

# Undermined Inc

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Save Our Thirlmere Lakes and Creeks

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## SUBMISSION: TAHMOOR SOUTH – ADDITIONAL MATERIAL

20 April 2021

Undermined Inc thanks the Independent Planning Commission for taking a science-based approach to the new information for public comment, being:

- Letter from Applicant to the Department, dated 9 April 2021; and
- Letter from Department, dated 12 April 2021.

To prevent and manage environmental damage (climate change, bushfires, drought, flood, loss of Aboriginal heritage, air pollution, dewatering the landscape, loss of biodiversity) and social damage (mine subsidence, intergenerational theft of mineral resources, inequitable wealth generation, stranding well paid mine workers in unsustainable employment without a transition plan), the project should not be approved. Undermined reaffirms its opposition to the Project and seeks a determination that it be refused development consent.

Undermined submits that the Additional Material does not change its position that the Project should be refused development consent. Nevertheless, if the IPC were minded to grant consent, Undermined comments below on unacceptable greenhouse gas impacts and inadequate proposed conditions of consent.

In summary, multiple issues of public interest arise from a reading of the new material, the most significant of which are summarised below.

### Summary

1. **The DPIE advice letter of 12 April 2021 page 3 makes it clear GHG emissions are to be minimised to the greatest extent possible.**

This objective is still Government Policy in accordance with Guidelines on Scope 1 GHG emissions and the NSW Government objective under State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (the Mining SEPP). Undermined comments that rather than pay lip service to “possible”, conditions imposed by the IPC must be enforceable.

- 2. It is possible for the predicted Scope 1 greenhouse gas emissions from the Tahmoor Project to be offset by SIMEC.**

Undermined submits SIMEC must have such a condition added were an approval contemplated by the IPC. Undermined further submits that all the GHG emissions (Scope 1, 2 and 3) from the Project, if not reduced to zero, must be offset.

- 3. After proposed abatement, we are still left with more than 20 Mt of CO<sub>2</sub>-e.**

This is a significantly larger mass than the entire annual GHG emissions from all industrial processes in the NSW economy in 2018 (14.5 Mt) and comes at a time when the Australian Academy of Science is calling for an acceleration of the transition to net zero.

- 4. Additional 'reasonable and feasible' measures are available to further reduce GHGE from this development.**

The most significant GHGE are clearly the 18.7 Mt CO<sub>2</sub>-e of VAM emissions. Conditions of consent should require these to be abated and/or offset. NSW DPIE affirm that "[c]ommercial systems to treat VAM are available".

- 5. \$100M to abate VAM emissions would amount to a cost of about \$5.35 per tonne, which is very cheap abatement.**

The cost of purchasing Australian Carbon Credit Units (ACCUs) to offset equivalent emissions at \$15.74 or more would be \$294M. If it is 'reasonable and feasible' for Australian taxpayers to buy abatement at a cost of \$15.74 or more per tonne, it is surely 'reasonable and feasible' for SIMEC to pay a third (or less) of this cost to abate their VAM emissions (\$5.35 per tonne).

- 6. A pre-tax profit of \$490 million means SIMEC can likely afford \$100M for VAM.**

NSW DPIE says it would cost about \$100M to abate the VAM emissions. The Project will generate a pre-tax profit of \$490 million. The size of the projected pre-tax profit does not support the assertion that abatement would not be economically viable.

- 7. Best practice management – which draft condition B18 aspires to – should require 90% or more of the Project's electricity needs to be sourced from renewable energy.**

No explanation has been offered as to why 90% or more of the Project's power cannot be sourced from renewable energy. SIMEC's recent commitment to source a modest quantity of solar energy is evidence that there is room to 'improve' and 'reduce'.

8. **Technologies that abate ventilation air methane emissions will not increase Scope 2 GHGE if they are powered by renewable energy.**
9. **Greenhouse gas management at the existing mine is failing.**

Scope 2 emissions from the existing mine **increased** last year. In addition, there is no evidence that Scope 1 emissions have reduced as a result of GHG reduction measures.

