Supplementary Expert Report to the Land Court by William Simes

1. Instructions

I have been instructed by Allens Arthur Robinson on behalf of Xstrata Coal Queensland Pty Ltd to provide a report responding to the:

(a) comments on global coal supply and demand; and

(b) conclusions based on current:

(i) recoverable coal resources figures; and

(ii) coal production and consumption rates and pricing,

in the expert reports to be relied upon by the Friends of the Earth - Brisbane Co-Op Ltd in the proceedings.

In order to prepare this report, I was provided with the expert reports by Emeritus Professor Ian Lowe dated 3 August 2011, Dr Malte Meinshausen dated 3 August 2011, Mr Hans Hoegh-Guldberg dated 4 August 2011 and Professor Ove Hoegh-Guldberg dated 3 August 2011.

2. Opinion and Findings

2.1 Comments in regards to Global Coal Supply and Demand

Report by Mr Hans Hoegh-Guldberg dated 4 August 2011

(a) Section 7 of the report by Hans Hoegh-Guldberg comments on the likelihood of substitution of coal from elsewhere in the case that the Wandoan mine does not go ahead. It concludes that a shortfall of coal supply would be primarily offset by increased demand for gas or alternative power sources. I disagree with much of the analysis and conclusions in Section 7.

The following paragraphs set out my reasoning.

(b) Paragraph 45(a) in Section 7 states "The international seaborne coal market, particularly in the Asian region, is currently restricted by a shortfall of supply, not demand." Paragraph 45(a) also makes reference to 41 Mt of supply growth in 2010 falling short of demand growth by 15Mt, and further supply growth in 2011 is not expected to satisfy projected demand growth (both from Xstrata's 2010 Annual Report).

(c) Paragraph 45(a) concludes by stating other mines in Indonesia, South Africa, Brazil and elsewhere are not meeting the demand and that a further restriction of supply if the Wandoan mine does not proceed is unlikely to be fully compensated by additional production.

(d) The approach in paragraph 45(a) is flawed in that it uses a short term situation to draw a long term conclusion. That is, it assumes that demand will always be well in excess of supply capacity.

(e) As a preliminary point, I believe two points of clarification are necessary in relation to paragraph 45 in Section 7:

   (i) Paragraph 45(a) refers to Brazil. Brazil has minimal coal, but is a major iron ore producer and exporter.

   (ii) Paragraph 45(b) refers to 30 Mtpa of Wandoan coal in relation to the world's coal markets. The 30 Mtpa relates to run of mine (ROM) coal, and after washing results in amounts up to 22 Mtpa which will become available for sale.

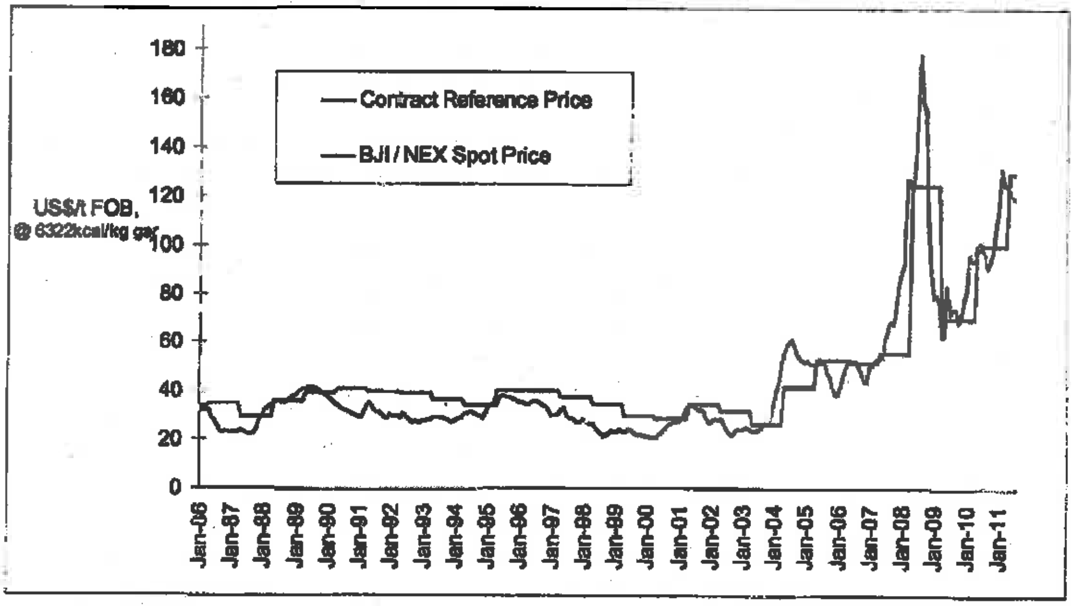
(f) Figure 1 depicts coal prices for Australian thermal coal export prices over the past 25 years, in US$ (nominal dollars). After many years of adequate coal supply capacity, relatively small price cycles and "flat" coal prices (in nominal $ terms, or diminishing coal prices in real $ terms), the Australian coal industry is now in a period of stronger demand and renewed investment. Apart from the growth in demand, in particular within Asia, other factors impacting the market in recent years include:

   (i) Significant "consolidation" in the coal supply industry, from the late 1990s, and a new focus on improved shareholder returns. "Consolidation" is a term used to describe acquisition and merger of coal companies by competitors leading to lower number of large mining companies.

(ii) Infrastructure capacity limits being reached in New South Wales and Queensland, and a shift from government funded to industry funded expansions taking time to have effect. Similarly, infrastructure capacity has limited supply responses in some other coal producing regions.

(iii) A very volatile period from late 2007 due to strong demand, supply interruptions (for example Queensland floods in January 2008), the global financial crisis in 2008 and other factors resulting in some panic behaviour in the market.

Figure 1: Australian Thermal Coal Export Prices



Note: Data sourced from Energy Publishing[1]. The price series relate to Australian thermal coal exports. The Contract Reference Price refers to annually negotiated contract prices, principally with Japanese power utilities, while the BJI/NEX refers to Newcastle spot prices.

(g) It is correct that the recent coal market demand growth has been ahead of the supply response. However, that supply response is gaining increasing momentum, and in the future there will be periods where supply capacity is greater than demand, which will likely result in downward price pressure. As noted in Section 4.1(g) of my original report coal, supply growth is occurring across numerous countries, with much of this expansion due for completion before 2015.

(h) Wandoan is yet to be built, with first coal approximately 3 years away. A decision today not to proceed with the Wandoan mine would provide sufficient time for consumers to source alternative supply and induce investors and project developers to advance other opportunities.

(i) Paragraph 45(b) also makes the error of mixing short term market issues with the longer run impact of not proceeding with the Wandoan mine, when discussing the potential for an induced price increase:

> "The non-operation of the Wandoan coal mine might lead to comparatively slightly higher world coal prices, probably inducing a small share of extra coal production...........not be able to make up...........given the supply shortfalls already."

(j) Not proceeding with the Wandoan mine may, in theory, lead to slightly higher world coal prices, albeit it is difficult to quantify given the overall market movements and the relative minor contribution the Wandoan mine will have on global coal trade (ie ~2% of seaborne thermal traded coal, or 0.3% of world thermal coal consumption). I estimate a price impact, if any, of less than 1% over the long term.

(k) Paragraph 45(c) considers the impact on demand in the case of "slightly higher coal prices". It discusses the European market and competition with gas.

(l) In different electricity markets there are differing competitive positions. In many parts of Europe, imported coal demand fluctuates with overall energy demand, the availability of hydro, and gas prices. At times of low gas prices, there may be a lower coal burn, however these occurrences are independent of any decision to proceed or not with the Wandoan mine and the availability of Wandoan coal.

(m) Paragraph 45(c) also makes comment that the "increasing competitiveness of new gas-powered power plants" and government incentives for renewables will lead to more investments in these sectors and not coal in the case of a coal price increase due to the Wandoan mine not proceeding.

(n) Technical improvements are resulting in improved competitiveness of a range of new power plants, including coal, as well as gas and renewables. Apart from particular market circumstances, for example the advantage of gas as peaking stations or in markets with high carbon prices, coal fired generation will continue to have a competitive edge over alternative options in most cases. However, the question of which type of plant to build is not dependent on whether coal from the Wandoan mine is available or not. The potential impact of the Wandoan mine on the coal price is slight, if any, and does not change the strong competitive position of coal fired power generation.

(o) Paragraph 46 of Section 7 concludes "the economics of the international energy market rather suggest that a shortfall of coal supply would be primarily offset by increased demand for gas or alternative power sources."

(p) The economics of the international energy market do <u>not</u> suggest that a shortfall in coal from the Wandoan mine would be primarily offset by increased demand for gas or alternative power sources for the following reasons.

   (i) There are abundant coal reserves and any decision not to proceed with the Wandoan mine would allow alternative coals to replace it.

   (ii) The nature of the coal supply is that any price impact of not proceeding with the Wandoan mine would be minimal, if any.

(iii) The economics of coal fired power generation are such that it is considerably more competitive than gas or renewables, excluding any carbon costs. Further, in markets where carbon is priced, the relative change from having or not having Wandoan coal available would have no more than a minimal impact on the economics of coal fired power generation.

