



EGCFE Oil and Gas Meeting

# APERC Oil Market Report



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Tokyo, Japan

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**Asia-Pacific  
Economic Cooperation**

# Topics of Presentation

## **Demand**

**APEC vs Global**

**APEC Demand Outlook**

## **Supply**

**APEC vs Global**

**APEC Supply Outlook**

## **Key Factors Influencing Oil Market**

**US Shale Oil Development**

**Refining Capacity Additions in SEA and ME**

**Crude Oil Price**

## **Environmental Issues**

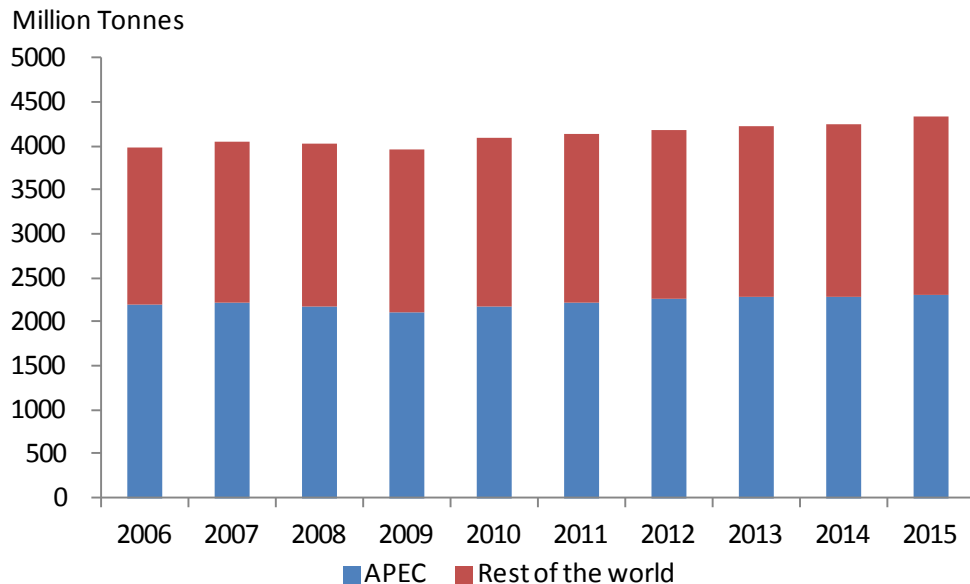
**Gasoline and Gas Oil Trade Restriction**

**IMO's 2020 Sulphur Cap**

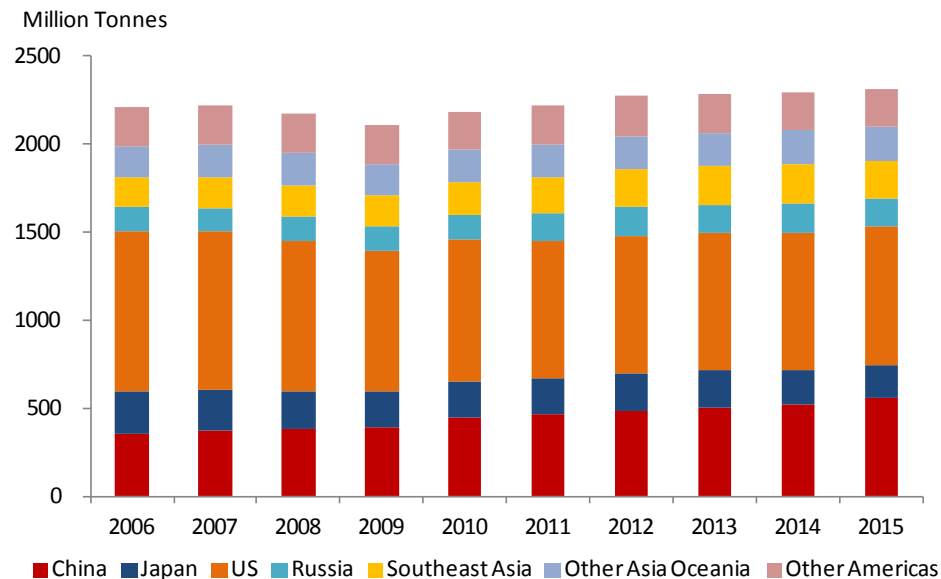
## **APEC Import Dependence**

# APEC vs Global Demand

## APEC vs Global Demand 2006-2015



## APEC Demand 2006-2015



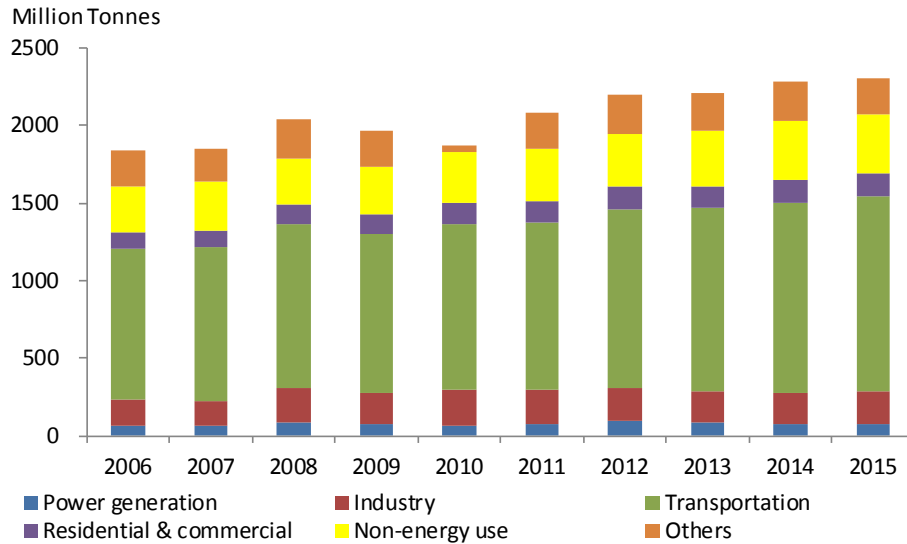
Global oil consumption reached **4,341** million tonnes in 2015 (0.9% p.a. for 2006-2015).

APEC accounted for **53%** of global demand in 2015.

