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27/02/2019

IPC hearing 27/2/2019

Hume Coal project SSD 7172

Speakers Notes

My wife and I have owned rural properties since late 1999, 320 HA in the Hunter valley for 2 years 1320HA in the central west of NSW at Eugowra for 14 years and for 3 years 60HA at Fitzroy Falls.

For over 15 years we have utilized the time control grazing methodology, placing care of the land first and using grazing animals (in this current case, cattle) to effectively increase biodiversity, promote desired grass species and increase soil fertility and carbon levels without expensive inputs.

This grazing system has a requirement for clean water distributed via pipes and troughs to the animals; Dam, creek and river access for animals is not part of these systems. The State government agriculture departments recognises the value of these systems and in many cases subsidies the required infrastructure and the training programmes

Our property depends on bore water for our grazing system. Our bore is 90 m deep. Any long term change to the availability of bore water would put this entire grazing system at risk.

As we are part of the Sydney water catchment **Water NSW paid half of the costs for fencing off the creeks to exclude grazing animals and planting indigenous species of trees and scrubs. The all up cost well over \$100,000 and the Water NSW contributed just over \$43000.**

So the NSW Government is paying farmers to improve the quality of water in the landscape and we have the Hume Coal project potentially damaging the exactly same water systems for hundreds of years. Does this add up?

2/ I appreciate the transcripts that are available on the IPC website. The Hume Coal presentation was particularly interesting.

However I challenge the statements made at the IPC briefing about the community opposition by Mr Duncan on page 7 and page 8 including “only 1.5% of the population in the LGA were in opposition to the project”.

This was accepted and not challenged by anyone in the room and is very clearly at odds with the reality summarised on page 16 of the department’s report.

Page 16 clearly states that there was 5131 objection from the LGA of which 4930 came from the surrounding postcodes within the LGA. Currently the population of the LGA is approx. 48,000 about 20% are under 18 so very unlikely to be involved in the submission process. That gives us a potential population of 38400 which would include a percentage of adults not eligible to sign a submission. **The truth is over 13 % of the adult population in the LGA wrote their name, address and signed a submission objecting to the mine and rail system not 1.5%.**

Hume discounts the opposition from outside the LGA. However, the second largest group were residents of greater metropolitan Sydney; this is entirely understandable due to the location of the Mine in the Sydney water catchment. Sydney residents are smart enough to understand the realities of the 21st century and the challenge of supplying clean water to large and growing cities in a time of rising temperatures and drying climates. They are up to date and are aware of the crisis that Cape Town is facing. Many Sydney residents have been through water restrictions before and in fact many are calling for restrictions now however there is no chance of that before the state election for obvious political reasons.

To drive the point home Commissioners and to debunk Hume’s claims for your information **Battle for Berrima commissioned in April 2017 the Galaxy Research organisation to conduct an independent telephone poll of 400 residents across the LGA.** Dr Campbell White of Galaxy research managed the project and stated at the time. “This poll was conducted by live telephone interview to both mobile and landline telephones. This is the most accurate and representative methodology and the poll were designed so that attitudes to the project were measured cleanly using neutral questions and balanced responses”. The headline results are as follows

59% of LGA residents oppose the Hume Coal proposal

47% or almost half of the residents surveyed strongly oppose it.

Only 18% of the LGA residents surveyed supported the mine.

I have included the results fact sheet in my notes for the commissioners.

These facts paint a very different picture than that presented to the Commissioners by Mr Duncan at the IPC briefing.

3/This morning you heard from Dr Ian Wright. The research presented by Dr. Wright, in late 2017 effectively outed both Boral and the NSW EPA over the mismanagement of the outflows of seriously polluted water from the flooded Boral Colliery. This outflow enters directly into the Wingecarribee River and into Sydney's main water supply, Warragamba Dam. Boral initially denied any issues with the mine whilst in care and maintenance and I have a copy of the letter from the chairman dated 2017 which states' the mine is not the cause of the problem it is just the natural the groundwater. This spin doctored position was in opposition to Boral's stated corporate values in regard to the environment obviously not sustainable in the light of Dr Wright's research. Now Boral, publically exposed as a serious polluter have for the first time been forced to established a legitimate community consultation process and are attempting to deal with this serious problem that in the NSW EPA's words "may not ever be able to be solved".

The impact of flooding coal mines is now well documented in Australia (care of Dr. Wright) and is very well understood in the United Kingdom where polluted water has flowed from long closed flooded mines into local waterways with disastrous results. There is an ongoing and thorough national effort in the U.K. to attempt to minimise this significant and ongoing damage to the countries waterways.