10. **A Scope 1 target should drive emissions reductions, not legitimise a do-nothing plan on fugitive methane emissions.**

NSW DPIE has proposed a business-as-usual Scope 1 target of 19,310,249 t CO<sub>2</sub>-e. 19,310,249 t CO<sub>2</sub>-e represents Scope 1 emissions with no further abatement.

11. **The Tahmoor CCC should have oversight of the draft GHG plan.**

The IPC has ensured community consultative committees (CCC) - including those for the Russell Vale and Narrabri Gas projects - are consulted on draft Air Quality and Greenhouse Gas Management Plans – the same rights should be extended to the Tahmoor South CCC.

## Introduction

Over the Project life, the maximum estimated GHGE (unabated scenario) would total 93.8 Mt CO<sub>2</sub>-e. After proposed abatement, **we are still left with more than 20 Mt of CO<sub>2</sub>-e.**<sup>1</sup> This remains a very substantial additional mass of carbon pollution roughly equivalent to the entire emissions in NSW in 2018 from agriculture (20.4 Mt) or transport (24 Mt). It is significantly larger than the entire annual emissions from all industrial processes in the NSW economy in 2018 (14.5 Mt).<sup>2</sup> This is not trivial.

In their 12 April 2021 letter, NSW DPIE concedes that this project “has a relatively high emissions intensity compared to other mines”.

Just three weeks ago, the Australian Academy of Science called on the Australian Government “to accelerate Australia’s transition to net zero greenhouse gas (GHG) emissions”<sup>3</sup>, warning that the total emission reductions currently pledged by the Australian and international governments via the Paris Agreement “even if implemented on time, will

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<sup>1</sup> NSW DPIE advise in their cover letter that the recent commitment by SIMEC to buy solar power, together with the existing pledge to capture and combust some of the Project’s methane, may “reduce the total Scope 1 and 2 GHGE of the Project from 20,549,599 t CO<sub>2</sub>-e to 20,249,599 t CO<sub>2</sub>-e.”

<sup>2</sup> <https://www.industry.gov.au/sites/default/files/2020-05/nga-state-and-territory-greenhouse-gas-inventories-2018.pdf>

<sup>3</sup> <https://www.science.org.au/news-and-events/news-and-media-releases/risks-australia-warmer-world>

translate as average global surface temperatures of 3°C or more above the pre-industrial period by 2100 (see Figure 1, page 18).<sup>4</sup>

*“Given how much Australia stands to lose if GHG emissions are not reduced, we ... recommend that Australia accelerates its transition to net zero GHG emissions over the next 10 to 20 years.”<sup>5</sup>*

The Academy advises that in the “current absence of an economy-wide carbon price, there will need to be comprehensive sector-by-sector approaches.”<sup>6</sup> For this Project, this means leaving no stone unturned, examining each and every opportunity to reduce emissions on its merits, and then, where an opportunity exists, conditioning the Project with specific, measurable, achievable targets. Additional opportunities do exist (see Table 1 below) to mitigate VAM emissions and emissions from electricity use. Further opportunities may also exist to reduce emissions from petrol and diesel use on site.

