

**Submission of comments on  
Waratah Coal's proposed Galilee Coal Project  
(Northern Export Facility)  
(also known as  
China First Coal Project)**

Submission from  
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This EIS fails to assess the human health impacts adequately. The project will have impacts causing air pollution, increase of greenhouse emissions, damage to biodiversity and ecological services and impacts on surface and ground water. All are health issues which are of increasing importance in the context of global environmental change.

In 2001 the [Health Impact Assessment Guidelines](#) were issued by the Australian Commonwealth Government and we expected that these would be incorporated fully into all EIS processes. On page 1 of this document, the aim of the guidelines is stated thus:

*"To promote and enhance the incorporation of Health Impact Assessment (HIA) into environmental and planning impact assessment generally, thereby improving the consideration of health issues"*

The responsibilities of proponents of major development projects are defined within these guidelines in section 3.3.1, including that an impact assessment process *"should include the need to explicitly address potential impacts on human health."*

The responsibilities of the Public Health authorities are also presented in detail in the Health Impact Assessment Guidelines.

The need to "Explicitly address potential impacts on human health" stated in the Guidelines is not delivered.

## **Biodiversity and ecological services**

It appears that more than 50% of the Bimblebox Nature Refuge will be destroyed by open cut mining. The remainder is likely to be impacted by subsidence from underground mining, changes to underground water systems and potentially also pollution from toxins from the open cut mine.

This loss would be of remnant native vegetation used for minimal impact sustainable grazing and the biodiversity that has adapted to this system, a unique experiment that has brought sustainable co-existence between grazing and conservation recognised in surveys of the biodiversity and government support under the Federal National Reserve System program.

One of the major points of importance of this system lies in the fact that accelerating global environmental change will stress modern farming systems. This Refuge will be among the most resilient and may be able to continue food production when other areas have failed. Similar sustainable systems are present in the Swiss Alps and have been World Heritage listed for their importance to humanity. This issue has been recently addressed by the International Institute for Environment and Development <http://pubs.iied.org/17111IIED.html>.

We would remind Government of the health importance of maintaining biodiversity in the face of a rapid fall in species numbers. Since the EIS is devoid of comprehension on this issue, the following review will explain the interaction with human health

<http://ec.europa.eu/environment/integration/research/newsalert/pdf/FB2.pdf> and an EIS which understood these issues would have addressed the impact of the loss of Bimblebox on the health matters covered in this article.

On the issue of offsets for the Reserve, the question is "What offsets"? Where are the offsets, who will guarantee that the offsets are adequate and will they be in perpetuity? A proper offset would require that the company construct an equally large and diverse ecological community of similar quality. This needs to be well underway before an offset can be claimed. Offsetting where the company merely protects an area are inadequate because such an offset does not adhere to the fundamental principle of NO NET LOSS.

Further, on the issue of offsets, we note that Nature Refuges can be offsets for other developments. That means Bimblebox could have been an offset for another development, yet then destroyed. Both the federal and state governments have a lot to do before we can take their offsetting policies seriously.

Finally, we note that the site has EPBC listed species – e.g. the black-throated finch and squatter pigeon. This means there needs to be a full and independent assessment of the impact of the proposed mine on all listed species and this needs to be open to public scrutiny.

## **Air pollution**

Air Quality (air pollution) considerations are considered in disparate sections of the EIS which negates a comprehensive understanding of the issue.

The Executive Summary summarises air quality issues relating to the mine site at 3.1.14 (pages 43-44) and those relating to rail at 3.2.13 (pages 57-58).

Volume 1 - Project Overview, Chapter 5 - Cumulative Impact Assessment: touches on air quality at 5.4.5 (pages 72-74), going into more detail in Chapters 7 and 8 of the same volume. Mine site air quality issues are discussed at Chapter 7 - Environmental Management Plans: Mine, 7.8.10 Element 10 - Air Quality, (pages 149-152) and rail air quality issues at Chapter 8 - Environmental Management Plan: Rail 8.8.10 Element 10 - Air Quality (pages 219-222).

