

# Outlook of the International Coal Situation

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**The Institute of Energy Economics, Japan**

Coal Group, Fossil Energies & International Cooperation Unit

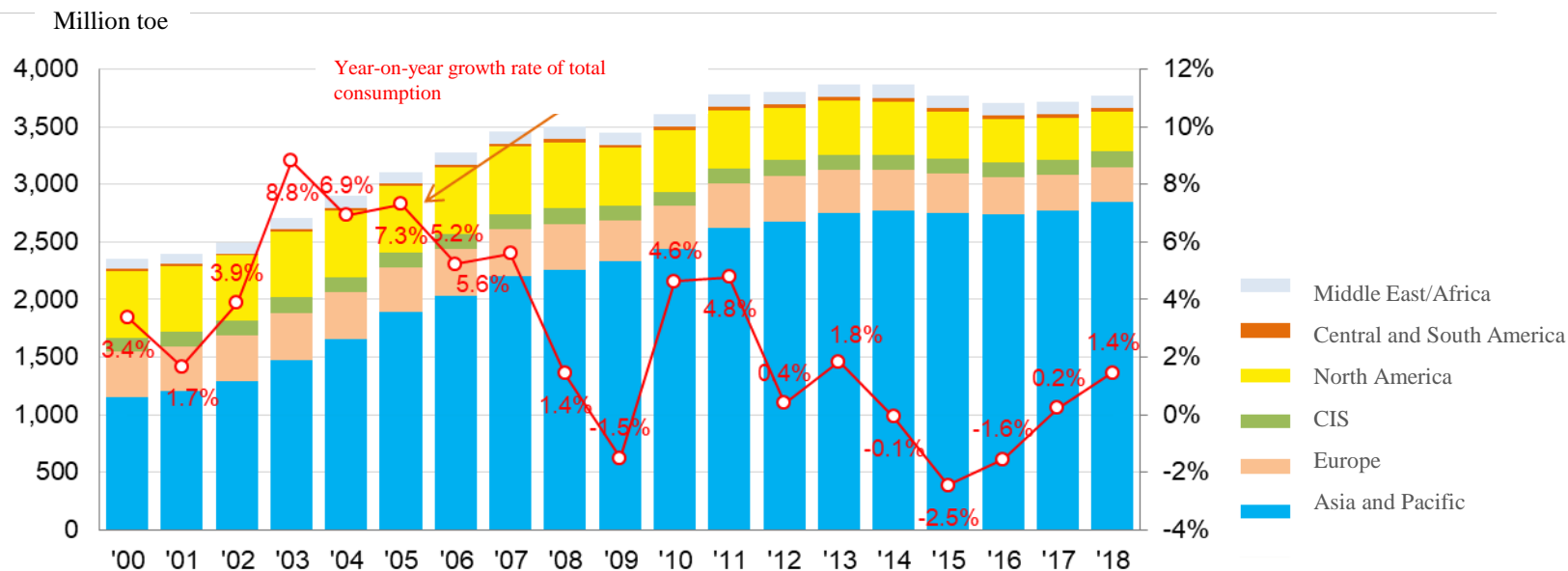
Atsuo Sagawa

# Key points of this report

- ✓ Despite a decrease in coal demand in Europe and North America, global coal demand in 2018 increased by 53.7 million toe on the back of an increase in demand of 70.5 million toe in Asia. (In particular, demand for steam coal was driven by India, ASEAN, and China, while demand for coking coal was driven by India and China) ⇒ Coal imports also increased accompanying this rise in demand.
- ✓ In 2019 and 2020, coal demand is expected to increase in emerging countries particularly in Asia (India, ASEAN, China, etc.), with an accompanying rise in coal imports.
- ✓ Against this, with regard to coal supply, market recovery from mid-2016 brought about the resumption of the operation of idle coal mines in coal-producing countries such as Australia, as well as the expansion of existing coal mines in operation. Countries such as Colombia and Russia are also setting their sights on increasing supply to the Asia market, which is expected to expand going forward. Supply is expected to match demand.
- ✓ Spot prices for steam coal fell from \$100/ton at the start of 2019 to \$70/ton at the end of June. Going forward, prices are expected to stay around the low \$70/ton level until the beginning of autumn, then rise to \$80/ton level moving into 2020.
- ✓ Spot prices for coking coal were around the \$200/ton level at the start of 2019. Supply capacity is increasing gradually due to factors such as the reopening of idle coal mines, expansion of existing coal mines in operation, and expansion of new sources, and prices are expected to fall to \$170/ton moving into 2020.

# Global coal consumption

- Global coal consumption had been increasing particularly in Asia, but gradually slowed down and decreased in 2015 and 2016.
- Global coal consumption increased in 2017 and 2018, driven once again by consumption in Asia.