The link with Hume Coal proposal is obvious, as soon as Hume return the water to the mine and seal it, the water will commence the acidification process (even if it is treated beforehand). The water pH will drop and leach toxic minerals out of the mine workings. This polluted water will then leak into the aquifer (via the same fractures it entered the mine) thus impacting the water quality potentially far beyond the mines geographical boundaries.

The NSW EPA has commented on the Boral Colliery, "this impact can potentially last for hundreds of years".

I say we are fortunate to have Boral as the Medway Mine owner and not a \$2 subsidiary of a foreign multinational

4/Hume Coal justifies the development of this large industrial complex on the existing Boral Cement Works which was commissioned in 1929, 90 years ago when the total population of the Southern Highlands was 5000 versus 48000 and growing. The Boral cement works would never be approved in that location today and has a limited lifespan due economic, environmental and social license reasons.

5/Yesterday you heard of the potential impact on the elderly, retirees and general population of Bowral. Today I am going to highlight the impact on young families and children in New Berrima and Robertson.

New Berrima is in a direct line with the prevailing winds from the Coal stockpile which if you live here would know blow from the west and southwest at gale force. The population of New Berrima now has an above average number of young families with children. It is

no longer a dormitory suburb for the cement works. New Berrima will also suffer noise pollution from the mine and rail as well as considerable light pollution.

The maximum numbers of potential daily rail movements through Robertson on the train line to the coast that will carry the additional Hume Coal rail traffic are stated by the Department of Planning and Environment is 34 per day about a 50% increase, 12410 per year. In and around Robertson the rail line is not adequately protected from the general public. It is not safe with large open areas exposed to the rail line. The pedestrian pathway for the general public is unsafe with no signage, lighting or rail guards to safeguard the public.

Unprotected vehicular crossings are used by mothers and families pushing prams whilst escorting their children to and from the Robertson Public School and Pre School.

The Department reports states all of this can be managed. If it was so easily "managed" why do these problems exist today?

The Robertson Primary School backs directly on the rail line and will be subjected to immense noise levels and this will affect children's health and significantly disrupt learning. The rail noise and vibrations are within 10 meters from the school boundary and this distance is not sufficient to make the school safe.

6/ Nic Clyde from lock the Gate yesterday mentioned **Posco was a partner in the development of the ground breaking 21st century steel manufacturing process FINEX. Posco pioneered the process which completely removes the need for expensive coking coal, considerably reduces greenhouse gas emissions and as a by-product, produces a manufactured gas that can be used for downstream industrial and energy production. Posco continues to expand its FINEX capacity which now annually exceeds 3 million tons from the FINEX 2 and FINEX 3 plants. I have included a copy of the website notes from Posco for the commissioners**

It is obvious from what I have said this project should not be approved. This is absolutely the wrong project, in the wrong century and in wrong location and The IPC must recommend against it.



Ian Burns

PROF FELL: Right.

MR DUNCAN: - - - than the semisoft.

5 PROF FELL: Right.

MR DUNCAN: That's correct.

10 PROF FELL: Thank you. Sorry for that.

MR DUNCAN: Yes, unfortunately, the video that we had that shows the project area doesn't appear as though it's going to work.

15 PROF FELL: Right.

MR DUNCAN: So I will just continue to move on. Provision of the southern coalfield is the only significant source of quality hard met coal or coking coal in New South Wales. Within the project area the coal has all the necessary characteristics to produce a product that generally meets export coking coal specs and contains some highly attractive qualities, such as ultra-low

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The project location. Rail links to the Port Kembla Coal Terminal, currently an under-utilised asset that is ready to accept coal from the Hume Coal Project. Close to the Moss Vale Enterprise Zone. The surface infrastructure area is situated on predominantly cleared land to avoid environmental features and is an area with limited neighbouring sensitive receivers. Due to the underground non-caving nature of the mine, existing land use will continue across 98 per cent of the project area impacts for mine-induced subsidence.

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30 Land ownership. The main land use within the – and adjacent to the project area are agriculture, industrial, extracting, forestry, rural/residential and residential. Over half the area comprises cleared land. Only two per cent of the project area will be required for surface infrastructure. Land ownership. The government-owned land is approximately 13 – just under 1400 hectares. Freehold land owned by others, including Hume Coal subsidiaries, 1253 hectares. Freehold by others is 2400

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The community. 31 per cent of the individual community submissions were in support of the project; 69 objected to the project. The majority of the individual community submissions from local government area opposed the two projects. The majority of the submissions from local government areas of Wollongong, Shell Harbour and Goulburn, and Wollondilly supported the project. The vast majority of the objections were in the form letter format; approximately 92 per cent. 40 per cent of the form letters came from the Sydney area.

