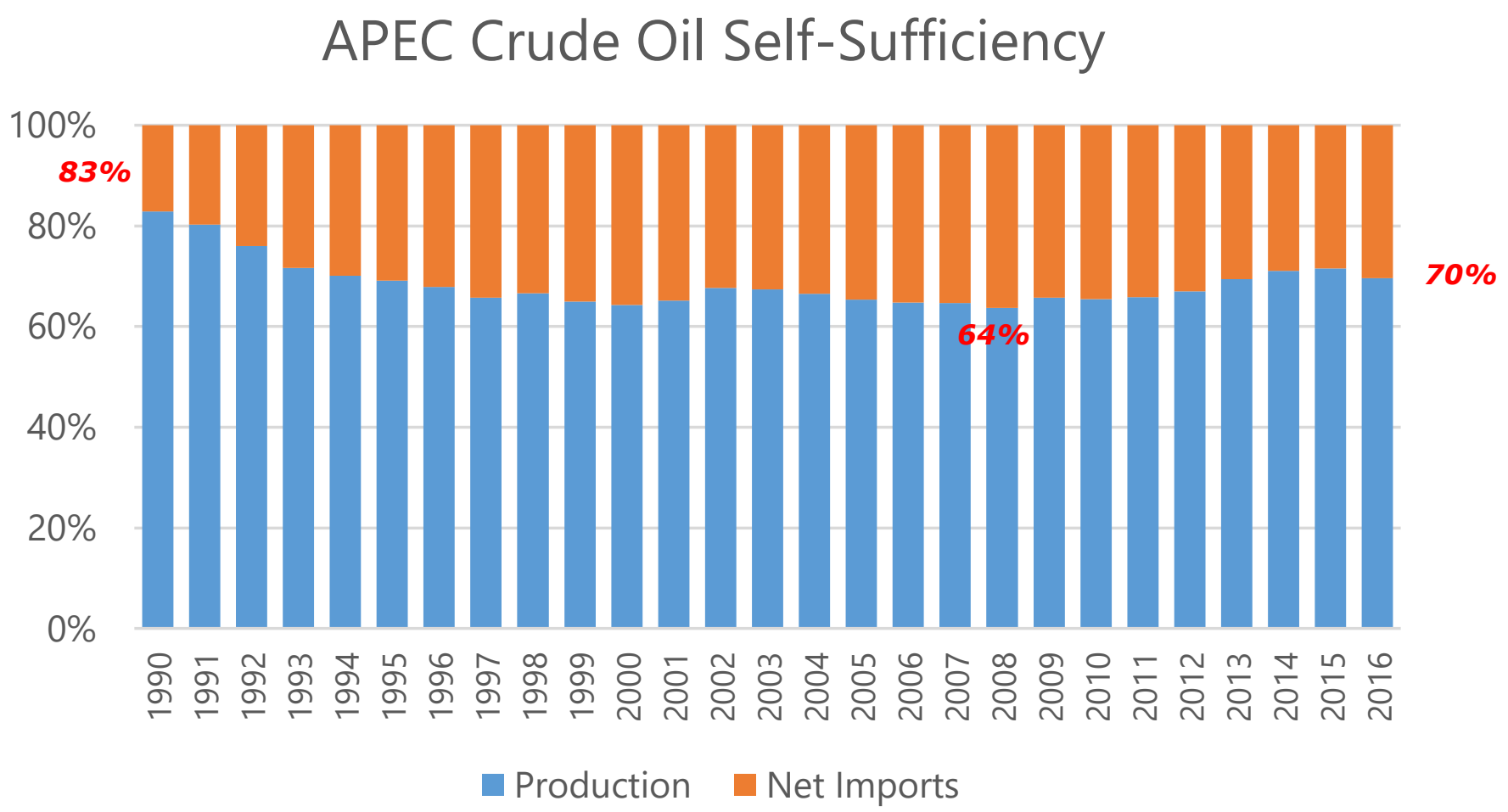
Annual data

APEC Annual oil data



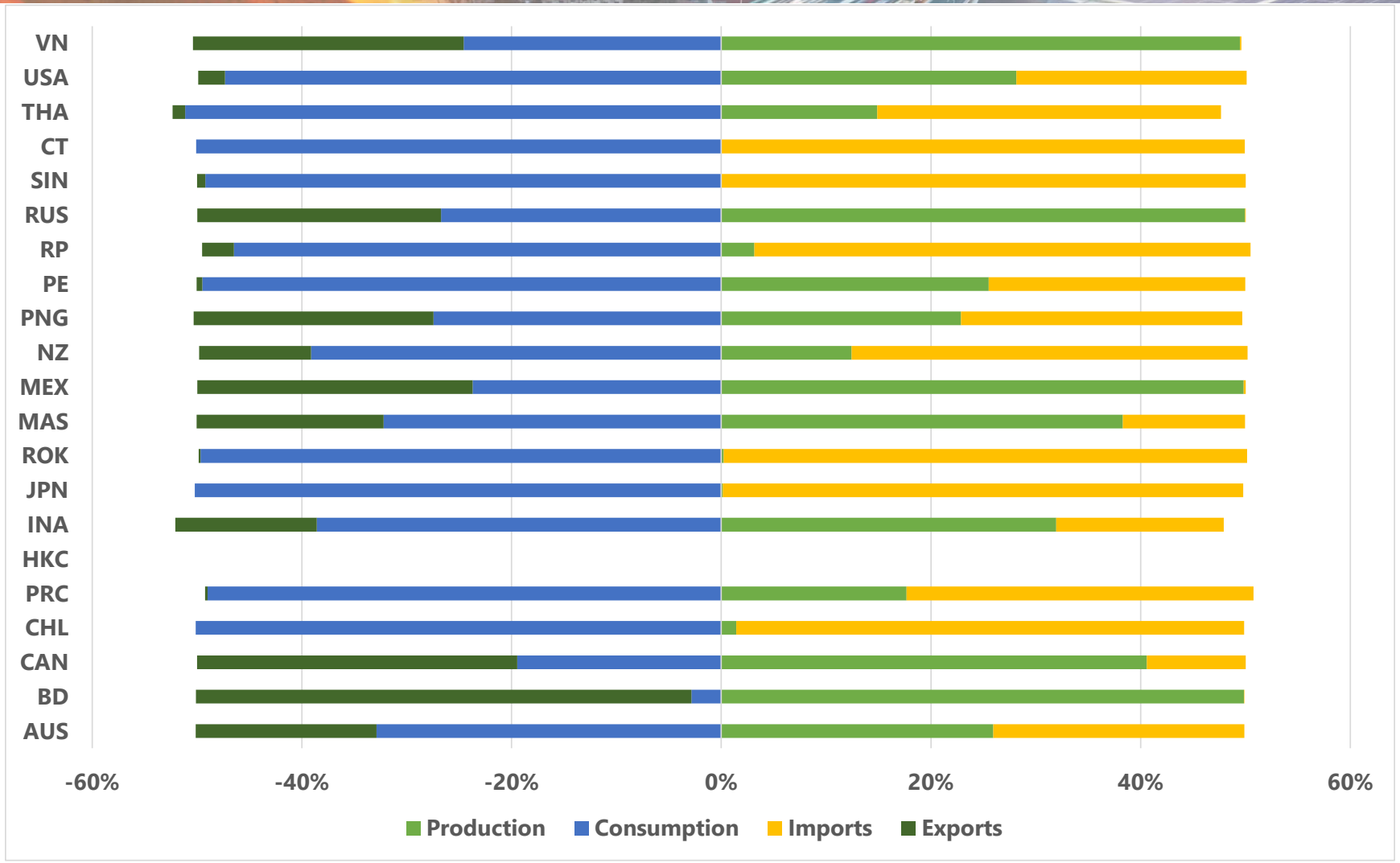
APEC consumes more crude oil that it can produce although some economies are net exporters. China and the US are biggest importers while Russia is a major exporter

