

# Undermined Inc

underminedlakes@gmail.com

Save Our Thirlmere Lakes and Creeks

---

President: David Eden

Phone: +61 2 4659 6682

220 New Jerusalem Road, Oakdale NSW 2570 Australia

Atmospheric carbon dioxide concentration 411 ppm

## **SUBMISSION TO INDEPENDENT PLANNING COMMISSION - TAHMOOR**

As President of *Undermined Inc*, a community action group with 70 members, I address damage caused by longwall coal mining in Wollondilly Shire. *Undermined* campaigns for remediation, repair and restoration of local creeks, rivers and lakes impacted by mining. Of particular concern is the water loss in the five Thirlmere Lakes coinciding with the closest approach of longwall coalmining by Tahmoor Colliery in the years 1997 to 2001.

The proposal to extend the life of Tahmoor Colliery by another 12 years to 2034 will dewater the natural environment where ever mine subsidence fractures rock to depth. Methane and carbon dioxide emissions from the mine and subsequent burning of coal and coke for steelmaking are unacceptable because they add to the effects of climate change. These effects are of such a scale and significance that the proposal is unacceptable in terms of New South Wales planning legislation.

The effect of climate warming is now unendurable. The 1.15 Celsius rise in temperature (averaged worldwide over one year in 2020) demonstrates it is not possible to continue making the problem worse hoping, we will be able to deal with climate change next year. 2020 was the fourth hottest year on record averaged across Australia, 1.15 C above average. Penrith experienced 48.9 C in January 2020. A desire to limit temperature rise to 1.5 C may be a tolerated in the Northern Hemisphere where people cope now with freezing winters, but the effects of climate change in Summer in Australia have already resulted in drought, extremely hot temperatures and bushfires.

Undermined submits we have to start slowing our emissions of carbon dioxide and methane now. Undermined submitted slides showing the Black Summer bushfires and referred to how our wildlife like possums try to survive bushfire by climbing higher and higher up trees. Australians are not like possums. We have experienced 1.15 C temperature rise. We understand the problem. We ask for a resolution that will sustain our children's children.

Undermined Inc (Undermined) submitted 18 pages of scientific information to Department of Planning, Industry and Environment dated 2020 April 18 with a logical argument for the refusal of the second amended TSCP SSD 8445. We refer the IPC to the data and references in the original Second Amendment Submission of Undermined. As the NSW DPIE assessed the project as approvable with conditions, the Undermined oral submission to the IPC on 2021 February 15 **opposed approval** of the Tahmoor Project, stating that adding **conditions will not limit damage** to the environment and self regulation will again be inadequate to prevent environmental damage.

SIMEC uses words like “adaptive management” and the Department of Planning, Industry and Environment recommend conditions like its first: “the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment”. The DPIE **conditions offered to this IPC are too general to be enforceable**. Such unenforceable conditions give an impression that the community could be looked after, but fail to convince people who visit Bargo River and Redbank Creek.

Conditions requiring monitoring and adaptive management are not capable of properly reducing or mitigating areas of uncertainty in respect of the present Tahmoor South Application.

When weighed against the objectives of the EP&A Act and Environmental Sustainable Development principles, the impacts associated with the Project are not manageable. The risks of adverse impacts on the environment are high and likely to be irreversible. The significant uncertainty in predicted impacts of the Tahmoor South Project warrant our conclusion that a refusal of the Application is in the public interest.

To assist this IPC, Undermined has engaged the **Environmental Defenders Office (EDO)** to set out the legal framework under which the Tahmoor Project can be refused. Undermined has engaged the EDO to submit that framework and their advice to the IPC on our behalf.

The EDO has engaged **independent scientific experts** on behalf of Undermined to advise on geology, geomorphology and **hydrology** (Dr Philip Pells) and to advise on **green steelmaking** using less and eventually negligible coal (Mr Tony Wood and Associate Professor John Pye). David Eden referred to his experience designing air pollution collection hoods to go over electric arc smelters at Comm Steel in Newcastle in 1972. In 1972, the electricity used in Newcastle was generated by burning coal, so the steel

making would in modern parlance be described as “blue”. With renewable power now so abundant and becoming cheaper, it would be “green” burning no coal or coke. Undermined notes that in Mr Eden’s example of alternative greener methods of making steel in 1972, the electric arc furnaces were on a smaller scale than the largest blast furnaces in the world. Such green electric arc furnaces have been used since at least 1918 for specialty steel making and scrap steel recycling.

