

## **Moolarben OC3 Extension Project - EIS submission**

14 December 2022

Thank you for the opportunity to make a submission on the EIS for the Moolarben OC3 Extension Project. Lock the Gate Alliance **objects** to this project.

Whilst we only have capacity to make brief comments on the greenhouse gas issues associated with this development, we understand that locals and environment groups are highlighting a significant number of negative impacts that would arise from an approval of the Moolarben OC3 Extension Project. We understand these to include:

- Open cuts would be located along the remaining upper reaches of the Moolarben Creek valley between the ridgelines of the adjoining Munghorn Nature Reserve, and headwaters of the Goulburn River
- haulage roads and infrastructure would be located within the 200 metre buffer to the open cut pit requiring clearing of riparian remnant vegetation within the buffer zone
- A clearing of a total of 624.18 ha native vegetation would occur, including threatened ecological communities
- There may be a reduction in base flow to streams in the vicinity as mining draws down the water-table
- There would be a significant risk of an interruption and permanent loss of high quality, low salinity groundwater and springs flowing into Moolarben and Murdering Creeks, upper Goulburn and Hunter Catchment that assists in controlling downstream salinity levels
- Diversion of rainfall runoff into sediment storage dams, would reduce natural stream flow and potential contamination over time from pit spoil
- Loss of agricultural potential that previously supported 3 farming families in the Moolarben Creek catchment (126 sq kms) that forms the upper reaches of Goulburn River at Ulan.

## Summary of GHG issues with this development

1. There is no evidence that Scope 1 and 2 emissions at the existing mining operation are being mitigated by the implementation of 'reasonable and feasible' measures. Our analysis of Annual Review data has found that:
  - cumulative emissions have increased for the last 4 years in a row
  - emissions intensity per tonne of ROM coal mined has increased
  - Yancoal does not appear to have a plan to significantly reduce diesel emissions, nor does it appear to have managed to buy renewable energy to eliminate Scope 2 emissions from the generation of the electricity they purchase.
2. The expansion currently afoot would add additional lifetime Scope 1 emissions of 600,000 t CO<sub>2</sub>-e and Scope 2 GHGs of 190,000 t CO<sub>2</sub>-e to the NSW GHG inventory between 2025 and 2034, with no credible plan proposed to abate these emissions. As former Chief Scientist of Australia, Professor Penny Sackett recently stated (see below), "the effects of climate change ... are already serious; more than that, they are in fact dangerous... Every tonne of GHG emission leads to (more) dangerous warming." For this reason, we cannot support a new mine proposal which would add a further 790,000 t CO<sub>2</sub>-e in Scope 1 and 2 emissions to NSW's GHG inventory.
3. Yancoal claim that "[i]f the Project does not proceed, global demand for coal may be satisfied by other sources and, therefore, there would not be a corresponding reduction in global greenhouse emissions in the atmosphere." Lock the Gate agrees with the QLD Land Court and others including Justice Preston from NSW's Land and Environment Court that this argument is not credible.
4. As summarised in Table 1 (below), a steady stream of expert reports over the last two years or so highlights the folly of ongoing approvals of any new coal expansions in NSW:
  - The Australian Academy of Science called for an **acceleration of Australia's transition to net zero**
  - The International Energy Agency declared that **no new oil, coal or gas projects can be developed anywhere in the world** if we are to meet the Paris Agreement's 1.5 degree temperature goal.
  - UNEP's 'Production Gap Report' - produced in collaboration with the UN Environment Programme (UNEP) – found that global coal production "**must start declining immediately and steeply to be consistent with limiting long term warming to 1.5°C.**"
  - NSW EPA's NSW State of the Environment 2021 report found that **key trends and indicators are "getting worse"** including annual mean temperature, sea level rise

- The Australian Government’s [‘Australia state of the environment 2021’](#) found that “[o]verall, the state and trend of the environment of Australia are poor and **deteriorating as a result of increasing pressures from climate change, habitat loss, invasive species, pollution and resource extraction.**”
- The CSIRO found recently that “Global emissions have risen sharply over the past few decades and time series data do not yet show indication of decline.”
- The Climate Council released [The Great Deluge: Australia’s New Era Of Unnatural Disasters](#) detailing the rapidly increasing costs of extreme weather.