APEC Annual oil data



In 1990, APEC self-sufficiency in crude oil was 83%. In 2016, it was only 70%. However, it is a big improvement from 64% in 2008.

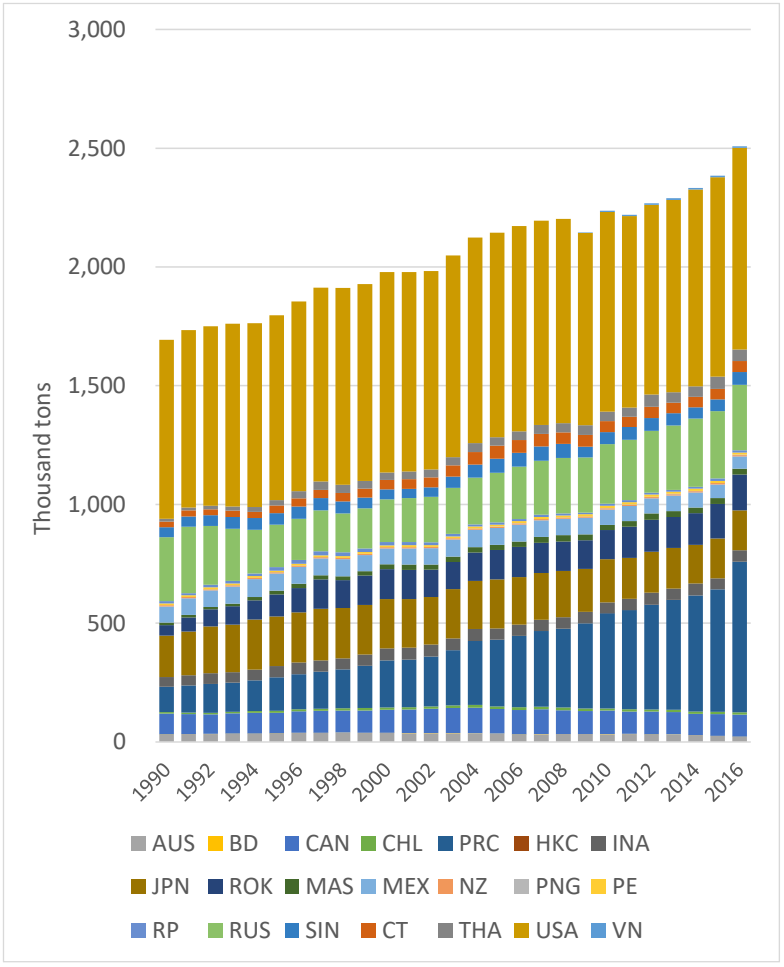
Crude oil balance per economy, 2016



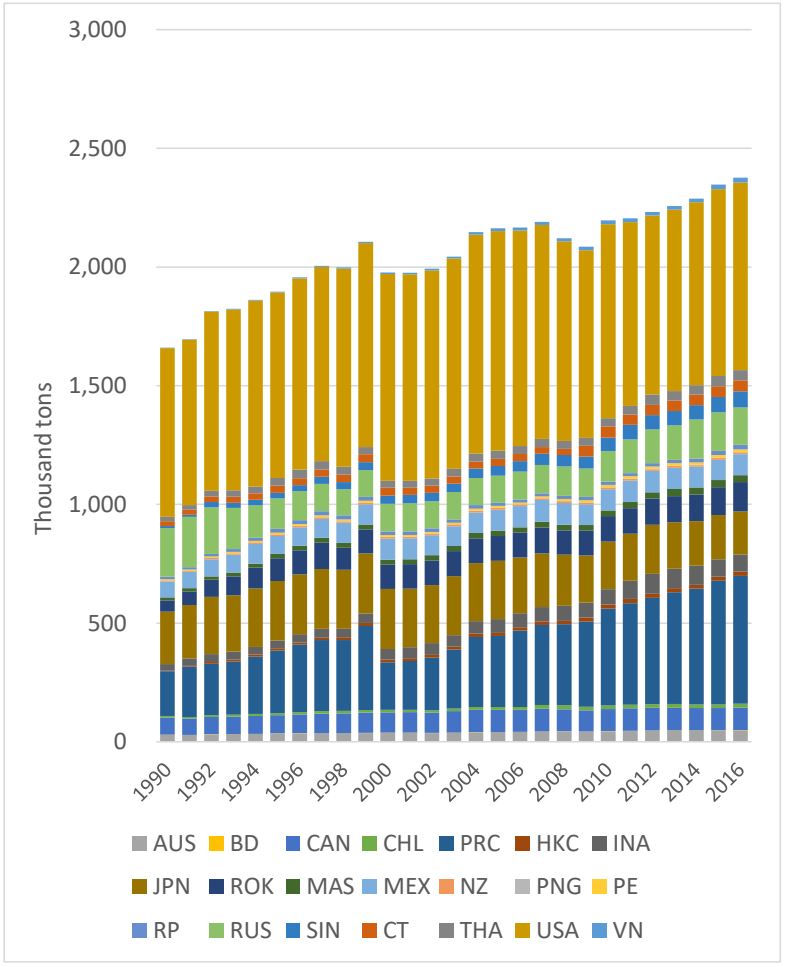
In 2016, several economies heavily relied on imports (CHL, PRC, JPN, ROK, NZ, PNG, RP, SIN, CT, THA) while a few are net exporters (BD, CAN, MAS, MEX, RUS, VN) .