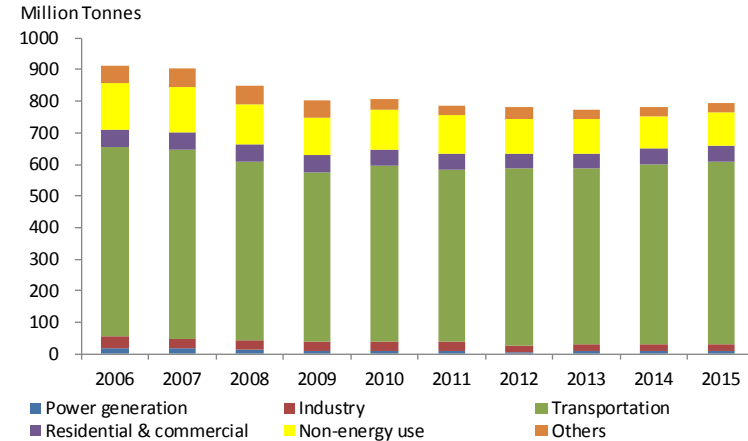
# APEC vs Global Demand by Sector

## USA vs China

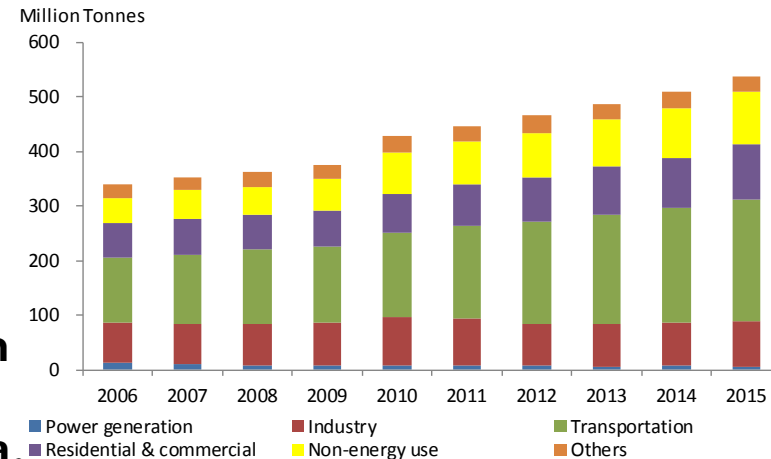
### APEC Demand by Sector 2006-2015



### USA Demand by Sector 2006-2015



### China Demand by Sector 2006-2015

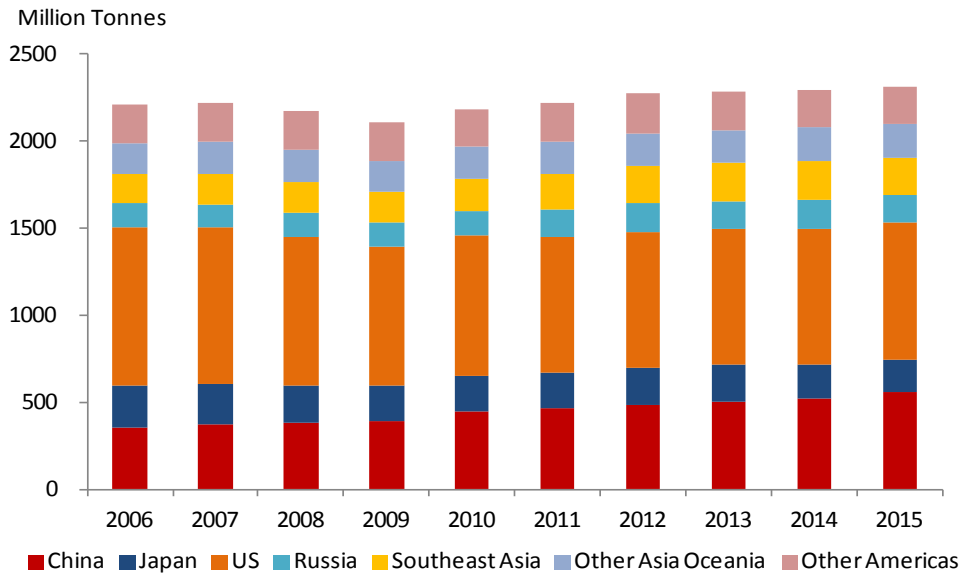


APEC growth (past 10 years) = **0.5% p.a.**  
vs rest global = **1.3% p.a.**

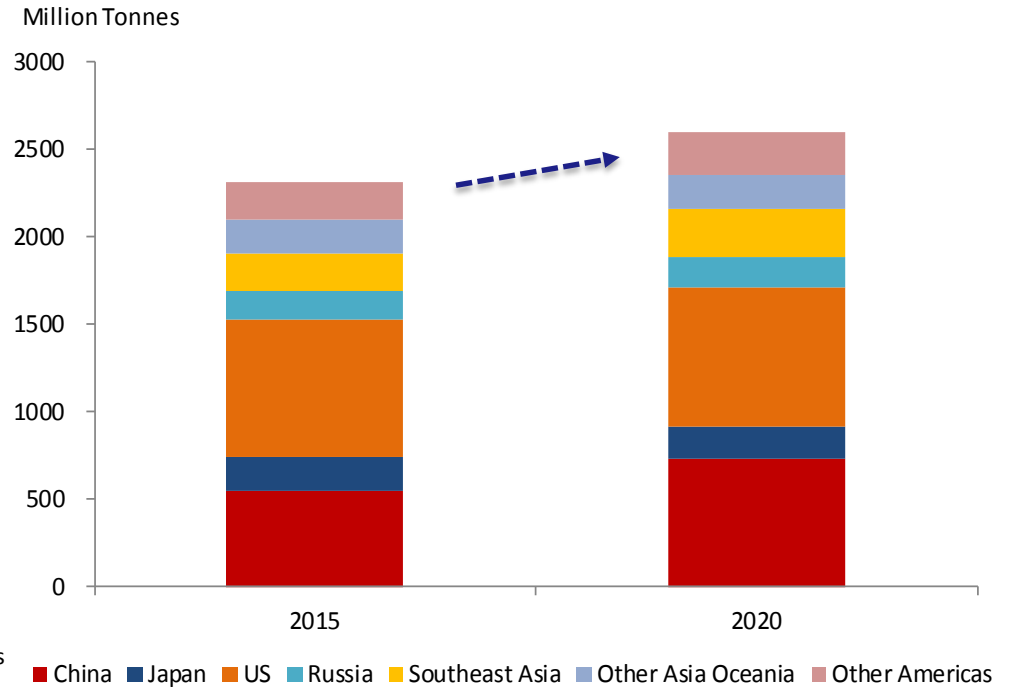
APEC slowdown due to declining demand in  
USA (**-1.4% p.a.**) and Japan (**-2.4% p.a.**)  
while China demand is growing at **4.5% p.a.**

# APEC Demand Outlook 2020

## APEC Demand 2006-2015



## APEC Demand Outlook 2015-2020

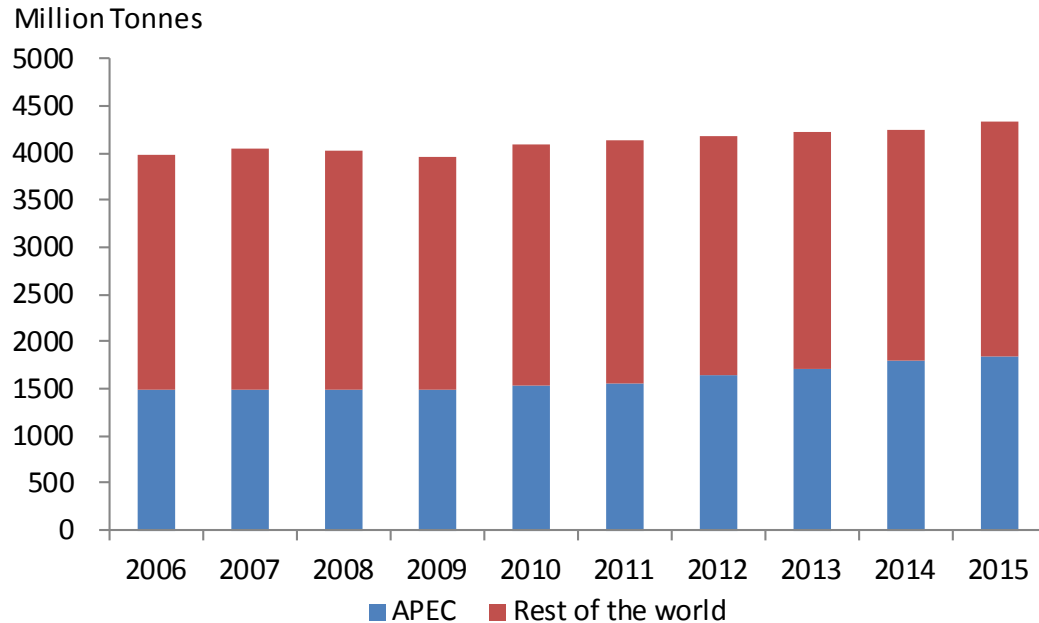


China leads the way in demand growth at **5.7% p.a.** towards 2020 contributing to **32%** share of APEC vs **25%** in the past.

