

No. 5 (December 2012)

Coal Trends

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

~ Are there signs of coal prices bottoming out? ~

~ Using statistics to interpret the relationship between the shale gas revolution and the trend of falling prices in the Asia-Pacific market ~

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The previous issue mentioned that signs of bottoming-out of landed Japan coal prices have become visible. The largest concern of our readers must be whether this trend in the fall of both coking and thermal coal prices that have continued for almost a year has now hit bottom. Can any signs be seen from statistics released in December?

This issue will also try to clarify the relationship between the shale gas revolution, said to be one of the factors behind the falling coal prices, and the fall in coal prices itself, by tracing coal statistics.

1. Spot prices for Australian and South African coal and landed prices in Japan – Have figures indicating bottoming out been observed? –

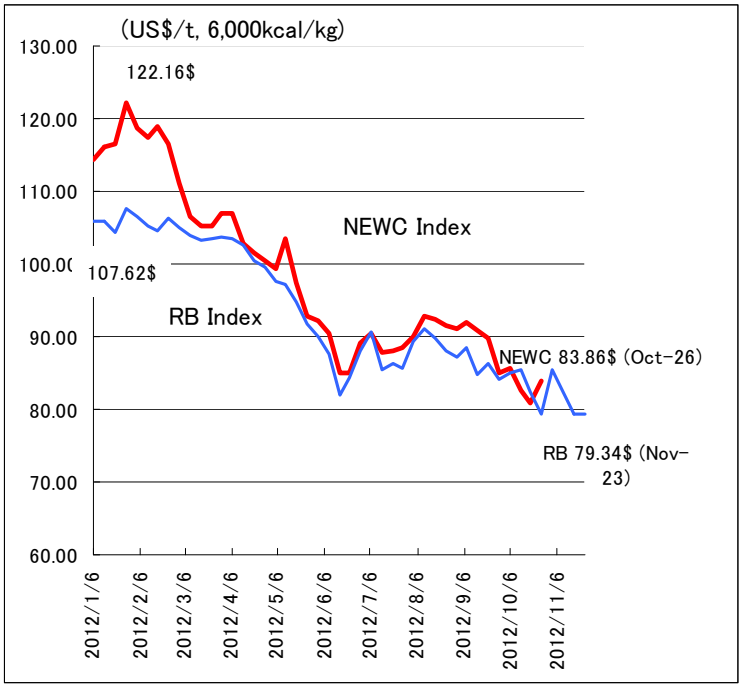
(1) Transition of spot price indexes for Australian and South African thermal coal

Figure 1 shows the transition of spot price indexes for thermal coal FOB Newcastle, Australia (NEWC), and FOB Richards Bay, South Africa (RB) for 2012.

After hitting US$122.16 per metric ton on January 27, 2012, the NEWC Index turned downward, reaching US$80.82 per metric ton on October 19, but then gained slightly to US$83.06 per metric ton on October 26, the following week. Though this may appear to be a rebound, at this stage it is impossible to deem whether a bottoming out occurred.

The RB Index has transitioned in a curve similar to the NEWC Index, albeit on a slightly lower level. Statistics for the RB Index can be obtained four weeks ahead of those for the NEWC Index, and it recovered to US$85.40 on November 2, 2012, from US$79.30 on October 26 of the previous week. However, it broke through the US$80 per metric ton barrier again down to US$79.30 by November 16, and held at US$79.34 on November 23. No sign of bottoming-out can be seen in the RB Index, similar to the NEWC Index.

Figure 1. Transition of globalCOAL NEWC and RB Index (Jan. 2012-)



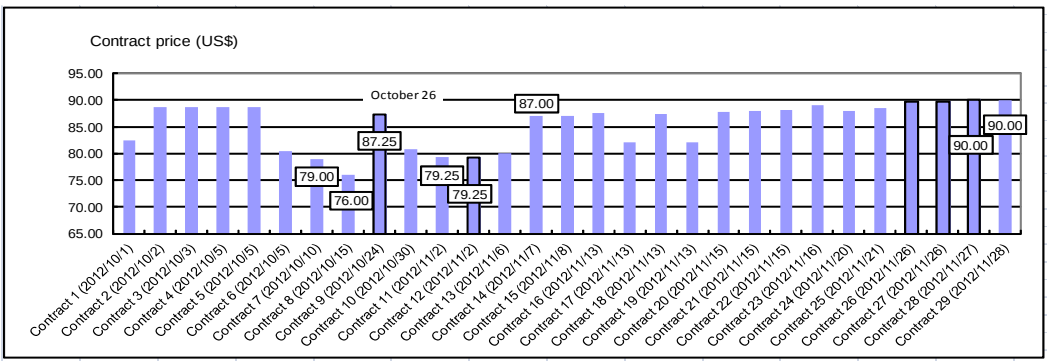
Note: NEWC Index: FOB Newcastle, NSW, Australia price for thermal coal (6,000 kcal/kg net)
RB Index: FOB Richards Bay, South Africa price for thermal coal (6,000 kcal/kg net)