Annual petroleum products data

Refinery Production



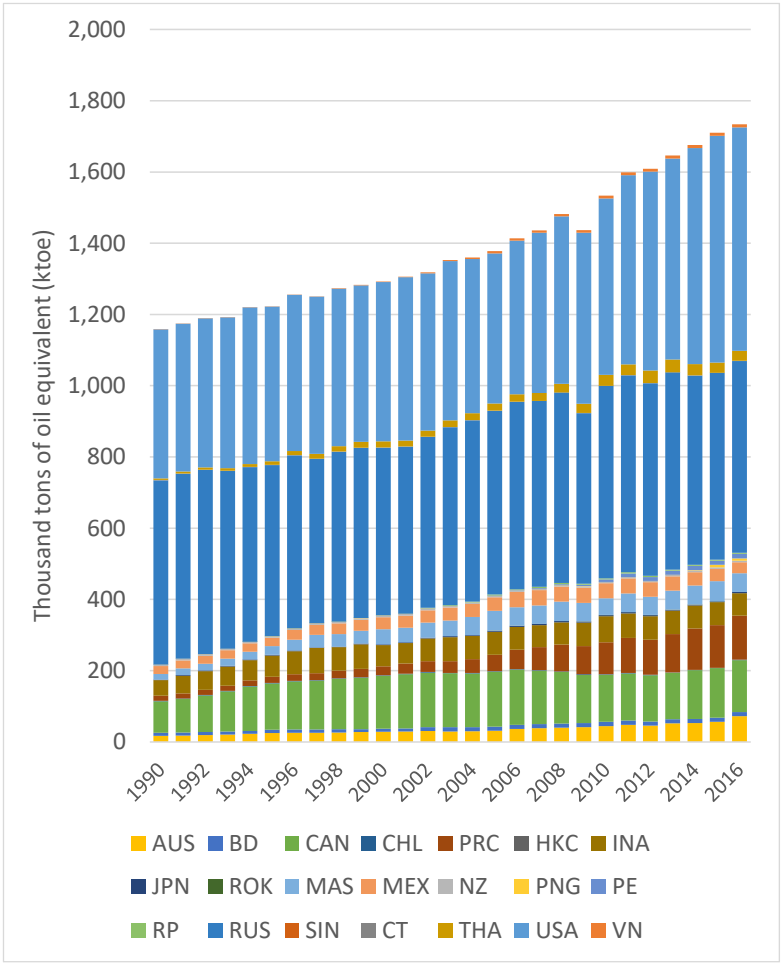
Total Consumption



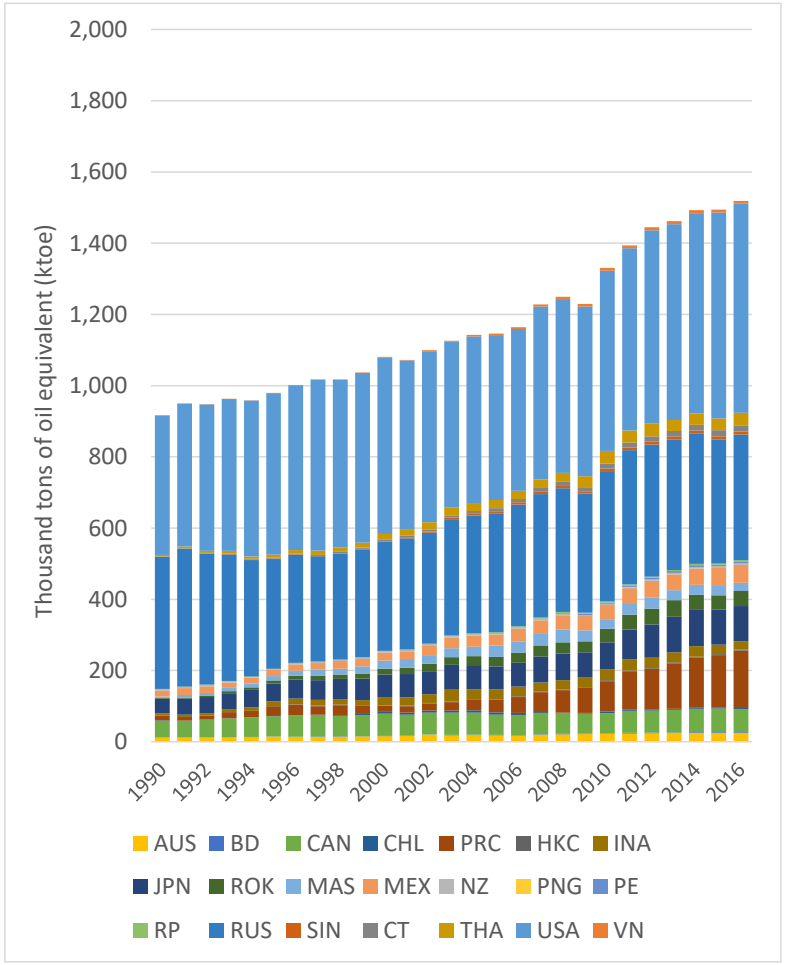
For petroleum products, APEC's production was more than its total consumption indicating sufficient refining capacity to meet demand.

