

## Coal Trends

Trends in coal supply, demand and prices as seen from statistics

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Japan's new energy policy has yet to be established.

However, regardless of what the policy ultimately indicates, coal's importance as an energy source will not change. And the fact that it is almost completely dependent on imports, even though it is such an important energy source, remains unchanged.

In the above-mentioned context, this column is written with the belief that it is important to be always aware of trends in coal supply, demand and prices.

### 1. Japan's Coal Imports

#### (1) Trends in imports for FY2011

Though some time has passed, since this is the first installment in a series of reports, we will look back on the supply and demand of coal in FY2011 and its trends, comparing it with FY2010.

The major trends and features concerning coal imports of FY2011 are as follows:

- Import quantity decreased by 11.26 million metric tons, or 6.0% year-on-year; which contains 7.5 million metric tons in coking coal and 3.24 million metric tons in thermal coal.

The major cause of the decrease in import quantity was the 3.9% year-on-year decrease in crude steel production for FY2011 and the inability to operate five coal-fired thermal power plants with a total generating capacity of 7.05 megawatts in the areas covered by the Tokyo Electric Power Company, Inc. and Tohoku Electric Power Co., Inc., which were affected by the Great East Japan Earthquake. (However, all these power plants have resumed operations, with the exception of two one-megawatt units at the Haramachi thermal power plant of Tohoku Electric Power Co., Inc.)

- Looking at the quantity of import by country, the order of the top four ranked countries – Australia, Indonesia, Russia and Canada – remained unchanged, while China and United States swapped places with the US occupying fifth and China sixth. Import from China fell by 35% while import from the US increased by 68%.

China's imports expanded rapidly in 2011 and it became the largest coal importing country in the world, surpassing Japan. The reason for the fall in Japan's coal imports from China, in addition to the indication of being overpriced, should be interpreted as its decreased capacity to export. On the other hand, the US's rise is considered to stem from the matching of the needs of American coal producers, having had demand taken away by low gas prices resulting from the shale revolution, to cultivate the market in the Asia-Pacific region, and the need for users in Japan to find alternative sources of supply to Australian coking coal.

Table 1. Import trends for FY2011 (compared to FY2010)

	FY2011			FY2010			FY2011 - FY2010		
	Import quantity 1,000 metric tons	Price		Import quantity 1,000 metric tons	Price		Import quantity 1,000 metric tons	Change in price (2011/2010)	
		yen/metric ton	US\$/metric ton		yen/metric ton	US\$/metric ton		% (yen)	% (US\$)
Total imports	175,379	14,382	182.04	186,637	12,117	140.77	-11,259	18.7	29.3
By coal type									
Coking coal	68,011	18,683	236.47	75,508	15,081	175.20	-7,497	23.9	35.0
Thermal coal	101,770	11,303	143.06	105,012	9,818	114.05	-3,242	15.1	25.4
Anthracite	5,598	18,120	229.35	6,117	15,004	174.31	-520	20.8	31.6
By source									
Australia	107,870	14,732	186.47	116,315	12,352	143.50	-8,446	19.3	29.9
Indonesia	34,004	10,390	131.51	35,449	9,080	105.48	-1,445	14.4	24.7
Canada	9,023	20,051	253.79	10,541	16,407	190.60	-1,518	22.2	33.2
China	4,258	15,820	200.23	6,503	13,630	158.34	-2,244	16.1	26.5
USA	6,392	20,896	264.49	3,799	18,439	214.21	2,593	13.3	23.5
Russia	11,401	13,588	171.99	11,426	11,516	133.78	-25	18.0	28.6
South Africa	616	11,371	143.92	298	10,265	119.24	318	10.8	20.7
New Zealand	356	20,894	264.45	476	16,770	194.82	-120	24.6	35.7
Vietnam	1,158	19,878	251.60	1,591	15,618	181.43	-434	27.3	38.7
Colombia	176	14,517	183.75	150	12,479	144.97	26	16.3	26.7
Mongolia	19	23,102	292.41	60	19,978	232.08	-41	15.6	26.0
Coking coal by source									
Australia	37,351	20,247	256.28	42,610	16,056	186.52	-5,259	26.1	37.4
Indonesia	14,529	10,982	139.01	17,166	9,629	111.86	-2,638	14.1	24.3
Canada	6,737	22,930	290.23	8,269	18,289	212.46	-1,532	25.4	36.6
China	651	18,073	228.76	889	20,185	234.49	-238	-10.5	-2.4
USA	5,799	22,019	278.70	3,431	19,538	226.98	2,368	12.7	22.8
Russia	2,433	20,368	257.80	2,548	16,729	194.35	-115	21.7	32.7
New Zealand	356	20,894	264.45	476	16,770	194.82	-120	24.6	35.7
Colombia	31	26,583	336.47	31	21,466	249.37	-1	23.8	34.9
Mongolia	19	23,076	292.08	60	19,978	232.08	-41	15.5	25.9
Thermal coal by source									
Australia	69,132	11,688	147.94	72,225	10,128	117.66	-3,092	15.4	25.7
Indonesia	19,468	9,948	125.91	18,259	8,562	99.47	1,209	16.2	26.6
Canada	2,286	11,564	146.37	2,272	9,557	111.03	14	21.0	31.8
China	2,144	12,441	157.47	3,943	10,690	124.19	-1,800	16.4	26.8
USA	578	9,654	122.19	368	8,180	95.03	210	18.0	28.6
Russia	7,401	10,961	138.73	7,528	9,558	111.04	-127	14.7	24.9
South Africa	616	11,371	143.92	298	10,265	119.24	318	10.8	20.7
Colombia	145	11,978	151.61	119	10,125	117.62	26	18.3	28.9
Mongolia	0.002	272,500	3,449.10						

