
414th Regular Research Report Presentation Session

Outlook for International Coal Market in 2014 <Summary>

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Coal Trade

【Importing countries】

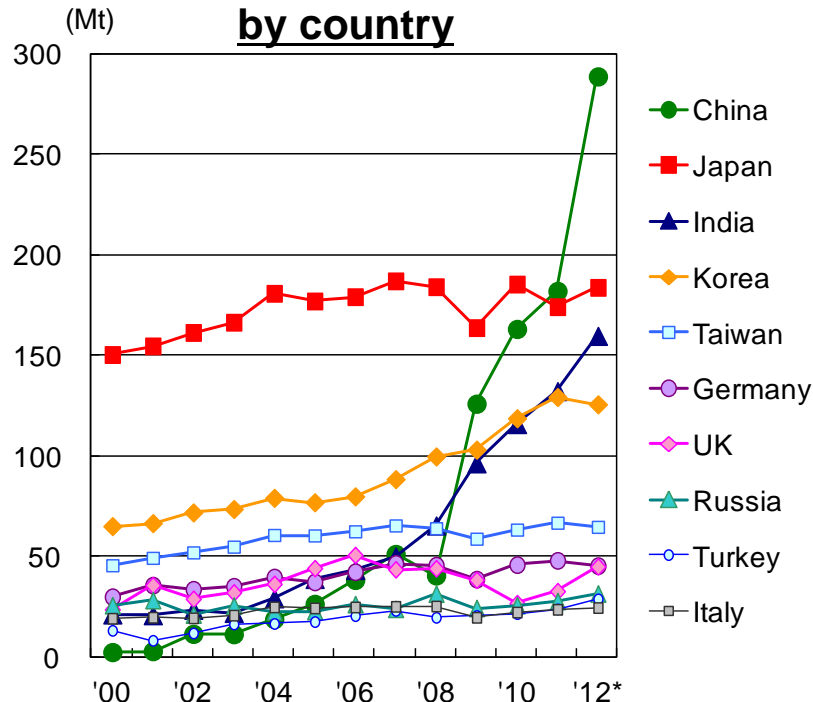
- Imports by China and India grew rapidly.
- Imports by South Korea also continued to increase until 2011 due to the start of operation of coal-fired power plants.

【Exporting countries】

- Exports by Indonesia, Australia, Russia and the USA increased.
- Exports by China decreased.