Source: globalCOAL

(2) Transition in actual trading prices for Australian and South African thermal coal

Figures 2 and 3 show the contracted actual spot trading prices in October and November on a time-series for Newcastle and Richards Bay, respectively.

Figure 2. Contract Prices FOB Newcastle, Australia (actual)



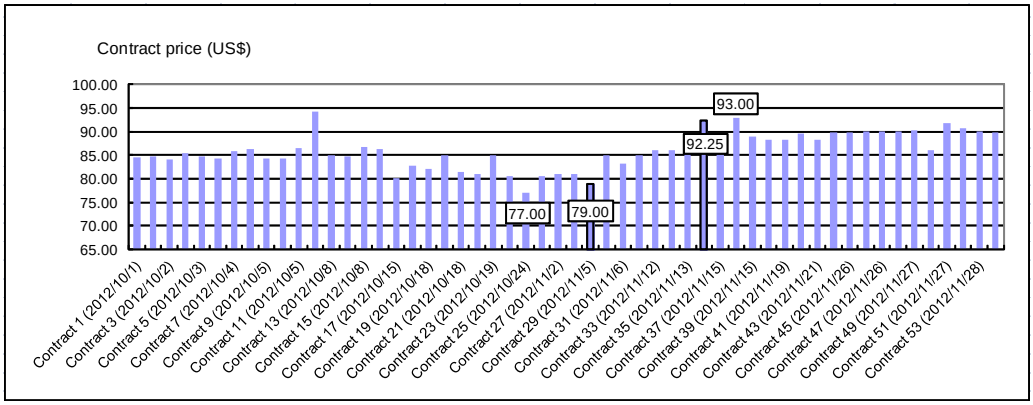
Source: Prepared using globalCOAL materials

For Newcastle, there were two contracts in mid-October and two at the beginning of November that closed below US$80 per metric ton.

However, actual trading could be seen to have entered an ascending stage, though fluctuating, bottoming-out at US$79.25 at closing on November 2.

Demand may be tightening, though very gradually.

Figure 3. Contract Prices FOB Richards Bay, South Africa (Actual)



Source: Prepared using globalCOAL materials

The increase in prices from below US$80 per metric ton to US$90 observed in Newcastle is similarly seen in the South African thermal coal market (RB actual). Contracts closed at US$77 per metric ton on October 24 and US$79 on November 5, but prices immediately recovered to the US$85 level and achieved US$92.25 for a case closed on November 14, and hit a high of US$93 for a contract closed on November 15. Actual trading closed around the US$90 level thereafter.

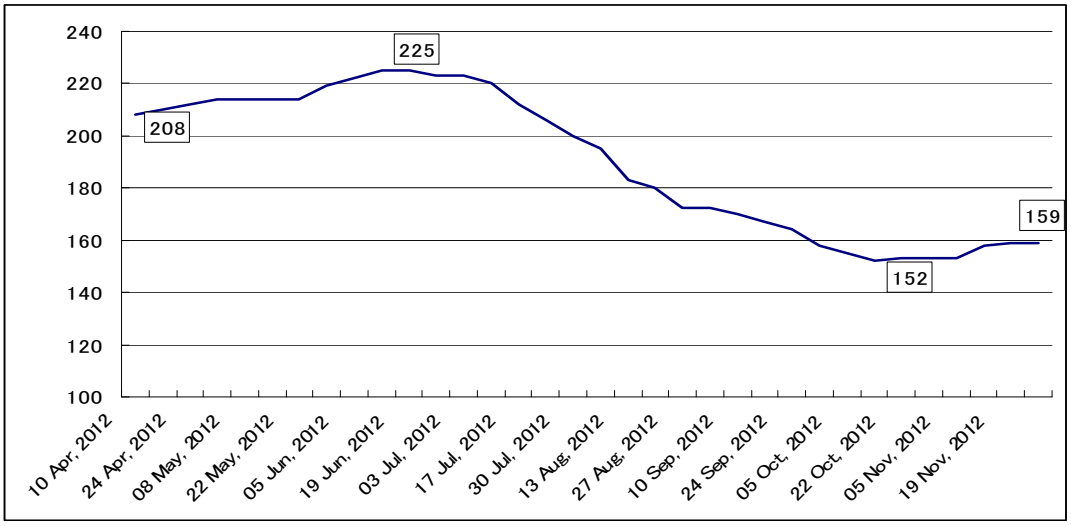
Both markets seem to be transitioning at an actual closing price of around the US$90 level in December.

