Nature Conservation Council
The voice for nature in NSW

Gen Lucas
Major Projects
NSW Department of Planning, Industry and Environment

Submitted online

28 April 2020

Dear Madam/Sir,

Re: Submission of objection - Angus Place Coal Mine Extension - SSD 5602

The Nature Conservation Council of NSW (NCC) is the peak environment organisation for New South Wales, representing over 150 member organisations across the state. Together we are committed to protecting and conserving the wildlife, landscapes and natural resources of NSW.

NCC objects to the proposed Angus Place Coal Mine Extension project. There are many reasons why the NSW Government should not support this proposal. The grounds of our objection are set out below.

Greenhouse Gas Emissions

Quantity of emissions

Centennial coal has vastly under-reported the greenhouse gas pollution that will result from their mine.

The coal from Angus Place is mined in order to be burned at Mount Piper Power Station[1]. The burning of coal is the number one driver of global warming. As such, the approval of additional coal mining jeopardises the safety of the global climate, creating a potentially catastrophic generational inequity.

EMM Consulting, working for Centennial Coal, reported the expected greenhouse gas impacts of the project in Appendix K of the Amendment report.

The overwhelming majority of emissions from coal mining result from the burning of product coal. These are called downstream emissions or "scope 3 emissions".

[1] "The ROM coal is then transported to either Wallerawang or Mount Piper power stations along private, sealed haul roads. There are no reject losses from the operation and saleable coal yield is 100%." Centennial Coal, *Angus Place Mine Extension Project EIS*, April 2014, p120

Centennial coal reported their scope 3 emissions as 364,500 t, or 0.368% of NSW emissions (table 8-22 of the Amendment Report, p102). However this is incorrect. The actual scope 3 emissions are 10.96 million tonnes CO2e, or 8.5% of NSW emissions.[2]

In this case, Centennial Coal misreported its downstream emissions as being 30 times smaller than reality.

Analysis by NCC has found Centennial Coal has repeatedly mis-reported its scope 3 emissions in the past, as published in Environmental Impact Statements and project applications. In some cases, the reported emission factors were more than 90% lower than the correctly calculated, or actual, scope 3 emissions released into the atmosphere.

For every tonne of thermal coal mined in NSW, approximately 2.4 tonnes of CO_2 is released when the coal is burned, either in NSW or overseas. This is termed scope 3 or "downstream" emissions.

Table 1: Centennial Coal claimed scope 3 emissions vs actual

Project name	**EIS date**	**Salable coal (million tonnes)**	**Claimed scope 3 emissions (tonnes CO2)**	**Claimed emissions factor (tonnes CO2 per tonne salable coal)**	**Consultant**
Actual emissions factor for NSW thermal coal				**2.4**	
Angus Place Extension Amendment	2020	4.5	364,500	0.081 Error: 97% lower than actual	EMM Consulting
Angus Place Extension	2014	4	943,920	0.236 Error: 90% lower than actual	SLR Consulting Australia Pty Ltd
Airly Extension Project (approved)	2014	1.8	424,764	0.23598 Error: 90% lower than actual	SLR Consulting Pty Ltd
Awaba Extension	2010	0.88	715,484	0.81	GSS Environmental

[2] Using NSW black coal energy content of 27 GJ/t, and the emissions factor from burning this coal of 90.23 kg CO2e/GJ as per table 1, *National Greenhouse Accounts Factors*, Department of the Environment and Energy, August 2019. NSW total emissions in calendar year 2017 was 129 Mt CO2e.

Project (approved)				Error: 66% lower than actual	
Springvale Mine Extension (approved)	2015	4.5	1,176,742	0.23 Error: 90% lower than actual	SLR Consulting

Providing misleading information in an EIS process is an offence under the EP&A act, with a maximum penalty for $1 million for corporations and $250,000 for individuals.

Recommendation: DoPIE investigate whether Centennial Coal has committed an offence under the EP&A act by reporting incorrect information.

Recommendation: Centennial Coal be required to redo its greenhouse gas impact assessment and engage a consultant with expertise and demonstrated experience in assessing climate change impacts. DoPIE should provide Centennial Coal with a shortlist of suitable consultants.

NCC is also concerned that an error of this magnitude has gone undetected several times through the NSW government major projects approval process.

Recommendation: DoPIE establishes an independent expert advisor on climate to guide the Department on its assessment of both the quantity of greenhouse emissions and the impacts of greenhouse gas emissions.

Impact of emissions

The proponent has ignored the impacts of greenhouse gas emissions caused by its project and makes no attempt to estimate these impacts either quantitatively or qualitatively.

Climate change is already having severe impacts in NSW and globally. The 2019-20 fire season has been an unwelcome insight into the future for NSW.