Source: Trade Statistics of Japan

There is no change in Australia being the largest supplier, but the import quantity from the country fell by 8.45 million metric tons, equating to 7.3% year-on-year, to 107.87 million metric tons. This represents 75% of the quantity of decrease in imports.

Of this, the decrease in coking coal is substantial, at 5.26 million metric tons. Torrential rain and floods that forced coalmines and railways to suspend operations in the State of

Queensland, Australia, a large producing area for coking coal, had an especially strong influence on soaring prices for this coal. A strike at major coalmines such as BHP Billiton Mitsubishi Alliance (BMA) that forced a cutback in production also had a large impact. Thermal coal import from Australia also fell by 3.09 million metric tons.

We believe this production cutback and soaring of prices due to the natural disasters were the most significant features of coal supply and demand in FY2011.

- Imports from China fell by 2.44 million metric tons (-35% year-on-year), and fell about 1.5 million metric tons from both Indonesia and Canada. The decrease in the import of thermal coal from China stands out, at 1.8 million metric tons.
- In contrast, import from the US increased by 2.6 million metric tons. Notably, the import quantity of coking coal recorded an increase of 2.39 million metric tons, playing a large role as an alternative source for offsetting the fall of imports from Australia. It will be interesting to note whether this trend continues in FY2012 and beyond.

However, the import price from the US was significantly higher, at US\$226 per metric ton, than the Australian price of US\$186 per metric ton.

- Import from Russia remained at the same level as the previous year (down 20,000 metric tons) and import from South Africa, though small in quantity, doubled (from approximately 300,000 metric tons to 600,000 metric tons). South Africa has drastically changed its destination, steering away from the economically unstable European market with stagnant coal demand, toward the Asian market, achieving 14.13 million metric tons in export to Asia in the first three months (January-March) of this year (up 4.9 million metric tons, year-on-year). The share of its export to Asia for the entire FY2011 rose from 58% to 68%.
- Import prices rose significantly for all sources over the previous year. Total import quantity rose by 29.3% in US\$ terms, and supported by the rise of yen at 7 yen/US\$, it was up by 18.7% in yen terms.
- A significant rise in coking coal prices at 35% in US\$ terms (23.9% in yen terms) was observed, in comparison to 25.4% (15.1%) for thermal coal. This indicates the effects of the fall in Australia's coking coal production and export being also reflected in the price formation of coking coal from other sources.
- The highest rise in import price was from Vietnam, which exports anthracite coal, up 38.7% in US\$ (27.3% in yen).

## (2) Import trends for the first half (January-June) of the calendar year 2012

Here we move to the major trends and features for coal import in the first half of 2012 by comparing with the same period of the previous year.

- Imports in FY2011 fell by 11.26 million metric tons, but for the first half of the calendar year 2012 (January-June), which includes the first quarter, coal imports increased by 2.49 million metric tons year-on-year. Records indicate that especially for thermal coal there was a 2.76 million metric ton increase in imports. The fall in coking coal remained at 0.32 million tons and the trend reversed its course to an increase in imports for both thermal coal and coking coal.
- Recovery of thermal power plants severely damaged by the Great East Japan Earthquake is

progressing, and as of the first half of the calendar year 2012, operations only remain suspended at two one-megawatt units at the Haramachi thermal power plant of the Tohoku Electric Power Co., Inc. Crude steel production year-on-year was -10.6% for January, -3.6% for February, 2.3% for March, 7.6% for April, 1.9% for May and 3.5% for June, indicating it has hit bottom and turned upward.