Annual gas data

Production

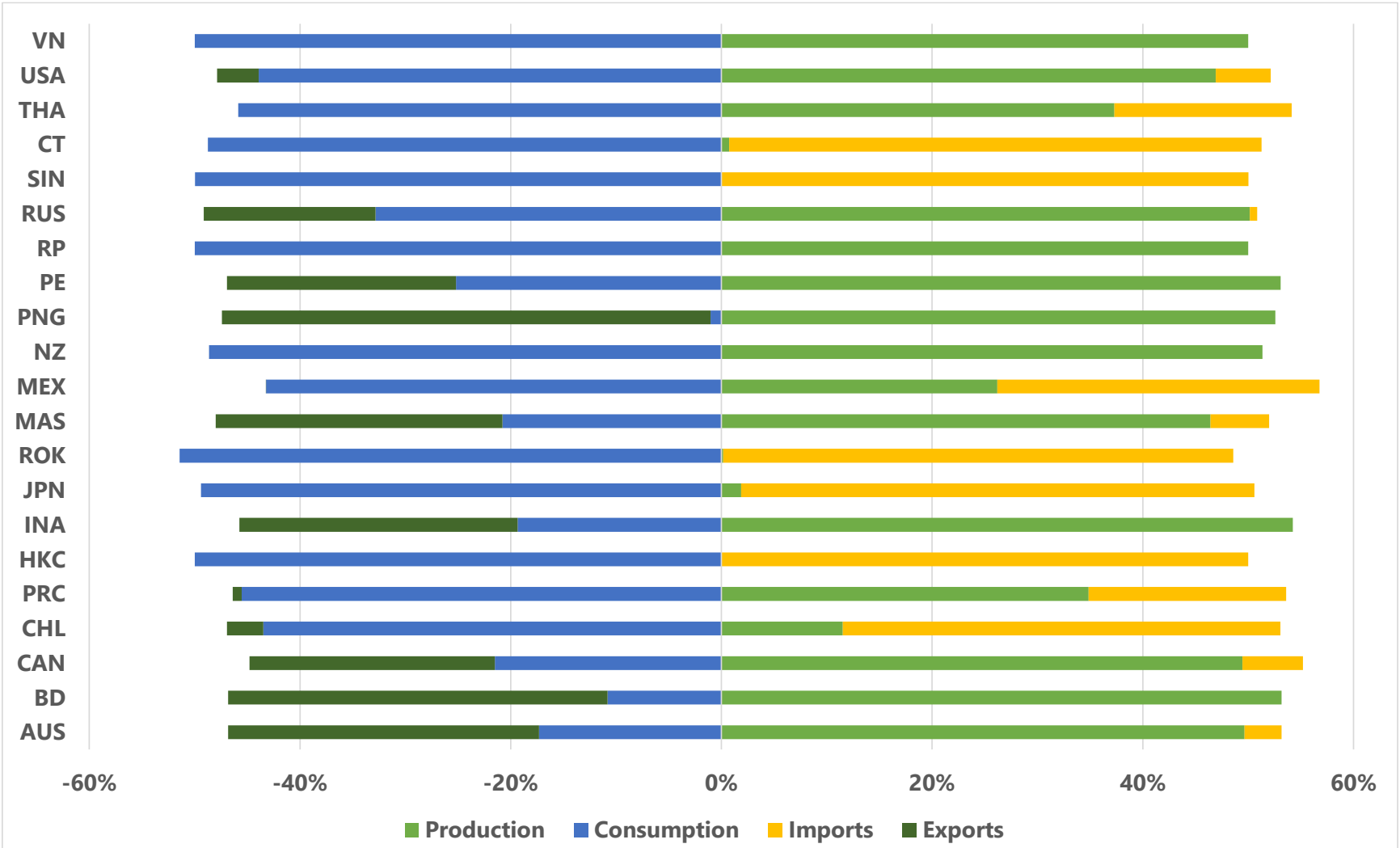


Total Consumption



For natural gas, APEC's production is more than its total consumption. However, several economies are heavily reliant on imports.

Natural gas balance, 2016



On gas supply security, the graph shows net gas exporting economies, net importing economies and those that are heavily reliant on imports.

Quarterly data

Quarterly Supply Data

Dates of submission of data

	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Deadline	**Jul-16**	**Oct-16**	**Jan-17**	**Apr-17**	**Jul-17**	**Oct-17**	**Jan-18**	**Apr-18**	**Jul-18**	**Oct-18**	**Jan-19**	**Apr-19**
AUS	Aug-16	Aug-16	Jan-17	Apr-17	Jul-17	Jan-18	Jan-18		Oct-18	Oct-18		
BD	Aug-16	Nov-16	Feb-17	Apr-17	Aug-17	Oct-17	Jan-18	Apr-18	Jul-18	Oct-18	Jan-18	
CAN												
CHL	Feb-17	Feb-17	Feb-17	Apr-17	Apr-17	Oct-17	Jan-18	Apr-18	Jul-18	Oct-18	Jan-19	
PRC	Aug-16	Oct-16	Jan-17	Apr-17	Jul-17	Apr-18	Apr-18	Apr-18	Aug-18	Nov-18	Jan-19	
HKC	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Jul-18	Oct-18	Jan-19	
INA												
JPN	Feb-19	Feb-19	Feb-19	Feb-19	Feb-19	Feb-19	Feb-19	Feb-19	Feb-19	Feb-19	Feb-19	
ROK	Aug-16	Oct-16	Jan-17		Aug-17	Mar-18	Mar-18	May-18	Oct-18	Oct-18	Feb-19	
MAS	Feb-19	Feb-19	Feb-19	Feb-19								
MEX	May-16	Sep-16	Jan-17		Jul-17	Oct-17						
NZ	Jul-16	Oct-17	Oct-17	Oct-17	Oct-17	Oct-17	Mar-18	Apr-18	Jul-18	Oct-18	Jan-19	
PNG												
PE	Aug-16	Nov-16	Jan-17	Apr-17								
RP	Aug-16	Aug-16	Feb-17	May-17	Jan-19	Jan-19	Jan-19	Jan-19	Jan-19	Oct-18	Jan-19	
RUS	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Jul-18	Oct-18		
SIN	Jul-16	Oct-16	Jan-17	Apr-17	Aug-17	Oct-17	Jan-18	May-18	Jul-18	Oct-18		
CT	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-18	Jan-18	Apr-18	Jul-18	Oct-18	Jan-19	
THA	Oct-16	Oct-16	Jan-16	May-17	Jul-17	Jan-18	Jan-18	Apr-18	Jul-18	Feb-19		
USA	Jul-16	Oct-16	Feb-17	May-17	Jul-17	Oct-17	Jan-18	Jan-18	Jul-18	Oct-18	Jan-19	
VN	Sep-16	Sep-16							Jul-18			

Quarterly Supply Data

Completeness as of 2018Q2

	Coal	Crude Oil	Petroleum	Gas	Electricity
AUS	▲Stock	▲Stock	▲Stock	▲Stock	○
BD	NA	○	○	○	○
CAN					
CHL	▲Prod	○	○	○	○
PRC	▲Stock, Prod	▲Stock	▲Stock	▲Stock	○
HKC	▲Stock	NA	○	▲Stock	○
INA					
JPN	○	○	○	○	○
ROK	○	○	○	○	○
MAS	no submission yet				
MEX	no submission yet				
NZ	○	○	○	○	○
PNG					
PE	no submission yet				
RP	▲Stock	▲Stock	▲Stock	▲Stock	○
RUS	▲Stock	▲Stock	▲Stock	▲Stock	○
SIN	NA	▲Stock	▲Stock	▲Stock	▲no details
CT	○	○	○	○	○
THA	▲Stock	○	○	▲Stock	○
USA	○	○	○	○	○
VN	no submission yet				