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Community. This plan just represents where some of the objections came from and the support or objection to the project, with the green being supporting and the

browny/yellowy colour objecting. DPE stated the vast majority of the community in the local government area having expressed their opposition to the project and - - -

5 PROF FELL: We will get a copy of these slides. Thank you.

MR DUNCAN: Yes.

MS WEBB: Yes.

10 PROF FELL: Right.

15 MR DUNCAN: Only 1.5 per cent of the population of the local government area were in opposition to the project. Best practice impact mitigation. The project's design includes features that exceed the normal practice used in Australian coalmines and go beyond minimum standards. A low-impact underground mine resulting in manageable subsidence which greatly reduces surface and groundwater impacts. Ceiling panels with bulkheads after extraction and reject backfilling which allows for the early recovery of the groundwater levels. Rejects will be placed underground, removing the need for the permanent surface emplacement. empty coal wagons
20 traveling to and from the mine will be covered.

25 DP&E assessment. The DP&E assessment focused on mine design, groundwater and economics. These will be addressed later in the presentation. DP&E assessed the potential impacts, including noise and vibration, air quality, traffic, biodiversity, heritage, agriculture rehab. The DP&E concluded these potential impacts would be similar to or less than other approved underground mining projects. The department accepts that these potential impacts are likely to be able to be managed, mitigated or offset to achieve an acceptable level of environmental performance.

30 Now looking specifically at the mine design and operations. Key DP&E issues for mining. The culmination of untested mining method, unconventional method of storing water underground is likely to result in serious operational safety risks. Unconventional mine design may result in unexpected sterilisation of coal, safety risks relating to the storage of water underground using bulkheads. Before I proceed
35 with the presentation, I wish to clearly point out that we were instructed by the Department of Planning to restore reject underground. They would not consider surface emplacement.

40 As a result of an open requirement to do that, the mechanism for storing rejects underground is by use of water, and that means you resize the rejects, and then you turn to a medium that can be pumped underground with the use of water. That was the primary reason for putting the water back underground. The other benefits from doing that, quite obviously, is the early recovery of the water table, and once we put water underground for the rejects, then we will put the rest of the water underground
45 as well; hence, we're a nil-discharge site.



Galaxy Research Poll - Fact Sheet

METHODOLOGY

Conducted by respected polling group, Galaxy Research in April 2017.

According to Dr. Campbell White of Galaxy Research, *"This poll was conducted by live telephone interview to both mobile and landline telephones. This is the most accurate and representative methodology and the poll was designed so that attitudes to the project were measured cleanly using neutral questions and balanced responses."*

RESULTS

1. MOST RESIDENTS OPPOSE THE HUME COAL PROPOSAL:

- **Nearly 6 in 10 (59%)** Wingecarribee Shire residents oppose the Hume Coal proposal, including **almost 5 in 10 (47%)** who strongly oppose it; and
- **Fewer than 1 in 5 (18%)** Wingecarribee Shire residents support the Hume Coal proposal.

2. COMMUNITY CONCERNS ABOUT THE MINE:

- **More than 7 in 10** Wingecarribee Shire residents are worried about the impact of the mine on groundwater (**76%**) and catchment water supply and purity (**73%**);
- **Over two thirds** of Wingecarribee Shire residents (**69%**) are worried about the impact of the mine on flora and fauna in the Southern Highlands;
- **More than 6 in 10** Wingecarribee Shire residents (**67%**) are worried about the airborne dust levels in the Southern Highlands;
- **Two thirds** of Wingecarribee Shire residents (**66%**) are worried about the impact of the mine on existing local industries including agriculture, equine, tourism and local food production;
- **Over half** of Wingecarribee Shire residents (**56%**) are worried about the impact of the mine on the culture and lifestyle of the Southern Highlands communities; and
- **Nearly two thirds** of Wingecarribee Shire residents (**61%**) believe that if the Hume Coal mine is approved it will make it more likely similar underground coal mines will be approved in the Southern Highlands.

Press Room Press Release

POSCO Reaches 20 Million Tons of Production Using FINEX Technology

2017/12/07

POSCO put its first FINEX-based commercial production facilities into operation in 2007, and recently reached 20 million cumulative tons of molten iron production after 10 years and 8 months.



On December 7, employees celebrated reaching 20 million tons and took a commemorative photo.

FINEX is an innovative, paradigm-shifting technology where molten iron is produced directly in a blast furnace. The process eliminates preliminary processing and uses cheaper powder-type iron ore and bituminous coal as raw materials. Subsequently, investment and production costs can be reduced by 85 percent compared to those of general blast furnaces of the same size. In addition, the technology reduces SO_x and NO_x emissions by 40 and 15 percent respectively, and fine dust particles can be reduced by 34 percent compared to general blast furnaces.