**Table 1: Summary of GHGE reduction commitments**

GHGEs	Total projected - unabated (Mt CO2-e)	Total abatement proposed by DPIE / SIMEC (Mt CO2-e)	Unabated GHGEs (Mt CO2-e)	Opportunity for further, ‘reasonable and feasible’ GHGE reductions
Scope 1	26.69	7.38	19.3	<b>18.7 Mt of VAM:</b> For \$100M (or perhaps less), 18.7 Mt of the 19.3 Mt CO2-e VAM emissions could be abated. DPIE says the equipment is available. This works out to be a very cheap reduction per tonne of \$5.35 (average price paid for ACCUs in Sept 2020 was \$15.74).  <b>Diesel and petrol emissions:</b> Further Scope 1 reductions may be possible if the IPC imposes specific, measurable targets for diesel and unleaded petrol use.
Scope 2	1.24	0.3	0.94	<b>100% renewable energy:</b> One letter from the NSW IPC panel has prompted a common-sense commitment from SIMEC to source 48,000 MWh per year of electricity of the Project’s power needs from solar energy. No explanation has been offered as to why 100% of the Project’s power cannot be sourced from renewable energy. Prima facie, this could reduce the Project’s GHGEs by a further <b>0.94 Mt CO2-e</b> .
Scope 3	65.8	0	65.8	
<b>Total</b>	<b>93.73</b>	<b>7.68</b>	<b>86.05</b>	

<sup>4</sup> Australian Academy of Science, March 2021, The risks to Australia of a 3°C warmer world, pg 7, <https://www.science.org.au/files/userfiles/support/reports-and-plans/2021/risks-australia-three-deg-warmer-world-report.pdf>

<sup>5</sup> ibid (pg 13)

<sup>6</sup> Ibid, pg 14

## **Additional ‘reasonable and feasible’ measures are available to further reduce GHGE – conditions of consent should require these to be implemented**

### **18.7 Mt of GHGE from ventilation air methane (VAM)**

SIMEC cite five reasons in their argument that VAM abatement should not be mandated for this project (which we respond to below):

1. VAM plants are not in operation at a commercial scale in underground coal mines in Australia
2. VAM technologies are energy intensive, and their use therefore increases Scope 2 GHGE
3. Potential significant safety hazard associated with an ignition propagating into the mine
4. A 2017 CSIRO report found that technologies for VAM abatement would likely be ready by 2030 at scale and could feasibly be rolled out to underground coal mines by 2027
5. A \$100+ million cost over the life of the project is not currently economically viable.

#### **Commercial-scale VAM plants in underground coal mines in Australia**

SIMEC state that there “*are currently no VAM plants in operation at a commercial scale in underground coal mines in Australia*”. However we note that the 2017 CSIRO report discussed a demonstration scale plant at the Centennial Mandalong mine and a commercial plant at West Cliff mine. Importantly the CSIRO report identified that take up of this technology was likely to be slow unless mines were required to implement it. Operation at a commercial scale in Australia has to begin somewhere and there is a pressing need for that place to be Tahmoor South.

According to the NSW Chief Scientist and Engineer, new technologies have been piloted in NSW coal mines “to prove their technical viability and safety for capturing and combusting ventilation air methane (VAM) at low concentrations (less than one per cent) and high temperatures”.<sup>7</sup>

CSIRO has developed three technologies that aim to mitigate methane emissions by either destroying or enriching the gas or capturing the ventilated air – known in the industry as Ventilation Air Methane (VAM) – from coal mines and using it to generate electricity:

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<sup>7</sup> NSW Chief Scientist and Engineer, August 2020, Opportunities for prosperity in a decarbonised and resilient NSW, Decarbonisation Innovation Study, pg 151

- **VAMMIT** is a compact flow reversal reactor with a newly-structured regenerative bed to destroy methane in a cost-effective manner
- **VAMCAP** is a capture and enrichment unit which essentially collects and separates the methane from the ventilated air using carbon composites.
- **VAMCAT** uses a catalytic combustion gas turbine to create electricity from an otherwise waste product.<sup>8</sup>

These technologies have been designed to be modular, so that once a mine has been decommissioned, they can be utilised in another mine, thus making them more economical.

### ***VAM technologies will not increase Scope 2 GHGE if they are powered by renewables***

If the Commission insists on 90% or more of the Project's energy needs being sourced from renewable energy, the energy intensity of the VAM process should not be considered a barrier to implementation. SIMEC could consider installing onsite renewable energy to power VAM equipment.

### ***Potential safety issues are paramount***

Safety is the highest priority for any abatement option. VAM abatement should only be installed where the appropriate authorities agree that it is safe to do so.