The Moolarben OC3 Extension Project will exacerbate the impacts of climate change and would take NSW in the wrong direction, adding to the state’s GHG inventory at a time when urgent and deep reductions are required.

## Background

Current mining operations undertaken across the MCC have approval until 31 December 2038. Up to 26 Mtpa of ROM coal mining is approved from the Stage 1 and 2 open cut pits, with a further 8 Mtpa approved from underground mining. ‘Table 8: Production Summary’ in MCC’s latest Annual Review reported 14,108,941 t ROM coal production from the open cuts and 6,259,630 t ROM coal production from the underground operations.

[Todoroski’s Oct 2022 GHG assessment](#) states that: “MCO has identified an opportunity to extend open cut mining operations immediately south of the approved OC3 open cut pit as well as develop four new open cut pits to the east and south-east of the approved OC3 mining area, within existing mining tenements (the Project). The extended open cut mining operations would provide approximately 10 years of mining from 2025 to 2034”.

“Project mining operations would target the Ulan Seam within the Illawarra Coal Measures (and other shallower seams if present), providing a total of approximately **40 Mt of ROM coal** in addition to approved Moolarben Coal Complex operations.”<sup>1</sup>

## The existing mine

### A failure to reduce Scope 1 and 2 GHGs at the existing mine

Operating condition 20 (b) of the Stage 1 Development Consent requires Yancoal’s MCO to “implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site”. This condition of consent has failed to produce any meaningful GHG abatement of Scope 1 or 2 emissions attributable to this mine.

- Cumulative Scope 1 and 2 emissions have increased at the existing Moolarben mine - year on year - for the last 4 years in a row.

<sup>1</sup> EIS Executive Summary ES-16, <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-33083358%2120221104T091020.112%20GMT>

- Emissions intensity per tonne of ROM coal mined has increased - year on year - for the last 3 yrs in a row.
- Diesel emissions are the main Scope 1 GHG at the existing mine. There is no evidence that Yancoal is doing anything significant to reduce diesel emissions.
- There is no suggestion that Yancoal is doing anything significant to reduce Scope 2 emissions from the generation of the electricity they purchase either.
- Their latest Annual Review attributes a "2% increase in emissions" to "an increase in production".

**Yancoal's data does not support an assertion that 'reasonable and feasible' abatement is occurring at the existing mine**

	2017/18	2018/19	2019/20	2020/21
<b>Moolarben Coal Mine</b>				
Scope 1 - CER Safeguard facility data	156,443	154,175	166,280	164,989
Scope 2 (tCO2-e) - estimate, see note	75,613	98,821	106,691	113,331
Total (Scope 1 and 2)	232,056	252,996	272,971	278,320
ROM coal production	18,587,871	20,514,055	21,656,483	20,368,571
Emissions intensity per t ROM coal	0.012	0.012	0.013	0.014

**Reporting at the existing mine**

The [Stage 1 development consent](#) requires that MCO "will continue to report annually in the AEMR, the total amount of greenhouse gas emissions from the MCP and the effectiveness of measures implemented to achieve energy savings."<sup>2</sup> Schedule 2 of this consent requires the Proponent to carry out the project "in accordance with the statement of commitments and the conditions of this approval.

Yancoal's 193-page [Moolarben Coal Complex Annual Review 2021](#) of existing operations offers just five sentences on the GHG performance of the current mine:

**6.4.5 GREENHOUSE GAS**

*Yancoal's operations reported under the National Greenhouse and Energy Reporting Scheme for the 2020-21 financial year. MCC Scope 1 and Scope 2 emissions calculated for the 2020-21 financial year was 278,320t CO2-e. MCC Scope 1 and Scope 2 emissions calculated for the 2019-20 financial year was 272,971t CO2-e. The approximate 2% increase in emissions can be attributable to an increase in production. Scope 1 and Scope 2 emissions attributable to MCO are generally consistent with Environmental Assessment predictions.*