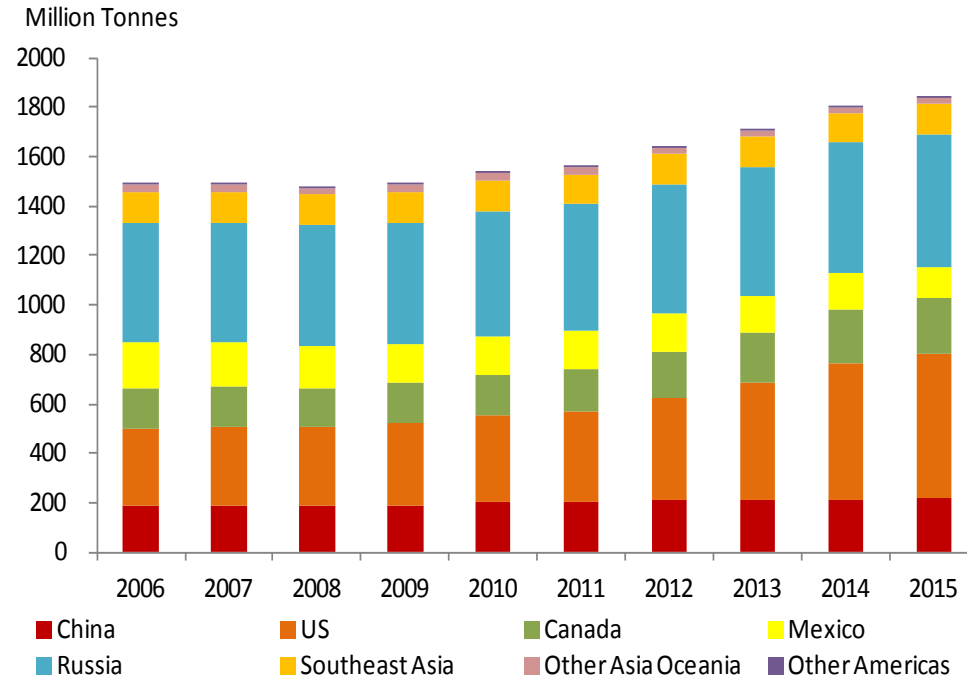
**APEC oil demand will shift more to Asia in the coming years.**

# APEC vs Global Supply

## APEC vs Global Supply 2006-2015



## APEC Supply 2006-2015

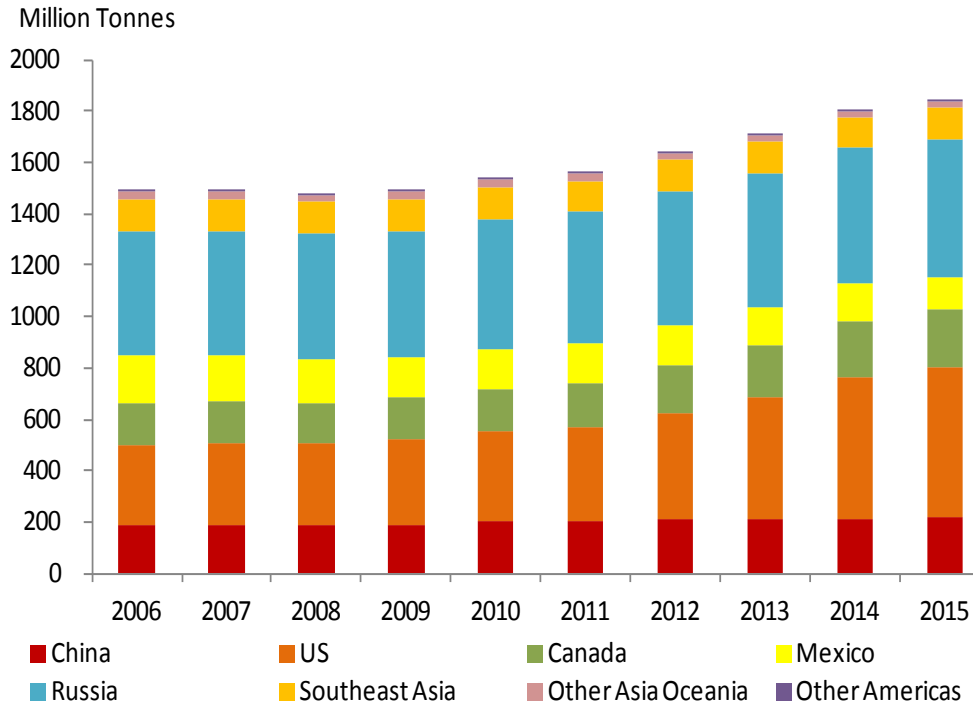


Global oil supply reached **4,359** million tonnes in 2015 (1.0% p.a.).

US and Russia accounted for **61%** of APEC supply with **74%** of APEC growth contributing from US shale.