In order for there to be an incentive to install a safe system however, a condition should be imposed requiring 100% offsets for VAM emissions until such time as regulators and SIMEC can agree that a system can be installed that is safe for workers. To understand the current debate on abating coal mine methane, we encourage the Commission to read the Meeting Report from the CSIRO's 'Expert Dialogue on Ventilation Air Methane (VAM)', Melbourne, Australia, 25 October 2018.<sup>9</sup> There is an extensive discussion of safety issues in this document.

### ***VAM abatement: ready now or by 2027?***

SIMEC concedes that equipment to destroy VAM could be installed for about \$100M, but then also suggest - citing a CSIRO 2017 paper - that technology to abate VAM may not be viable and ready until about 2027. DPIE contradict this, saying that "[c]ommercial systems to treat VAM are available but are currently high cost". Our reading of the 2017 CSIRO report suggests that CSIRO were of the view that commercial scale units of VAM technology could have been in place by 2022 (4-5 years from the date of the report) if mine operators had been required to install them. There are already VAM abatement projects operating overseas so it is the lack of conditions requiring implementation, rather than the technology itself, which is limiting implementation. This is a critically important point for the Commission

<sup>8</sup> Ecos. CSIRO, Robert Hobson, Capturing fugitive methane emissions, 31 March 2020, <https://ecos.csiro.au/capturing-fugitivemethane-emissions/>

<sup>9</sup> The Expert Dialogue brought international experts together in an open, collaborative environment to more thoroughly and candidly explore the technical, economic, and policy barriers that inhibit Ventilation Air Methane (VAM) project implementation. The roundtable developed a discrete list of achievable tasks or action items that could help eliminate barriers to increase VAM project development. [https://www.globalmethane.org/tools-resources/resource\\_details.aspx?r=4749](https://www.globalmethane.org/tools-resources/resource_details.aspx?r=4749)

to clarify with NSW DPIE and SIMEC for many reasons, including OH & S (if a system is commercially available, this strongly suggests that safety issues can be managed).

### **VAM abatement should be economically viable at \$100M**

SIMEC and DPIE say it would cost about \$100M to abate the VAM emissions. Ernst and Young estimate that the Project overall will “generate a pre-tax profit of \$490 million in NPV terms”.<sup>10</sup> The size of the projected pre-tax profit does not support the assertion from both SIMEC and NSW DPIE that abatement would not be economically viable.

\$100M to abate VAM emissions would amount to a cost of about \$5.35 per tonne. This is very cheap abatement. We note that this cost would be about a third (or less) of the cost of purchasing equivalent Australian Carbon Credit Units (ACCUs) to offset equivalent emissions. In September 2020, the Australian taxpayers paid an average price of \$15.74 for ACCUs.<sup>11</sup> Reputex’s Australian Carbon Credit Unit (ACCU) benchmark price index in February 2021 was at \$17.42/t.<sup>12</sup> If abatement equivalent to 18.7 Mt was purchased as ACCUs at the average cost as at September 2020, the cost to SIMEC would be **\$294.3M**.

If it is ‘reasonable and feasible’ for Australian taxpayers and other companies to buy abatement at a cost of \$15.74 or more per tonne, why shouldn’t it be ‘reasonable and feasible’ for SIMEC to pay a third (or less) of this cost to abate their VAM emissions? Put another way, if the polluter is unwilling to pay \$100M for abatement, is it ethical to expect taxpayers to pay about \$300M to abate equivalent emissions elsewhere in the economy?

There is also a question mark over the actual cost of implementation. How reliable is the \$100M cost of abatement of VAM estimate? No documentation has been provided to verify this cost. It has not been assessed in the economic assessments for this Project.