<sup>2</sup> APPENDIX 3: STATEMENT OF COMMITMENTS, Moolarben Stage 1 MOD 14 Draft Consolidated approval v2 - v58 - comments, updated June 2020, [https://www.moolarbencoal.com.au/content/Document/MCO\\_APP\\_PA05\\_0117%20Stage%201%20MCC%20Consolidated%20Approval-Jun20.pdf](https://www.moolarbencoal.com.au/content/Document/MCO_APP_PA05_0117%20Stage%201%20MCC%20Consolidated%20Approval-Jun20.pdf)

By law, the Annual Review should be significantly more comprehensive than the above. Their development consent ostensibly requires that the annual review will specifically address the following aspects of Condition 4, which directly relate to greenhouse minimisation:

- include a comprehensive review of the monitoring results over the previous calendar year, which includes a comparison of these results against the:
  - monitoring results of previous years; and
  - relevant predictions in the Environmental Assessment;
- identify any trends in the monitoring data over the life of the project; and
- identify any discrepancies between the predicted and actual impacts of MCO operations, and analyse the potential cause of any significant discrepancies.

## Moolarben OC3 Extension Project

### Additional GHG emissions from the proposed Project are unacceptable

The expansion currently afoot would **add** additional lifetime Scope 1 emissions of 600,000 t CO<sub>2</sub>-e and Scope 2 GHGs of 190,000 t CO<sub>2</sub>-e to the NSW GHG inventory between 2025 and 2034.

Total GHG emissions over the lifetime of the Project would be **86.59 Mt CO<sub>2</sub>-e** (Scope 1 projected to be 0.6 Mt Co<sub>2</sub>-e, Scope 2 projected to be 0.19 Mt CO<sub>2</sub>-e and Scope 3 projected to be 85.8 Mt CO<sub>2</sub>-e).<sup>3</sup>

These are substantial emissions and should not be approved.

### 2.4 Contribution of greenhouse gas emissions

**Table 2-5** summarises the emissions associated with the Project based on Scopes 1, 2 and 3.

Table 2-5: Summary of CO<sub>2</sub>-e emissions per scope (Mt CO<sub>2</sub>-e)

Period	Scope 1	Scope 2	Scope 3
Average Annual*	0.06	0.02	8.58
<b>Total</b>	<b>0.60</b>	<b>0.19</b>	<b>85.8</b>

\*Excludes decommissioning phase

### Substitution argument

The Executive Summary for this project claims that “[i]f the Project does not proceed, global demand for coal may be satisfied by other sources and, therefore, there would not be a corresponding reduction in global greenhouse emissions in the atmosphere.”<sup>4</sup>

<sup>3</sup> Table 2.4 source: Appendix J, Greenhouse Gas Assessment, Moolarben OC3 Extension Project - EIS, pg 11, <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-33083358%2120221104T091012.052%20GMT>

<sup>4</sup> Executive Summary ES-33

The land Court of Queensland recently found major flaws with this argument.

**Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6) [2022] QLC 21**

<https://www.sclqld.org.au/caselaw/QLC/2022/21>

A major barrier to climate change litigation in Queensland has been the “market substitution assumption”, also known as the “perfect substitution argument”. This is the assertion that a particular mine’s contribution to climate change is net zero, because if that mine doesn’t supply coal, then another will.

Judge Kingham rejected this argument. She noted that the economic benefits of the proposed project are uncertain with long-term global demand for thermal coal set to decline. She observed that there’s a real prospect the mine might not be viable for its projected life, rebutting the market substitution assumption.

Relevant to NSW DPE’s assessment of the Moolarben OC3 Extension Project, Judge Kingham noted that the “statutory task is to consider the environmental harm if the mine is approved, not the harm caused if it is not.”