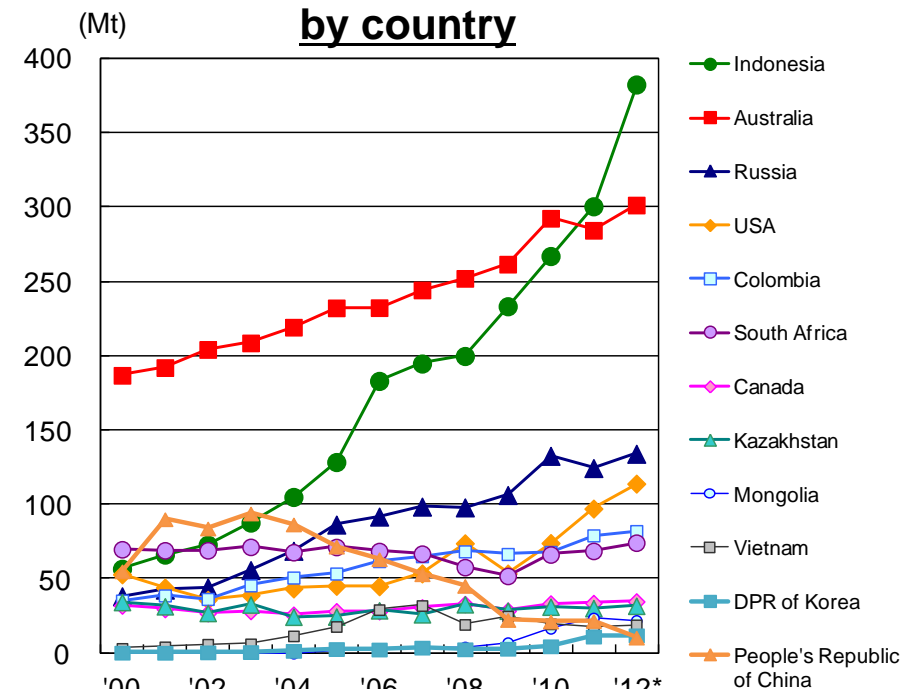
Changes in coal imports

by country



Changes in coal exports

by country



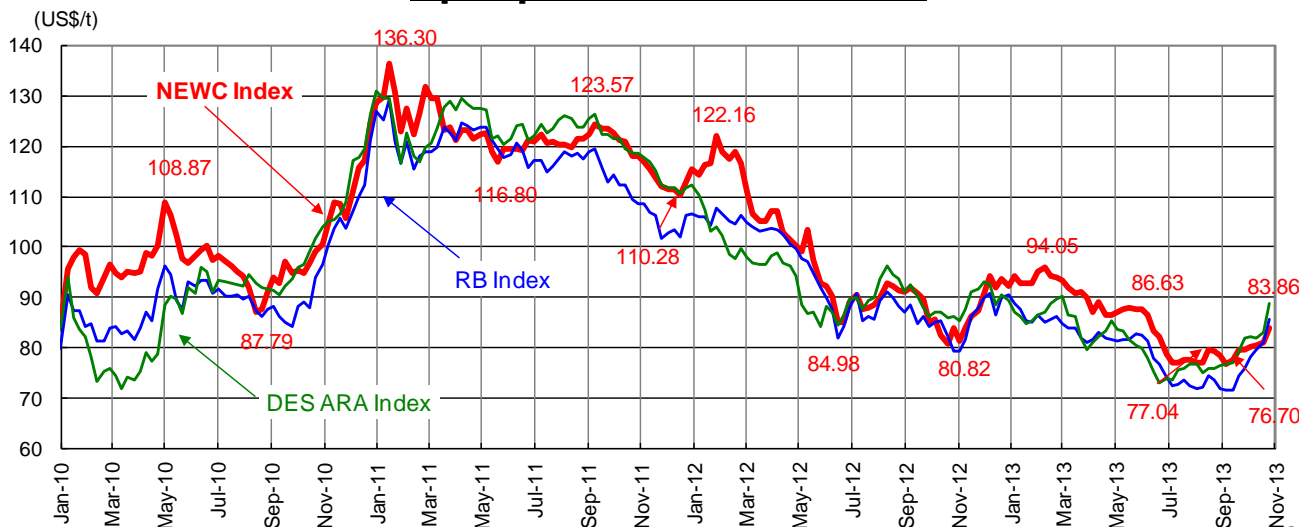
Coal Prices (steam coal FOB)

- The spot price (FOB) plunged from \$123/ton in September 2011 to \$80/ton in July 2012. Major factors behind the plunge were:
 - ✓ A decline in demand due to European economic stagnation
 - ✓ Slowing growth in demand due to Chinese and Indian economic growth deceleration
 - ✓ An increase in exports from and a decrease in imports into the United States
 - ✓ A coal supply capacity increase due to production capacity enhancement by coal exporting countries anticipating demand growth
- Thereafter, the coal price remained low as supply continued to outpace demand.
- The price started to rise after hitting bottom in September 2013 (due to the start of the high-demand winter season). The price in December is at around \$85/ton.

Supply outpacing demand

Spot prices of steam coal

Note: NEWC Index: Spot price of steam coal shipped from Newcastle in Australia
 RB Index: Spot price of steam coal shipped from Richards Bay, South Africa
 DES ARA Index: Spot price of steam coal shipped from Amsterdam, Rotterdam and Antwerp in Europe



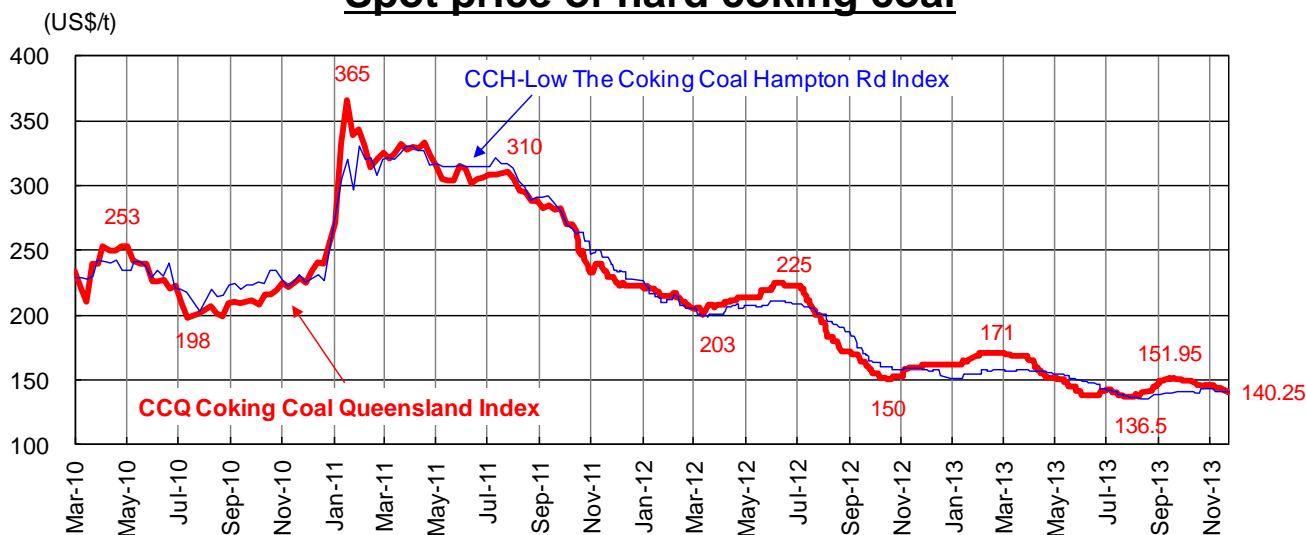
Source: Website of globalCOAL

Coal Prices (Hard Coking Coal FOB)

- The price plunged from \$310/ton in August 2011. Major factors behind the plunge were:
 - ✓ A decline in demand due to European economic stagnation
 - ✓ Slowing growth in demand due to Chinese and Indian economic growth deceleration
 - ✓ Production capacity enhancement by coal exporting countries anticipating demand growth
 - ✓ Temporary suspension of supply due to two heavy rainfalls in the Australian state of Queensland. The shortfall was covered mainly by coal from the USA (which led to diversification of supply sources).
 - ✓ Correction of an excessive price rise
- Supply is still outpacing demand, with the price staying around \$140/ton.