# APEC Supply Outlook 2020

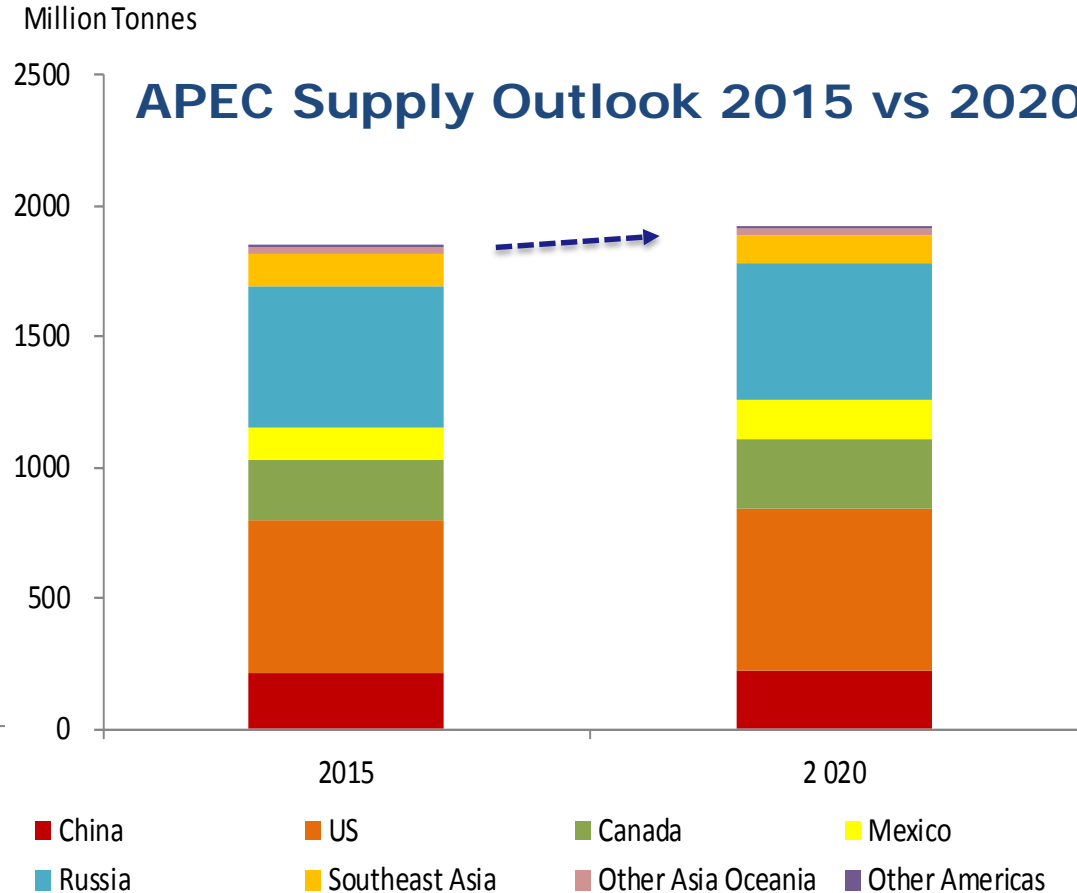
## APEC Supply 2006-2015



**APEC Supply**  
Growth **+0.4% p.a.**  
**(1,926 mt @2020)**

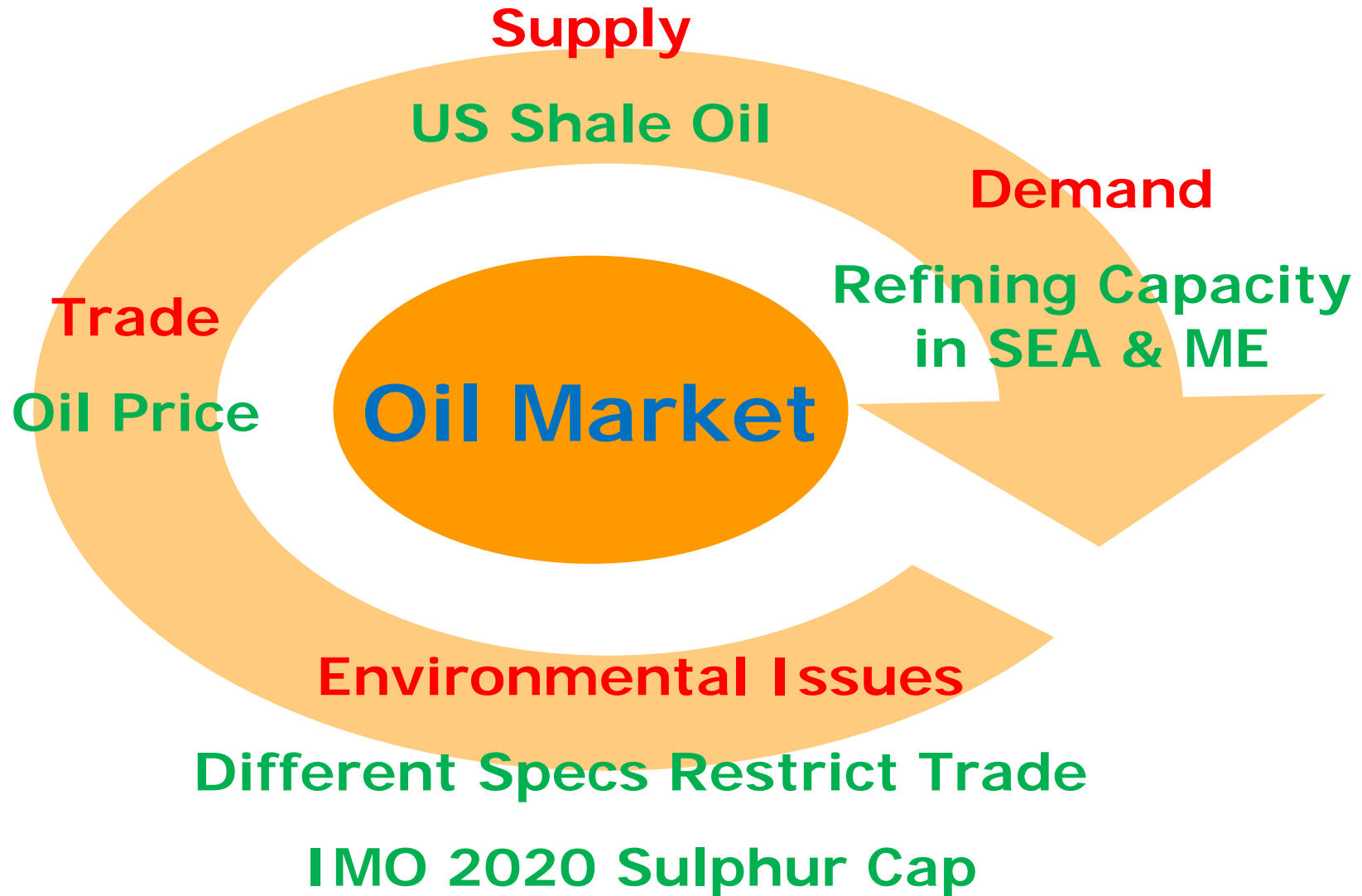
Supply Center → North America

## APEC Supply Outlook 2015 vs 2020



**APEC Demand**  
Growth **+1.7% p.a.**  
**(2,605 mt @2020)**  
Demand Center → Asia

# Key Factors Influencing Oil Market



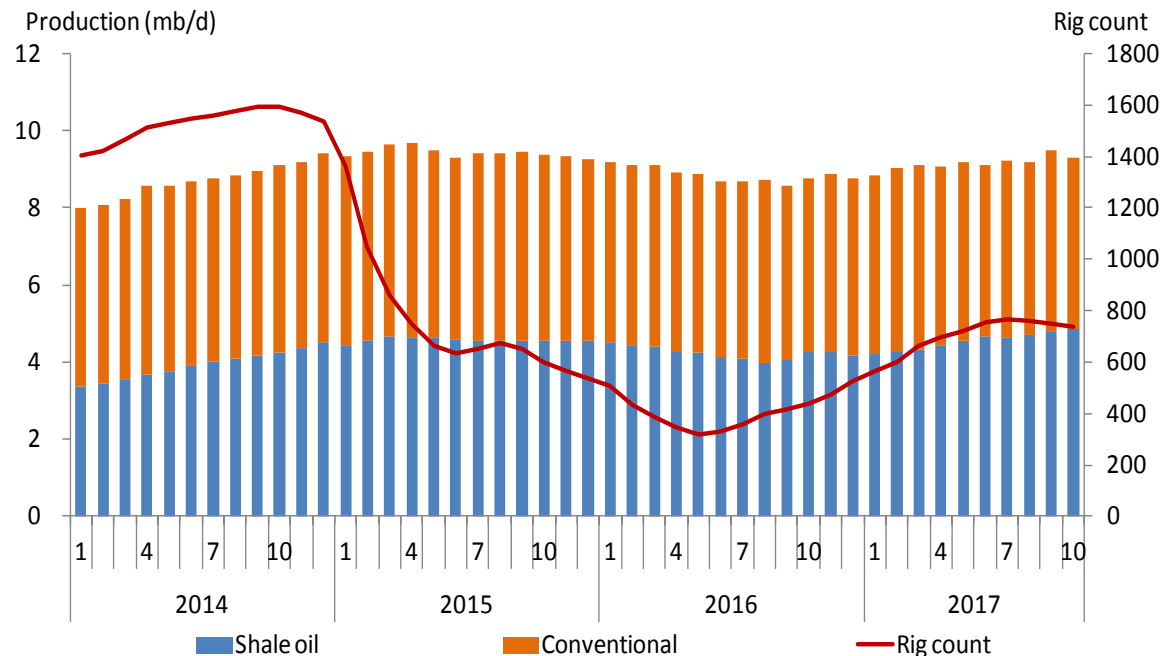


# US Shale Oil Development

Shale oil production in US has increased by **80%** since 2008.

**4.6 mbd** in 2017, equivalent to **50%** of total US production.

**6-8 mbd** forecasted in 2030 (EIA-IEA).



US energy balance has transformed into less import dependence due to shale oil boom.

Decreasing breakeven price of shale oil (to US\$ 40-50/barrel) increases its potential to be competitive advantage over crude oil.