	Consumption volume (million toe)							YoY growth rate (%)				
	2013	2014	2015	2016	2017	2018	YoY difference	14/13	15/14	16/15	17/16	18/17
Asia Pacific	2,749.7	2,768.6	2,751.0	2,738.9	2,770.8	2,841.3	(70.5)	0.7	-0.6	-0.4	1.2	2.5
Europe	377.6	354.5	339.2	326.8	315.5	307.1	(-8.4)	-6.1	-4.3	-3.6	-3.5	-2.7
CIS	131.4	128.3	130.0	128.3	126.4	134.9	(8.5)	-2.3	1.3	-1.3	-1.4	6.7
North America	465.4	463.2	404.8	371.7	365.1	343.3	(-21.7)	-0.5	-12.6	-8.2	-1.8	-6.0
Central/South America	34.6	36.4	35.8	35.5	34.8	36.0	(1.3)	5.2	-1.7	-0.7	-2.1	3.7
Middle East and Africa	108.4	113.1	108.2	108.8	105.8	109.4	(3.6)	4.3	-4.3	0.6	-2.8	3.4
Total worldwide	3,867.0	3,864.2	3,769.0	3,710.0	3,718.4	3,772.1	(53.7)	-0.1	-2.5	-1.6	0.2	1.4

Source: BP Statistical Review of World Energy June 2019

# Changes in import volume for major coal importing countries (regions)

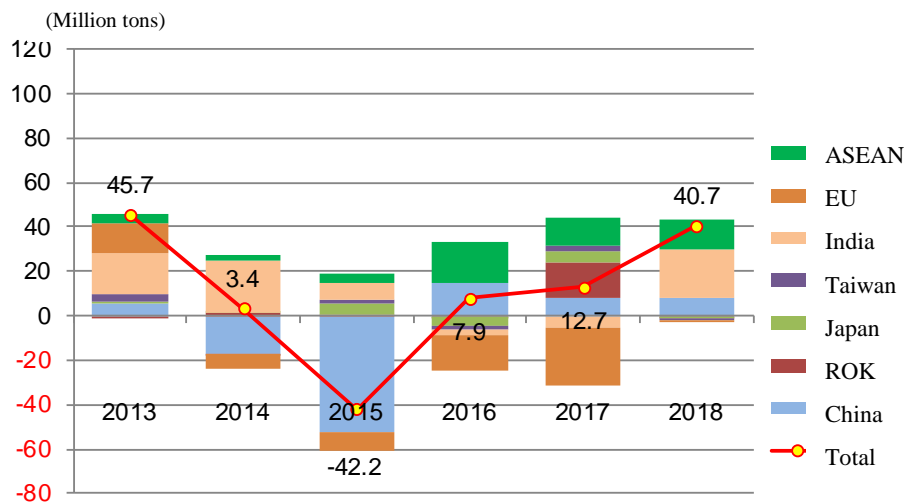
## <Steam coal>

- Import volume fell significantly in 2015, but increased again for China from 2016
- For ASEAN, import volume has increased by more than 10 million tons every year since 2016.
- For India, import volume stopped increasing, then rose by 22.6 million tons in 2018.
- For Korea, import volume increased by 16.5 million tons in 2017 then levelled off in 2018.
- On the other hand, import volume has been on a downward trend for EU since 2013.

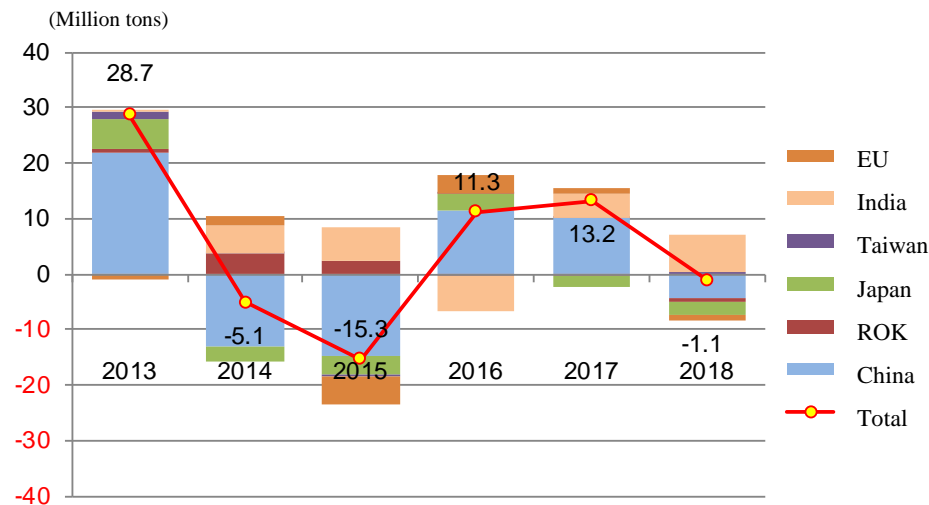
## <Coking coal>

- For China, import volume fell in 2014 and 2015, increased in 2016 and 2017, then fell again in 2018.
- India, which saw a decline in 2016, registered increases again in 2017 and 2018.

Year-on-year difference (Steam coal)



Year-on-year difference (Coking coal)



Source: Trade statistics of each country, TEX reports, etc.

