

Independent Planning Commission of NSW  
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Dear Commissioners

## SUBMISSION RE: MOOLARBEN COAL MINE STAGE 1 MOD 14 & STAGE 2 MOD 3

### SUMMARY

I object to the above planning applications, which if approved, would allow Moolarben coal to increase overall production from 13 million tonnes (Mt) P.A. to 16 Mt P.A.

This 'development' would greatly increase greenhouse gas emissions (8.7Mt CO<sub>2</sub>-e P.A.) at a time when Australia and the world, as a whole, should be rapidly decreasing emissions. On this basis alone it should not be approved.

The 'development' fails all of the tests of ecologically sustainable development contained in the NSW Protection of the Environment Act 1991 – Section 6(2).

- ***The Precautionary Principle should be applied*** – this development will certainly contribute to worsening global warming. The only thing unknown is the exact extent of the devastation. Going ahead with a development such as this would be akin to arguing it was okay to drive a car off a cliff because no one would be harmed until the car hit the ground.
- ***Irreversible damage to the environment should be avoided*** – climate change will cause irreversible damage to the environment. It has been estimated that 30% of all currently living creatures could be extinct by 2100 if drastic action is not taken now to halt climate change. At a local level expert submissions to the IPC have highlighted the serious impacts the development will have on ground water & on the Goulburn River.
- ***The present generation should ensure the health, diversity and productivity of the environment are maintained for the benefit of future generations*** – The development will, if allowed to proceed, certainly damage the health, diversity and productivity of the environment at the expense of future generations.
- ***Those who generate pollution and waste should bear the cost of containment, avoidance or abatement*** – The proponent has no way of offsetting greenhouse gas emissions or of guaranteeing there will be no damage to water resources.

The NSW Protection of the Environment Act 1991 – Section 6(2) states, in part, ***“ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision making processes.”*** This process of integrating sometimes conflicting interests is commonly referred to as balancing the 'triple bottom line'. The only possible winners out of this development will be Moolarben Coal which might secure a short term increase in profit and the government which might secure a short term increase in royalties. These benefits are minimal as total coal extraction is not changing so revenue streams are not being increased overall. A few workers might secure short term construction jobs. Balanced against these minimal gains are:

- the highly detrimental social impacts of climate change on current & future generations, and
- the devastating impact of climate change on the environment at large and the local environmental damage to water resources.

Clearly, the triple bottom line is best 'balanced' by rejecting the development as very little is lost in so doing and much social and environmental damage is avoided.

## GREENHOUSE GAS EMISSIONS – SCALE AND TIMING

The proponent's submission tries to downplay the scale and impact of greenhouse gas emissions. The following emissions would arise if the development is approved:

	<u>CO<sub>2</sub> Mt P.A.</u>
Scope 1 – Diesel	0.026 (1)
Scope 2 - Electricity	0.038 (1)
Scope 3 - Methane (CO <sub>2</sub> -e)	1.365 (2)
Scope 3 - Burning Coal	<u>7.286</u> (3)
	<u>8.715</u>

- (1) Todoroski Air Sciences, '*Open Cut Optimisation Modification*', Appendix B
- (2) CO<sub>2</sub>-e for 3 Mt coal P.A. @ 45.5kg/t (factor for NSW open cut mines from Holmes Air Sciences, '*Air Quality and Greenhouse Gas Assessment*', Moolarben Coal Project, Appendix 3 2006)
- (3) CO<sub>2</sub> for 3 Mt coal P.A. @ carbon combusted percentage of 66.18% (factor from Wells Environmental Services, '*Response to Submissions*', Moolarben Coal Project 2006)

Using calculation methods put forward in the past by Moolarben Coal to estimate Scope 3 emissions, the total increase in greenhouse gas emissions in CO<sub>2</sub> equivalents will be 8.7Mt P.A.

In Section 4.9.5 of their Environmental Impact Assessment, Moolarben Coal argues that consent authorities should not worry about emissions from burning coal as, to quote:

*"These Scope 3 emissions would not physically occur in NSW or Australia as product coal would be exported to overseas customers."*

The IPC must reject this ridiculous assertion. NSW does not have a separate atmosphere to the rest of the planet!