Volume 2 - Mine, Chapter 10 - Air Quality and Greenhouse Gas: provides further detail on air quality issues (pages 269 to 287).

Volume 3 - Rail, Chapter 10 - Air Quality and Greenhouse Gas: provides further detail on air quality issues (page 393 to 403).

In the EIS, air quality (best called air pollution) is considered within the confines of health and safety, a concept based on locality and workers. This avoids consideration of cumulative pollution over wide areas. Human health is human health in total not those humans immediately adjacent to the mine. The EIS obfuscates with statements such as 5.4.5, "Although it is acknowledged in isolation, each of the project's elements may have minor impacts on local air quality it is unlikely that a significant cumulative impact will occur when the project is considered as a whole." And 5.4.4.1, "Although it is acknowledged in isolation, each of the project's elements may impact on local groundwater resources it is unlikely that a significant cumulative impact be occur when considered as a complete project." (Note the failure to construct this sentence properly which epitomises the sloppy standard of this EIS.)

Apart from health and safety considerations the following are not considered:

The question of particulates arising from the mine must be assessed in the context of projections for the changing climate and epidemiological data indicating that they may have an impact for at least 48 km. The cumulative aspects of many mines developed by other operators must be considered which would indicate that adverse impacts might occur as far as the town of Alpha.

The background to these concerns relates to:

A comprehensive review of surface (opencast) mining operations in the USA by the Physicians for Social Responsibility, *Coals Assault on Human Health*, <http://www.psr.org/resources/coals-assault-on-human-health.html>.

This shows that communities in proximity to coal mines may be adversely affected. In West Virginia, it was found that people living in high coal producing counties had higher rates of cardiopulmonary disease, chronic obstructive pulmonary disease, hypertension and kidney disease compared to people in non-coal producing counties. As we learn more about particulates it becomes increasingly likely that particulates generated by the mining operation cause these diseases. Ill health is also caused in these proximate communities by contamination of water supplies with impurities from the exposed coal seams and this ill health may occur even after the mine is closed because impurities continue to be leached and drained into aquifers.

The question arises whether these health impacts reported in the USA occur in all coal communities; other studies confirm that they do. In the coal health study in Douglasdale, Scotland, there were significant increases in disease and mortality, including from cancer, in opencast mining areas in contrast to adjacent areas with no mines [http://coalhealthstudy.files.wordpress.com/2009/09/douglasdale\\_v42.pdf](http://coalhealthstudy.files.wordpress.com/2009/09/douglasdale_v42.pdf). No confounding factors were found for these differences and it was concluded they were due to coal mining.

The authors of this study then reviewed 12 other studies each of which were peer reviewed and which assessed the health of communities in opencast mining areas in the UK, Europe, USA and India. Ten of these studies found significant ill health in coal mining areas.

## **Health Impacts of Climate Change**

Global warming has a multitude of detrimental effects, many of which are already apparent even at this early stage of the accelerating process. Foremost are the health impacts which have been defined in the medical literature and by WHO as one of the greatest health challenges of our time.

Human health impacts are just that and an EIS should not pick and choose whose health will be considered and whose health should be ignored.

The best available, yet conservative, estimate of the annual number of deaths, globally, occurring because of the small amount of human-induced climate change to date is about 300,000-400,000. Most are children, in poorer countries, the result of climate-amplified malnutrition, diarrhoeal disease, malaria and flooding.

Assuming that Australia accounts for 1-2 per cent of the current warming then Australia is causing about 5,000 of those deaths each year in other countries. These deaths relate to our domestic emissions. Deaths due to exported coal are additional. If we look at Appendix 19 we see the projected emissions for the development and function of the mine. It is stated that these are "negligible" in terms of Australia's total emissions. It then avoids the main issue by saying "the cumulative impacts associated with the project have not been assessed, as the impacts associated with green house gas emissions are not localised to the source of the emissions" in other words it is someone else's problem. But it is not, it is our problem and this EIS should inform the Minister of the number of deaths projected to occur during the life of the mine. This figure can be calculated from WHO data and is expected to increase now that a firm link has been established between the severity of extreme climate events and climate change. Indeed Governments and Ministers need to know the balance of mortality (and morbidity) arising from their decision to approve this mine. The issue of national responsibility cannot be evaded by a wealthy country reasoning that if we do not export someone else will.