LEGEND: ○: All data are submitted ▲: Partly unsubmitted

×: No Data NA - not applicable

Monthly data

Monthly oil data

JOINT OIL DATA INITIATIVE

Closing minus opening level
Positive number corresponds to stock build, negative number corresponds to stock draw

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				0	+ Refinery Output									0
+ From Other sources				0	+ Receipts									0
+ Imports				0	+ Imports									0
- Exports				0	- Exports									0
+ Products Transferred /Backflows				0	- Products Transferred									0
- Direct Use				0	+ Interproduct Transfers									0
- Stock Change				0	- Stock Change									0
- Statistical Difference				0	- Statistical Difference									0
= Refinery Intake				0	= Demand									0
Closing stocks				0	Closing stocks									0

Automatic Checks

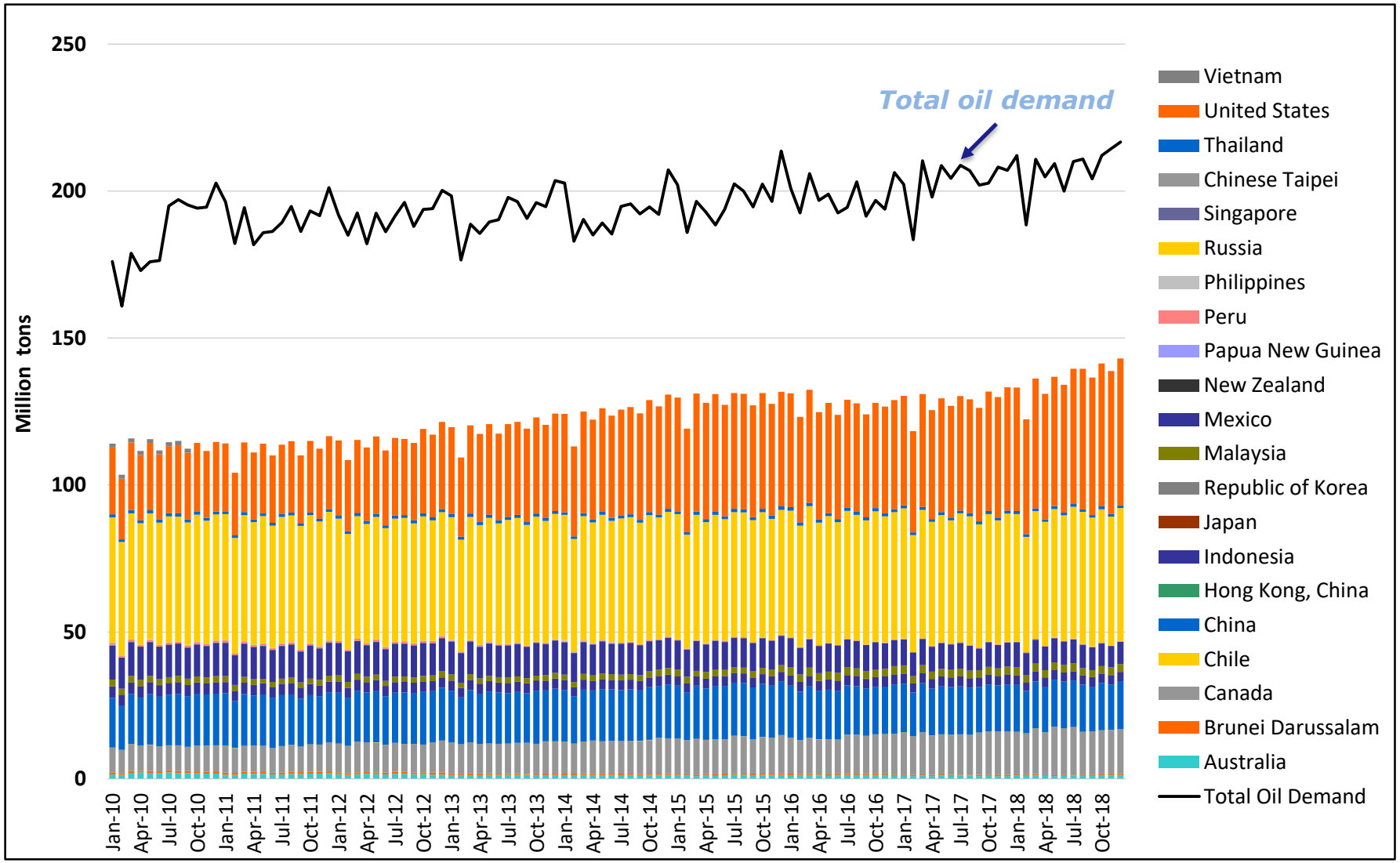
- *Total sum*
- *Statistical Difference*
- *Stat. Diff./Refinery Intake*
- *Products Transferred*
- *Negative Products Transferred*
- *Blocked out cells*
- *Negative Stock Values*
- *Refinery Losses*