(3) Transition of coking coal spot price index

Coking coal spot prices are also worthy of mention.

Figure 4 shows the transition of Coking Coal Queensland (CCQ) Index; in other words, the transition of the hard coking coal price index, ex East Coast Australia (Queensland), on a weekly basis.

Figure 4. Transition of Coking Coal Queensland (CCQ) Index by Energy Publishing



Source: Energy Publishing

After reaching US$225 per metric ton on June 12 and 19, 2012, prices began to tumble and fell to US$152 on October 15, transitioning at US$153 for three consecutive weeks from 22 October to November 5, then increased to US$158 on November 12, and to US$159 on both November 19 and 26, indicating a slight increase, but a rise nevertheless (from Energy Publishing webpage).

(4) Import price to Japan – Bottoming out of import price

As indicated in Table 1, the import price for all imports in October was US$147.25 per metric ton. Compared to US$147.40 per metric ton for September, the fall is only US$0.15. Considering that the fall for September compared with August was US$2.39, the degree of decline has lessened considerably.

Table 1. Comparison of Japan Landed Imported Coal Prices

(Comparison with September and August 2012)

	October 2012 Price		September 2012 Price		August 2012 Price	
	yen/metric ton	$/metric ton	yen/metric ton	$/metric ton	yen/metric ton	$/metric ton
Total imports	11,530	147.25	11,676	147.4	11,767	149.79
By coal type						
Coking coal	14,050	179.43	13,684	174.26	14,129	180.01
Thermal coal	9,818	125.39	9,983	127.13	9,903	126.17
Anthracite	13,535	172.86	14,113	179.71	13,327	169.79
By source						
Australia	11,738	149.91	11,805	150.32	11,945	152.19
Indonesia	8,981	114.7	8,958	114.07	9,128	116.29
Canada	14,981	191.33	14,768	188.05	15,727	200.37
China	11,760	150.2	13,788	175.58	15,103	192.42
USA	15,197	194.09	16,237	206.76	18,677	237.96
Russia	10,307	131.64	10,482	133.48	10,699	136.31
South Africa	-	-	11,451	145.82	-	-
New Zealand	16,978	216.83	-	-	-	-
Vietnam	16,100	205.62	14,647	186.52	13,219	168.42
Mongolia	-	-	-	-	-	-
Mozambique	17,115	218.58	16,825	214.25	-	-
Columbia	10,616	135.58	-	-	9442	120.29
Coking coal by source						
Australia	14,776	188.71	14,726	187.53	15,323	195.22
Indonesia	9,508	121.43	9,229	117.52	9,374	119.43
Canada	17,450	222.87	17,156	218.47	17,115	218.05
China	10,823	138.22	13,321	169.63	-	-
USA	16,668	212.87	17,661	224.89	18,934	241.23
Russia	13,938	178.01	14,387	183.2	14,238	181.4
New Zealand	16,978	216.83	-	-	-	-
Mongolia	-	-	-	-	-	-
Mozambique	17,115	218.58	16,825	214.25	-	-
Thermal coal by source						
Australia	10,185	130.08	10,272	130.8	10,249	130.57
Indonesia	8,434	107.71	8,636	109.97	8,822	112.39
Canada	9,141	116.74	10,675	135.94	9,887	125.96
China	11,111	141.9	11,071	140.98	12,141	154.69
USA	8,187	104.55	9,667	123.1	10,567	134.63
Russia	9,031	115.33	9,477	120.68	9,175	116.9
South Africa	11,451	145.82	11,451	145.82	-	-
Columbia	10,616	135.58	-	-	9442	120.29
	US1$=¥78.3		US1$=¥78.53		US1$=¥78.49	

Source: Monthly Report of Trade Statistics of Japan

The trend of bottoming out can be seen much more clearly when focusing on coal type, where thermal coal fell by US$1.74 per metric ton in October compared with September, but increased by US$5.17 for coking coal.