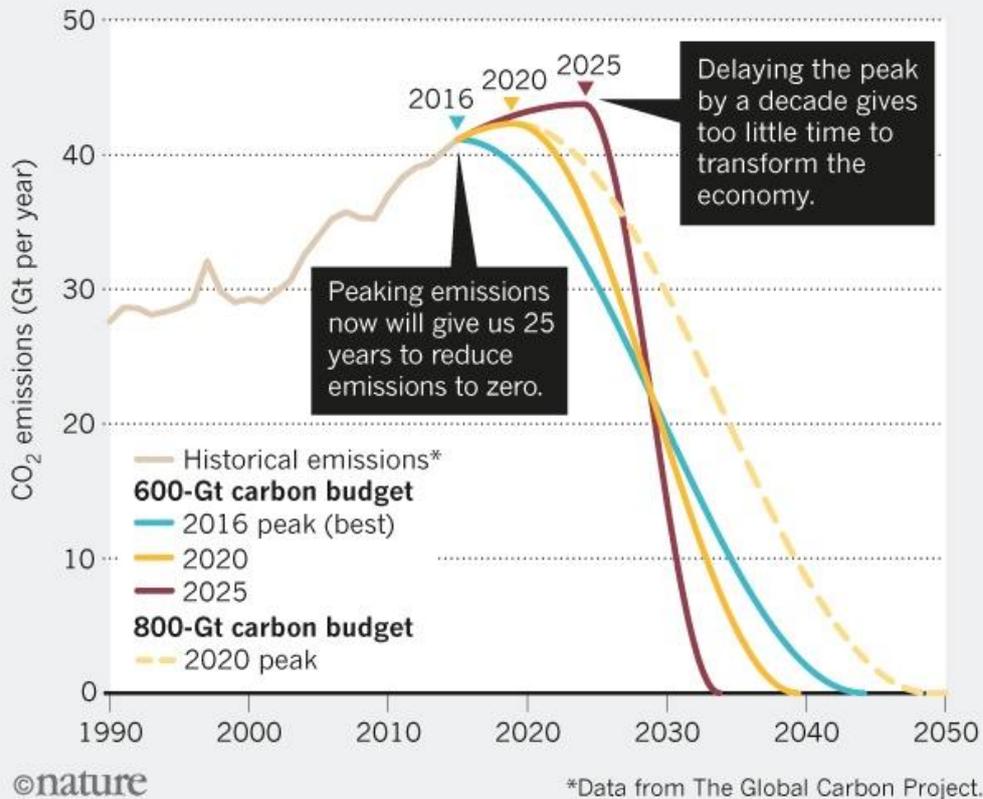
Moolarben Coal also argues that greenhouse gas emissions are not a problem as they will not change over the life of the mine. This argument is nonsense for two reasons. Firstly, we are talking about Stage 1 **Mod 14** and Stage 2 **Mod 3** so what is to say the company will not seek another 10 modifications all of which might seek to increase total production? Secondly, and most importantly, any increase in the rate of emissions in the short term is a big problem. If we are to limit global warming to 2° we need emissions to peak by 2020 and then to fall rapidly to a net zero by 2040.

The graph on the next page illustrates the challenge we face. The source of the graph is:

<https://www.nature.com/news/three-years-to-safeguard-our-climate-1.22201>

## CARBON CRUNCH

There is a mean budget of around 600 gigatonnes (Gt) of carbon dioxide left to emit before the planet warms dangerously, by more than 1.5–2°C. Stretching the budget to 800 Gt buys another 10 years, but at a greater risk of exceeding the temperature limit.



The graph illustrates the 'carbon budget' approach now used by the IPCC to communicate the challenge the world faces in reducing greenhouse gas emissions in time to limit global warming to 2°.

A 'budget' of 600 gigatonnes (Gt) of carbon dioxide remains to be emitted, if we are to have a 66% chance of limiting warming to 2°. Larger 'budgets' make the chance of success much smaller.

The areas under the 3 curves are the same. They all use the same 600 tonne budget but simply start the task of reducing emissions at different times. Clearly, 2016 is past so we do not have the luxury of having 25 years to transform our economy. If emissions peak in 2020 and are reduced rapidly to zero over 20 years so that net emissions are zero by 2040 we have a 66% chance of limiting global warming to 2°. We cannot wait till 2025 to commence emission reduction as it would be impossible to transform the world's economy in 10 years.