Automatic Checks Petroleum Products

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

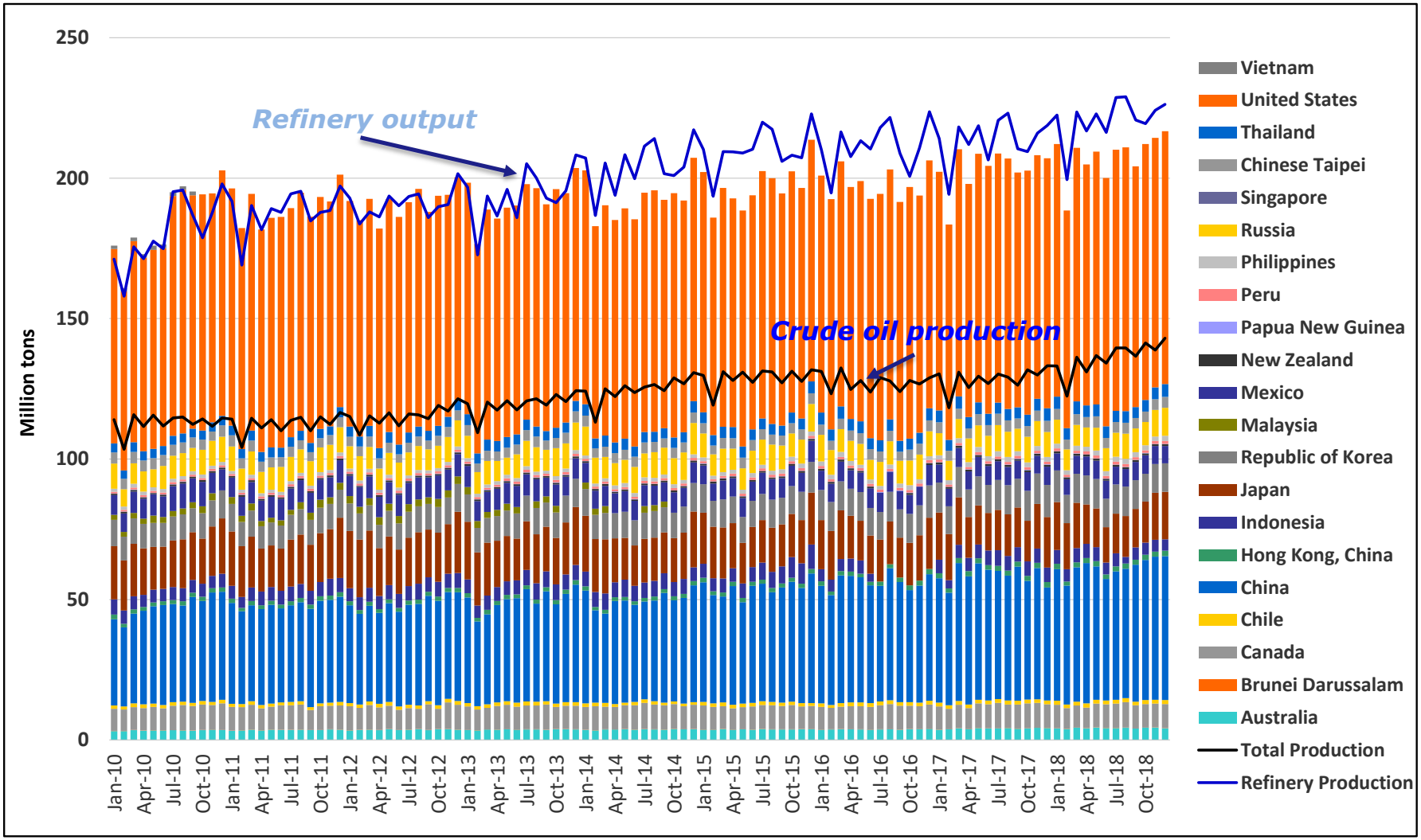
126 data points – 11 products & 9 flows

Monthly crude oil production vs demand



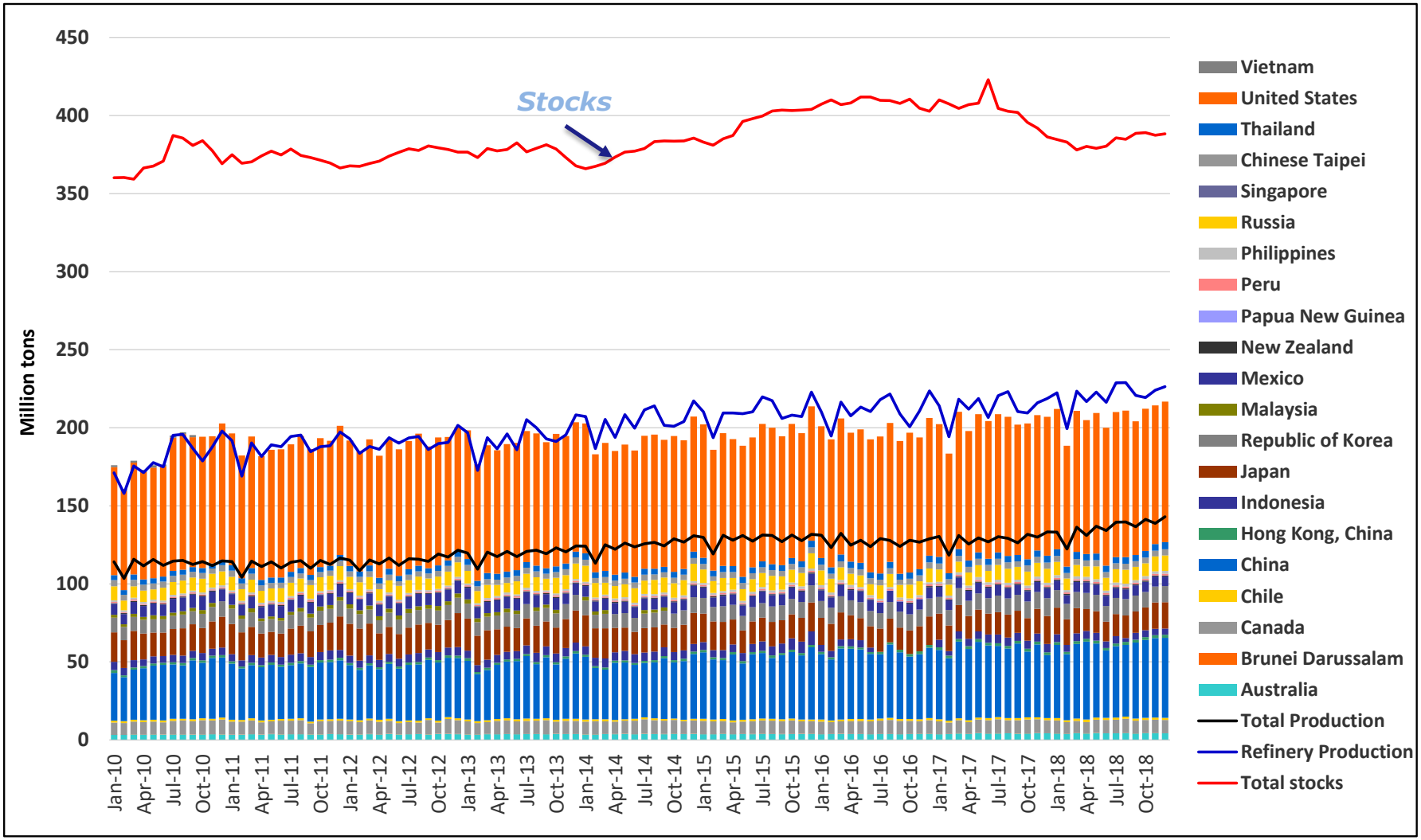
Crude oil production is just about 70% of total demand.

Monthly oil demand vs crude oil production and refinery output



Although crude oil production is just about 70% of total consumption, refinery output is still higher than consumption indicating refining sufficient capacity in APEC.

Monthly oil demand vs stocks of crude oil and petroleum products



Stocks of crude oil and petroleum products are more than double monthly consumption. Stocks shown in the graph do not include those of China, Russia, Malaysia and Singapore.