Supply outpacing demand

Spot price of hard coking coal



Note: CCQ Coking Coal Queensland Index: Spot price of coking coal produced in Queensland, Australia
 CCH-Low The Coking coal Hampton Rd Index: Spot price of coking coal shipped from Hampton Rd., USA

Source: Energy Publishing, "Coalportal"

Coal Prices in Japan (FOB)

- Both steam and coking coal prices moved almost in line with changes in spot prices.

Australian steam coal prices based on long-term contracts



Note: The red line indicates the NEWC Index

Source: Industry journals and the website of globalCOAL

Quarterly prices of Australian high-quality hard coking coal

(US\$/t)

2010JFY				2011JFY			
Apr. - Jun.	Jul. - Sep.	Oct. - Dec.	Jun. - Mar.	Apr. - Jun.	Jul. - Sep.	Oct. - Dec.	Jun. - Mar.
200	225	209	225	330	315	285	235
2012JFY				2013JFY			
Apr. - Jun.	Jul. - Sep.	Oct. - Dec.	Jun. - Mar.	Apr. - Jun.	Jul. - Sep.	Oct. - Dec.	Jun. - Mar.
210	225	170	165	172	145	152	

Source: Industry journals

China's Coal Imports

- China's coal imports in the first 10 months of 2013 totaled 216 million tons. Including brown coal, its coal imports in the period totaled 263 million tons and are likely to expand to more than 300 million tons for the whole of the year.
- Both steam and coking coal imports into China are expected to increase in line with demand growth in 2014. But the measures below may drag down import growth.
- Chinese steam and coking coal imports may fluctuate depending on gaps between domestic and overseas prices.

【Viewpoints for analyzing future coal supply and demand in China】

- Implementation of measures against air pollution and global warming to conserve coal consumption
- Introduction of highly efficient coal utilization technologies to reduce coal consumption
- Restraints on coal production to prevent destruction of nature through coal mining.



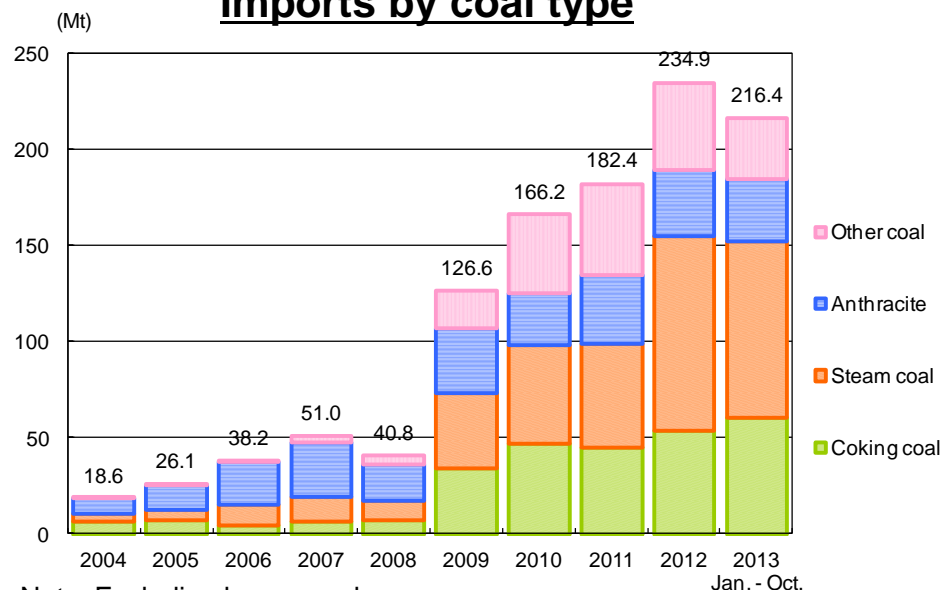
Slowing demand growth

- Toward 2014, China is considering the following measures.
 - ✓ Banning the production, use and import of low-quality coal with higher ash and sulfur contents
 - ✓ Imposing a tax on coal imports and repealing a tax on coal exports



The measures will drag down coal imports.

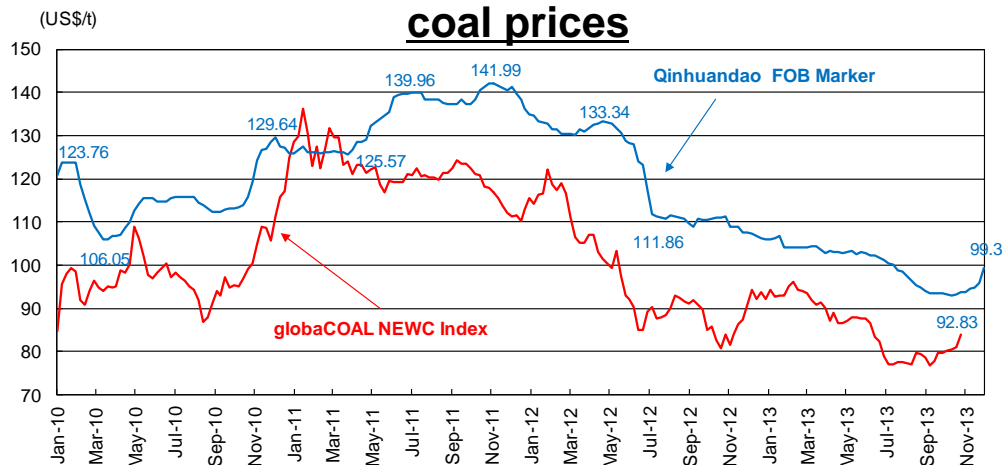
Imports by coal type



Note: Excluding brown coal

Source: TEX Report (China customs statistics)