2.2 Comments in regards the analysis based on Coal Resources and Production Rates

Report by Emeritus Professor Ian Lowe dated 3 August 2011

(a) Paragraph 33 of Emeritus Professor Ian Lowe's report states:

> "It would...be wrong to say that 'then mining of this coal will not make any difference to global warming because if this mine does not proceed the coal will just come from another mine somewhere in the World'. It is true that there is a large amount of coal in the World and that the coal could be supplied from another mine. However, that reasoning ignores the fact that coal is a finite resource, so the mining and use of the coal from this mine will release to the atmosphere carbon that would otherwise be trapped in the ground."

(b) Paragraph 33 references a report by Baumert, Herzog and Pershing sourced from the World Resource Institute, who reference the coal reserves and rate of depletion from a BP 2005 report[2], which in turned sourced its data from the World Energy Council (WEC). There are a number of points to note about such estimates:

(i) The Baumert etal report shows coal depletion by the year 2168.

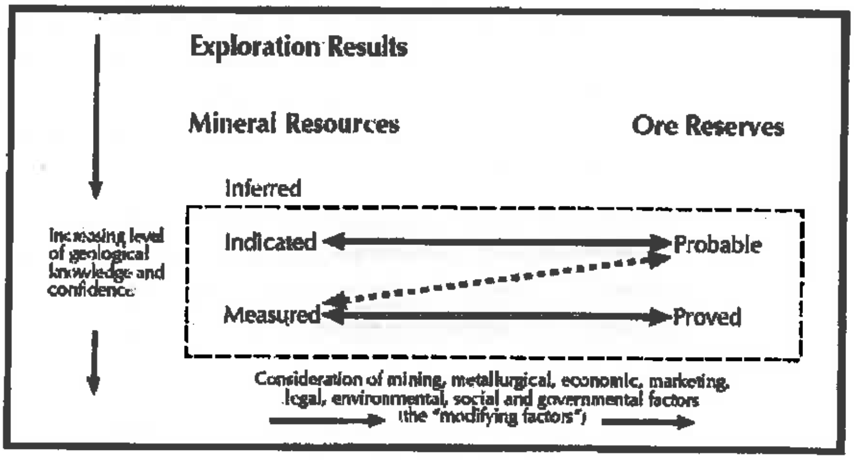
(ii) The WEC[3] collates energy resource and reserve data from a survey to member countries and supplements this as necessary with other data sources. It notes that it is a compilation of existing data, not a set of specially commissioned national assessments. And it further notes, difficulties in the collection process. The reserve numbers stated and used by BP and others are those deemed to be economically recoverable from known resources. As such, they do not include the undiscovered resources, nor those currently considered as sub-economic.

(iii) The latest WEC reserve number for Australia is shown at 76 billion tonnes, from 100 billion tonnes proved in place. The 76 billion tonnes reserve number includes black coal (bituminous and sub-bituminous) and brown coal (39 billion tonnes and 37 billion tonnes respectively). The Wandoan deposit is included in the latest estimate (and was also included in the 2005 BP report).

(iv) A further 119 billion tonnes of black coal from sub-economic and inferred resources are also noted in the WEC report for Australia, of which 75 billion tonnes is estimated as recoverable. Further, some 174 billion tonnes of brown coal resource is estimated at 156 billion tonnes recoverable reserve. These numbers highlight the very large upside potential for the global coal reserve base.

(v) There are likely to be large inconsistencies in approach in the reserve numbers provided to the WEC within the survey. There are no global standards for the reporting of mineral resources and reserves, albeit the move towards a standard does cover a number of countries, in particular to cover companies reporting on local stock exchanges. The Australasian Code, known as the JORC Code, is accepted across a number of countries. Figure 2 shows the relationship between resource and reserves. In simple terms, a Resource relates to the mineral (such as coal) within the ground, while Reserves relate to that portion that are considered economic to mine. The various categories of Resource or Reserves relate to the degree of knowledge and confidence of the estimates.

Figure 2. General relationship between Exploration Results, Mineral Resources and Ore Reserves (source JORC[4]).



(c) As outlined above, there are inconsistencies and unknowns regarding estimates of the world's coal reserves. Analysis that uses specific reserve estimates may result in misleading conclusions.

(d) Nonetheless, it can be accepted that the world's coal reserves are very large and could potentially last for many centuries if there is demand.

(e) Paragraph 33 argues that it is "wrong to say that the mining of this coal will make no difference to global warming.......", by referring to coal as finite. This argument is flawed on a number of grounds:

(i) Coal reserves may well be finite, however they are very large notwithstanding that we do not know just how large. As noted above the reserves could last many centuries. It is inappropriate to base an argument on the assumption that all the coal reserve will be mined when such a timeframe will likely see major changes to the energy business. If all the known coal was mined over that period, then the incremental increase in the carbon released by burning the coal from the Wandoan mine would be negligible.