Table 2. Import trends for the first half of 2012 (January thru June) (year-on-year)

	2012 (Jan. thru Jun.)			2011 (Jan. thru Jun.)			2012 - 2011 (Jan.thru Jun.)		
	Import quantity 1,000 metric tons	Price		Import quantity 1,000 metric tons	Price		Import quantity 1,000 metric tons	Change in price (2012/2011)	
		yen/metric ton	US\$/metric ton		yen/metric ton	US\$/metric ton		% (yen)	% (US\$)
Total imports	88,844	13,567	170.46	86,357	13,485	164.12	2,487	0.6	3.9
By coal type									
Coking coal	34,288	16,763	210.62	34,607	17,240	209.83	-319	-2.8	0.4
Thermal coal	51,766	11,329	142.34	49,008	10,650	129.63	2,758	6.4	9.8
Anthracite	2,790	15,811	198.65	2,742	16,751	203.87	48	-5.6	-2.6
By source									
Australia	55,625	13,688	171.98	50,140	13,713	166.90	5,486	-0.2	3.0
Indonesia	17,300	10,391	130.56	18,686	9,894	120.42	-1,386	5.0	8.4
Canada	4,588	19,164	240.78	4,857	18,325	223.04	-270	4.6	8.0
China	2,046	15,297	192.20	2,976	15,861	193.05	-930	-3.6	-0.4
USA	2,943	21,364	268.42	3,213	20,476	249.21	-270	4.3	7.7
Russia	5,381	12,410	155.93	4,997	13,103	159.47	383	-5.3	-2.2
South Africa	241	10,026	125.97	390	12,212	148.64	-149	-17.9	-15.3
New Zealand	42	13,567	170.46	253	19,874	241.89	-211	-31.7	-29.5
Vietnam	547	16,275	204.48	668	17,449	212.37	-121	-6.7	-3.7
Colombia	0	-	-	148	16,585	201.86	-148	-	-
Mongolia	19	23,076	289.94	0	-	-	19	-	-
Mozambique	54	21,860	274.65	0	-	-	54	-	-
Coking coal by source									
Australia	18,360	17,596	221.08	17,832	18,445	224.50	528	-4.6	-1.5
Indonesia	8,107	10,872	136.60	7,378	10,311	125.50	729	5.4	8.9
Canada	3,599	21,160	265.86	3,878	20,311	247.21	-279	4.2	7.5
China	333	19,065	239.54	779	22,498	273.82	-446	-15.3	-12.5
USA	2,765	21,969	276.02	3,106	20,724	252.23	-341	6.0	9.4
Russia	951	17,158	215.57	1,290	18,419	224.18	-339	-6.9	-3.8
New Zealand	42	22,001	276.42	253	19,874	241.89	-211	10.7	14.3
Colombia	0	-	-	62	23,999	292.10	-62	-	-
Mongolia	19	23,076	289.94	0	-	-	19	-	-
Mozambique	54	21,860	274.65	0	-	-	54	-	-
Thermal coal by source									
Australia	36,641	11,691	146.88	31,441	10,767	131.03	5,200	8.6	12.1
Indonesia	9,192	9,967	125.21	11,370	9,517	115.83	-2,178	4.7	8.1
Canada	988	11,893	149.41	978	9,368	114.01	10	27.0	31.0
China	1,122	12,428	156.13	1,500	11,221	136.56	-378	10.8	14.3
USA	177	11,950	150.12	91	12,133	147.66	86	-1.5	1.7
Russia	3,402	10,643	133.71	3,171	10,837	131.88	231	-1.8	1.4
South Africa	241	10,026	125.95	390	11,980	145.79	-149	-16.3	-13.6
Colombia	0	-	-	0	-	-	0	-	-
Mongolia									

Note: Figures for January-June 2012 are preliminary results.