Viewing by source, prices for Australia, China, the US and Russia fell, while those for Indonesia, Canada, Vietnam and Mozambique increased, indicating an equilibrium is rising and falling.

The decline for Australia was US$0.41 per metric ton while the gain for Indonesia was US$0.63, indicating small fluctuations for major sources, and signifying stability in the coal import price.

By coal type and source, Australia remains stable at +US$1.18 for coking coal and -US$0.72 for thermal coal, Indonesia also shows a rather stable trend at +US$3.91 and -US$2.26.

Other features include +US$4.4 for coking coal from Canada, while US coal, having lost its local market due to the shale gas revolution and seeking new markets (mentioned later), fell sharply, with -US$12.02 for coking coal and -US$18.55 for thermal coal.

The fall in landed price for China coal by US$31.41 is another characteristic to be observed, but this is assumed to be a direct result of export from China to Japan made by one single vessel delivery for October, of 50,589 tons at a low purchase price of US$138.22, appearing in the statistics.

For predicting the landed price of thermal coal for November and December 2012, the contracted price between Japan’s power companies and the Australian suppliers, mentioned in our previous issue, will be the reference.

The FOB price was reportedly set at US$115.50 per metric ton (GAR 6,322 kcal/kg, same to apply hereunder) for contracts commencing January 2012 (Jan.-Dec. 2012), US$115.25 per metric ton for contracts commencing April 2012 (Apr. 2012 - Mar. 2013), US$94.90 per metric ton for contracts commencing July 2012 (Jul. 2012 - Jun. 2013) and US$96.90 per metric ton for contracts commencing October 2012 (Oct. 2012 - Sep. 2013).

Contracts commencing October increased slightly, by US$1.70 per metric ton, in comparison to those commencing July, and this will probably be reflected in the landed prices for November and December. However, as the contract prices are fixed for one year, it is safe to say that there will be no great change in these prices compared to October.

For coking coal, the contract price for high-quality hard coking coal from Queensland, Australia, established between the Japanese steel mills and Australian suppliers was set at US$170 per metric ton FOB for October[1].

However, the sharp fall of US$55 per metric ton, from US$225 established for July to US$170 established for October was not reflected in the landed price in Japan for October. There is a question as to whether this will have a substantial impact on the landed prices for November and December,

2. Shale gas revolution and US Coal

(1) Slump in US coal consumption caused by the shale gas revolution

Figure 5 shows the transition in power generation ratio by source and coal consumption for power generation in the US.

As can be seen from this figure, natural-gas-fired power generation has increased its share staring from the 2000s. The greatest reason for this is the tightening of environmental restrictions, followed by the impact of the shale gas revolution. The rapid fall in natural gas prices since mid-2008 influenced by the shale gas revolution triggered the swift conversion of power generation fuel from coal to natural gas.

This caused the share of natural-gas-fired power generation to move from 21.4% in 2008 to 23.3% in 2009, 23.9% in 2010, 24.7% in 2011 and 31.4% during January-September 2012, as can be seen in Figure 5.

Conversely, the share of coal-fired power generation fell to 44.4% in 2009, 44.8% in 2010, 42.3% in 2011 and 36.5% during January-September 2012. The gap with natural gas is now down to five points.

Coal consumption for power generation use fell from 1.04 billion short tons[2] (hereinafter “ST”) in 2008 to 930 million ST in 2011 and is expected to be around 730 million ST for 2012 using simple arithmetic, resulting in an annual total reduction in consumption of over 300 million ST in the past four years. This 300 million ST is looking for a new market and a part of it is crossing the ocean.