Undermined has used the **information and scientific methodology** used by the **research teams assembled and paid by the NSW Government** through DPIE (OEH and EES) to investigate the drying of Thirlmere Lakes. This is in part because Undermined has neither the time nor resources to organise the research required. Undermined awaits the research findings due in 2021 approximately mid-year. We append to our IPC submission the DPIE (EES) Interim Results of 3 February 2021 because they document and explain the seriousness of climate drying.

Undermined submits that predictions of surface and underground hydrology by SIMEC and its consultants who have not done similar research nor used similar technology (scintillation counters, stable isotope tracing), are **too uncertain to be relied upon**. Undermined submits the Tahmoor Project should not be approved because the **uncertainty** in the SIMEC predictions are **too great**. Undermined Inc submits the second amended SIMEC Project should be refused because the mine design is not informed by the best scientific methodology (coordinated by OEH and EES and used by independent researchers to understand the hydrology of the Thirlmere Lakes area), and because the mining proposal has been finalised before the Thirlmere Lakes investigation is completed.

The three reasons **drying, GHG emissions** and **unacceptable risk** described in the oral Undermined submission of 2021 February 15 are revisited here in more detail to demonstrate the **public interest** can only be satisfied by the IPC refusing the Tahmoor application.

On the grounds of **drying**, the SIMEC mine design maximises extraction of the valuable coal resource overwhelmingly balanced by unacceptable surface subsidence, water loss, landscape scale surface drying, loss of heritage and cultural significance and loss of biodiversity.

Undermined offers the IPC a **scientific solution** to the problem of resolving the wishes of SIMEC and its workers and ensuring public interests are preserved. Perhaps little good has come from our Covid 19 pandemic.

Denying that it was a pandemic in other countries resulted in human death and slowed economic activity. Decision making informed by science has worked better in Australia and NZ, saving lives as well as economies.

This Independent Planning Commission can apply scientifically informed thinking like that used by ecologists dealing with biodiversity problems and by epidemiologists dealing with pandemics, to the equally complex ecology and climate problems Tahmoor Coal presents. Both ecology and pandemic problems have many variables and inter-relationships and are difficult to resolve.

Because you as Commissioners understand ecology and planning problems, we at Undermined believe you will use science and logic in this Tahmoor Project to arrive at a well considered, sustainable decision. Undermined asks the IPC to rely on science to find a safe, balanced way of protecting the environment.

**Green House Gas Emissions (GHGE):** Scope 1 and 2 Green House Gas emissions of 28 million tonnes from this project will not be captured or offset unless this IPC requires that capture. Professor Penny Sackett presented the issue of climate change to the IPC on 2021 February 17.

There will be an **unacceptable risk increase** if the project were to be approved: climate change has already decreased rainfall in eastern Australia by 31.7 mm per decade since 1970 (reference Bureau Of Meteorology, page 18 of 2020 submission) and based on recent experience, climate change will continue to increase the frequency of unacceptably hot weather, record high temperatures, bushfires, drought and extreme rainfall events (floods).

### **More than 1 billion tonnes of GHGEs approved by IPC since Rocky Hill**

As Mike Foley observed in the Sydney Morning Herald on 3 January 2021:

*“Coal and gas projects which could release more than 1 billion tonnes of greenhouse gases have been given the green light by the NSW government in the two years since a Land and Environment Court ruling which overturned the government’s Rocky Hill coal mine approval in part because of climate impacts.”<sup>1</sup>*

---

<sup>1</sup> <https://www.smh.com.au/national/nsw/a-billion-tonnes-in-mining-emissions-approved-despite-landmark-case-20201230-p56qu6.html>

## One billion tonnes in mining emissions approved despite landmark case

Mike Foley  
January 3, 2021

The Sydney Morning Herald



“Coal and gas projects which could release more than 1 billion tonnes of greenhouse gases have been given the green light by the NSW government in the two years since a Land and Environment Court ruling which overturned the government's Rocky Hill coal mine approval in part because of climate impacts.”