## **Renewable energy use to avoid Scope 2 electricity emissions**

**Best practice management – which draft condition B18 aspires to – should require 90% or more of the Project’s electricity needs to be sourced from renewable energy.**

The Project is estimated to produce 1.24 Mt of CO<sub>2</sub>-e from the consumption of electricity. Up until 9 April 2021, no specific measures were proposed to offset or abate emissions from electricity use on site. One letter from the NSW IPC panel to NSW DPIE and SIMEC was all it took to prompt a common-sense commitment from SIMEC to source 48,000 MWh per year of electricity of the Project’s power needs from solar energy, offsetting 300,000 t of CO<sub>2</sub>-e. Prior to the IPC sending that letter, this measure had not been proposed by SIMEC nor specifically required by NSW DPIE’s draft conditions of consent. A measure that was not considered ‘reasonable and feasible’ suddenly became ‘reasonable and feasible’.

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<sup>10</sup> Ernst and Young, 3 August 2020, Tahmoor Coal Pty Ltd Economic impact assessment of the Tahmoor South Coal Project, pg 16, <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-8445%2120200803T055900.593%20GMT>

<sup>11</sup> <http://www.cleanenergyregulator.gov.au/ERF/Pages/Auctions%20results/September%202020/Auction-September-2020.aspx>

<sup>12</sup> <https://reneweconomy.com.au/australian-carbon-credit-units-surge-to-12-month-highs-heres-why/>

No explanation has been offered as to why 100% of the Project's power cannot be sourced from renewable energy. Prima facie, this could reduce the Project's GHGEs by a further **0.94 Mt CO<sub>2</sub>-e**. It is unlikely that cost would be an insurmountable barrier as many companies are striking renewable energy deals that deliver power at very competitive rates. On 15 April 2021, the Climate Group announced that 300 global companies are now part of the RE100 initiative. 77 RE100 members are already sourcing over 90% renewable power, and more than 40% of total electricity usage across the membership is sourced from renewable energy. Best practice management – which draft condition B18 aspires to – should require 90% of more of the Project's electricity needs to be sourced from renewable energy.

It is not clear what the current estimate is for electricity consumption for this Project. 'Table 4.10 Projected electricity consumption and Scope 2 GHG emissions' of the Greenhouse Gas Assessment of the Amended Project (10 February 2020) states that electricity consumption will be about 1,564,562 MWh in total, but this information is out of date.

### ***Diesel and petrol emissions***

We are not experts on potential mitigation of GHGE from diesel and petrol use. What we do recommend however, is that SIMEC should be set a target to reduce these. If that target is not met, offsets should be required for the mass of GHGE not mitigated by targeted measures.

## **NSW DPIE's reluctance to recommend GHGE elimination, offsetting or reduction targets is likely to lead to poor mitigation outcomes and perhaps even increases in emissions.**

**Scope 2 emissions from the existing mine increased last year. In addition, there is no evidence that Scope 1 emissions have reduced as a result of GHG reduction measures.**

NSW DPIE says that SIMEC's view is that "further reductions in Scope 1 emissions cannot be reasonably applied at this time". NSW DPIE go on to say that they have already recommended conditions of consent which would require "all reasonable and feasible steps" are taken to "improve energy efficiency" and "reduce fugitive GHG emissions" and this will be the result regardless of whether or not a GHG target for emissions reduction is imposed.

To test the veracity of this last statement, it is instructive to look at the conditions of consent for current operations to see how similar these are to what is being proposed by NSW DPIE and whether or not they have achieved their intended outcomes. The current consent conditions for Tahmoor Mine require SIMEC to:

*“implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the Tahmoor Mine, to the satisfaction of the Secretary”.*<sup>13</sup>

So how are they going?

### **Scope 2 emissions at the existing mine have increased**

SIMEC’s Annual Review 2020 provides no evidence at all that there have been any emissions reductions **as a result of the implementation of existing conditions of consent**. Table 10-2 (below) demonstrates that the implementation of ‘all reasonable and feasible measures’ to reduce Scope 2 emissions has resulted in an **increase** in emissions of 5,000 t from 0.083 Mt CO<sub>2</sub>-e in FY19 to 0.088 Mt CO<sub>2</sub>-e in FY20. Scope 2 GHGEs last year were the highest for the last five years for which data is available.