# Changes in export volume for major coal exporting countries (regions)

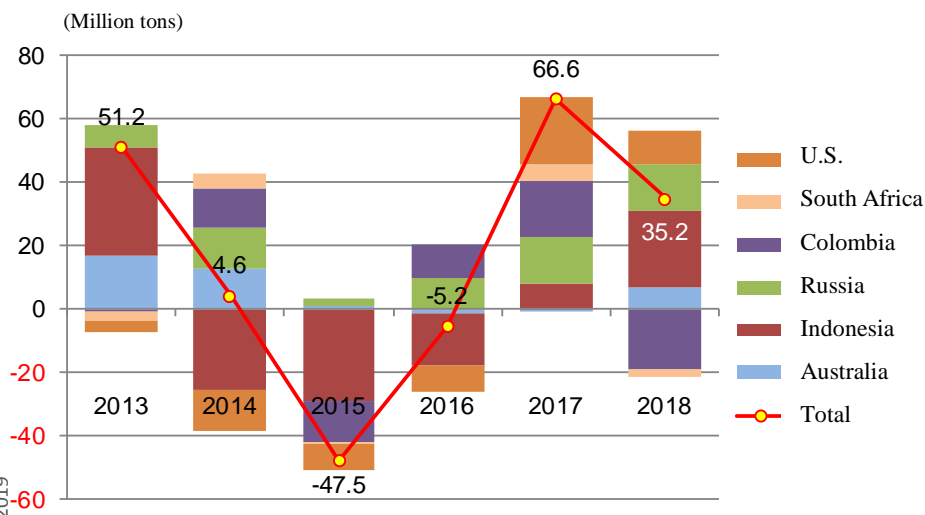
## <Steam coal>

- Export volume had fallen for Indonesia for three consecutive years, but rose again from 2017
- Export volume increased from 2016 for Russia, as well as for the United States from 2017.
- For Colombia, export volume increased in 2016 and 2017, then fell in 2018.

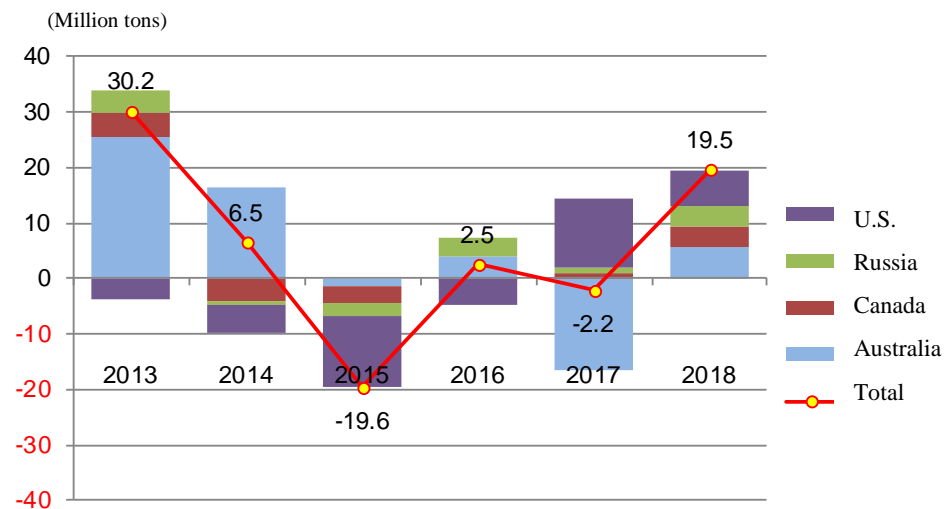
## <Coking coal>

- For Australia, export volume fell significantly in 2017, then increased in 2018.
- United States and Canada registered increases in 2017 and 2018, while Russia registered increases in 2016, 2017, and 2018.

**Year-on-year difference (Steam coal)**



**Year-on-year difference (Coking coal)**

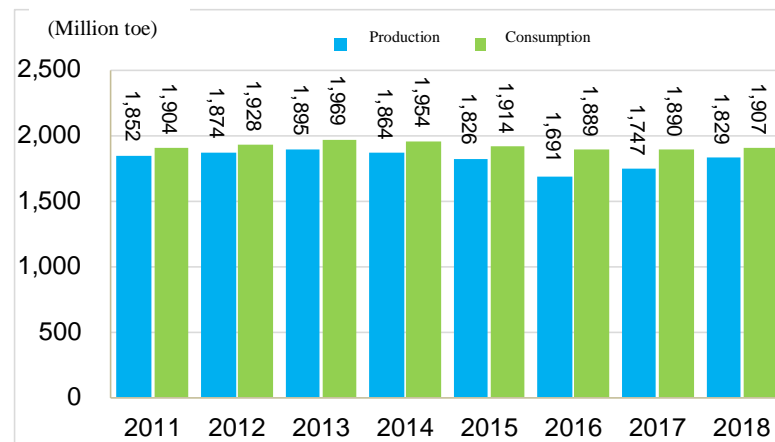


Source: Trade statistics of each country, TEX reports, etc.

# China's coal consumption, production, and imports

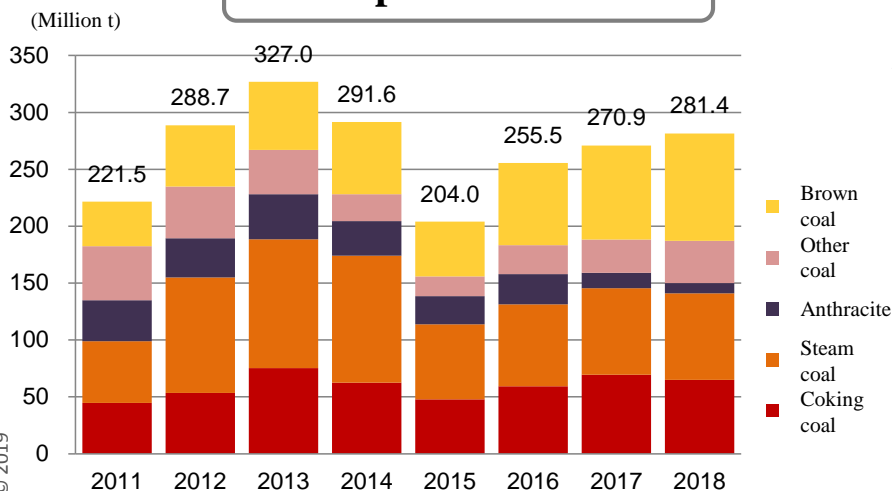
- Consumption, which had been on a downward trend, mostly levelled off in 2017 and began to increase in 2018.
- Production had similarly been on a downward trend (especially in 2016 when production volume dipped significantly due to production adjustments), but increased in 2017 and 2018.
- Import volume has been on an upward trend since 2016, with significant increase in the import of brown coal. Total for January to May 2019 was 6.7 million tons higher than the same period in the previous year (Of which, ▲7.3 million tons for steam coal, increase of 6.9 million tons for coking coal, and increase of 6.8 million tons for brown coal)