Chinese coal prices VS Australian steam coal prices

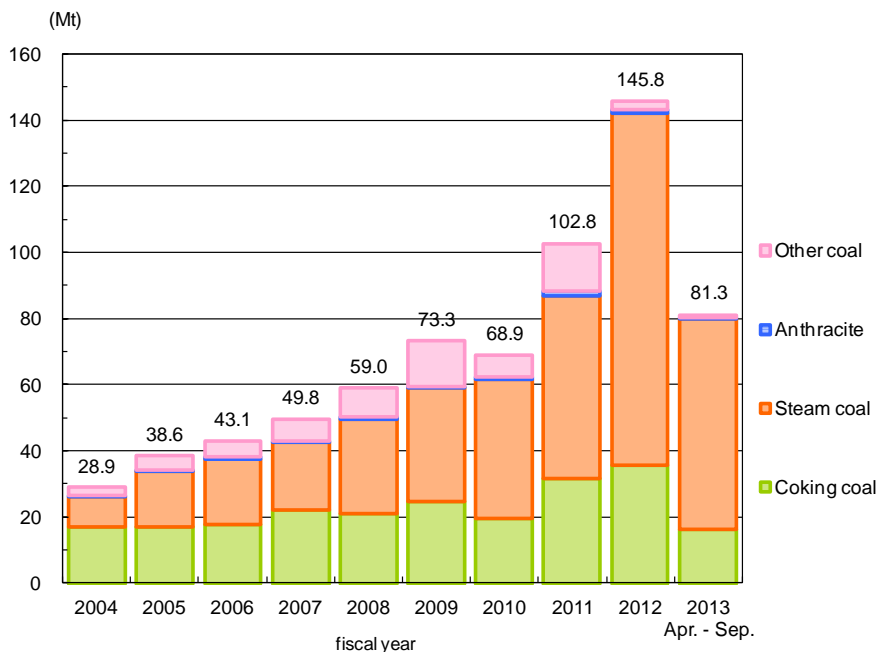


Source: Energy Publishing, "Coalportal," website of globalCOAL

India's Coal Imports

- Coal imports steadily increased (growth of steam coal imports was significant). India imported steam coal mainly from Indonesia and South Africa and coking coal mainly from Australia.
- India's coal imports totaled 81 million tons in the April-September first half of FY2013. Imports for the whole of FY2013 (April 2013-March 2014) are expected to exceed the previous year's level.
- Imports in 2014 are likely to increase, although the amount may be affected by the pace of economic development.
- In its 12th five-year development program, the Indian government forecast that India's coal imports in the program's final fiscal year (April 2016-March 2017) will reach 185 million tons.

Imports by coal type



Source: Ministry of Commerce and Trade

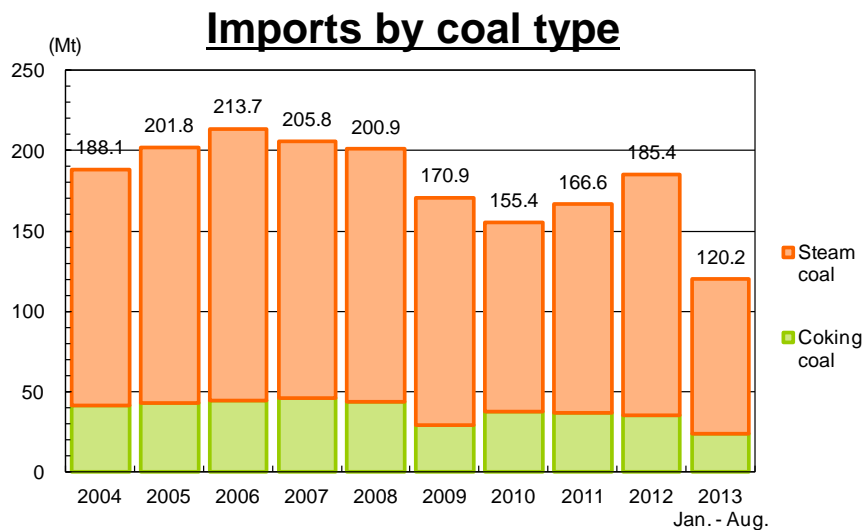
Outlook on coal imports

Company	Five Year Plan Period (Terminal year)			XII Plan	
	IX Plan (2001- 02)	X Plan (2006- 07)	XI Plan (2011- 12) Provnl.	2012- 13	2016- 17
Coking coal	11.11	17.88	31.80	32.56	35.50
Thermal coal	9.44	25.20	71.05	105.0	150.0
Total	20.55	43.08	102.85	137.56	185.50