Climate change impacts on fire weather have been predicted for some time now. More than 10 years ago, Lucas et al (2007) predicted that as a result of climate change impacts, dangerous fire seasons will become more common, the more extreme years will become even worse, 'marginal' years will become more dangerous and the infrequent less extreme years will remain so.[3]

[3] Lucas C et al. 2007. *Bushfire weather in southeastern Australia: recent trends and projected climate change Impacts*. Available at http://www.climateinstitute.org.au/verve/_resources/fullreportbushfire.pdf

So far anthropogenic climate change has resulted in one degree of warming since the pre-industrial era. Even with this level of warming, impacts have been significant. For example the McArthur Forest-Fire Danger Index (FFDI) has already increased significantly across large parts of Australia, including Central-West NSW since the 1950s.[4]

Impacts on human wellbeing and nature from 1.5 to 2 °C rise in global temperatures will be higher still. For example, multiple lines of evidence indicate that the majority (70–90%) of warm water (tropical) coral reefs that exist today will disappear even if global warming is constrained to 1.5°C. Under 2°C or more warming, 99% of corals are likely to be lost.[5]

1.5 to 2 °C of warming is by no means "safe". However exceeding 2 °C of warming risks more catastrophic levels of impacts. At higher levels of warming, impacts to human wellbeing and nature rise non-linearly.

The threat posed to our society and environment by climate change is so pressing that governments came together in 2015 and signed the Paris Accord, with an agreed aim of: "holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C.".

Achieving the 1.5 to 2 °C goal requires immediate and sustained reductions in CO_2 emissions. Calculating a global "carbon budget" demonstrates how much CO_2 can be emitted globally, and still constrain warming to below 2 °C, as shown in the "carbon crunch" figure below.

[4] CSIRO and BoM, *State of the Climate*, 2018, page 5. Available at http://www.bom.gov.au/state-of-the-climate/State-of-the-Climate-2018.pdf
[5] Intergovernmental Panel on Climate Change, Special Report on global warming of 1.5 degrees, 2018, Chapter 3, Box 3.4, page 230. Available at https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Chapter3_Low_Res.pdf