## Consumption and production volumes



Source: BP Statistical Review of World Energy June 2019

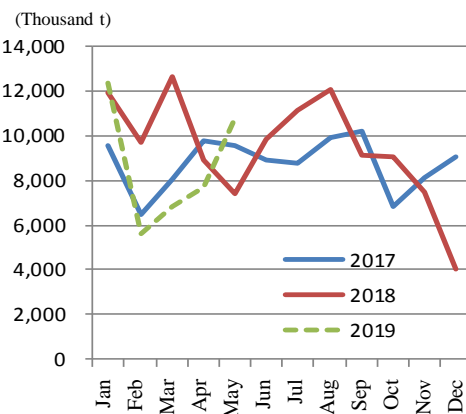
## Import volumes



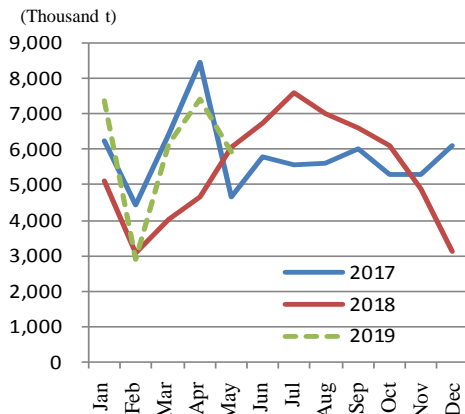
Source: TEX reports (Original data from China's customs statistics)

## Import volumes (by month)

### Steam coal (Steam coal + Other coal)



### Coking coal



Source: TEX reports (Original data from China's customs statistics)

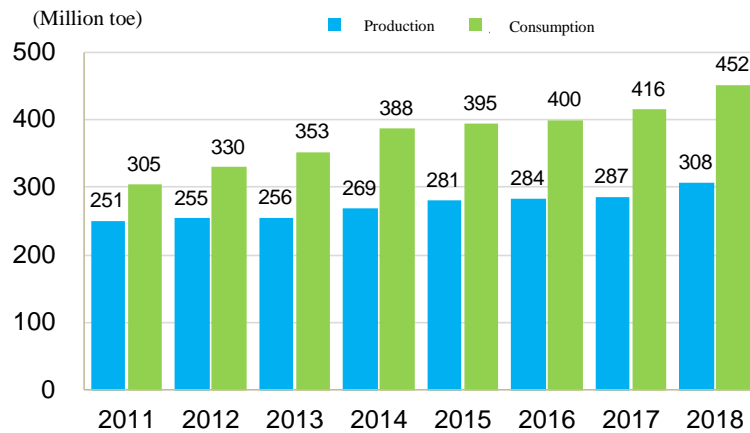
# India's coal consumption, production, and imports

- There was an increase in both coal consumption and production.
- Due to the policy for increasing domestic coal production, import volume fell marginally in 2016 and 2017, but increased again by 29.3 million tons in 2018 (22.6 million ton for steam coal and 6.7 million ton for coking coal)

From January to April 2019, import volume increased by 15.3 million tons year-on-year (15.3 million tons for steam coal, and ▲0.3 million tons for coking coal)

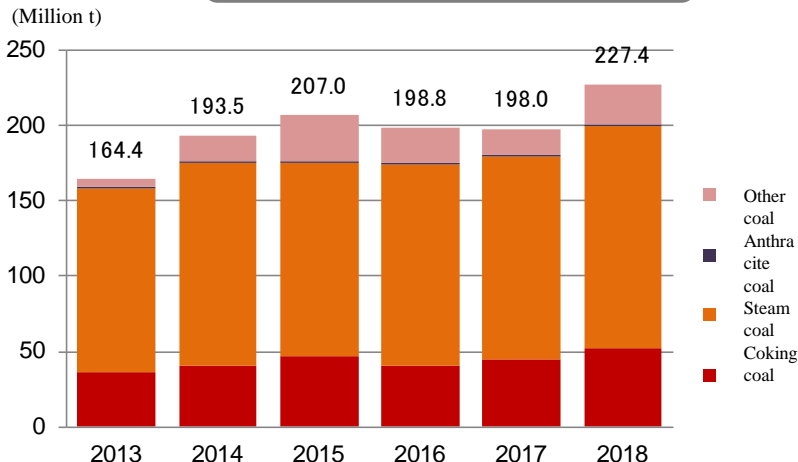
- As demand for steam coal increased, import volume also increased on the back of factors such as quality and cost issues, and the launch of operation of imported coal-fired thermal power.
- With low level of domestic reserves for coking coal, import has increased.