## IMPLICATIONS OF GLOBAL WARMING – WEATHER IMPACTS

There are 'weather' impacts, such as:

- **Bush Fires** - increased frequency and severity
- **Floods** - in QLD after years of drought floods kill 100,000's of cattle
- **Heat Stress** – already the biggest cause of deaths from natural disasters in Australia – tropical areas are particularly at risk as persons exposed to a '**wet bulb**' temperature of 35° or above will die in a few hours
- **Cyclones** – increasing severity

Events such as the above appear on the news almost daily. However, the impact of climate change is much more pervasive than simply a few newsworthy major events.

The current bushfire season started one month early and has just been extended for another month. At the start of the season my brigade captain was surveying dams on properties in our area to see which ones had water as many were bone dry. Apart from the risk of serious fires increasing our ability to fight them is being affected.

Heat stress in particular should be considered. Research by Macquarie University identifies heat stress as the leading cause of 'natural disaster' deaths in Australia even though it is thought to be very much under reported.

In considering how dangerous a 2° temperature increase might be people need to be aware of the importance of 'wet bulb' temperatures. This is particularly relevant to tropical areas with high humidity. At 'wet bulb' temperatures of 35 degrees or above human beings cannot reduce their body temperatures by perspiring. Even young healthy people exposed to a 'wet bulb' temperature of 35 degrees for several hours can die.

Heat waves in India and Pakistan in 2015 killed 5,000 people when 'wet bulb' temperatures were in the range of 29 degrees to 31 degrees. Researchers at Columbia University have estimated that by 2060 some 600 million people will live in regions where wet bulb temperatures may hit 32 degrees. Of these 250 million could see heat waves with 'wet bulb' temperatures of 33 degrees and 50 million could experience 34 degrees, only one degree off the lethal upper limit. (*COSMOS Magazine*, Issue 68, April-May 2016)

Failure to act on climate change will certainly cost lives and it may cost lives on an unimaginable scale.

## IMPLICATIONS OF GLOBAL WARMING – IMPACTS ON FOOD PRODUCTION

Global warming will severely affect food production:

- **Drought** – will cause more frequent crop failures
- **Floods** – severe flood events are already destroying crops and animals
- **Grains** - higher temperatures will reduce pollen viability, seed set and grain yield in rice and sorghum. The CSIRO has stated: "*High night temperature induces contrasting responses for spikelet fertility, spikelet tissue temperature, flowering characteristics and grain quality in rice*". Kansas State University has researched climate change impacts on sorghum and has stated: "*Adverse high temperature effects on pollen viability, seed-set, seed yield and harvest index of grain-sorghum [Sorghum bicolor (L.) Moench] are more severe at elevated carbon dioxide due to higher tissue temperatures*".

- **Bees** - higher temperatures will cause hive melt-downs. This has already happened in Mudgee during summer 2018 when extreme temperatures were experienced. Bees pollinate over 40% of the plants we eat so a world without bees would be severely impoverished.
- **Animal Stress** - Chickens die if exposed to temperatures > 37 degrees for an extended period. Chickens through their eggs and meat are one of the main sources of protein for humans.
- **Inundation** - the world's great river deltas are its most productive farming areas. These will be lost. Just one of these deltas, the **Ganges-Brahmaputra Delta**, which makes up much of Bangladesh, is home to an estimated 125 to 143 million people. Parts of the delta are already being affected by saltwater intrusion. A sea level rise of only half a metre will displace an estimated 6 million people. ([https://en.wikipedia.org/wiki/Ganges\\_Delta](https://en.wikipedia.org/wiki/Ganges_Delta))

This is only a small snapshot of the impacts on food production of global warming. Hopefully it illustrates the absolute imperative to start reducing emissions now and to limit global warming to a maximum of 2 degrees.

We cannot afford to increase emissions through proposals such as the Moolarben Coal modifications.

### **EVERY BIT COUNTS**

Climate sceptics argue increases in greenhouse gas emissions, such as would come from the Moolarben Modification, are so small against total world pollution they don't count!

This is nonsense as total world greenhouse gas emissions are simply the sum total of thousands of such mines and other greenhouse gas sources.