Monthly gas data

Monthly Gas Data Collection

Member Economy:

Month:

Year:

	Natural Gas Million m^3 (at 15°C, 760 mm Hg)	Natural Gas TJ (Gross Calor. Value)	of which:LNG 1000 ton	of which:LNG TJ (Gross Calor. Value)	of which: pipeline Million m^3 (at 15°C, 760 mm Hg)	of which: pipeline TJ (Gross Calor. Value)
Indigenous Production						
Imports						
Exports						
Stock Changes (+ or -)						
Gross Inland deliveries (calculated)	0.00	0.00				
Statistical Difference						
Gross Inland deliveries (observed)						
of which: Power Generation						
Total Stocks on National Territory- Opening						
Total Stocks on National Territory- Closing						

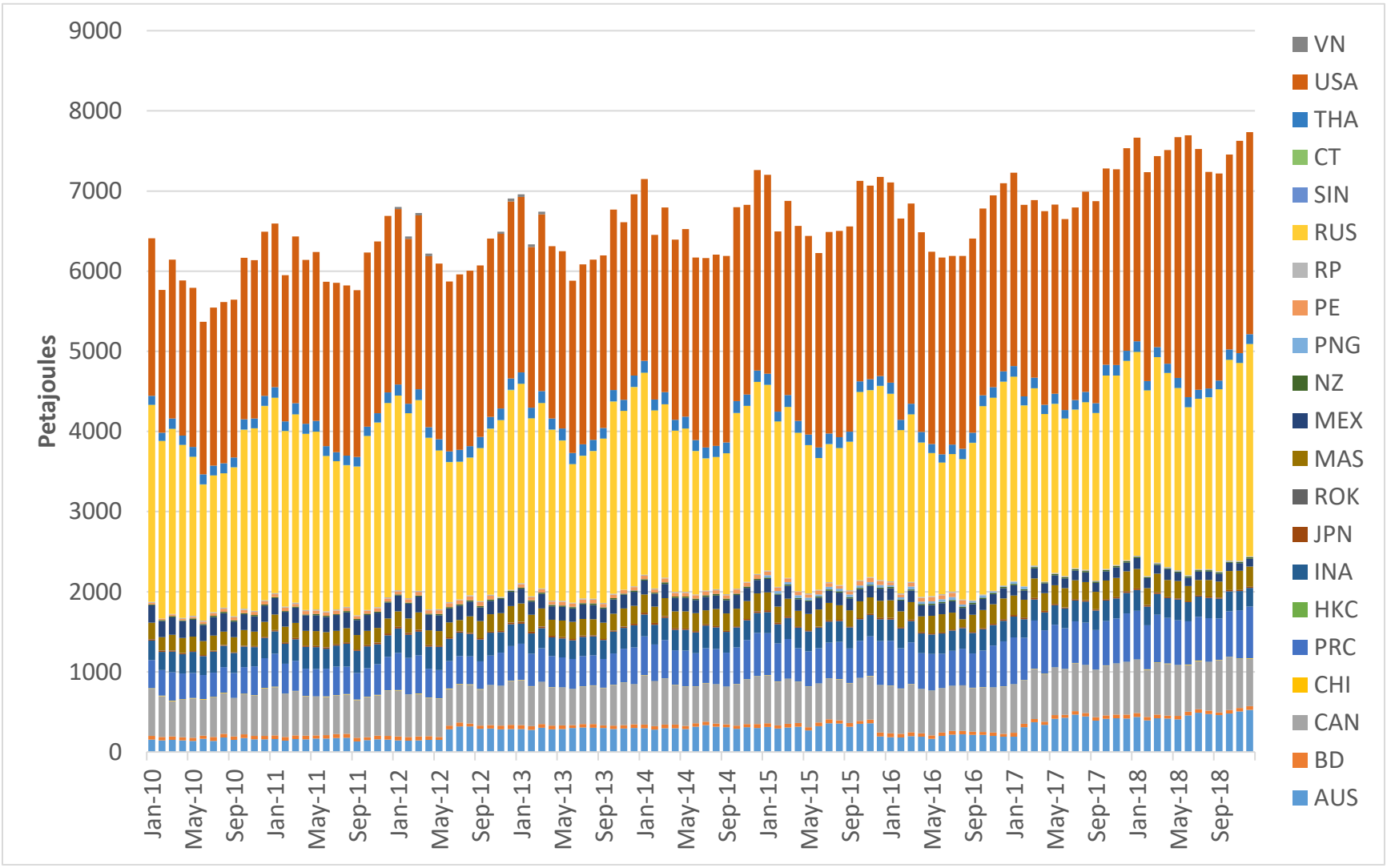
AVERAGE GROSS CALORIFIC VALUES: *Unit: KJ/cubic m*

	Natural Gas
Indigenous Production	#DIV/0!
Imports	#DIV/0!
Exports	#DIV/0!
Average	#DIV/0!