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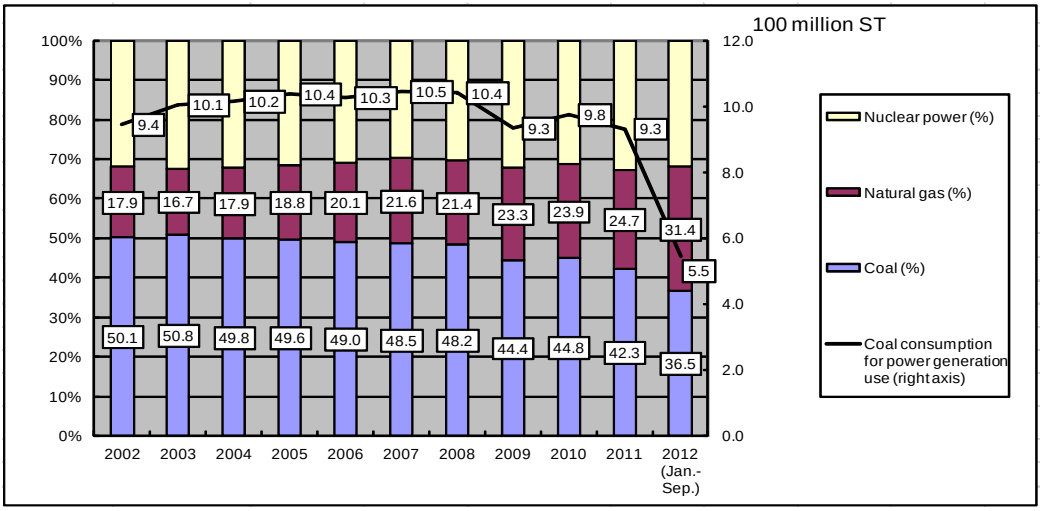
1 Some reports have the contract price set at US$235 per metric ton for January 2012, US$210 for April and US$225 for July.

2 A weight conversion unit for US tons (907.18474 kg, 2,000 lb); abbreviated as ST.

Figure 5. Transition of Power Generation Ratio by Source and Coal Consumption for Power Generation

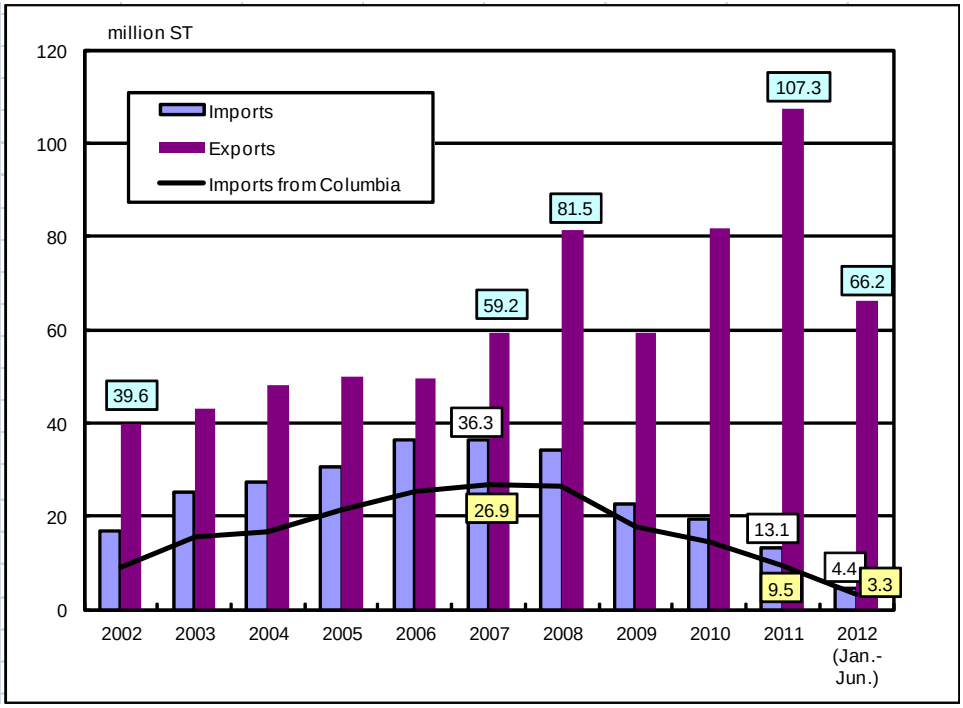


Source: Prepared using statistics from US Energy Information Administration, Department of Energy

(2) Acceleration in increase of exports and rapid fall of imports

Figure 6 shows the transition in the amount of exports and imports of US coal, and the import from Columbia in the imports.