The extent of the greenhouse emissions to be produced by this mine are detailed and discussed in Appendix 1

## **Water**

Reference has already been made above to the grammatically incorrect section 5.4.4 of volume 1, chapter 5. "Although it is acknowledged in isolation, each of the project's elements may impact on local groundwater resources it is

unlikely that a significant cumulative impact be occur when considered as a complete project”.

It is accepted in the US Physicians for Social Responsibility study that ill health is caused in these proximate communities by contamination of water supplies with impurities from the exposed coal seams and this ill health may occur even after the mine is closed because impurities continue to be leached and drained into aquifers.

It is fair to say that at present groundwater science is very inexact. In some instances contamination may spread over a considerable distance from the mine site, but modelling on limited data is not guaranteed to provide certainty of risk for dispersal of contamination. This possibility must be taken in context of changing climate with increase in extreme events. It presents another unknown when taken in the context of the volume of mining proposed in the region.

Therefore we suggest that....

## **Conclusions**

This EIS does not take a coordinated and ordered approach to the health impacts of the proposed Galilee Coal Project. It fails to address air pollution effects and the effects on water quality in the surrounding district. It ignores the health impacts from the greenhouse emissions from the use of the coal mined. It ignores the ecological importance of the Bimblebox reserve and fails to connect ecological health with long term human health and wellbeing. This matter falls within the EPBC Act and we suggest the project cannot be approved without diluting the intent of the Act

It is critical for the future of human society and health that this mine should not be permitted to go ahead. We recommend this course to the Minister.

# APPENDIX 1

## An analysis of greenhouse emissions from Waratah Coal Galilee basin China First project

The proposal entails construction of four open pit mines, four large underground mines two coal preparation plants capable of processing 56 million tonnes annually, a rail line and export coal port facility. An estimate for the total tonnage of extracted raw coal over the life of the mine is given in the EIS as 1.4 billion tonnes.

In appendix 19, Vol 5, the scope 1 & 2 emissions expected during construction are estimated at just under 16 million tonnes. Annual operational emissions are given as close to 5.5 million tonnes (CO<sub>2</sub>-e).

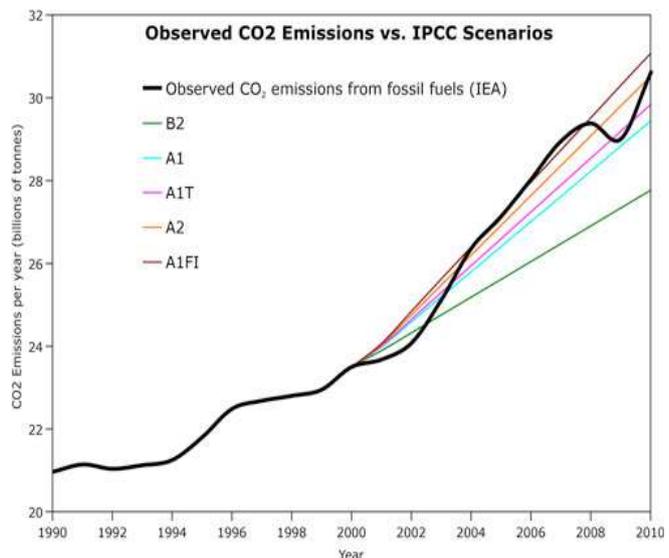
Scope 3 emissions - that is, those attributed to the combustion of the mined coal at its destination - are explicitly excluded by the Terms of Reference of the study, but they would amount to approximately 3.25 billion tonnes, accumulated over the mine life of about 30 years - or about 108 million tonnes annually. These cumulative emissions, to give them some perspective amount to just under 10% of the global emissions attributed to fossil fuel combustion and cement-making in 2010.<sup>1</sup>

From the point of view of a spectator interested in the welfare of future people, this can hardly be irrelevant - on the contrary, as a matter concerning the health of populations, it is arguably the single largest issue; likely to remain in that rank until effective policies to achieve a manageable peak of atmospheric greenhouse gases are found.