### Clear message from the Land and Environment Court has been ignored by multiple NSW IPC panels

A ruling by the New South Wales Land and Environment Court in February 2019 to refuse consent to the proposed Rocky Hill coal mine was hailed as a landmark in the fight to limit dangerous climate change. The judgment rested heavily on expert scientific testimony, especially with regard to the carbon budget concept, taking both direct and indirect (or downstream) emissions into account with regard to their impact on both the local environment and global climate change. Justice Preston found that:

*“The Project’s cumulative greenhouse gas emissions will contribute to the global total of GHG concentrations in the atmosphere. The global total of GHG concentrations will affect the climate system and cause climate change impacts. The Project’s cumulative GHG emissions are therefore likely to contribute to the future changes to the climate system and the impacts of climate change.”*

In summing up his Judgement, Justice Preston said of GHGs:

*“Wrong time because the GHG emissions of the coal mine and its coal product will increase global total concentrations of GHGs at a time when what is now urgently needed, in order to meet generally agreed climate targets, is a rapid and deep decrease in GHG emissions.”*

This case however, did not set a formal legal precedent requiring decision makers in NSW to follow the same logic when determining new coal and gas projects. Indeed, since the Rocky Hill decision, five significant new coal mine projects and a new coal seam gas project have been approved in NSW by the NSW IPC with a cumulative total of Scope 1,2 and 3 GHG emissions of **1,184 Mt CO<sub>2</sub>-e**. These projects are: United Wambo, Rix’s Creek South, Vickery Coal Project, Russell Vale, Maxwell Underground and the Narrabri Gas Project.

## Clear messages from eminent scientists have been ignored by multiple NSW IPC panels

### Professor Will Steffen, United Wambo assessment (May 2019)

*“The absolutely clear, scientifically indisputable fact is that if the global average temperature rise is to be limited to “well below 2 degrees C” (the Paris Agreement), then expansion of the fossil fuel industry must end immediately ...”*

*“The question I raise here is the fundamental question of whether the IPC should make a merit-based decision to approve the project taking into account the overall objective of avoiding dangerous climate change as articulated by the Paris Agreement, in particular, the temperature targets.”<sup>2</sup>*

### Professor Will Steffen, Vickery Extension Project (30 June 2020)

*“Meeting the carbon budget consistent with the Paris accord climate targets therefore means that not only must currently operating mines and gas wells be closed before their economic lifetime is completed (obvious from point 54 above – 780 is much larger than the assumed budget of 300), but also that no approved (but not yet operating) and no proposed fossil fuel projects, based on existing reserves, can be implemented. **This analysis applies to the Vickery Extension Project.**”<sup>3</sup>*

### Professor Penny Sackett, Narrabri Gas Project (21 August 2020)

*“In my scientific view, there is nothing in the development application or its assessment by the NSW DPIE that would indicate the benefits of the Narrabri Gas Project are substantial enough that – on balance – they could outweigh the high-risk devastating consequences associated with continued expansion of fossil fuel production. Consequently, I reject the proposition that the Narrabri Gas Project represents Ecologically Sustainable Development.”<sup>4</sup>*

## 93.8 Mt of additional GHGE if Tahmoor South were to be approved

If Tahmoor South is approved by the NSW IPC, up to an additional 93.8 Mt GHGE would be added to the atmosphere.