Judge Kingham also cited the reasoning of Preston CJ in Gloucester Resources:

*308: There is also a logical flaw in the market substitution assumption. If a development will cause an environmental impact that is found to be unacceptable, the environmental impact does not become acceptable because a hypothetical and uncertain alternative development might also cause the same unacceptable environmental impact. The environmental impact remains unacceptable regardless of where it is caused. The potential for a hypothetical but uncertain alternative development to cause the same unacceptable environmental impact is not a reason to approve a definite development that will certainly cause the unacceptable environmental impacts. In this case, the potential that if the Project were not to be approved and therefore not cause the unacceptable GHG emissions and climate change impacts, some other coal mine would do so, is not a reason for approving the Project and its unacceptable GHG emissions and climate change impacts...*

**Does it matter if NSW’s coal mine emissions abate either:  
a) slowly, at a pace driven by coal-industry self interest; or  
b) not at all?**

Former Chief Scientist of Australia, Professor Penny Sackett recently provided expert evidence to the NSW IPC as a submission on the recently approved Mt Pleasant Optimisation Project:

“the effects of climate change – which are caused by anthropogenic GHG emissions – are already serious; more than that, they are in fact dangerous. Furthermore, some of these effects are already irreversible and more will become so with even relatively

small amounts of additional warming beyond that of 1.5°C, which is already locked in.

Every tonne of GHG emission leads to (more) dangerous warming. It is not possible to know which amount, from which source, will precipitate environmental subsystems, including those in NSW, to tip irreversibly. In this context, the Precautionary Principle certainly applies.”<sup>5</sup>

Every viable tonne of GHG abatement of Scope 1 and 2 emissions from coal mining in NSW counts.

## Context for this determination: GHGs & climate impacts

Table 1: GHG context for the determination of Moolarben OC3 Extension Project

Date	Recent developments in GHG mitigation, policy, science and awareness and costs of inaction on climate in NSW
March 2021	The Australian Academy of Science called for an <b>acceleration of Australia’s transition to net zero</b> greenhouse gas (GHG) emissions over the next 10 to 20 years.
May 2021	The International Energy Agency declared that <b>no new oil, coal or gas projects can be developed anywhere in the world</b> if we are to meet the Paris Agreement’s 1.5 degree temperature goal.
August 2021	The IPCC released part 1 of it’s Sixth Assessment Report ‘Climate Change 2021: The Physical Science Basis’, finding that there’s a finite amount of carbon left in our 1.5 degree carbon budget and that <b>at current levels of CO<sub>2</sub> emissions this ‘carbon budget’ would be used up within ~11.5 years.</b> <sup>6</sup>
October 2021	‘Production Gap Report’ - produced in collaboration with the UN Environment Programme (UNEP) – finds that global coal production “must start declining immediately and steeply to be consistent with limiting long term warming to 1.5°C.” To be consistent with limiting warming to 1.5°C, the UNEP reports finds that <b>global coal production “would have to decrease by around 11% ... each year between 2020 and 2030.”</b> <sup>7</sup>
November 2021	The Global Methane Pledge to collectively reduce methane emissions by at least 30% below 2020 levels by 2030 was launched at COP26. <sup>8</sup>

<sup>5</sup> Dr Penny Sackett, Distinguished Honorary Professor, ANU Institute for Climate, Energy and Disaster Solutions, 14 July 2022, ‘Expert Report Regarding the Greenhouse Gas and Climate Implications of the proposed Mt Pleasant Optimisation Project (SSD - 10418)’, pg 115

<sup>6</sup> <https://www.carbonbrief.org/in-depth-ga-the-ipccs-sixth-assessment-report-on-climate-science>

<sup>7</sup> SEI, IISD, ODI, E3G, and UNEP. (2021). The Production Gap Report 2021, pg 12, <http://productiongap.org/2021report>

<sup>8</sup> <https://www.iea.org/reports/global-methane-tracker-2022/the-global-methane-pledge>