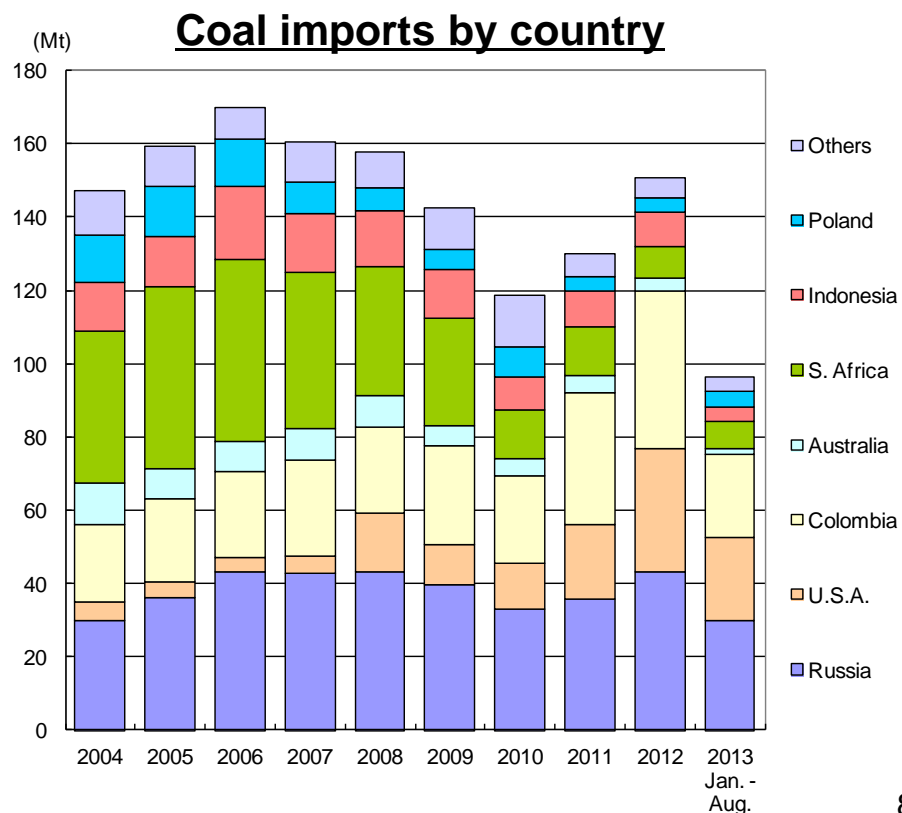
Source: Ministry of Coal, Dr. A.K. Dubey, IAS Additional Secretary, Ministry of Coal, "India's Energy Policy and Role of Coal" (2013), reference materials for Clean Coal Day International Symposium

European Market (15 EU members)

- Steam coal consumption for electricity generation has increased as coal has become more cost-competitive than natural gas due to falls in coal and emissions trading prices. As a result, coal imports have expanded since 2011.
- Meanwhile, coking coal prices remained almost flat.
- Coal imports from the United States and Colombia increased while those from South Africa decreased (South African coal has increasingly been exported to Asia).
- Coal imports totaled 120 million tons in the first eight months of 2013 and are expected to remain unchanged in the whole of 2013 compared with 2012.
- Coal imports in 2014, though being affected by the economic recovery conditions, natural gas prices and emissions trading prices, are expected to level off from 2013.
- In the future, steam coal consumption is expected to decline due to environmental regulations.



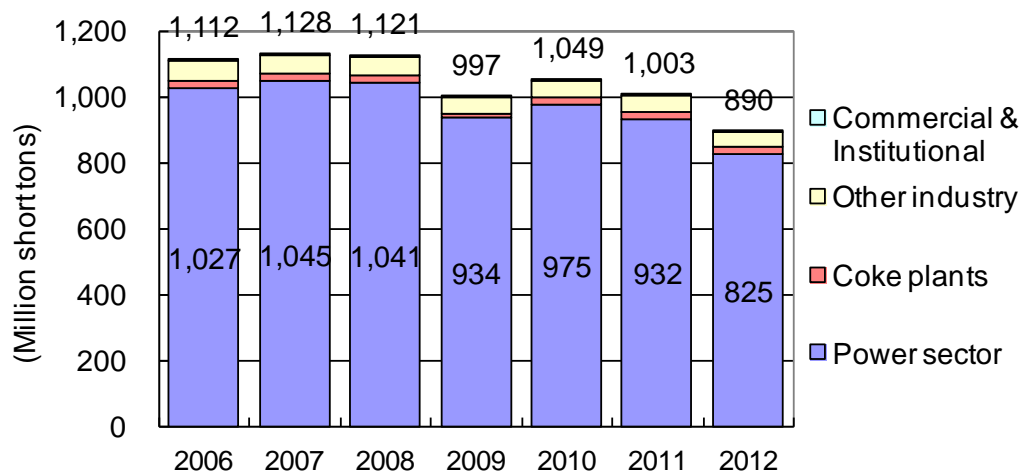
Source: EUROSTAT



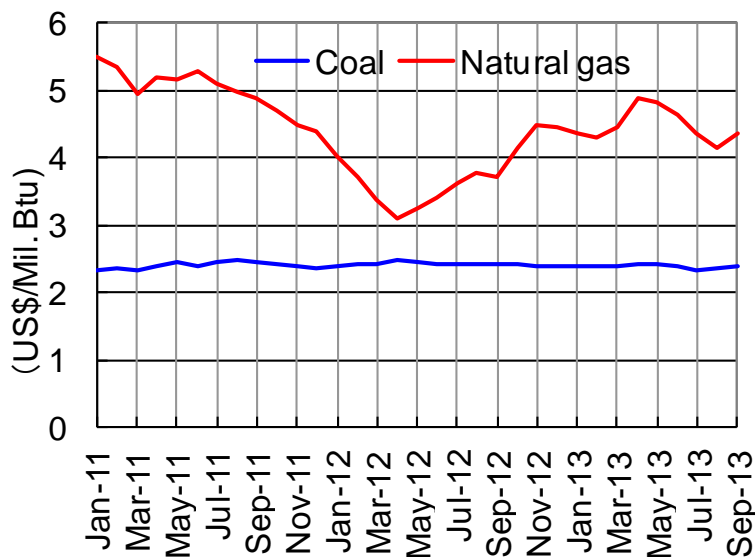
U.S. Trends Accompanying Shale Gas Production Growth

- As coal-fired power generation's share of total electricity output is currently staying above 40% after dropping to 30% in 2012 due to a decline in natural gas prices, domestic coal consumption has got on a recovery path.
- In 2014, coal-fired power generation's share is expected to remain unchanged, although it may be affected by changes in gas prices.
- In the future, environmental regulations including restrictions on carbon dioxide emissions will have a major impact.