## Consumption and production volumes



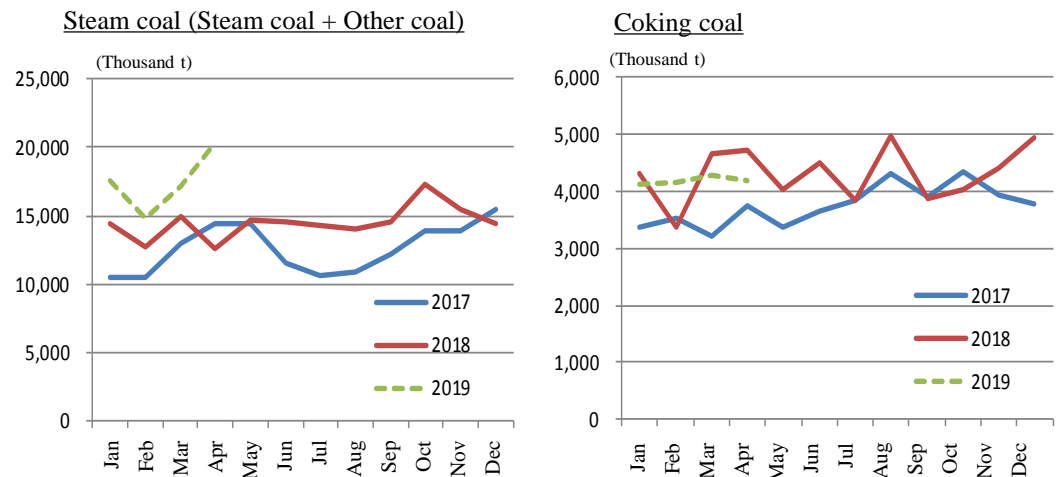
Source: BP Statistical Review of World Energy June 2019

## Import volumes



Note: Fiscal year basis up till 2012  
Source: Ministry of Commerce and Trade

## Import volumes (by month)



Source: Ministry of Commerce and Trade

# Coal imports for other countries of Asia

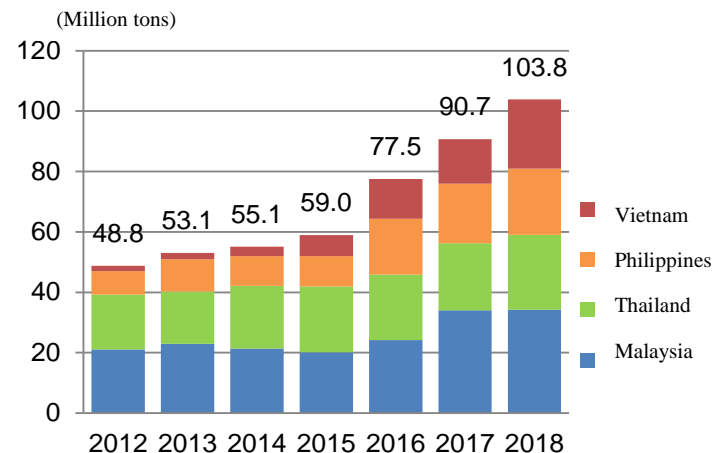
- Imports have increased rapidly since 2016 for Malaysia, Philippines, and Vietnam due to the operation commencement of new coal-fired thermal power plants. Imports also increased in 2019 due to the commencement of operation of coal-fired thermal power plants.
- Imports increased in 2017 for ROK due to the operation of coal-fired thermal power generation.

From January to May 2019, imports fell by 6 million tons year-on-year (Of which, ▲5.6 million tons for steam coal, ▲0.2 million tons for coking coal)

- Import levels have remained mostly stable for Japan, and are likely to remain at a similar level going forward.

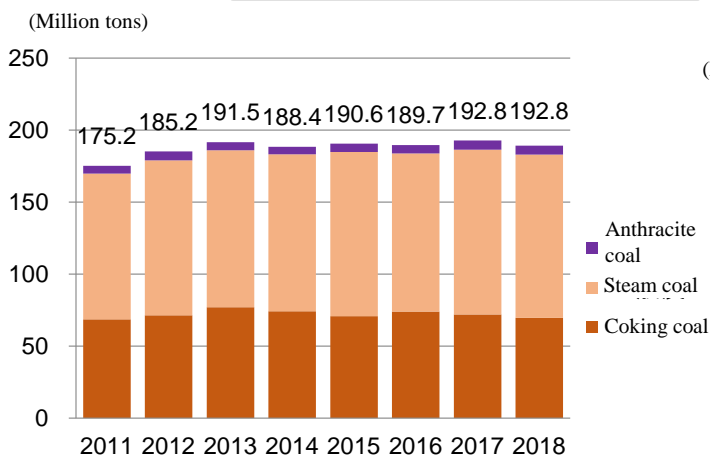
From January to May 2019, imports fell by 2.4 million tons year-on-year (Of which, ▲0.9 million tons for steam coal, ▲1.3 million tons for coking coal)

## Major coal importers in ASEAN



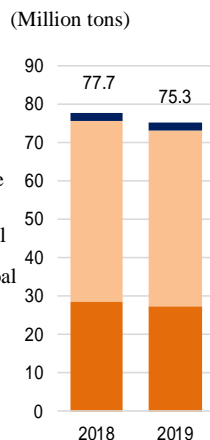
Source: TEX reports (Original data from customs statistics)