### **SIMEC attribute a drop in Scope 1 emissions primarily to lower levels of coal production**

There *has* been a decrease in Scope 1 emissions, however SIMEC’s own Annual Review does not attribute any of these reductions to the implementation of ‘reasonable and feasible’ mitigation measures in their consent conditions. Instead, the Scope 1 reductions are attributed to changeouts of longwalls and safety issues which resulted in less time spent mining. There was also a change in reported emissions that was a result of “more accurate” reporting of gas composition (that is no reduction in VAM emissions, just better measurement).

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<sup>13</sup> <http://www.simec.com/media/7017/2020-air-quality-and-greenhouse-gas-management-plan.pdf>, pg 5

**Table 10-2 Annual Greenhouse Gas Emissions for Financial Year**

Year	Scope 1 (Mt CO2-e)	Scope 2 (Mt CO2-e)	Total Scope 1+2 (Mt CO2-e)	Explanation for results
FY16	1.643	0.085	1.727	Finished Longwall (LW) 29 to start of LW 30. A 78 day changeout between longwalls occurred versus a budget of 28 days. The cause of delays included 12 days lost due to surface dam subsidence risk management.
FY17	1.625	0.085	1.710	(none)
FY18	1.396	0.082	1.478	Decrease in emissions with use of more accurate gas composition eportin (SICK Analyser) on Shaft 2 (VAM) emissions. In Dec 17 there was a Pit bottom roof fall which delayed mining for eporti. 12 days.
FY19	1.260	0.083	1.343	Decrease in Greenhouse emissions driven by plant outage for 10 weeks at Tahmoor due to Number 3 shaft safety incident (shaft winder), however 4 weeks of this period was a Longwall changeover, so the additional impact was 6 weeks. The Net Energy Consumed increased in main due to a higher ratio of CH4 to CO2 in mine gas flaring at Tahmoor due to longwall gas geology.
FY20	1.239	0.088	1.326	In H1 FY20 – Reduction in normal VAM emissions Sept-Nov 19 due to a longwall non-production period due to extended LW changeout (discontinuity). Ramp up of longwall production within the new, more highly CH4 rich Domain has been significantly slower than forecast. Dec19- Bushfire site power outage.

Source: SIMEC, Annual Review 2020, pg 25 [http://www.simec.com/media/7146/tahmoor-coal-2020-annual-review-and-appendices-1-13\\_17.pdf](http://www.simec.com/media/7146/tahmoor-coal-2020-annual-review-and-appendices-1-13_17.pdf)

## **A Scope 1 target should drive emissions reductions, not legitimise a do-nothing plan on fugitive methane emissions**

NSW IPC asked NSW DPIE if “there are further abatement measures that the Applicant could take to further reduce the predicted Scope 1 GHGE of the Project below 19,310,249 t CO2-e?” NSW DPIE’s ‘plan b’ response is to propose a business-as-usual Scope 1 target of 19,310,249 t CO2-e. 19,310,249 t CO2-e represents Scope 1 emissions with no further abatement. This would act as a disincentive for SIMEC to pursue any further reductions in Scope 1 GHGEs and cannot be allowed.

As we explain above, there are further abatement measures that may be able to reduce GHGEs significantly below 19,310,249 t CO2-e (possibly even enabling a carbon neutral outcome). There may be options to reduce petrol and diesel emissions. There is also an urgent need to mitigate fugitive VAM emissions. These reductions must be required and incentivised by a condition that imposes carbon offsets on those Scope 1 and 2 emissions which cannot be reduced. SIMEC’s recent commitment to source a quantity of solar energy is evidence that there is further room to ‘improve’ and ‘reduce’.