Page 125 of the DPIE AR finds that over the life of the Project, the maximum estimated total GHGE (unabated scenario) would total 93.8 Mt CO<sub>2</sub>-e, including approximately:

- 26.7 Mt CO<sub>2</sub> of Scope 1
- 1.24 Mt CO<sub>2</sub> of Scope 2
- 65.8 Mt CO<sub>2</sub> of Scope 3

---

<sup>2</sup> Prof Will Steffen, submission to IPC for EDO NSW acting on behalf of Hunter Environment Lobby Inc, to respond to the United Wambo, <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2018/11/united-wambo-open-cut-coal-mine-project-ssd-7142/independent-experts-engaged-by-edo-on-behalf-of-hunter-environment-lobby/190503-final-combined-report--will-steffen.pdf>

<sup>3</sup> Prof Will Steffen, submission to IPC on Vickery Extension Project, 30 June 2020, <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2020/03/vickery-extension-project/comments/expert-submissions-provided-on-behalf-of-edo-nsw/200714-w-steffen-expert-advice.pdf>

<sup>4</sup> Prof Penny Sackett, Expert Report on the Greenhouse Gas and Climate Implications of the Narrabri Gas Project (SSD-6456), Response to Additional Material, Professor Penny D Sackett, Honorary Professor, Climate Change Institute, The Australian National University, Advice Provided: 21 August 2020

## SCOPE 1 EMISSIONS

### 32<sup>nd</sup> largest producer of Scope 1 emissions in Australia

The Tahmoor South Coal Project – if approved – would be approximately the 32<sup>nd</sup> largest producer of Scope 1 emissions in Australia.

Data as at 28/02/2020			
	Organisation Name	Identifying Details	Total Scope 1 Emissions (t CO <sub>2</sub> -e)
26	QUEENSLAND ALUMINA LIMITED	98 009 725 044	3,192,846
27	EXXONMOBIL AUSTRALIA PTY LTD	48 091 561 198	2,890,748
28	CEMENT AUSTRALIA HOLDINGS PTY LTD	99 001 085 561	2,771,507
29	PEABODY AUSTRALIA HOLDCO PTY LTD	61 154 820 130	2,656,851
30	VIRGIN AUSTRALIA HOLDINGS LIMITED	54 100 686 226	2,597,936
31	SHELL ENERGY HOLDINGS AUSTRALIA LIMITED	69 054 260 776	2,217,273
32	<b>TAHMOOR SOUTH COAL PROJECT</b>	<b>97 076 663 968</b>	<b>2,220,000</b>
33	YANCOAL AUSTRALIA LIMITED	82 111 859 119	2,190,524
34	ADELAIDE BRIGHTON LTD.	15 007 596 018	2,156,481
35	CENTENNIAL COAL COMPANY LIMITED	30 003 714 538	2,024,212
36	QGC MIDSTREAM INVESTMENTS PTY LTD	77 130 857 215	1,786,152
37	ORICA LIMITED	24 004 145 868	1,754,798
38	INCITEC PIVOT LIMITED	42 004 080 264	1,711,015
39	FORTESCUE METALS GROUP LTD	57 002 594 872	1,699,122
40	CK WILLIAM AUSTRALIA HOLDINGS PTY LTD	14 613 690 243	1,636,581

### 2.22 Mt in the wrong direction

Meeting NSW's 2030 GHG target will require an annual new *reduction* of about 2.4 Mt CO<sub>2</sub>-e per annum. Approval of Tahmoor South will *increase* annual emissions in NSW by up to 2.22 Mt CO<sub>2</sub>-e per annum.

In a 2020 submission to the NSW IPC on the Narrabri Gas Project, former Chief Scientist of Australia Professor Penny Sackett stated that meeting NSW's own 2030 GHG target "*will require an annual new reduction of about 2.4 MtCO<sub>2</sub>-e per year, year on year*".<sup>5</sup>

Since the NSW IPC was established in March 2018, NSW IPC panels have approved new coal and gas projects in NSW that are expected to emit on average about 1.69 Mt of GHGEs per annum **in Scope 1 emissions alone**. If Tahmoor South is approved - without imposing a condition to offset Scope 1 emissions which cannot be mitigated or avoided - then new Scope 1 emissions in NSW will likely more than double, from 1.69 Mt CO<sub>2</sub>-e of GHGEs per annum to about 3.91 CO<sub>2</sub>-e Mt per annum.

### Scope 1 GHGE - largest of any coal project determined by NSW IPC

Tahmoor South's annual Scope 1 GHG emissions would be the largest of any coal project determined by the NSW IPC to date.