## Japan

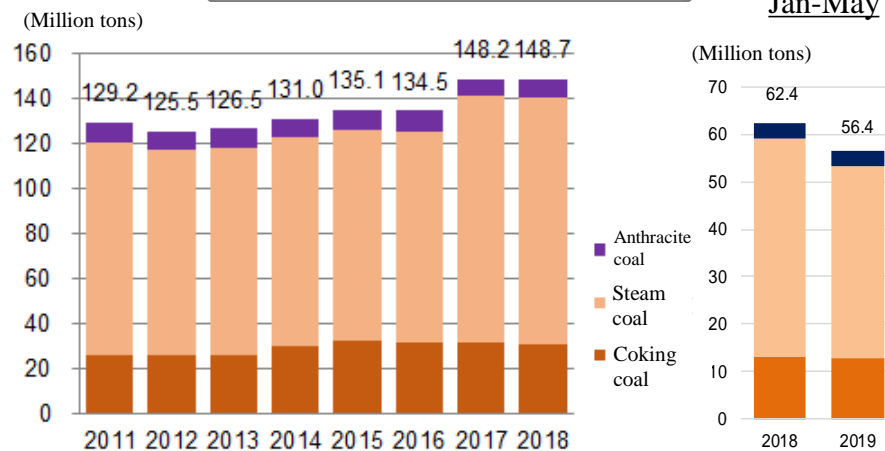


Source: Trade Statistics of Japan

## Jan-May

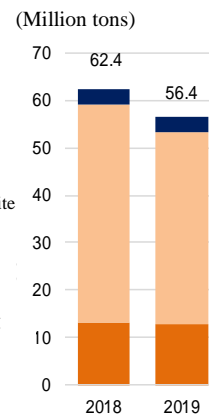


## ROK



Source: TEX reports (Original data from ROK's customs statistics)

## Jan-May

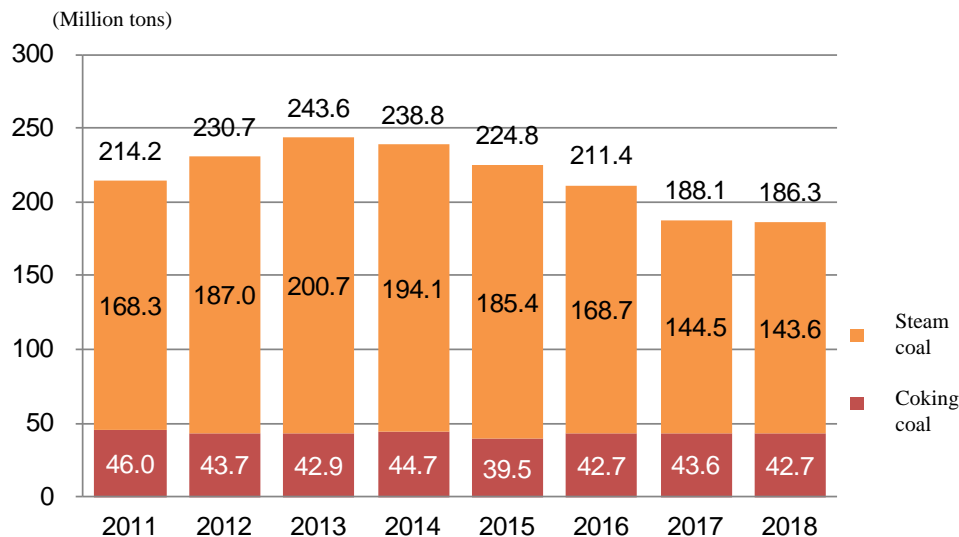




# Europe's (28 EU countries) coal consumption, production, and imports

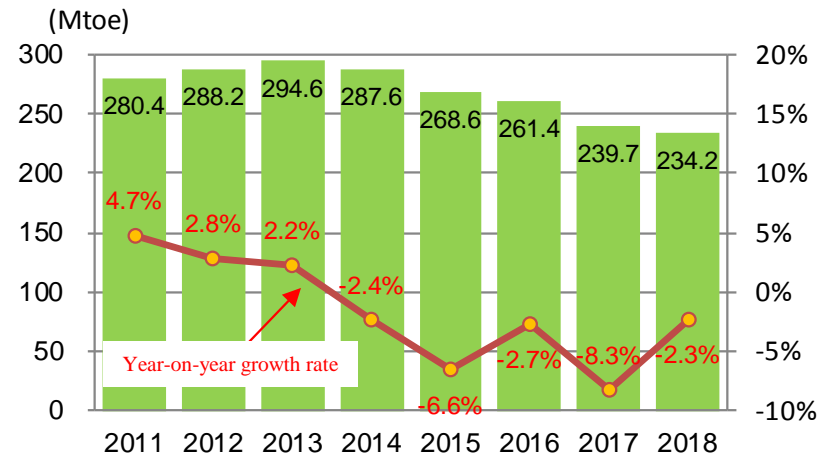
- Coal consumption fell after peaking in 2013
- Coal production has fallen since 2012
- Coal imports fell after peaking in 2013 for steam coal. Import volume for coking coal has remained mostly at the same level.
- Consumption for steam coal has also fallen since 2019, and both production and imports are expected to fall accompanying the drop in consumption.