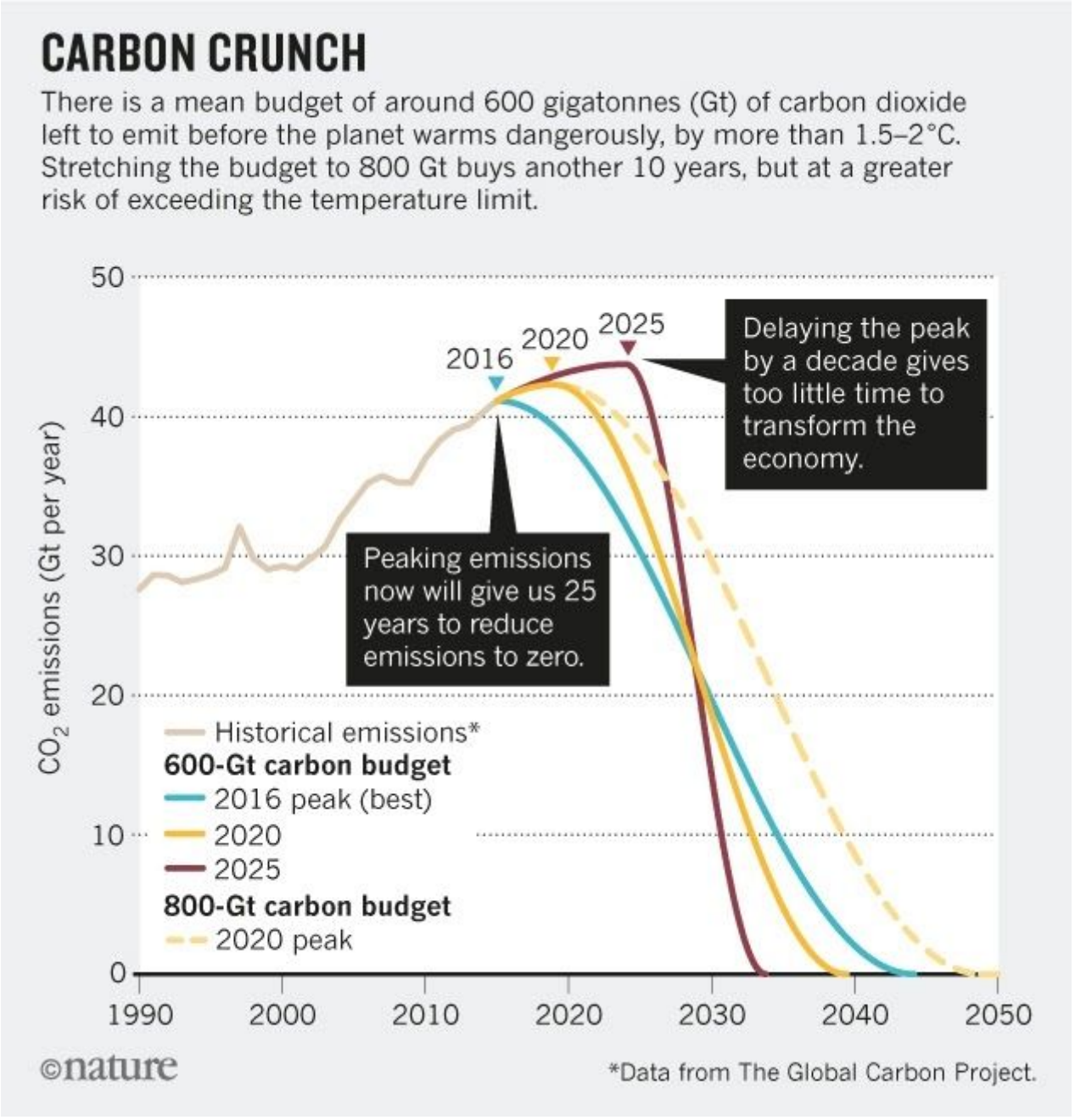

Figure 1: global emissions reduction trajectory required to constrain warming to 1.5 - 2 °C [6].

Australia's current policies are classed as "highly insufficient" by the global Climate Action Tracker, as emissions are not on track to meet even our own "insufficient" targets. If all countries followed this example, warming would reach unsafe levels of between 3 °C and 4 °C this century.[7]

[6] Christina Figueres et. al, *Three years to safeguard our climate*, 2017, Nature 546: 593. Available at: https://www.nature.com/news/three-years-to-safeguard-our-climate-1.22201
[7] Climate Action Tracker, https://climateactiontracker.org/countries/australia/ . Accessed 28 Apr 2020.

Comparing current fossil fuel reserves to this carbon budget shows that approving new or extended coal mines is incompatible with the goal of limiting warming below catastrophic levels.

According to climate change expert Professor Will Steffan: "Over 90% of Australia's existing coal reserves cannot be burned to be consistent with the Paris accord 2°C target, and certainly not with the more stringent Paris accord 1.5°C target."[8]

Avoiding dangerous impacts of climate changes requires rapidly reducing emissions, and by extension closing existing sources of fossil fuels, such as coal mines, not opening new ones.

If approved, this mining project would be responsible for 8.5% of NSW's greenhouse gas emissions.

Recommendation: NCC recommends that the department recommend refusal of the project proposal, on the basis that the downstream emissions caused by the project are incompatible with a safe climate, and would result in unacceptable impacts.

Recommendation: NCC recommends that the department requires the proponent to determine, quantitatively where possible, the downstream climate impacts caused by the scope 1, 2 and 3 emissions of the mine. For example, worsening extreme weather and related losses.

Mine Life

The amended APMEP proposes to undertake mining operations up to 31 December 2053 with rehabilitation activities to continue beyond this date. The applicant claims that this aligns mining operations at the Angus Place Colliery to the current projected life of the Mount Piper Power Station.

The Mount Piper Power Station was commissioned in stages over 1992-1993, with a technical life of 50 years. As such, the Australian Energy Market Operator lists its expected closure date as 2042[9].

This date, however, does not consider efforts by Australia and globally to avoid dangerous climate change.

ClimateWorks recently assessed prospective pathways for Australia to do its fair share of limiting global warming to 1.5 to 2 °C. It found that to achieve this goal, to which Australia has committed, coal-fired electricity generation must be greatly reduced by 2030, and completely phased-out by 2035 or soon after, even when relying on a large fraction of "negative emissions" to account for overspending the remaining carbon budget.[10]

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[8] Will Steffan, *Expert Report, NSW Land and Environment Court, Proceedings 2017/383563,* 12 June 2018 Available at http://envlaw.com.au/wp-content/uploads/gloucester4.pdf

[9] Australian Energy Market Operator, *NEM Generation Information*, February 2020

[10] ClimateWorks Australia, *Decarbonisation Futures*, March 2020

Electricity: All scenarios reach about 75% renewable electricity generation by 2030, and 100% by 2050. The key factor influencing the speed of the transition to renewable electricity is the rate at which coal generation (and then gas) exits the system.