<sup>5</sup> Expert Report on the Greenhouse Gas and Climate Implications of the Narrabri Gas Project (SSD-6456), Professor Penny D Sackett, Honorary Professor, Climate Change Institute, The Australian National University, Advice Provided: 3 August 2020, pg 24

**TABLE 1: Significance of Tahmoor South Scope 1 emissions relative to other new coal and gas projects approved in NSW since the March 2018 creation of the NSW IPC**

Project	Determination	Date	Total Scope 1 GHGEs (Mt CO <sub>2</sub> ~e)	Scope 1 GHGEs per annum (Mt CO <sub>2</sub> ~e)
Maxwell Underground Project	Approved	22/12/20	9.9	0.38
Russell Vale	Approved	8/12/20	1.4	0.28
Narrabri Gas Project	Approved	30/09/20	15.5	0.62
Vickery Coal Project (new mine)	Approved	12/08/20	3.1	0.124
Rix's Creek South Mine (expansion)	Approved	12/10/19	0.8	0.04
United Wambo (new mine)	Approved	29/08/19	5.8	0.25
<b>Total Scope 1 GHGEs approved since Rocky Hill</b>			<b>36.5</b>	<b>1.69</b>
<b>Tahmoor South</b>			<b>26.7</b>	<b>2.22</b>

**Note:** Approval of Tahmoor South - with no GHGE offsets - would more than double annual average Scope 1 emissions in NSW from new coal and gas projects (approved since IPC created in March 2018) from 1.69 Mt to 3.91 Mt per annum.

## GHGE offsets: NSW law and policy

What does NSW law and policy say about conditioning GHGE offsets for new coal and gas projects?

In the Maxwell Underground Statement of Reasons, the Commission noted: *“that no applicable law or policy mandates the imposition of an offsetting requirement”*. Whilst this is technically correct, it is also simultaneously correct that applicable law and policy in NSW specifically *allows* the imposition of an offsetting requirement. The IPC Narrabri panel imposed an offset condition and the Dendrobium IPC panel signaled it was willing to require offsets however, as it determined to refuse consent, this did not occur (see Table 2 below for a summary of recent IPC decisions and statements on GHGE offsets).

Justice Pain affirmed the power of a consent authority to impose offsets for GHGE in her 2011 judgement - *Hunter Environment Lobby Inc v Minister for Planning* [2011] NSWLEC 221:

*“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>6</sup>*

### **The Land and Environment Court’s Rocky Hill judgement explained what the proactive options are for proponents:**

*“In the climate change context ... an applicant for development consent could commit to reducing the GHG emissions of the development by deploying emission reduction technologies, such as carbon capture and storage, or offsetting the GHG emissions of the development by increasing the removal of GHGs in the atmosphere by establishing sinks, such as by reforestation or afforestation of land.” (Pt 530)*

### **Precedents for GHGE offsets – NSW IPC determinations**

What are the precedents for GHGE offsets from earlier NSW IPC determinations and what is the logic behind these discretionary decisions?

It is difficult to discern any particular logic running as a thread through the several NSW IPC handling of this issue.

The Maxwell Underground Project was allowed 9.9 Mt of Scope 1 emissions with zero GHG offsets required. Wollongong Coal was allowed 1.4 Mt of Scope 1 emissions for its Russell Vale Project but was then told that it must not exceed this amount. Narrabri Gas was allowed 15.5 Mt of Scope 1 emissions with zero GHG offsets required, however if emissions *additional* to the 15.5 Mt of Scope 1 emissions occur, then Santos was told that these additional emissions must be offset.

In the Maxwell Underground determination, the Commission decided that offsetting is “an impractical means of minimising GHG emissions and of limited utility”. Meanwhile the Dendrobium panel decided that “the project could be conditioned in a manner to ensure methane emissions are flared or that offsets are provided accordingly which in the Commission’s view could address the objectives of the CCPF.” To underscore the utility of offsets, the Dendrobium panel made the observation - in their 5 February 2020 SoR - that South32 / Illawarra Coal “is yet to install flaring infrastructure in any of the mine’s current five mining areas”.