# Refining Capacity Additions in SEA and ME



**New capacities to be installed in Southeast Asia (SEA) and Middle East (ME) during 2018-2022.**

**SEA plans to add a combining 1,400 KBD to improve supply security.**

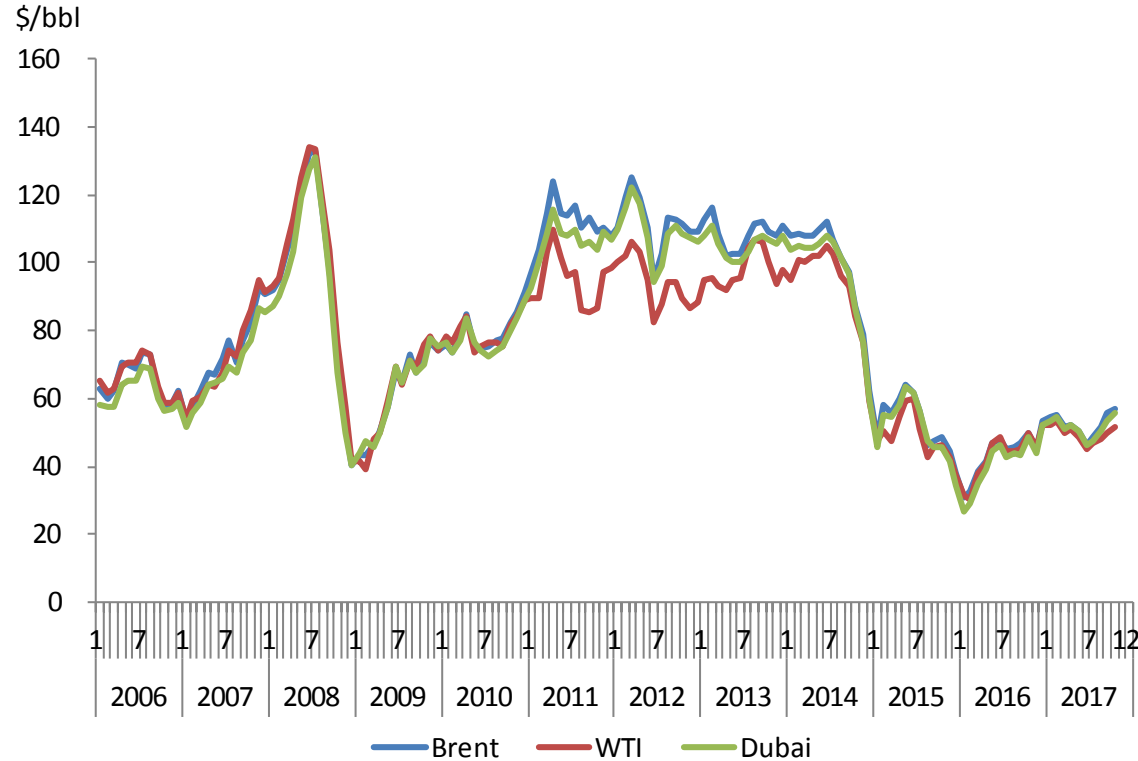
**ME plans to install a total of 2,600 KBD and replace crude oil export with product export.**

**Trades are expected to increase along new capacities.**

# Impact of Crude Oil Price

**Oil price has fallen for the past three years driven by:**

- increased supply of shale oil
- diminished oil demand from slowdown of economic growth



\$/bbl (2016 price)

	2015	2020	2025	2030
<b>APERC (Brent)</b>	53	75		100
<b>IEA (avg import price)</b>	51		83	94
<b>EIA (Brent)</b>	53	75	86	95

# Impact of Crude Oil Price

**Drop in oil prices has caused demand to increase in some economies but hasn't boosted economic activities in global scale as much as expected.**



**Re-balancing of oil supply-demand has shifted focus of international oil market:**

**oil exporting countries (OPEC, Russia, etc.)**



**oil importing countries (China, India, Japan, EU, etc.)**

# Environmental Issue: Gasoline and Gas Oil Trade

Many different quality standards of gasoline and gas oil have been adopted and traded in APEC economies; e.g., EURO III, EURO IV, EURO V and etc.



Gasoline and gas oil trade hampered by differences in their specifications.

Harmonization of APEC oil specifications can alleviate:

- APEC oil trade optimization
- Environmental emissions
- Logistics costs



# Environmental Issue: IMO's 2020 Sulphur Cap

**New tanker regulations to limit sulphur content (3.5% to 0.5%) on marine fuels to be enforced in 2020.**

**Low Sulphur Fuel Oil (LSFO) can be produced several ways: cracking FO to GO, sweeter crude slate, and desulfurizing FO.**

- **Estimated \$30/mt premium for 0.5% FO<sup>1</sup>.**
- **Costs are expected to be borne by refiners, crude producers, shipowners and bunker suppliers.**

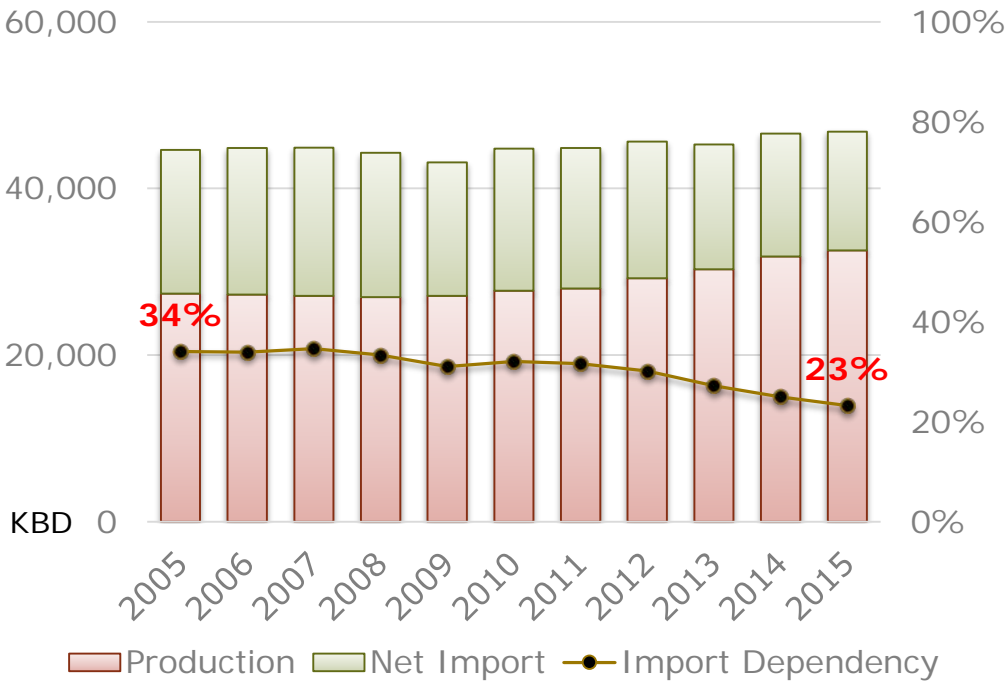
**Demand shift of 2 mbd FO to GO<sup>2</sup>.**

- **Change in trade flows as regional disparities in compliant bunker fuel output are expected.**
- **New refinery upgrades in the ME are expected to lead to a surplus of compliant FO, while North America, Africa and Asia-Pacific are expected to be in deficit.**