## Import volumes



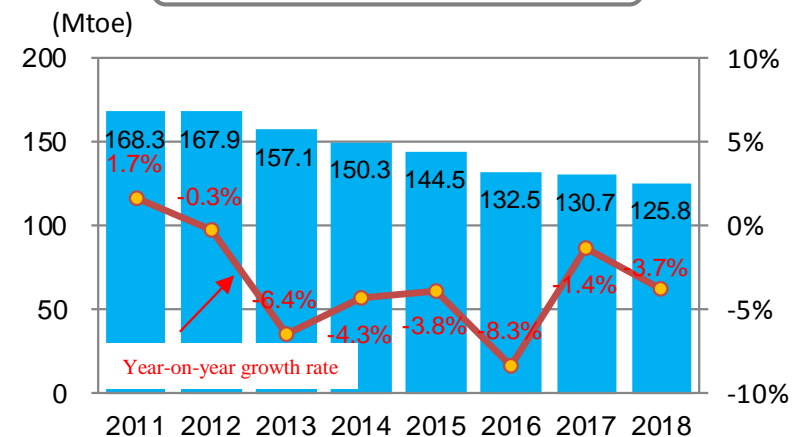
Source: EUROSTAT, estimated by IEEJ for 2017 and 2018 based on consumption volumes and pig iron production volumes

## Consumption volumes



Source: BP Statistical Review of World Energy June 2019

## Production volumes

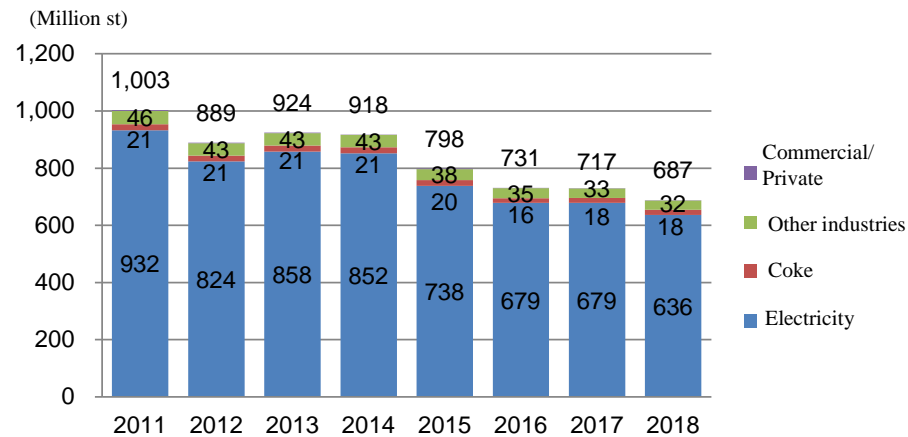


Source: BP Statistical Review of World Energy June 2019

# United States' coal demand and supply

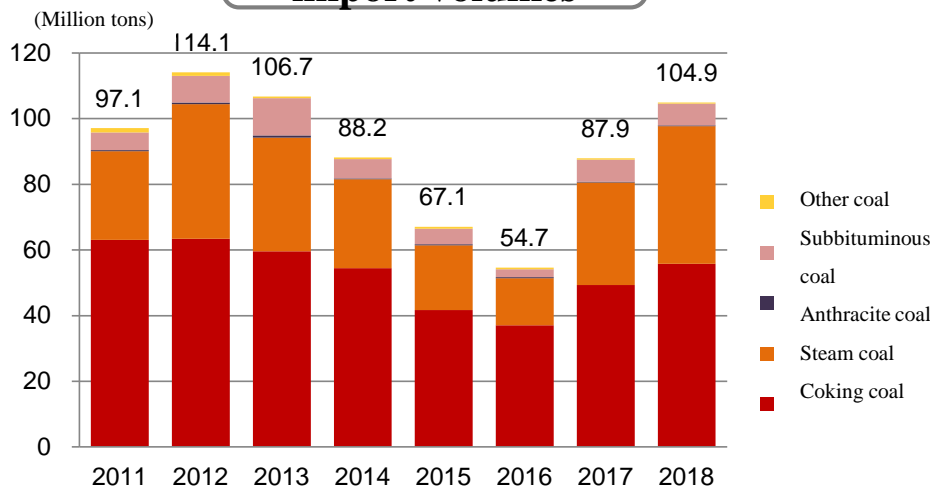
- Coal consumption, production, and export dropped rapidly up till 2016
- While consumption has continued to fall since 2017, exports have increased as a result of the rise in international coal price.
- At the start of 2019, exports fell year-on-year for both steam coal and coking coal. From January to May, ▲2.5 million tons for steam coal, ▲2.1 million tons for coking coal

## Consumption volumes



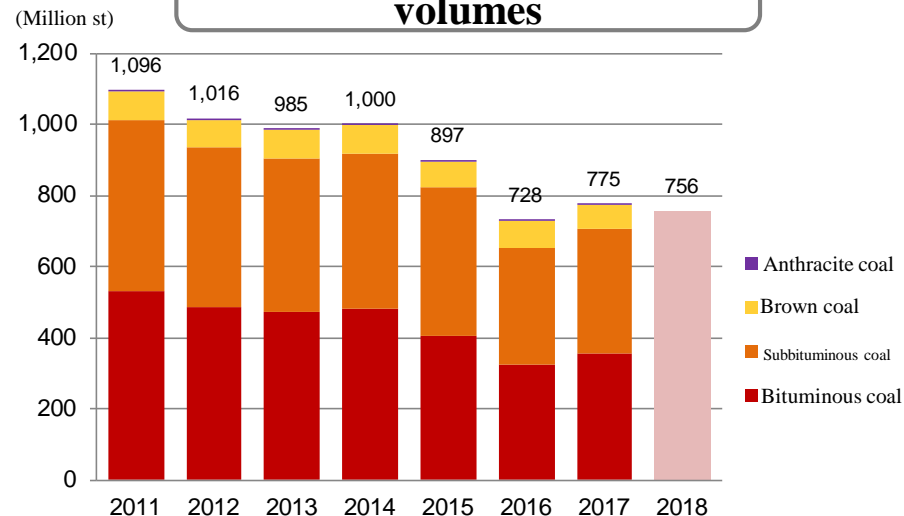
Source: EIA

## Changes in coal import volumes



Source: TEX reports (Original data from U.S. customs statistics)