Source: Trade Statistics of Japan

- Looking at import quantity by source, Australia increased by 5.49 million metric tons. Apparently the production cutback from the effects of the flood was pushed aside. Even though the strike at major producers like BMA continued during this period, coking coal imports from Australia showed a year-on-year increase of 0.53 million metric tons.
- Import from Indonesia fell by 1.39 million metric tons. In particular, thermal coal fell significantly, by 2.19 million metric tons.
- Prices for all imports increased by 3.98% in US\$ or 0.6% in yen terms. Coking coal rose by 0.4% in US\$ and fell by 2.8% in yen terms, indicating a small year-on-year change. Thermal coal significantly rose both in US\$ and yen. Although the prices of thermal coal showed a steep falling trend at the start of 2012 (to be covered later), since long-term or annual contracts (fixed price for the year) are common for thermal coal, this trend did not show up in the year-on-year comparison for the first half of the calendar year 2012.
- By source, a range of directions can be observed. Import prices from Australia, Indonesia, Canada and the US rose, yet prices crashed for China, Russia, South Africa, New Zealand and Vietnam, with notably severe falls for South Africa and New Zealand. This could indicate that price competitiveness is essential for cultivating new markets.
- Import of coking coal from Mozambique was recorded for the first time in the first half of the calendar year 2012
- Import prices, which were uniformly trending upward in FY2011 have now reversed and have begun to fall for some countries. Unless incidents that may significantly impact supply and balance occur (such as the Australian floods in 2011), we assume the second-half statistics for the calendar year 2012 will show falling prices.

### (3) Trends in import prices

We can confirm the direction of prices by comparing the import prices for the first half of the calendar year 2012 (January-June) with 2011.

As seen in Table 3, the total import quantity indicates a fall of 2.9% in US\$ terms and 3.3% in yen terms versus 2011.

By coal type, coking coal prices significantly fell by 7.7% and 8.1%, respectively; showing a clear declining trend. This decline was caused, as mentioned earlier, by the eradication of the effects of the flooding in Australia in January 2011.

However, the landed price of thermal coal in Japan continued to increase, by 3.7% and 3.2%, respectively.

Table 3. Import price for the first half of 2012 (January thru June) (year-on-year)

	2011 Price		2012 Price (Jan. thru Jun. )		Change (Jan.thru Jun. 2012/2011)	
	yen/metric ton	US\$/metric ton	yen/metric ton	US\$/metric ton	% (yen)	% (US\$)
Total imports	14,033	175.48	13,567	170.46	-3.3	-2.9
By coal type						
Coking coal	18,238	228.07	16,763	210.62	-8.1	-7.7
Thermal coal	10,980	137.31	11,329	142.34	3.2	3.7
Anthracite	17,769	222.19	15,811	198.65	-11.0	-10.6
By source						
Australia	14,389	179.93	13,688	171.98	-4.9	-4.4
Indonesia	10,108	126.39	10,391	130.56	2.8	3.3
Canada	19,367	242.18	19,164	240.78	-1.0	-0.6
China	15,644	195.62	15,297	192.20	-2.2	-1.7
USA	20,439	255.58	21,364	268.42	4.5	5.0
Russia	13,431	167.95	12,410	155.93	-7.6	-7.2
South Africa	11,793	147.47	10,026	125.97	-15.0	-14.6
New Zealand	20,502	256.37	13,567	170.46	-33.8	-33.5
Vietnam	18,931	236.73	16,275	204.48	-14.0	-13.6
Colombia	14,448	180.67	-	-	-	-
Mongolia	272,500	3,407.53	23,076	289.94	-91.5	-91.5
Mozambique	-	-	21,860	274.65	-	-
Coking coal by source						
Australia	19,780	247.34	17,596	221.08	-11.0	-10.6
Indonesia	10,700	133.80	10,872	136.60	1.6	2.1
Canada	21,955	274.54	21,160	265.86	-3.6	-3.2
China	20,109	251.46	19,065	239.54	-5.2	-4.7
USA	21,456	268.30	21,969	276.02	2.4	2.9
Russia	19,932	249.25	17,158	215.57	-13.9	-13.5
New Zealand	20,502	256.37	22,001	276.42	7.3	7.8
Colombia	23,999	300.10	-	-	-	-
Mongolia	-	-	23,076	289.94	-	-
Mozambique	-	-	21,860	274.65	-	-
Thermal coal by source						
Australia	11,360	142.05	11,532	143.66	1.5	1.1
Indonesia	9,689	121.15	9,832	122.48	1.5	1.1
Canada	11,101	138.81	11,616	144.71	4.6	4.2
China	11,753	146.97	12,842	159.98	9.3	8.9
USA	9,513	118.96	12,310	153.35	29.4	28.9
Russia	10,898	136.28	10,695	133.23	-1.9	-2.2
South Africa	11,793	147.47	10,454	130.23	-11.4	-11.7
Colombia	11,557	144.52	-	-	-	-
Mongolia	272,500	3,407.53	-	-	-	-

Note: Figures for January-June 2012 are preliminary results.