## **NSW law requires the consent authority to consider the impacts of Scope 1 and Scope 2 emissions. NSW DPIE policy is to prioritise these emissions for ‘active management’.**

NSW DPIE – in their final assessment report for the Dendrobium mine expansion, acknowledged that the mining of coal and its combustion “is a major contributor to anthropogenic climate change, which has the potential to impact future generations”. In this document, NSW DPIE explain their commitment to mitigate this impact:

*As only Scope 1 and Scope 2 emissions are within the control of an entity, the Department’s view is that the key areas for active management of greenhouse gases within the development assessment and approval process for new projects in NSW are reductions in direct (ie Scope 1) emissions and improved energy efficiency (ie reduction and efficiency in the use of fuels and bought-in electricity).<sup>14</sup>*

SIMEC argue that the Strategic Statement on Coal Exploration and Mining in NSW is the NSW Government’s “most current and up to date policy statement on coal mining and should be taken into account when considering the application of other older merit-based decisions that addressed Scope 1 GHGE.

“In the Rocky Hill decision at [513], Preston CJ, having reviewed the authorities, concluded that the consideration of the impacts of a project on the environment and the public interest justify considering not only the Scope 1 (including fugitive emissions) and Scope 2 emissions but also the Scope 3 emissions of the Project (downstream burning of the gas resource). The contribution of the Project to the potential impacts of climate change in NSW must be considered in assessing the overall merits of the development application.”<sup>15</sup>

### **Minimising GHG emissions “to the greatest extent practicable”**

Clause 14 of the Mining SEPP says that before granting consent for a development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure “that greenhouse gas emissions are minimised to the greatest extent practicable”.

NSW DPIE has proposed a condition of consent (B14.(a)(iii) which would require the Applicant to “take all reasonable steps” to “improve energy efficiency and reduce fugitive greenhouse gas emissions of the development”. In the draft consent, ‘reasonable ’is defined as:

*“applying judgement in arriving at a decision, taking into account: mitigation*

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<sup>14</sup> <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2020/10/dendrobium-extension-project-ssd-8194/referral-from-the-department-of-planning-industry-and-environment/dpie-assessment-report.pdf>

<sup>15</sup> Narrabri Gas Project Submission for North West Alliance, (16 July 2020), Robert White, Environmental Defenders Office Ltd

*benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements”.*

As the terms ‘improve ’and ‘reduce ’are not defined in the consent conditions, it is up to the IPC to use language in consent conditions which will lead to robust, measurable results. If it is not possible to mitigate fugitive VAM emissions further at this time, the Commission must require carbon offsets.

On the particular issue of carbon offsets, please note Justice Pain’s 2011 judgement on conditioning GHG emissions in *Hunter Environment Lobby Inc v Minister for Planning* [2011] NSWLEC 221. At point 93 of the judgement, Justice Pain found:

*“It was common ground between the experts that scope 1 emissions are a direct consequence of the carrying out of the activities authorised by the project approval, and are the emissions over which the proponent has potentially greatest control. A condition requiring the offsetting of emissions directly attributable to the operation of the project, in order to address direct potential or actual adverse impacts on the environment, is related to the purpose of assessing and approving a significant extension of a coal mine both in terms of time and rate of extraction of the resource. I am satisfied that a condition requiring Ulan to offset the scope 1 emissions of the project would be within the scope and purpose of the power conferred first on the Minister and now on the Court under s 75J.”<sup>16</sup>*

### **Comparison of Tahmoor South’s Scope 1 emissions to other high-emitting NSW underground coal mines is irrelevant for the purposes of the s 4.15 assessment process.**

The Department’s assertion that total project-related Scope 1 emissions would be low relative to other underground coal mines in NSW is irrelevant for the purposes of the s 4.15 assessment process. That is because all of the direct and indirect GHG emissions of the Project (including fugitive emissions from VAM) will adversely impact the NSW environment. The IPC accepted this argument in the Bylong Coal Project determination, agreeing with Preston CJ in Rocky Hill that:

*“Nevertheless, the exploitation and burning of a new fossil fuel reserve, which will increase GHG emissions, cannot assist in achieving the rapid and deep reductions in GHG emissions that are necessary in order to achieve “a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century” (Article 4(1) of the Paris Agreement) or the long term temperature goal of limiting the increase in global average temperature to between 1.5oC and 2oC above pre-industrial levels (Article 2 of the Paris Agreement).” [525]*

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<sup>16</sup> <https://www.caselaw.nsw.gov.au/decision/54a6364d3004de94513d9150>

## **The Tahmoor CCC should have oversight of the draft GHG plan**

The IPC has ensured community consultative committees (CCCs) - including those for the Russell Vale and Narrabri Gas projects - are consulted on draft Air Quality and Greenhouse Gas Management Plans – the same rights should be extended to the Tahmoor South CCC.

If the IPC is minded to approve this development, condition B18(b) should require that the Community Consultative Committee has an opportunity to review and comment on drafts of the AQ and GHG Management Plan. Condition B18 should be amended to read:

*B18. The Applicant must prepare an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Planning Secretary.*

*This plan must:*

*(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;*

*(b) be prepared in consultation with the EPA and the Tahmoor South CCC. This consultation must include sharing draft AQ & GHG Management Plans with the CCC and inviting written comments.*

## **Neither response from DPIE nor SIMEC answers the IPC's question asking why current estimates for Scope 1 emissions are around triple those originally forecast?**

Neither response from DPIE nor SIMEC answers the IPC's question as to why Scope 1 emissions predicted before October 2020 were 9,397,498 t CO<sub>2</sub>-e i.e, "less than half of the current predicted Scope 1 GHGE with abatement and almost a third of the current predicted Scope 1 GHGE without abatement". Without a response, it is difficult to have confidence in the projections overall.

Summary of estimated CO<sub>2</sub>-e (tonnes) – all scopes

Year	Scope 1 Emissions (t CO <sub>2</sub> -e) (based on the power plant operating)						Scope 2 Emissions (t CO <sub>2</sub> -e)	Scope 3 Emissions (t CO <sub>2</sub> -e)
	Diesel	Unleaded Petrol	Methane	SF <sub>6</sub>	Post-Mining Activities	Total	Electricity	Energy Production
2021	465	7	89,971	0.4	6,614	97,058	11,929	525,244
2022	2,029	30	157,843	1.9	28,844	188,749	52,024	2,880,188
2023	3,311	50	508,623	3.1	47,061	559,048	84,879	4,837,896
2024	4,156	62	626,743	3.8	59,071	690,036	106,540	6,618,074
2025	3,728	56	652,197	3.4	52,991	708,976	95,574	6,467,475
2026	4,178	63	701,435	3.9	59,380	765,059	107,098	7,763,571
2027	4,189	63	835,956	3.9	59,543	899,755	107,391	7,735,856
2028	4,656	70	1,455,162	4.3	66,177	1,526,069	119,356	8,463,474
2029	3,761	56	1,305,609	3.5	53,459	1,362,888	96,417	6,939,653
2030	4,080	61	1,294,164	3.8	57,990	1,356,299	104,589	6,515,485
2031	3,564	54	910,576	3.3	50,654	964,851	91,360	5,520,472
2032	943	14	264,345	0.9	13,407	278,711	24,181	1,565,209
<b>Total</b>	<b>39,060</b>	<b>587</b>	<b>8,802,624</b>	<b>36</b>	<b>55,191</b>	<b>9,397,498</b>	<b>1,001,338</b>	<b>65,832,595</b>
<b>Annual average</b>						<b>783,125</b>	<b>83,445</b>	<b>5,486,050</b>

Note: Total values may not always equate to the sum of the numbers shown due to rounding

Source: ERM, 22 July 2020, Tahmoor South Amended Project – Air Quality and Greenhouse Gas, <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-8445%2120200803T060106.811%20GMT>