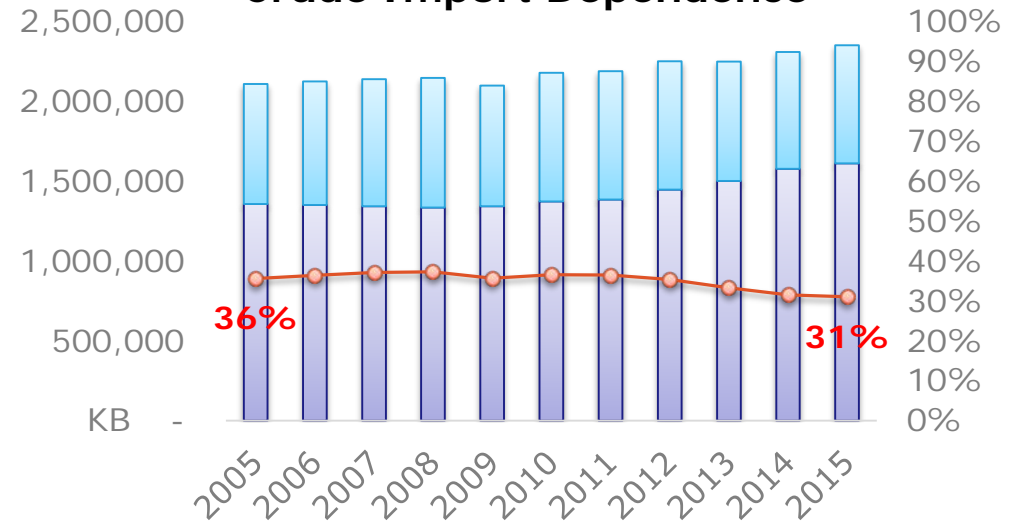


# APEC Import Dependence

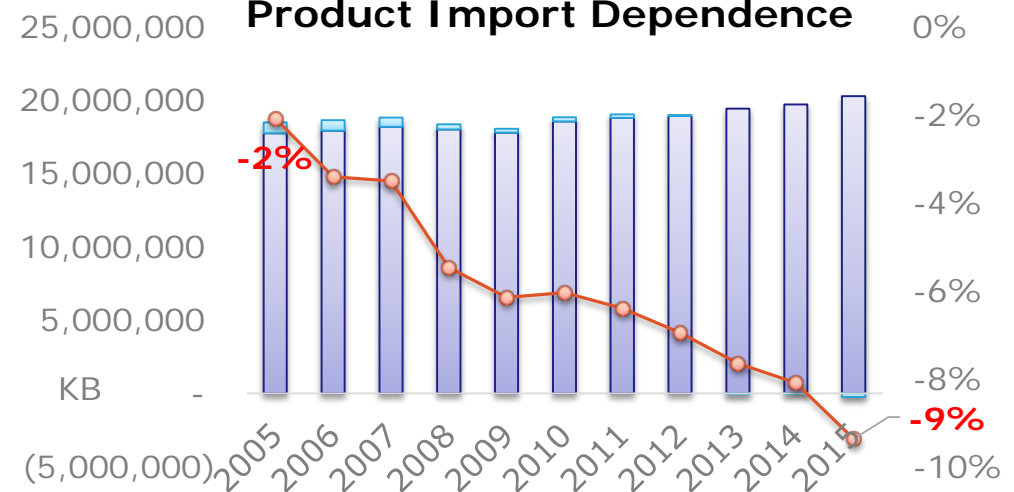
## Total Crude & Product Import Dependence



## Crude Import Dependence

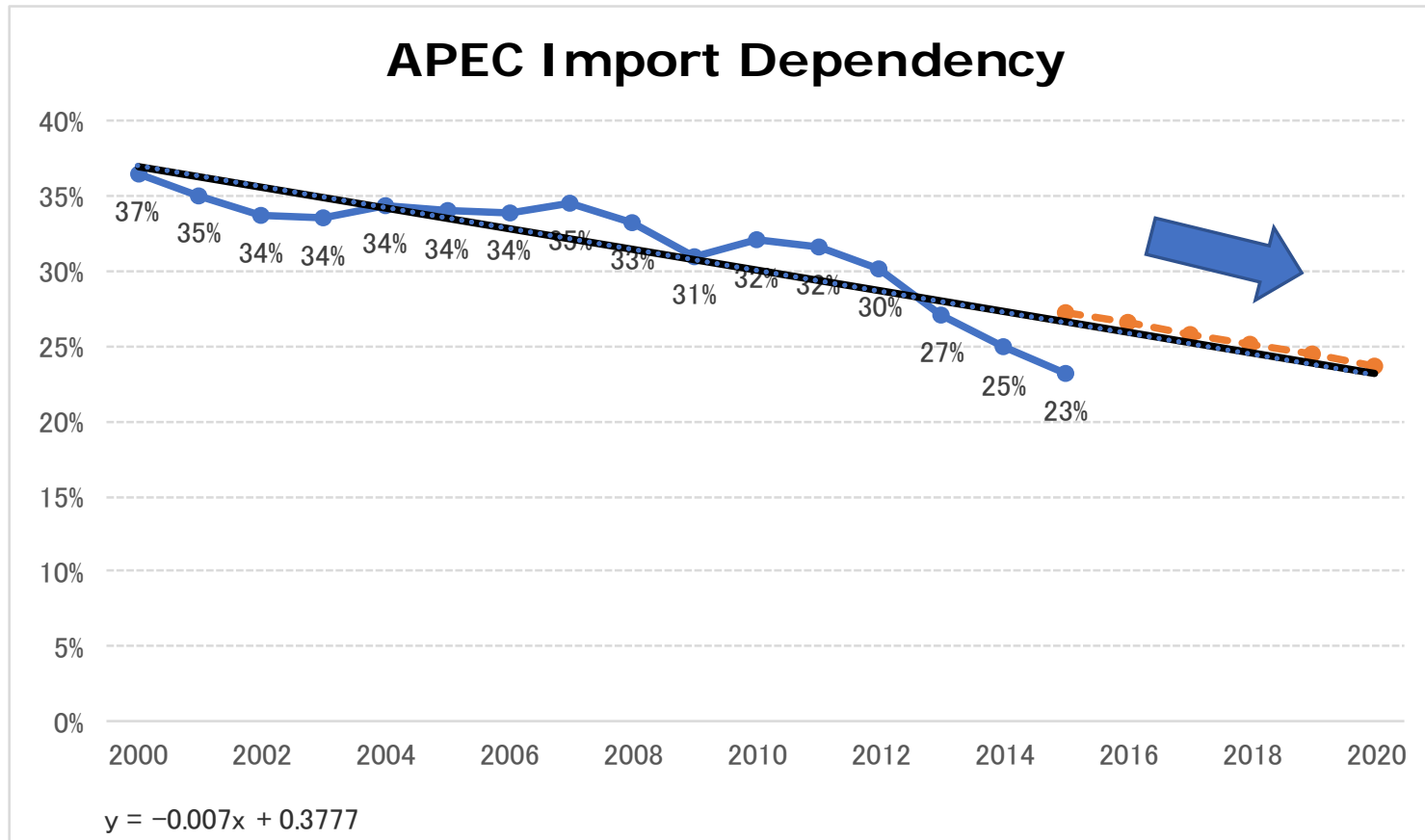


## Product Import Dependence



**APEC Import Dependence has decreased from 34% to 23% for the past decade.**

# APEC Import Dependence



**APEC Import Dependency has continuously decreased and the trend continues.**





**Thank You for Your Attention**

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



# Impact of US-Canada Pipelines



**Keystone XL, Trans Mountain and Enbridge Line-3 Pipelines are designed to carry oil sands from Canadian sites into US refineries.**

