

DECC 2014 Coal price projections

Peer-review, Sylvie Cornot-Gandolphe, March 2014

Key conclusions

The 2014 methodology is a real improvement compared with the 2013 methodology:

- The use of the LRMC approach instead of a regression method is indeed a key improvement, as the correlation of coal and gas prices is very weak, under current market conditions (oversupplied market).
- Taking Russia as the price setter (central scenario) by 2020 is also an improvement as the country could be the marginal supplier of the market and therefore the price setting country.

However, there are still some improvements/clarifications which could improve the projections and make them closer to market realities:

Short-term projections (low, central and high estimates)

- The use of forward prices is fine. After all, they are a reflection of market expectations. They are however very sensible to the date of assessment (as mentioned for Woodmac projections, in paragraph 22).
- The adjustment factors for the low and high scenarios should be explained. Certainly, there is a reason why the gas model uses +/-15% for 2014 and -18% and +21% for 2015 (maybe a calculation of the maximum variation from the average price in a certain period, as mentioned in paragraph 38)
- The linear interpolation until 2020 is a simplest approach...but I have nothing better to propose.
- Except that a linear interpolation until 2024 (high estimate) is really too simplest and the methodology in that case may be revised (see below).

Low estimate (from 2020)

- The low estimate takes South Africa as the price setter in 2020 and Colombia in 2035.
- It would be wonderful if it were the case!
- The assumption is the following:
- Europe needs to import 128 Mtce in 2020. As Columbia (the lowest cost supplier) is expected to export 110 Mtce by that date and South Africa (the next supplier in order of increasing costs) 73 Mtce, SA is the price setter. In 2035, European demand for imports is 130 Mtce. Colombia is expected to export 134 Mtce, so enough to cover all European needs and is therefore the price setter. (Annex 1)

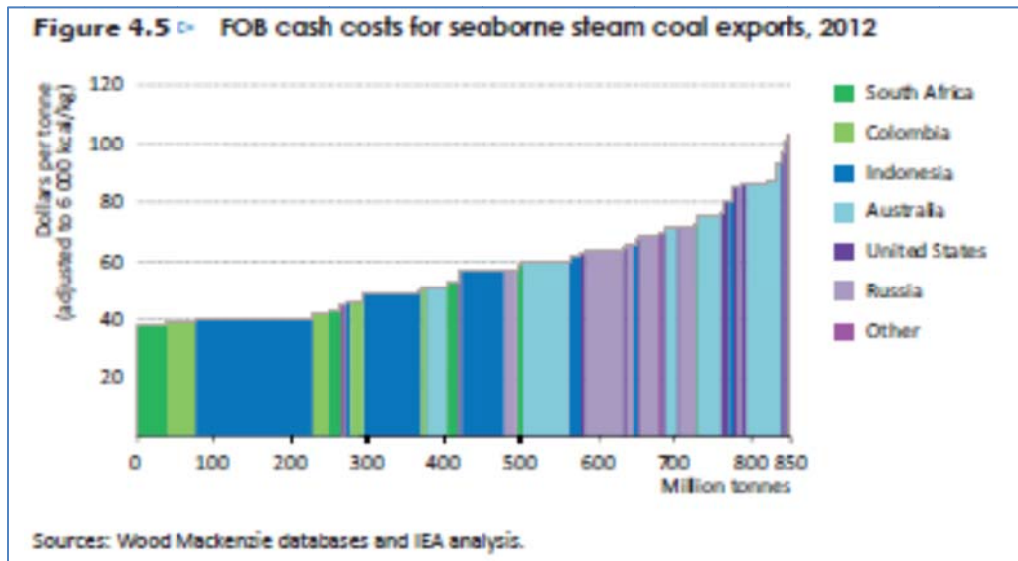
I have two comments on this assumption

1. Unfortunately, there are other importers in the market which are going to attract these low-cost supplies. The inter-regional coal trade mentioned in Annex 1 relates to the global trade (although Indonesia is missing), not to Europe only.

Just to mention South Africa: in 2012, only 18% of its exports went to Europe as the country's exports are more and more oriented towards the Pacific Basin (India, in particular). Colombia, so far, mainly exports

to Europe. But even in this case, Europe only accounts for 74% of Colombian exports, the rest is exported to South and North America and Asia. You can expect that by 2035 a larger part of its exports will go to Asia.

2. Fundamental remark: The price-setting country can only be the marginal supplier of Europe (so the country which delivers the highest-cost tonne needed by the market). Under current conditions, this is U.S. or Russia (as shown by the global cost curve for 2012, taken from WEO 2013).



Central estimate (2020 and beyond)

The 2014 methodology uses the LRMC with Russia as the price-setting country for 2020 and after that a 1% linear increase until 2035. I don't understand the basis for the percentage increase: just to be between IEA and Woodmac?

High estimate (from 2025 and beyond)

I don't understand why you change your methodology and turn to EIA U.S. prices for 2025. Why don't you use the LRMC approach for the high estimate?

Taking EIA prices means that you implicitly assume that the U.S. will be the price setting country from 2025 onwards. This could be the case in a high-price scenario (as U.S. miners would earn money even with their high-cost mines).

However, as the EIA model is designed for U.S. domestic production costs at the mine, you need to take into account assumptions on transportation costs which are difficult to assess. In 2013, the U.S. railways reduced their transportation fees from \$40-45/t to \$30/t to allow U.S. miners to stay in the market.

So why not keeping the LRMC approach, based on the highest-cost supplier, for the three estimates (low, central and high)? From the WEO2013 supply curve, depending on European import needs (low, central, high), you may deduce which mine/country will be the price setting mine, which gives you the price for all imported tonnage.

General comments

The table in Annex 1 indicates energy demand coal, power generation. The data are for total coal demand (steam coal and coking coal), as mentioned in the footnote.

It may be appropriate to subtract coking coal which is a different market (48 Mtce in 2011, 46 Mtce imported in 2012, IEA Coal Statistics). The detailed tables in Annexes of WEO 2013 give coal demand by sector (power, industry, buildings and total). It is maybe more appropriate to use these data, although in that case you have to estimate coking coal imports into Europe.

Which rate of inflation have you taken? (WEO2013: 2.3%/year from 2012).

You mention that you have obtained more detailed information about the cost curves. It would be useful, if you have detailed information, to use the cost curve for European supplies only. After that you may deduce the marginal supplier for 2020 and 2035, according to different import scenario (low, central, high).

I enclose hereunder some general thoughts about coal pricing in the current oversupplied steam coal market (which makes projections particularly difficult to estimate: China's uncertainty and slowdown).