Moolarben Coal's own "*Response to Submissions*" 2006, page 25, stated:

**"In practice however the effects of global warming and associated climate change are the cumulative effect of thousands of such sources."**

### **WHY FOCUS ON REDUCING COAL PRODUCTION?**

The reasons for wanting to cut greenhouse gas emissions and thereby limit global warming are absolutely compelling.

Coal has to be our focus because it is the biggest source of greenhouse gas emissions and, because it is mainly used for electricity production, it can be replaced easily with existing technology.

There is an existing plan from RENEW/ANU to convert Australia to 100% renewable power by 2030.

Key elements are:

- Wind and solar power generation
- Pumped Hydro for grid stabilisation including Snow Mk2
- New grid transmission backbone

All the technology required already exists. See <https://renew.org.au/research/100-percent-renewable-energy-by-2030/>

## AUSTRALIA IS BEING LEFT BEHIND

Climate change sceptics argue there is no point Australia moving to renewables if China is going to continue polluting. This doesn't wash as China is leaving Australia behind in the switch to renewables:

- By end 2015 China had installed wind farm capacity of 145 GW
- Gansu wind-farm to be completed by 2020 will, alone, generate 20GW from 7,000 turbines
- China is forecast to have 250 GW of wind capacity by 2020, when 15 percent of all electricity will come from renewable resources
- China has already built a large part of a new ultra high voltage grid 23,000 miles long, able to deliver 150 gigawatts of electricity
- China put 1,000,000 new electric vehicles on the road in 2018
- China is building a 800MWh vanadium redox battery, with several more planned, for grid stabilisation

Australia has led the world in the development of renewable energy technologies. The University of NSW led the way in developing high efficiency photovoltaic solar panels. UNSW also developed the vanadium redox battery and registered a US patent in 1988. Tragically, Australians have not benefited from these advances as there has been no government support for renewable energy technologies over the past 30 years.

It is time to break away from coal the technology of the 19<sup>th</sup> century.

## WHY GOVERNMENT INACTION?

How is it possible that the Department of Planning can approve proposals such as the Moolarben Coal modifications when they are clearly counter to all the tests of ecologically sustainable development?

Apart from the four tests of ecological sustainable development: the Precautionary Principle; Avoiding Irreversible Damage to the Environment; Intergenerational Equity, and Polluter Pays, the **NSW Protection of the Environment Act 1991 – Section 6(2)** states, in part, ***“ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision making processes.”*** This process of integrating sometimes conflicting interests is commonly referred to as balancing the ‘triple bottom line’ (TBL).

The TBL concept does not work. Time & again a so called balance has been struck by sacrificing a bit more of the environment. The environment that sustains us and all other living things is suffering a death by a thousand cuts. In recent months we have seen bushfires, floods, cyclones, massive fish kills in the Darling, and algal blooms in the Coorong and 20,000 flying foxes dropping dead in extreme heat.

The only possible winners out of this development will be Moolarben Coal which might secure a short term increase in profit and the government which might secure a short term increase in royalties. These benefits can only be minimal as total coal extraction is not changing and revenue streams are not being increased overall. A few workers might secure short term construction jobs. Balanced against these minimal gains are:

- the highly detrimental social impacts of climate change on current & future generations, and
- the devastating impact of climate change on the environment at large and local environmental damage to water resources.

It would appear that the Department of Planning puts enormous weight on company profits and some weight on job creation and close to zero weight on protecting the environment. One would have to assume these priorities are imposed on the Department of Planning by government.

**Clearly, the triple bottom line is best 'balanced' by rejecting the development as very little is lost in so doing and enormous social and environmental damage is avoided. The Independent Planning Commission should not accept use of the triple bottom line to excuse bad planning decisions.**

## **CONCLUSION**

**The Moolarben Modification proposal asks for approval to increase greenhouse gas emissions at a time when emissions need to be rapidly reduced.**

**To deliberately exacerbate the extreme problems that Global Warming is creating would be madness. It would be a betrayal of our children and grandchildren and all future generations.**

**Do not approve this application. Send the Government a message, enough is enough, we have to start reducing greenhouse gas emissions and we have to do it NOW.**

**Barry Hadaway**

**8 April 2019**