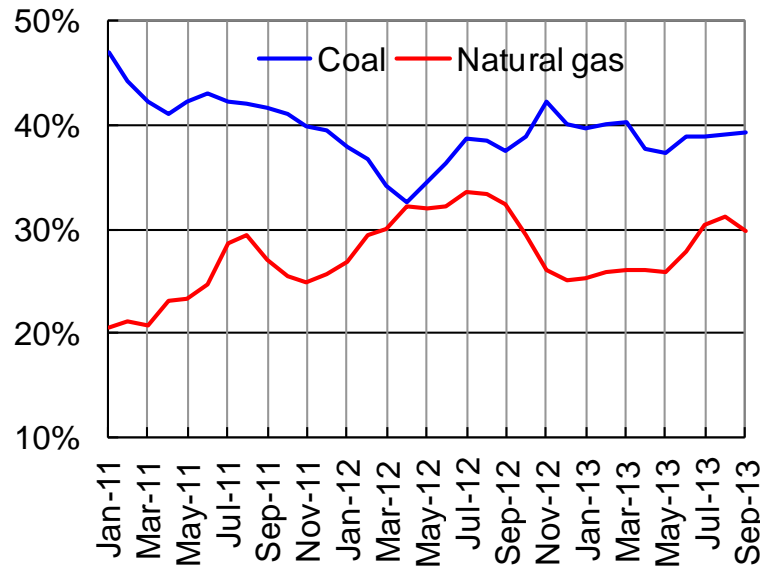
Coal consumption



Fuel costs of power generation



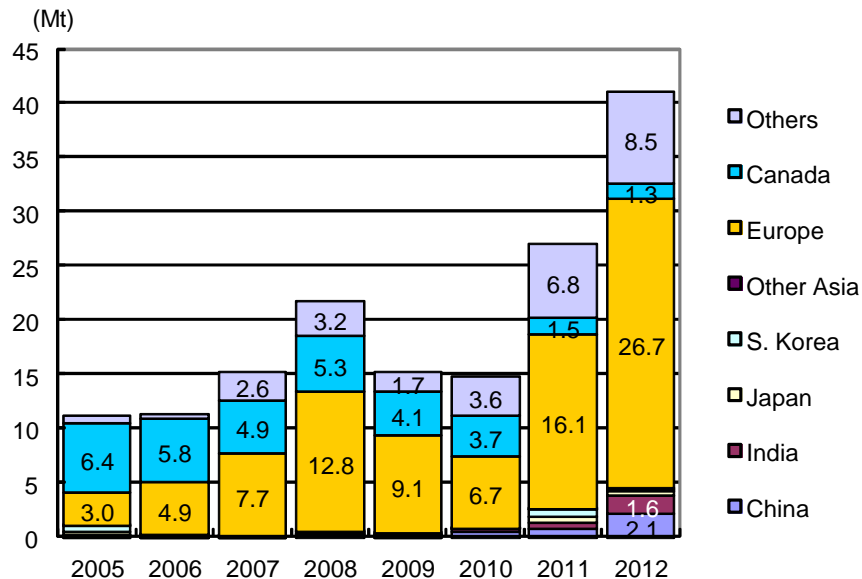
Share of total electricity output



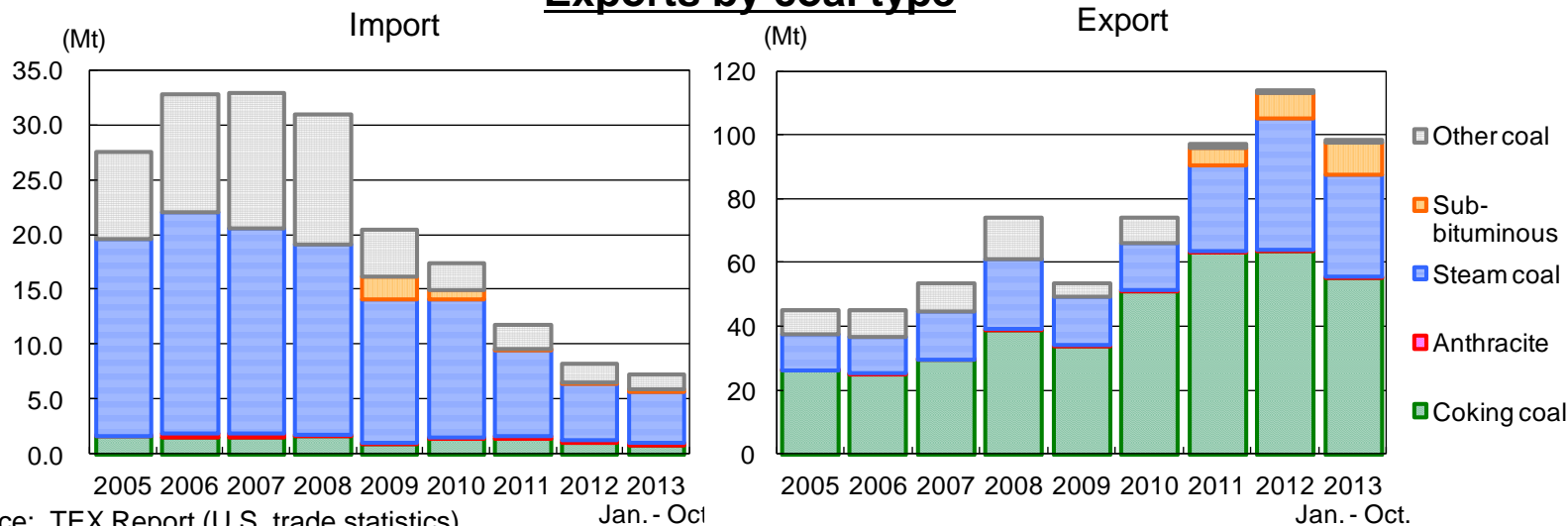
U.S. Trends Accompanying Shale Gas Production Growth