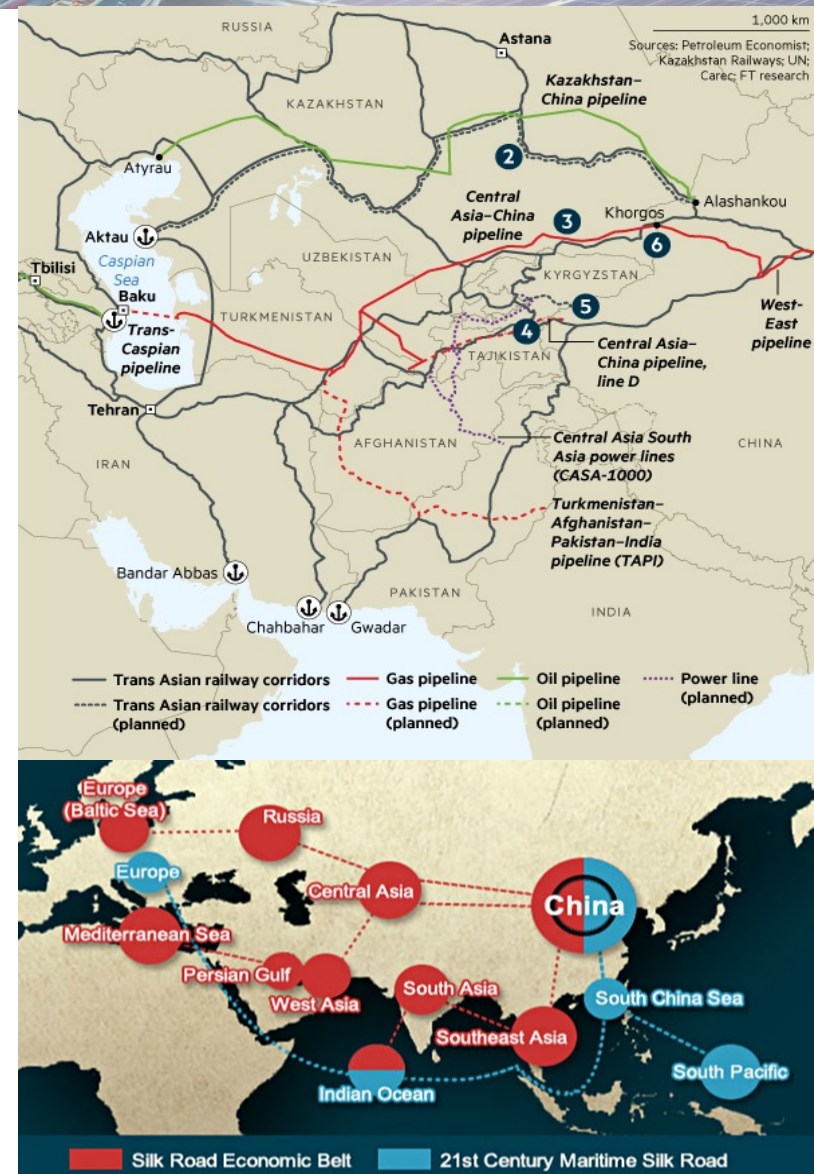
**Trade between US-Canada will be more condensed resulting in US relying less on petroleum imports through other channels.**

**US-Canada Pipelines will create jobs and benefits to both economies but project justifications are based on environmental and foreign policy implications.**

# Impact of China-Central Asia Oil Pipeline Installation

China strengthens its energy security by diversifying its oil import routes to include crude oil from Central Asia.

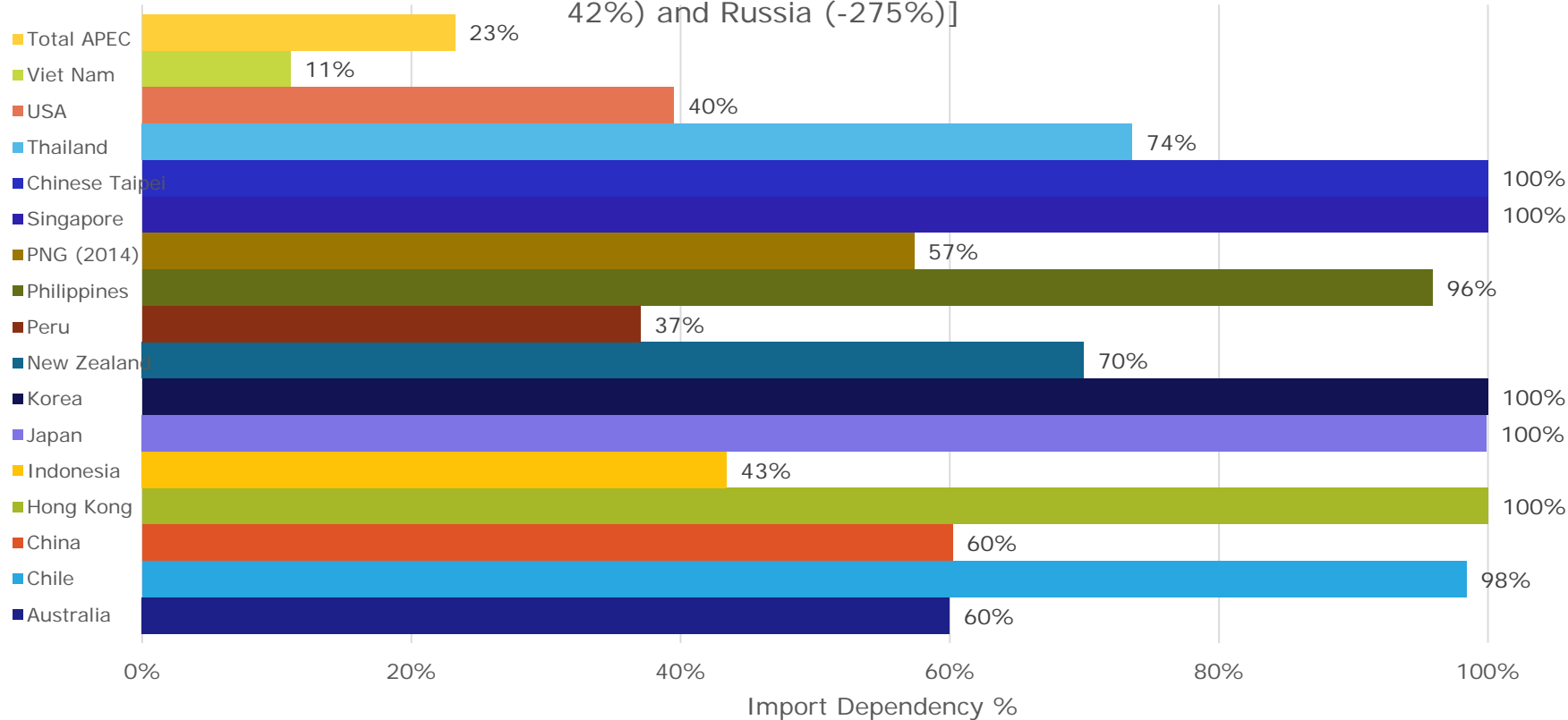
2,798 km China-Central Asia pipeline is also bridging Central Asia to the rest of APEC.



# APEC Import Dependence

APEC Import Dependency (base year: 2015)

[Exporting economies include Brunei(-1,269%), Canada(-178%), Malaysia(-8%), Mexico(-42%) and Russia (-275%)]



# International Oil Trade

## Topics of interest to be discussed in the Oil Market Report:

- **Supply:**

- U.S. future trade trend as a result of increasing tight oil production (also detailed in IEEJ's Chapter 5: Revival of US Shale Oil).
- Impact on international trade from the US-Canada oil pipeline expansion (Keystone XL and Other U.S.-Canada Pipelines) and the influence of China-Central Asia oil pipeline.

- **Demand:**

- Impact on International trade due to refining capacity addition in South East Asia and Middle East.

- **Market Movement:**

- Impact of future oil price movement on international oil trade.

- **Environmental Issues:**

- Possible gasoline trade restriction due to the differences of its quality specifications.

- Future new bunker specification presented a threat to increase the fuel prices (also detailed in IEEJ's Chapter 5: IMO Regulation on Bunker Fuel).