Source: Trade Statistics of Japan

Figure 1 indicates the transition of Australian and South African thermal coal FOB-based spot prices published by globalCOAL.

Spot prices for thermal coal are seen as starting their fall from the beginning of 2012 and the price for thermal coal exported from Newcastle, Australia, which was US\$114.30 per metric ton on January 6, fell to US\$81.94 per metric ton on June 15.

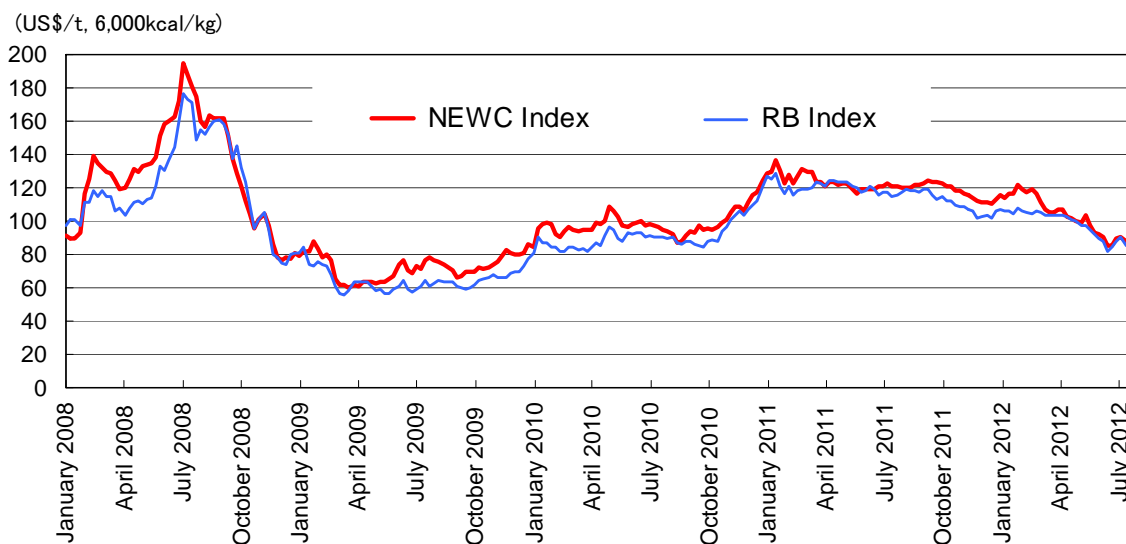


Figure 1. Transition of global COAL NEWC and RB Indices

Note: NEWC Index: FOB Newcastle, NSW, Australia price for thermal coal

RB Index: FOB Richards Bay, South Africa price for thermal coal

Source: globalCOAL

Backed by this fall in spot prices, Japan's power companies have conducted favorable price negotiations with thermal coal suppliers from Australia and other countries.

Tohoku Electric Power Co., Inc. reportedly concluded its FY2012 contract (starting April 2012) for Australian thermal coal at a little above US\$115 per metric ton, FOB (GAR 6.322 kcal/kg) with the Australian major Xstrata, and with Rio Tinto at an equivalent level. This represents a year-on-year reduction of US\$14.60 per metric ton (11.2%).

Similarly, Tokyo Electric Power Co., Inc. is said to have concluded price negotiations with both Xstrata and Rio Tinto for contracts starting in July at a little below US\$95 per metric ton. There was a fall of US\$20 over the three months from the April starting price for Tohoku Electric Power Co., Inc.

However, these lower prices obtained through the negotiations will only begin to apply from either April or July, and the swing (from upturn to downturn) was not sufficiently reflected in the price trend indicated in Table 3.

For coking coal, the price of strong caking coal for Japan for April-June was reportedly settled at US\$205-210 per metric ton. This represents a fall of about US\$25 per metric ton compared to

the previous quarter (January-March).

The strike at BMA that, along with the flooding, contributed to the high price, ended in June. The timing for price negotiations for coking coal for Japanese blast furnaces for the third quarter (October-December) of FY2012 is drawing near but it is presumed that the falling trend in coking coal prices will continue.

(To be continued in the next issue)

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