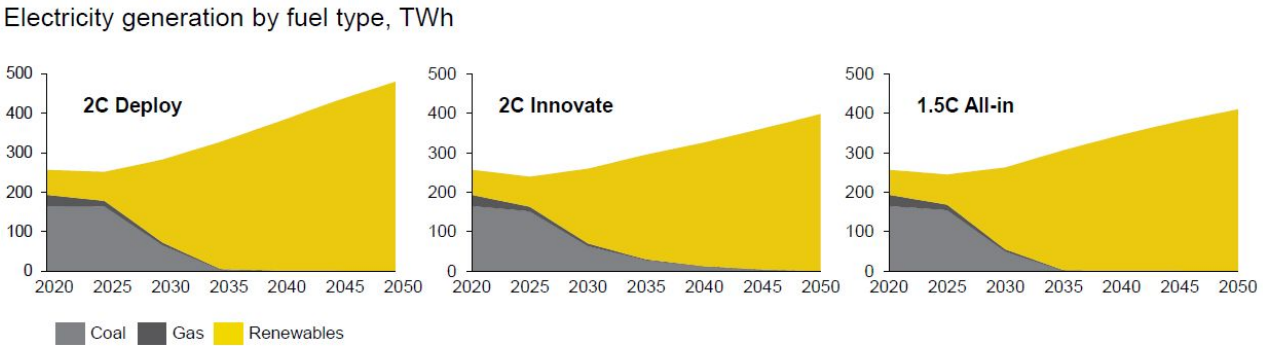

Figure 2. ClimateWorks Decarbonisation Futures 2020[11]

If the mine is to be approved, we recommend reducing the approved life of the mine to end by 2030 at the latest. This would avoid licencing and locking in a significant source of greenhouse gas emissions in contravention of Australia's commitments under the Paris Agreement, and NSW Government's net-zero emissions target.

However, we suggest that other existing coal mines could supply coal to Mount Piper Power Station for the remainder of its life, without causing an additional, significant, emissions source to be added in NSW.

Recommendation: If the mine is to be approved, ensure the approval expires in 2030 at the latest, to avoid locking in emissions long into the future that are incompatible with protecting a safe climate.

Impacts to Nature

The proposed project will cause many unacceptable and in some cases irreversible harms to significant environmental values.

Through its existing Springvale and Angus Place mines, Centennial Coal have already done irreversible harm to the Newnes Plateau, including the Newnes Plateau Shrub Swamp Endangered Ecological Community.

The direct undermining of Newnes Plateau Shrub Swamp Endangered Ecological Community (EEC) using longwall mining is likely to fracture sandstone layers beneath the swamps, draining them of water and life.

[11] ClimateWorks Australia, *Decarbonisation Futures Slide Pack*, March 2020

Hanging swamps and third-order streams are likely to suffer the same fate.

The recent bushfire season provided an unwelcome lesson in the importance of swamps, springs and streams.

The NSW OEH made the prescient warning in 2014:

> *"Desiccation of swamps can lead to increased oxidation and subsidence of peat deposits; increased drying potential and a consequent increase in fire risk, changes in hydraulic conductivity and a loss of recharge potential (the swamp peat loses some of its absorption capacity), 'flashier' flooding during storm events, and an increased tendency for the catchment valley to dry up faster in post rainfall periods, that is an increase in the number of cease to flow days (Balek and Perry 1973, Worsten et al ; Rielly 2007; Schlotzhauer and Price 1999)."*[12]

Now, following the 2019-2020 fire season, we see the impacts, for example at Carne West Swamp, undermined by the Springvale mine:

[12] OEH Response - Springvale Extension Project and Angus Place Extension Project, 2 June 2014

Carne West Swamp, 1 April 2020. Photo: Lithgow Environment Group.

Following the 2019-20 bushfire season, the remaining swamps, streams and springs are critical refuges for wildlife and natural firebreaks and more precious than ever.

Surface impacts will lead to not just the destruction of the ecological communities on the Newnes Plateau, but increased silt and sediment and reduced water quality in the Blue Mountains World Heritage Area downstream of the mine.

Recommendation: If the mine is to be approved, the mining method must be a modified panel and pillar technique, as per Clarence Colliery, to reduce subsidence.

Recommendation: If the mine is to be approved, Newnes Plateau Shrub Swamp Endangered Ecological Communities should not be directly undermined.

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The mine will also result in an unacceptable loss of water flow in the Wolgan River and other streams in and near the proposed mining area, and loss of downstream flows into the Blue Mountains World Heritage Area and Colo River.

Recommendation: If the mine is to be approved, mine water must be properly treated and returned into the Wolgan River catchment.

NCC is also concerned about the unacceptable loss of threatened species and their habitat. We direct the Department's attention to submissions by local environment groups for detailed listings of these impacts.

For all the above reasons, we request that the Department recommend refusal of the amended mine extension proposal.

If you would like to discuss these matters in more detail, please don't hesitate to contact me at ncc@nature.org.au .

Yours sincerely,

Chris Gambian
Chief Executive
Nature Conservation Council of NSW