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**US Shale Oil Development**

**Refining Capacity Additions in SEA and ME**

**Infrastructure**

**Impact of US-Canada Pipelines**

**Impact of China-Central Asia Oil Pipeline Installation**

**Impact of Crude Oil Price**

## **Environmental Issues**

**Gasoline and Gas Oil Trade Restriction**

**IMO's 2020 Sulphur Cap**

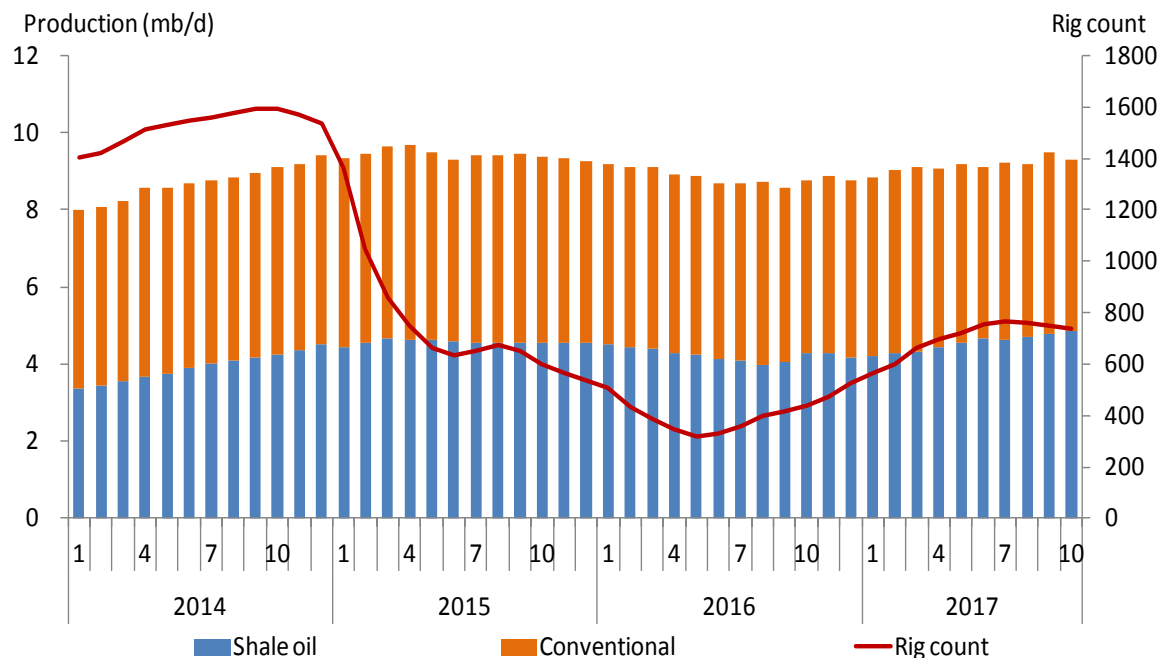
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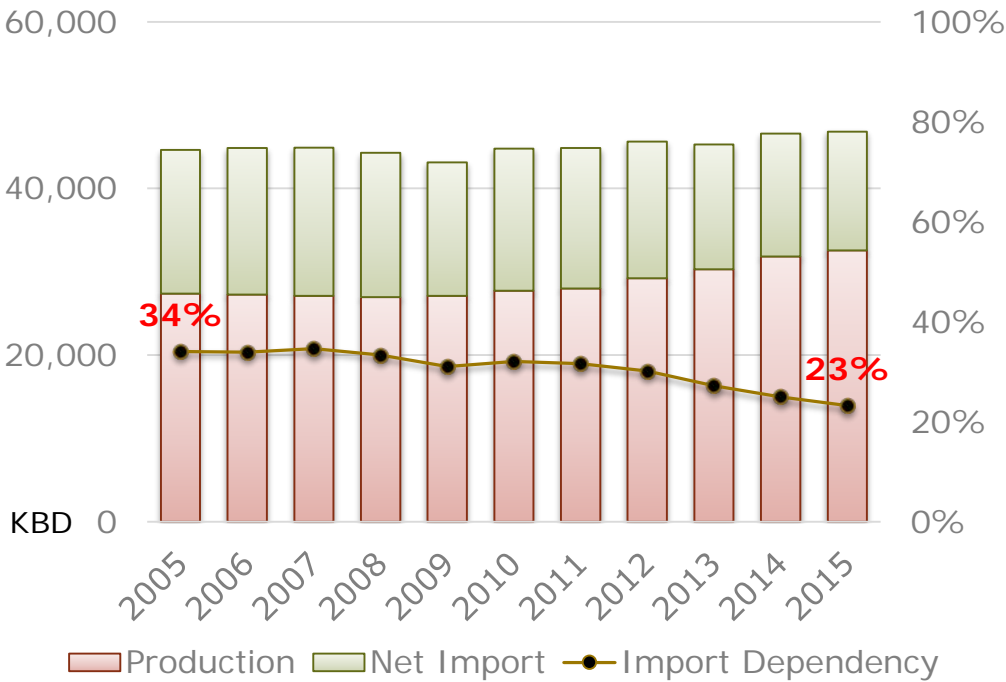


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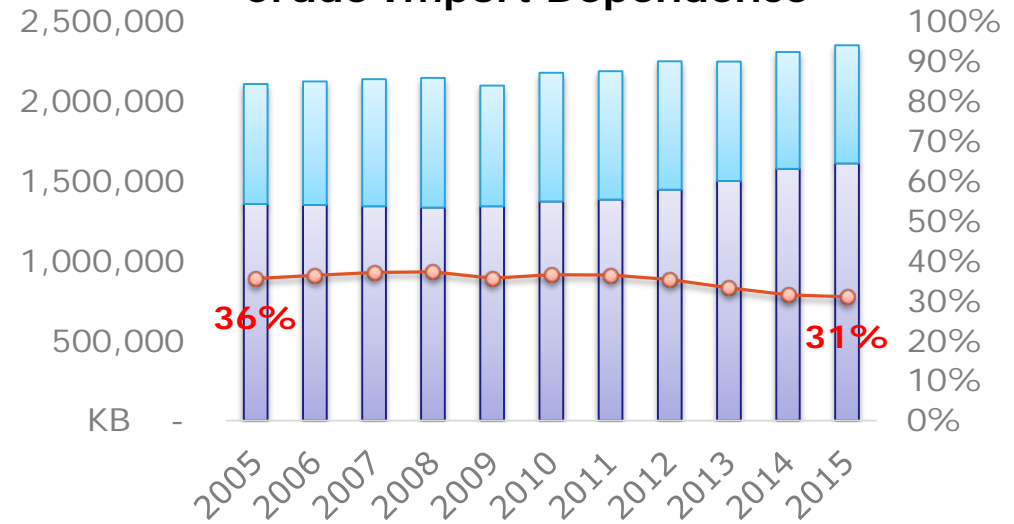
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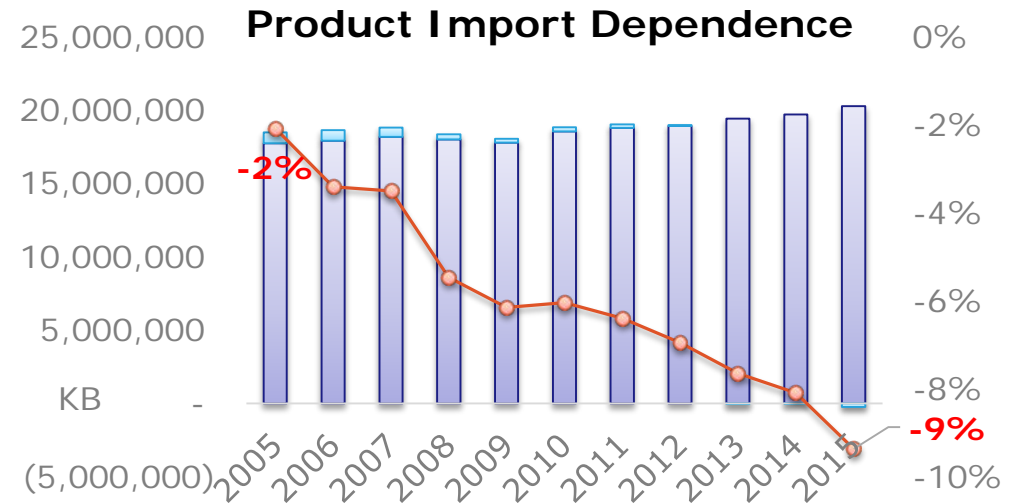
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