Therefore it is the view of this group that it is objectionable to regulate, however efficiently, the process emissions of an undertaking here which will emit, in another jurisdiction twenty times as much for the next 30 years.

The strength of our objection relies on sound estimates of the consequences of unrestrained emissions growth during those three decades. Slowed growth in 2008 & 2009 has been sharply reversed, mainly by a large acceleration of emissions from coal combustion in China, in 2010. That country achieved an emissions growth rate of 10% last year; the world as a whole 5.9%, despite economic stagnation in Europe and the USA.

Global emissions trajectory (IEA) 1990 - 2010, showing rapid recovery in trend from the 2008-9 recession. Further growth at or near 6% will return the trend to SRES A1F1 or higher by 2013.  
[\[http://www.skepticalscience.com/iea-co2-emissionsupdate-2010.html\]](http://www.skepticalscience.com/iea-co2-emissionsupdate-2010.html)



<sup>1</sup> CDIAC preliminary 2009-2010 global fossil fuel estimates: [http://cdiac.ornl.gov/trends/emis/perlim\\_2009\\_2010\\_estimates.html](http://cdiac.ornl.gov/trends/emis/perlim_2009_2010_estimates.html)

Growth in the range of SRES A2 - A1F1 between now and 2020 will essentially eliminate any possibility of limiting global surface warming to less than 2°C.<sup>2,3</sup> The only realistic scenarios for achieving that objective require a peak CO<sub>2</sub>-e between 2015 and 2020 with rapid reductions thereafter in the range of 6% annually.<sup>4</sup>

That these objectives are draconian needs hardly be emphasized, but failure to get close to them will guarantee much higher peaks; a much longer interval of enhanced greenhouse forcing before equilibrium, and an unknown risk of amplifying feedbacks.

Should it proceed, the contribution of the China First project to that failure will be significant. The proposers and regulators therefore have some responsibility, beyond the strict terms of this impact study.

The most recent work on long-term consequences of a 21st century peak CO<sub>2</sub> in the range 600-1000 ppmv (very probable if the peak is delayed by two decades) suggest that this will be more than adequate to destabilize the West Antarctic ice sheet on a time scale of a century or two, and induce eventual sea-level rise of several tens of metres, with peak rate of rise exceeding 2m per century.<sup>5,6,7</sup>

A rise in global mean surface temperature exceeding 3°C would entrain a host of consequences, many of them essentially irreversible, very adverse to the welfare of future people. The only responsible public policy is to begin limiting the extraction of fossil fuels immediately, with a priority on phasing out combustion of coal, the most emissions intensive, by 2030.<sup>8</sup>

This group wishes to declare its view that generating wealth for the State by an activity which adds three billion tonnes of carbon dioxide to the air is gravely inimical to the health and wellbeing of living and future people. We make this stricture especially on behalf of those too young to advocate for themselves and the millions of unborn who will bear most of the cost of what we do in respect of this project.

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<sup>2</sup> Meinshausen et al, 2009. Nature, 458, 1158-1162

<sup>3</sup> Rogelj et al, 2011. Nature Climate Change, 1, 413-418

<sup>4</sup> Anderson & Bows, 2008. Phil. Trans. R. Soc. A, 366, 3863-3882

<sup>5</sup> Pagani et al, 2011. Science, 334, 1261-1264

<sup>6</sup> Rahmstorf, 2010. Nature Reports Climate Change, April 6, 2010

<sup>7</sup> Hansen et al, 2008. Open Atmospheric Science Journal, 2, 217-231

<sup>8</sup> Hansen, J, 2009. Strategies to Address Global Warming. [http://www.columbia.edu/~jeh1/mailings/2009/20090713\\_Strategies.pdf](http://www.columbia.edu/~jeh1/mailings/2009/20090713_Strategies.pdf)