- As a result of a decline in domestic consumption of steam coal, exports increased while imports decreased.
- Exports of steaming coal, mainly to Europe, increased, while imports, mainly from Colombia, decreased.
- Exports in 2013 were slightly lower than the level in 2012.
- The increase in exports of coking coal since 2010 is mainly due to a decline in exports from Australia caused by heavy rainfalls there.
- In 2014, exports are likely to level off from the previous year, though being affected by natural gas prices and European market condition.
- In the future, domestic consumption of steam coal is expected to decline, resulting in an expansion of exports.

Exports of steam coal by destination



Exports by coal type



Source: TEX Report (U.S. trade statistics)

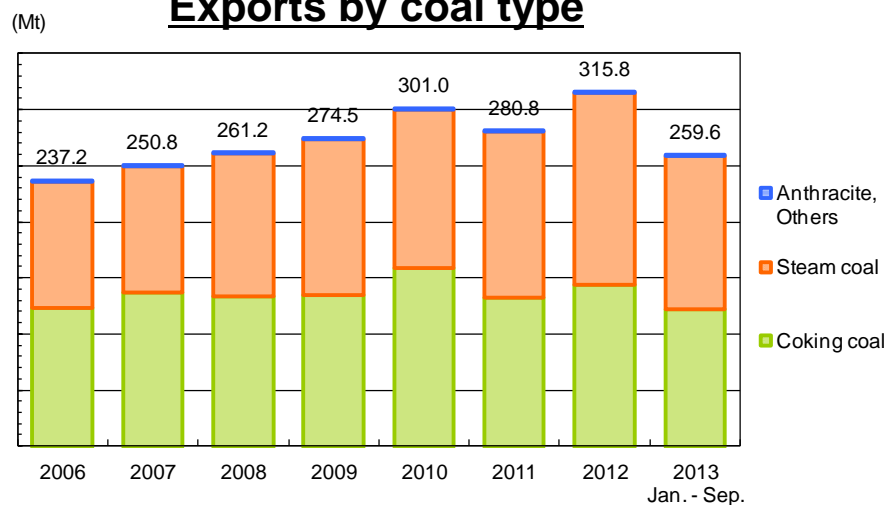
Jan. - Oct

Jan. - Oct.

Australia's Coal Exports

- Coal exports declined due to heavy rainfalls in Queensland in 2011 and rose back to a still sluggish level in 2012.
- Exports in 2013 are expected to exceed 345 million tons.
- While coal demand in the Asian market is expected to expand in 2014, Australia, which has proceeded with coal mine and transportation infrastructure development, is likely to secure a sufficient coal export capacity to meet demand for both steam and coking coal.

Exports by coal type



	2006	2007	2008	2009	2010	2011	2012	2013 Jan. - Sep.
Coking coal	124.4	137.9	134.7	135.0	159.0	132.7	144.3	122.6
Hard coking coal	79.6	84.4	83.8	84.9	101.9	87.1	89.9	76.0
Semi soft / PCI coal	44.8	53.5	50.8	49.9	56.9	45.0	53.6	46.2
Other coking coal	-	-	-	0.2	0.2	0.6	0.9	0.4
Steam coal	111.6	112.2	126.4	139.2	141.3	147.5	170.9	136.9
Anthracite, Others	1.1	0.7	0.2	0.4	0.8	0.6	0.5	0.2
Total	237.2	250.8	261.2	274.5	301.0	280.8	315.8	259.6

Coal mine development plans

<QLD> (Mt)

	2013	2014	2015	2016	2017	2018	2018+	suspense
Yearly total	16.8	23.2	54.4	61.7	155.5	30.0	53.7	45.5
Steam	0.0	7.3	32.2	27.8	155.5	30.0	50.5	23.8
Coking	16.8	15.9	22.2	33.9	0.0	0.0	3.2	21.7
Cumulative total	16.8	40.0	94.4	156.1	311.6	341.6	395.3	440.8
Steam	0.0	7.3	39.5	67.3	222.8	252.8	303.3	327.1
Coking	16.8	32.7	54.9	88.8	88.8	88.8	92.0	113.7

<NSW> (Mt)

	2013	2014	2015	2016	2017	2018	2018+	suspense
Yearly total	11.8	10.2	27.7	6.5	0.0	6.0	0.0	45.3
Steam	4.0	10.2	14.7	0.0	0.0	3.0	0.0	40.5
Coking	7.8	0.0	13.0	6.5	0.0	3.0	0.0	4.8
Cumulative total	11.8	22.0	49.7	56.2	56.2	62.2	62.2	107.5
Steam	4.0	14.2	28.9	28.9	28.9	31.9	31.9	72.4
Coking	7.8	7.8	20.8	27.3	27.3	30.3	30.3	35.1

Source: BREE, "Resources and Energy Major Projects," October 2013

Indonesia's Coal Exports

- Coal exports, though expected to peak out around 2015 due to strong domestic demand, have still continued a substantial expansion.
- Exports in 2013 are likely to increase close to 400 million tons.
- In 2014, exports may be able to continue meeting demand.
- In the future, however, coal export growth is expected to decelerate due to rising domestic demand.