Figure 6. Transition of US Exports and Imports



Source: Prepared using statistics of US Energy Information Administration, Department of Energy

Imports increased from the early to mid-2000s, peaking at 36.30 million ST in 2007, falling to 13.10 million ST in 2011 and falling further to 4.40 million ST for Jan.-Sep. 2012.

Export, however, has been on an increasing trend since 2007, with the exception for 2009 when faced with the global recession. The year 2007 came right before 2008, in which the effects of decreased natural gas prices became notable with the arrival of the shale gas revolution, and compared to 2007, coal exports in 2011 increased by 48.10 million ST.

As indicated in the preceding section, demand for 300 million ST of coal for power generation vanished during the same period, and of this, 48.10 million ST found their way to export.

At the same time, we must not forget the rapid fall in imports from Columbia. Import of Columbian coal in 2007 was 26.90 million ST, but fell to 9.50 million ST by 2011 and further to 3.30 million ST for Jan.-Sep. 2012. This 3.30 million ST can be converted to around 4.4 million ST annually and for Columbia this means having to search for export markets other than the US to offset the decrease of 22.50 million ST (26.90 - 4.40), the amount of decrease since 2007.

In other words, the shale gas revolution has caused natural gas prices to fall since 2008, and a total of more than 70 million ST of US and Columbian coal has departed from the US in search of new markets.

(3) Where did the US and Columbian coal go?

The answer is: the European Union.

Between 2004 and 2011, coal imports for the 15 EU countries decreased by 22 million tons. Evidently they have not been able to fully recover from the effects of the global recession triggered by the Lehman Brothers collapse in 2009, and the amount of import in 2011 still had not recovered back to the level of 2009 immediately after the collapse.

On the other hand, import from the US has been expanding steadily and grown by 18.60 million tons compared to the level for 2004. Columbia also increased its exports by 14.60 million tons during the same period. Especially after 2008, import from Australia, South Africa and Indonesia fell significantly, and the shortfall has been covered by that from the US and Columbia.

Table 2. Transition of Coal Imports by 15 EU Countries by Source

Unit: million tons

Source	2004	2005	2006	2007	2008	2009	2010	2011
Russia	31.1	38.6	45.2	45.2	45.4	42.1	35.8	38.0
U.S.A.	15.3	14.7	15.0	16.5	29.5	22.5	27.0	33.9
Colombia	21.9	23.1	23.3	26.8	24.7	27.9	24.7	36.5
Australia	29.1	26.9	28.8	29.1	25.6	14.9	19.3	18.8
South Africa	44.1	51.5	50.9	43.3	35.9	30.0	13.4	13.6
Indonesia	13.5	14.6	21.4	17.2	15.7	13.6	9.5	9.6
Total	188.1	201.8	213.7	205.8	200.9	170.9	155.4	166.1

Source: Prepared using TEX Report

This characteristic is more pronounced for thermal coal, as can be seen in Table 3, where faced with the rapid expansion of thermal coal imports from the US and Columbia, South Africa had its export reduced by 36.30 million tons, from 49.60 million tons in 2006 to 13.30 million tons in 2011. Indonesia also saw a reduction of 10.40 million tons during the same period.

Table 3. Transition of Coal Imports by 15 EU Countries by Source (Thermal Coal)

Unit: million tons

Source	2004	2005	2006	2007	2008	2009	2010	2011
Russia	30.1	36.2	43.0	42.8	43.3	39.8	33.1	35.6
U.S.A.	4.8	4.1	4.1	4.7	15.9	10.8	12.3	20.3
Colombia	21.4	22.8	23.3	26.3	23.6	27.0	24.0	36.1
Australia	11.1	8.2	8.4	8.5	8.6	5.6	4.8	4.7
South Africa	41.4	49.6	49.6	42.6	35.0	29.2	13.0	13.3
Indonesia	13.5	13.8	20.0	16.0	15.2	13.3	9.3	9.6
Total	147.2	159.6	170.1	160.7	158.0	142.6	118.6	130.0

Source: Prepared using TEX Report

This column previously mentioned that South Africa is rapidly increasing its export share to the Asia-Pacific region. Rather than labeling this a deliberate start of strategic targeting of Asia-Pacific, the country may have been forced to convert its strategy against the backdrop of the increase in US and Columbian coal in the EU.

The expansion of gas production in the US has influenced coal prices in Asia-Pacific, which is probably one reason why the increase in shale gas production has been coined a “revolution.”

(To be continued in the next issue)

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