## Changes in coal production volumes



Note: Data categorized by type of coal has not been released for 2017

Source: EIA

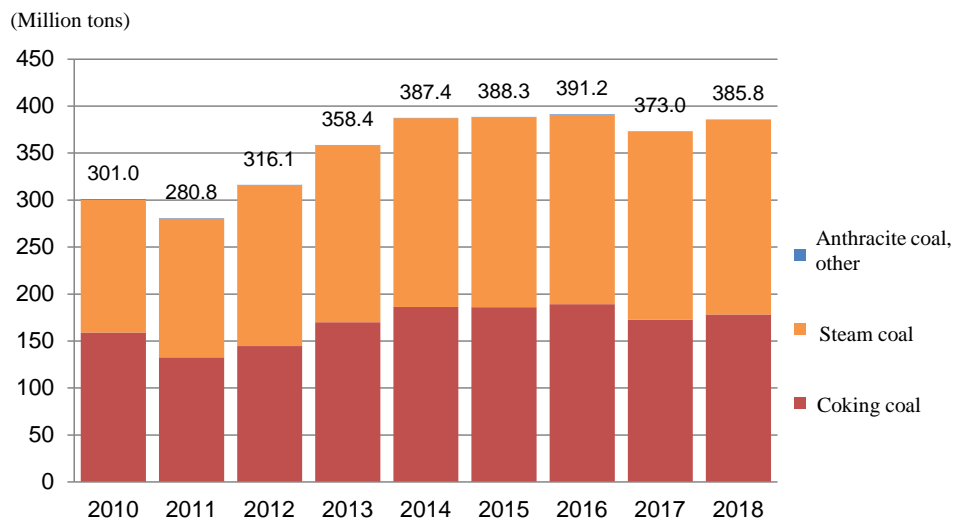
# Australia's coal exports

- Exports have remained generally at the same level since 2015 due to stagnation of export demand and increase in exports from other exporting countries.

In 2017, exports of coking coal fell due to the impact of the cyclone that hit Queensland.

- At the start of 2019, exports increased marginally year-on-year for both steam coal and coking coal.
- Due to sluggish prices until the beginning of 2016, an increasing number of coal mines, particularly the unprofitable ones, were shut or became idle. However, with market recovery from mid-2016, idle coal mines resumed operations while existing coal mines in operation were expanded.
- There has also been increasing oligopolization due to the reorganization (purchase and sale) of coal assets.
  - ✓ Rio Tinto: Withdrew from the coal business
  - ✓ Anglo American: Withdrew from Australia's steam coal business
  - ✓ Vale: Withdrew from Australia's coal business, concentrating on Mozambique
  - ✓ Glencore, Yancoal: Expanded and strengthened steam coal business with a focus on New South Wales, such as with the acquisition of Rio Tinto's assets
  - ✓ Whitehaven: Expanded steam coal and PCI coal businesses
  - ✓ BHP Billiton: Focusing on, expanding, and strengthening coking coal business, especially in Queensland

## Coal exports



Source: TEX reports (Original data from Australia's customs statistics)

# Summary (Coal market in 2019 – 2020)

- Growth in steam coal imports in emerging countries, especially in Asia, with particular growth in India and ASEAN. Imports are also expected to increase for China due to the increase in domestic demand.

On the other hand, continued fall in imports for Europe and North America.

➔ The increase in imports by Asia, etc. exceeds the decrease in imports by Europe and America, resulting in an increase in global steam coal imports.

- On the supply side, despite increasing reorganization (purchase and sale of coal assets) in the coal industry, especially in Australia, supply capacity is maintained. Russia and Colombia are continuing to pursue a policy of increasing export capability.

➔ In the steam coal market, supply capacity continues to exceed demand.

- However, the fall in steam coal prices coupled with the trend of moving away from coal could possibly weaken supply capacity.
- Growth in coking coal imports in India. China's coking coal imports fell in 2018, but have been on an upward trend year-on-year since the start of 2019. In other countries, there is marginal growth in emerging countries such as Brazil.

➔ Due to the increase in emerging countries particularly in India, global coking coal imports will increase.

- On the supply side, there are no significant changes to the supply structure despite growing moves toward the purchase and sale of coal assets for idle coal mines. Hence, supply capacity is maintained. The resumption of operation for idle coal mines and expansion in production for new sources are contributing to the expansion in supply capacity.

➔ The coking coal market can provide supplies to meet demand.

# Summary (Coal prices in 2019 – 2020)

- Steam coal spot prices (the FOB price at Port of Newcastle, Australia):

Prices fell from \$100/ton in January to \$70/ton recently before coming to a standstill. After staying around the low \$70/ton range toward the start of autumn, prices have increased entering the high demand period of winter. While fluctuations are expected in 2020 due to seasonal factors and other factors, prices are expected to follow an upward trend, rising to about \$80/ton.

- Coking coal spot prices (the FOB price for premium Australian hard coking coal):

Coking coal prices have been falling from \$200/ton to \$180/ton recently. They are expected to continue on a downward trend in 2020, falling to \$170/ton.

## Yearly average spot prices for steam coal and coking coal

(\$/ton)

	2018 average	2019 average	2020 average
Steam coal spot prices	106.30	80	77
Coking coal spot prices	207.10	195	175