The beginnings of the technology date back to the 1990s when the Korean government chose POSCO's smelting reduction steelmaking for a national project and contributed KRW 22.2 billion for research and development.

As a result, POSCO started operating the FINEX 2 plant with an annual production capacity of 1.5 million tons in 2007, and the FINEX 3 plant with an annual production capacity of 2 million tons in 2014, which now produces 10,000 tons of molten iron every day. Surprisingly, the Korean steel industry, which was

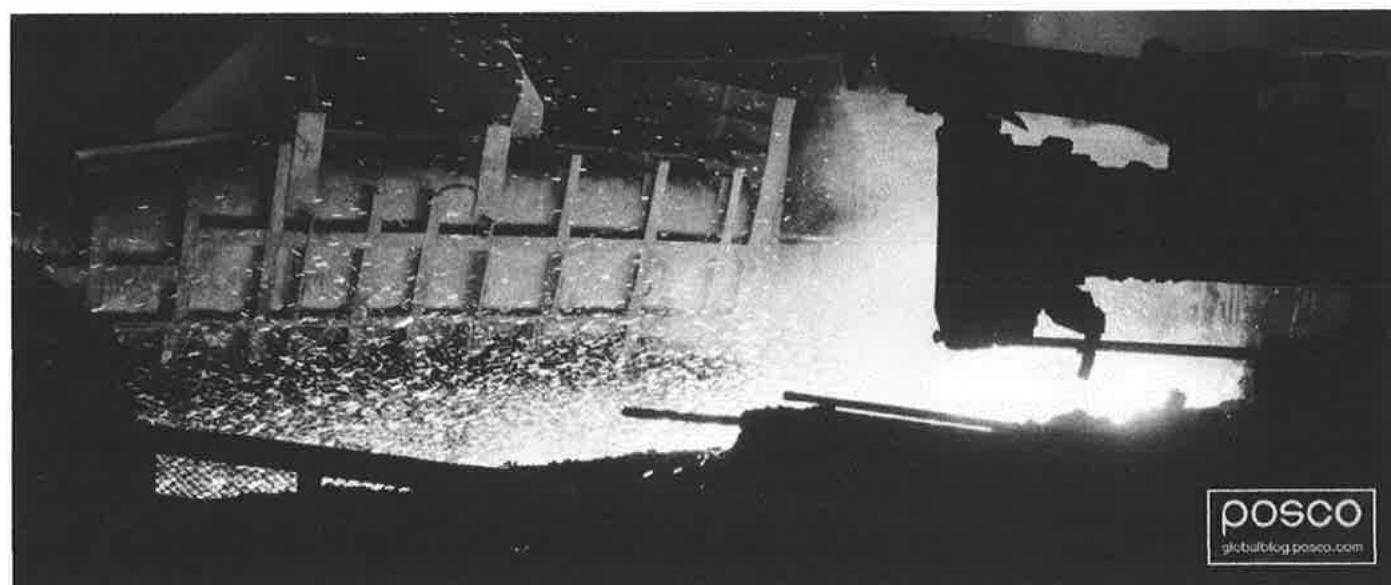
heavily reliant on foreign technologies in 1968, now leads the world's steel industry in terms of technology.

However, the path to success was filled with challenges.

In 1998, objections were raised against additional investment for the FINEX technology because there were no clear, tangible results even after KRW 60 billion was invested. Even so, POSCO management made a decision to construct a demo-plant with an additional investment of KRW 100 billion for technology development in order to secure long-term competitiveness rather than seeking immediate profit.

In addition, POSCO convinced steelmaker Voestalpine, who was in possession of the world's leading technology for molten iron production, to participate in the project as a partner. POSCO was able to do this by offering to cover the full cost of dispatched researchers and engineers should the technology become successful.

In 2003, there was a slight setback when the newly-opened core FINEX processing facility failed to operate successfully. However, after dozens of tests with 80 in-house professionals over 3 months, the facility was up and running.



Molten iron is produced directly in a furnace in the FINEX plant.

Sang-ho Lee, Director in Charge of Commercialization at POIST, said, "With less than 50 years of steelmaking experience, POSCO has managed to achieve a next-generation, innovative steel-producing technology. It feels great because even though POSCO started as a fast follower of foreign technologies, we are now a leading company in the world's steel industry with our FINEX technology."

POSCO currently has over 200 patents for its FINEX technology and HCl technology in Korea and 50 patents in more than 20 countries worldwide. Many overseas companies have expressed an interest in FINEX, and POSCO is in talks with world-renowned steelmakers in China to export its FINEX technology.

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