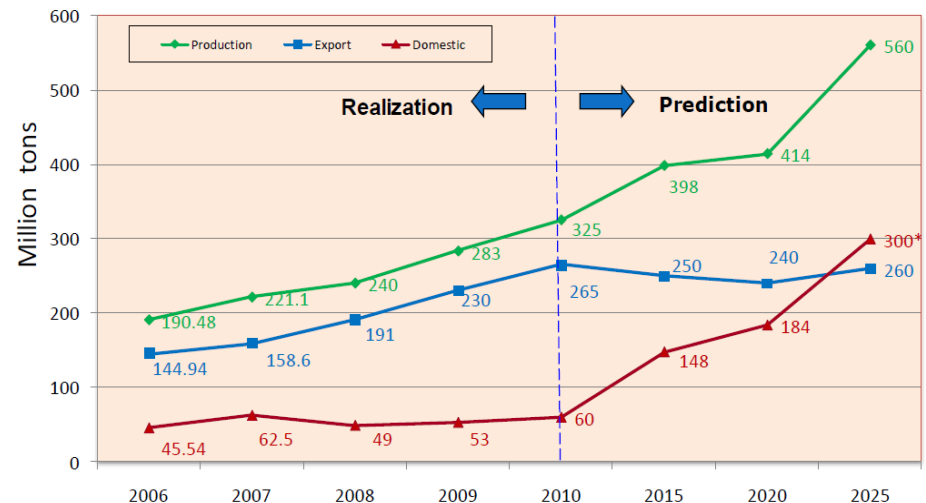
Coal export estimate by US EIA

(Mt)				
2011	2015	2020	2030	2040
328.8	362.2	389.2	403.2	416.2

Source: EIA, "International Energy Outlook 2013"

Coal export estimate by the Indonesian government

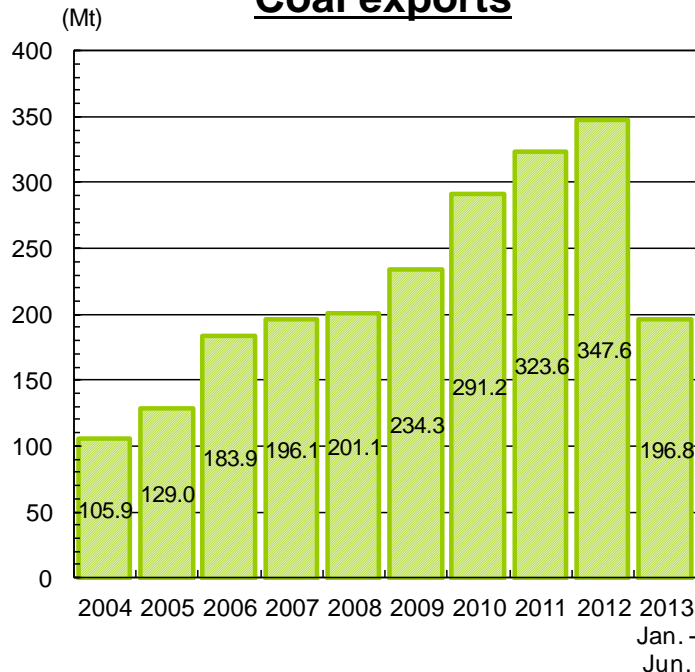
THE DEVELOPMENT OF COAL PRODUCTION, EXPORT AND DOMESTIC SALES, AND ESTIMATION UP TO 2025
(based on the existing infrastructure capability)



Note:
*Calculated based on Government target on Primary Energy Mix (Pres. Decree No.5/2006)

Source: Reference materials for IEA Workshop "Coal Market's Outlook," 2011

Coal exports



Source: TEX Report (Indonesian trade statistics)

Summary (Outlook for International Coal Market in 2014)

【Coal trade】

Coal imports

- Asian market: Steam and coking coal imports in the Asian market will increase, led mainly by imports into China and India.
- European market: Steam coal imports will level off and coking coal imports will increase slightly, although they may be affected by the economic recovery conditions, natural gas prices and emissions trading prices.

Coal exports

- Coal exports from coal exporters such as Indonesia, Australia, Russia and South Africa will increase, matching imports.

【Coal prices (FOB)】

- Spot steam coal prices (for shipments from Newcastle, Australia) will decline toward the low-demand spring season. In the overall supply-demand balance, the supply surplus that continued until 2013 will be eliminated.
- The average spot price for 2014 will be \$90/ton (\pm \$5), up \$5 from the previous year. In the high-demand winter season, the price will be \$95/ton (\pm \$5), against the range of \$75-95/ton in 2013.
- Spot hard coking coal prices (for output in Queensland, Australia) will remain in the present low range of \$140-150/ton in early 2014 and rise back to around \$155/ton (\pm \$10) on a moderate economic recovery, against the range of \$135-170/ton in 2013.
- As a result, the average spot price for 2014 will stand at \$147.5/ton, down \$4 from the previous year.