(ii) Similarly, the incremental change in the depletion of the world's coal reserves from developing or not developing the Wandoan mine is also negligible. The impact of not proceeding with the Wandoan mine, and thus leaving that coal in the ground, would have the effect of bringing forward the depletion period only by about 40 days, at the end of a period of 150 years (using the estimates as provided, without considering the upside to the reserve base).

(iii) The Wandoan project is proposed to run for about 30 years. Arguing against its development on the basis of the potential depletion of coal much greater than 100 years later is misaligned.

(f) In summary, it is not wrong to say that mining coal at Wandoan will not make any (*meaningful*) difference to global warming because if the Wandoan mine does not proceed the coal will just come from another mine somewhere in the World.

Report by Dr Malte Meinshausen dated 3 August 2011

(g) Paragraph 45 of Dr Malte Meinshausen's report argues that the operation of the existing coal mines and gas and oil fields around the world may result in emissions "beyond the level that we can actually afford" and that the Wandoan mine would "increase an already large stock of "tapped" carbon".

(h) Paragraphs 45 and 46 focus on limiting the production of coal from Wandoan, however ignore that it is the demand for energy and thus the demand for coal that will result in the overall carbon emissions. The demand for coal is strong, there are large reserves of coal available, and thus development of the Wandoan mine will not have a net impact on the overall carbon emissions.

3. Summary of Opinion and Findings

(a) Section 7 of the report by Hans Hoegh-Guldberg provides comments on the likelihood of substitution of coal from elsewhere in the case that Wandoan does not go into operation. It concludes that a shortfall of coal supply would be primarily offset by increased demand for gas or alternative power sources. I disagree with much of the analysis and conclusions of Section 7.

(b) The economics of the international energy market do not suggest that a shortfall in coal from Wandoan would be primarily offset by increased demand for gas or alternative power sources because:

(i) There are abundant coal reserves and any decision not to proceed with the Wandoan mine would allow alternative coals to replace it.

(ii) The nature of the coal supply is that any price impact of not proceeding with the Wandoan mine would be minimal, if any.

(iii) The economics of coal fired power generation are such that it is considerably more competitive than gas or renewables, excluding any carbon costs. Further, in markets where carbon is priced, the relative change from having or not having coal from the Wandoan mine available would have no more than a minimal impact on the coal fired power generation.

(c) Paragraph 33 of Emeritus Professor Ian Lowe's report states that it is "wrong to say that the mining of this coal will make no difference to global warming.......", by referring to coal as finite. This argument is flawed on a number of grounds:.

(i) Coal reserves may well be finite, however they are very large notwithstanding that we do not know just how large. The reserves could last many centuries. It is inappropriate to base an argument on the assumption that all the coal reserve will be mined when such a timeframe will likely see major changes to the energy business. If all the known coal was mined over that period, then the incremental increase in the carbon released by burning the coal from the Wandoan mine would be negligible.

(ii) Similarly, the incremental change in the depletion of the world's coal reserves from developing or not developing the Wandoan mine is also negligible.

(iii) The Wandoan project is proposed to run for about 30 years. Arguing against its development on the basis of the potential depletion of coal much greater than 100 years later is misaligned..

(d) Paragraphs 45 and 46 of Dr Malte Meinshausen's report makes a conclusion that without the Wandoan mine there may be "more than enough" carbon within the coal mines and gas and oil fields already in operation around the world to result in emissions "beyond the level that we can actually afford". This ignores that it is the demand for energy and thus the demand for coal that will result in the overall carbon emissions. The demand for coal is strong, there are large reserves of coal available, and thus development of the Wandoan mine will not have a net impact on the overall carbon emissions.

4. Additional Information Required

I am not aware of any readily ascertainable additional facts that would assist me in reaching a more reliable conclusion.

5. Expert's Statement

I confirm the following:

(a) the factual matters stated in this report are, as far as I know, true;

(b) I have made all enquiries that I consider appropriate;

(c) the opinions stated in this report are genuinely held by me;

(d) the report contains reference to all matters I consider significant; and

(e) I understand my duty to the court and have complied with the duty.

Signed: ....

Name: William Dean Simes

Date: 16 August 2011

6. References

1. http://www.coalportal.com, Energy Publishing Pty Ltd
2. BP, "BP Statistical Review of World Energy June 2005", 2005.
3. World Energy Council, "2010 Survey of Energy Resources", 2010.
4. The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC), "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code, 2004 edition", December 2004.