December 2021	<p>The NSW Minister for Planning published new Planning Principles which declared that the <i>“NSW Government recognises the need for <b>urgent and deep reductions in greenhouse gas emissions</b>”</i>. The Principles propose action and guidance that should result from this concern, with a common-sense directive that the <i>“planning system must promote strong action towards reducing carbon emissions.”</i></p>
	<p>The NSW Government announced a decision <a href="#">on 4 December 2021</a> not to proceed with new coal exploration west of the Blue Mountains (Hawkins Rumker). The gov’t declared in their <a href="#">PRIA</a> that <i>“the expected demand for thermal coal is ... expected to decline and at a rate faster than anticipated”</i>.</p>
January 2022	<p>The US National Oceanic and Atmospheric Administration (NOAA) find that <b>methane concentrations in the atmosphere raced past 1,900 parts per billion in 2021, nearly triple pre-industrial levels</b>. Scientists say the grim milestone underscores the importance of a pledge made at last year’s COP26 climate summit to curb emissions of methane, a greenhouse gas at least 28 times as potent as carbon dioxide.<sup>9</sup></p>
February 2022	<p>NSW EPA releases the <a href="#">NSW State of the Environment 2021</a>. The report finds that for NSW, the following trends and indicators are all “getting worse”: 1) annual mean temperature (present); 2) sea level rise (present); 3) annual mean temperature (2070): projected outcomes; and 4) sea level rise (2070): projected outcomes.</p> <p>The International Energy Agency released Global Methane Tracker 2022 on 23 February 2022. The IEA places a very high value on “cutting the world’s methane emissions by 30% over the next decade”, finding that such action would have the same mitigating effect on global heating by mid-century “as immediately shifting the global transport sector to net zero CO<sub>2</sub> emissions.”<sup>10</sup></p> <p><a href="#">IPCC Working Group II release their ‘Climate Change 2022: Impacts, Adaptation and Vulnerability’</a> report which finds that “[t]o avoid mounting loss of life, biodiversity and infrastructure, ambitious, accelerated action is required to adapt to climate change, at the same time as making rapid, deep cuts in greenhouse gas emissions.”</p>
July 2022	<p>The Australian Government releases <a href="#">‘Australia state of the environment 2021’</a> which finds that “[o]verall, the state and trend of the environment of Australia are poor and deteriorating as a result of increasing pressures from climate change, habitat loss, invasive species, pollution and resource extraction.”</p>

<sup>9</sup> Nature, 08 February 2022, Scientists raise alarm over ‘dangerously fast’ growth in atmospheric methane, <https://www.nature.com/articles/d41586-022-00312-2>

<sup>10</sup> <https://www.iea.org/reports/global-methane-tracker-2022/overview>



	<p>CSIRO release their ‘once-in-a-decade report’ <a href="#">Our Future World</a> that identifies seven global megatrends that hold the key to the challenges and opportunities ahead. The report finds that “Global emissions have risen sharply over the past few decades and time series data do not yet show indication of decline.”</p>
<p>Oct 2022</p>	<p><a href="#">Australia joins Global Methane Pledge</a>: a voluntary commitment (122 signatories so far) working to reduce global methane emissions across all sectors <b>by at least 30% below 2020 levels by 2030.</b></p> <p>UNEP releases <a href="#">Emissions Gap Report 2022: The Closing Window – Climate crisis calls for rapid transformation of societies</a>. The report finds:</p> <ul style="list-style-type: none"> <li>• Climate pledges leave the world on track for a temperature rise of 2.4-2.6°C by the end of this century</li> <li>• Updated pledges since COP26 in Glasgow take less than one per cent off projected 2030 greenhouse gas emissions; 45 per cent is needed for limiting global warming to 1.5°C</li> </ul>
<p>Nov 2022</p>	<p>The BOM and CSIRO release <a href="#">State of the Climate 2022</a>. The report finds that in 2020 and 2021, atmospheric methane concentration increased by 13 and 20 ppb, respectively. “Increases of these sizes are unparalleled in three decades of direct atmospheric measurements.”</p> <p>The Climate Council release <a href="#">The Great Deluge: Australia’s New Era Of Unnatural Disasters</a>. The report details the rapidly increasing costs of extreme weather. The Insurance Council of Australia estimates that the storms and floods that affected Southeast Queensland and coastal New South Wales in February and March 2022 caused \$5.56 billion in insured losses from more than 236,000 claims (ICA 2022b). Collectively, they were Australia’s costliest floods ever.</p>