CONVERSION FACTOR OF LNG(MASS TO VOLUM *Unit: cubic m/ton*

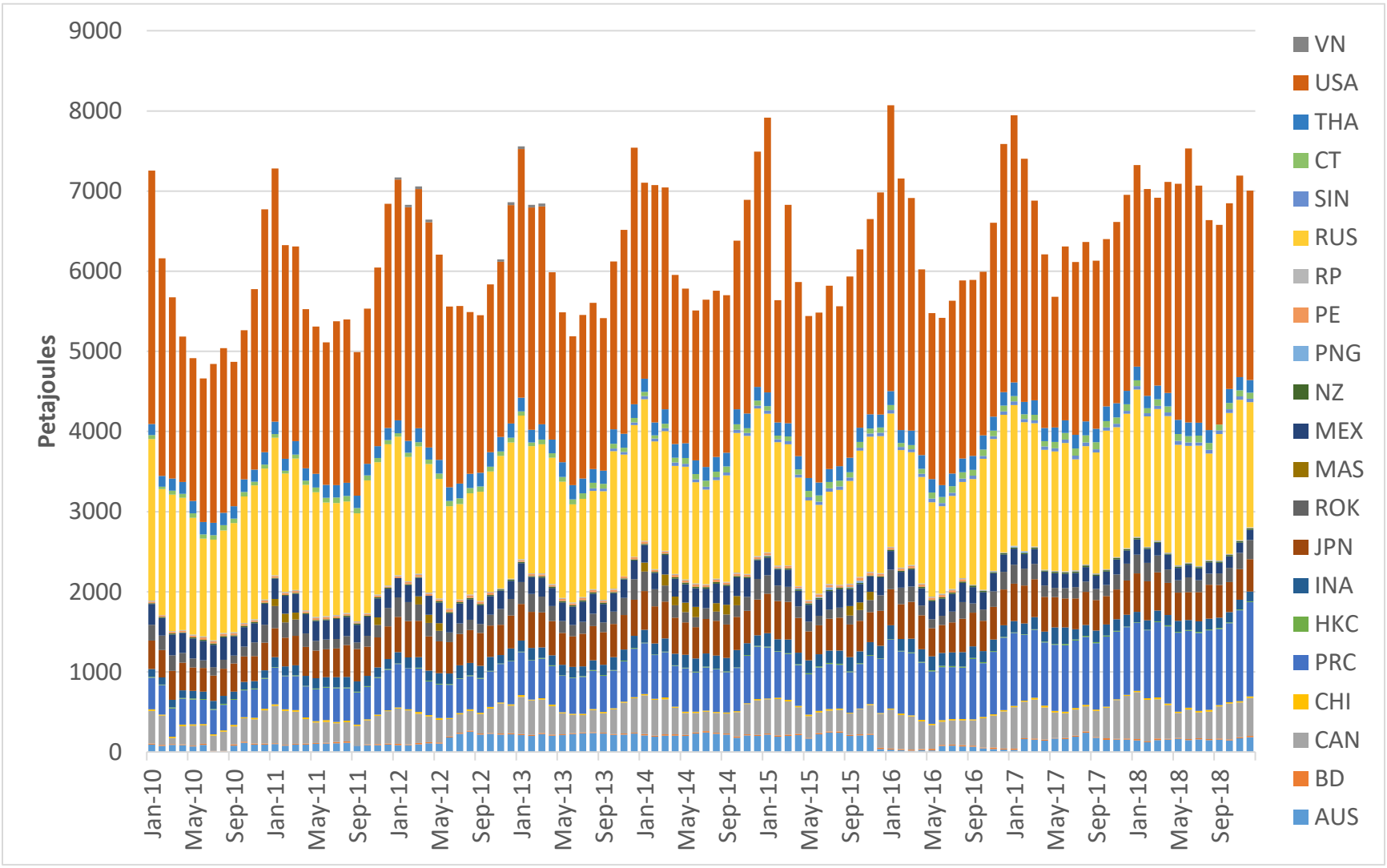
	LNG
CONVERSION FACTOR	

Monthly gas production data



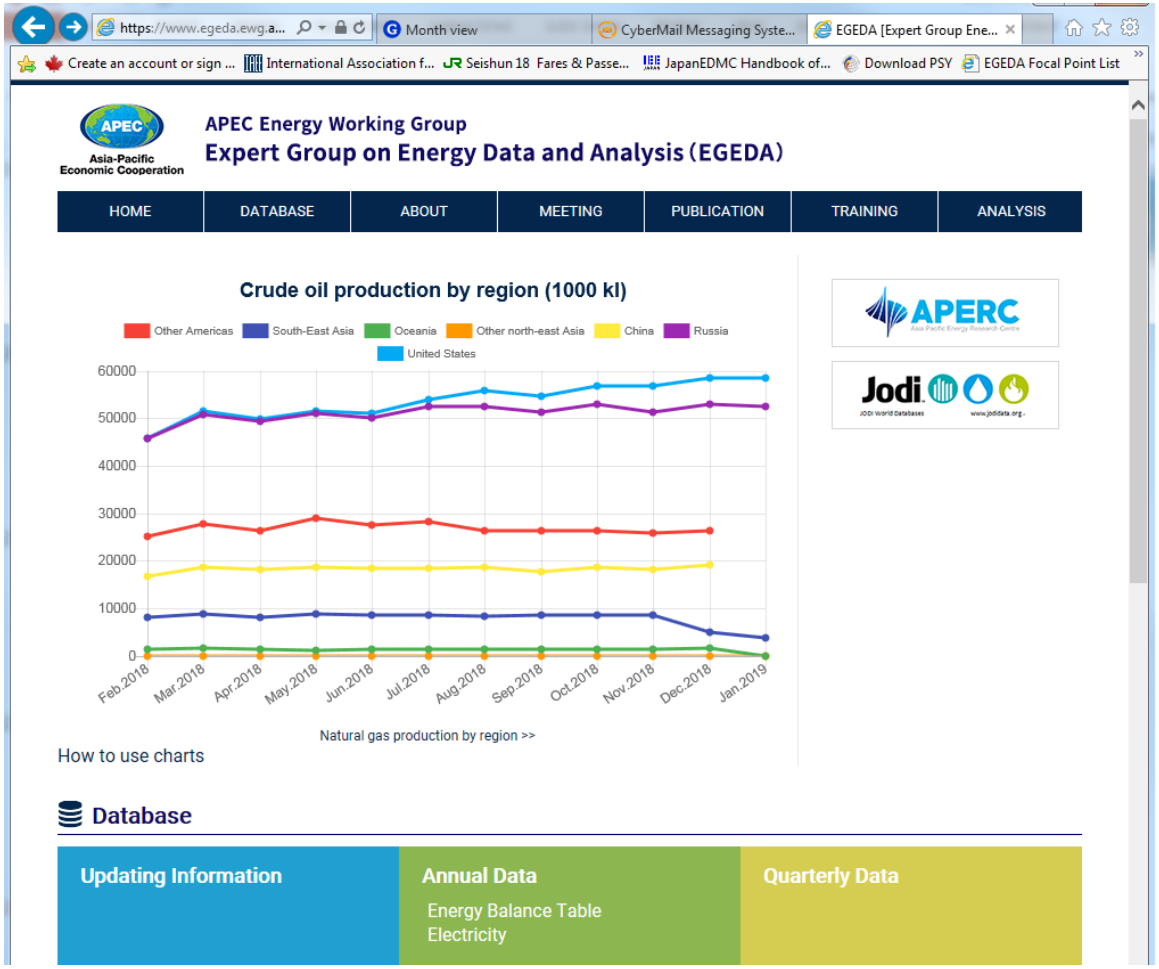
Note: Some missing data for some months are estimated by ESTO for this presentation

Monthly gas supply data



Note: Some missing data for some months are estimated by ESTO for this presentation

The APEC energy database



The APEC energy database can be accessed at:
http://www.egeda.ewg.apec.org/

Concluding notes

Data submission by EGEDA members are not mandatory but fortunately, 20 of 21 all member economies provide annual data

Not all member economies are also able to provide stock level data

Four member economies are not submitting quarterly data and several economies submit after the deadline. Also, several economies are not able to submit complete data

For monthly oil and gas data, one economy had not submitted since October 2010.

The EGEDA secretariat, Energy Statistics and Training Office (ESTO) of APERC will continue to encourage member economies to submit complete and timely data

Should EGCFE need data, please don't hesitate to use the APEC energy database. It can be accessed at: http://www.egeda.ewg.apec.org

Thank you for your kind attention

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


Q&A