The Maxwell Underground panel justified inaction on this issue by suggesting that offsetting is “impractical” and of “limited utility, given that only approximately 6% of the Project’s anticipated GHG emissions will be Scope 1 or 2 emissions capable of being offset by the Applicant”. Less than two months later – as stated above - the Dendrobium panel found the opposite was true, suggesting offsets were appropriate for Scope 1 or 2 emissions representing 7% – 9% of anticipated GHG emissions. It must be noted that Tahmoor South’s Scope 1 and 2 emissions represent almost 30% of anticipated GHG emissions for this Project.

In summary, neither law nor policy mandates any specific approach, therefore it is up to each panel to determine what it will do.

---

<sup>6</sup> <https://www.caselaw.nsw.gov.au/decision/54a6364d3004de94513d9150>

**Table 2: NSW IPC decisions on conditioning Scope 1 GHGs**

Project	T o t a l Scope 1 GHG Mt CO <sub>2</sub> -e	NSW IPC's position on offsetting GHGs which cannot be avoided or mitigated
Narrabri Gas	15.5 Mt	<p><b>No requirement imposed to offset Scope 1 GHGs which are not mitigated or avoided by Santos BUT GHGs <i>additional</i> to the volume predicted are required to be offset.</b></p> <p>“Scope 1 and Scope 2 emissions can be minimized through conditions that require any <i>exceedance</i> of the predicted emissions to be fully offset so that the Project delivers its expected emissions advantage from using CSG for electricity generation as compared to coal.”</p>
Russell Vale	1.4 Mt	<p><b>No requirement imposed to offset Scope 1 GHGs which are not mitigated or avoided by Wollongong Coal BUT GHGs <i>additional</i> to the volume predicted are not allowed.</b></p> <p>“Condition B9(d)(ii) imposed by the Commission requires the Applicant to ensure the Project does not exceed the predicted Scope 1 and 2 GHG emissions.” To achieve this outcome, Wollongong Coal is required to prepare an Air Quality and Greenhouse Gas Management Plan which describes what they will do to ensure they don't <i>exceed</i> predicted Scope 1 and 2 GHGs. Condition B10 requires them to implement these measures.</p>
M a x w e l l Underground	9.9 Mt	<p><b>No requirement imposed to offset Scope 1 GHGs which are not mitigated or avoided by Malabar Coal. Offsets considered to be “impractical” with no specific law or policy in NSW requiring they be imposed.</b></p> <p>“Submissions were made to the Commission urging the imposition of a condition requiring the offsetting of GHG emissions (see paragraph 154 above). The Commission notes that no applicable law or policy mandates the imposition of an offsetting requirement. In the particular circumstances of the Project, the Commission considers offsetting to be an impractical means of minimising GHG emissions and of limited utility, given that only approximately 6% of the Project's anticipated GHG emissions will be Scope 1 or 2 emissions capable of being offset by the Applicant.” [Point 184, pg 32]</p>

Dendrobium	17 – 22 Mt	<p><b>The IPC finds that offsets <i>could</i> have been imposed on Scope 1 emissions caused by South32’s development if the mine had been approved.</b></p> <p>Regarding existing Scope 1 emissions at the current mine, the IPC noted that South32 / Illawarra Coal “is yet to install flaring infrastructure in any of the mine’s current five mining areas”.</p> <p>“The CCPF [Climate Change Policy Framework] is not directive as to whether a mining project must or must not be refused by reason of GHGE. The Commission considers that in order to reduce emissions, the project could be conditioned in a manner to ensure methane emissions are flared or that offsets are provided accordingly which in the Commission’s view could address the objectives of the CCPF.” (Pt 304 of the SoR)</p>
Tahmoor South	26.7 Mt	<p><b>The NSW IPC has an opportunity to require that SIMEC offset 100% of GHGEs which cannot be avoided or mitigated.</b></p> <p>NSW DPIE say that “Tahmoor Coal proposes to minimise its Scope 1 and 2 GHGEs by around 26.5% through either flaring or using the methane gas for power generation.”</p>

### Comparative information provided to NSW IPC by NSW DPIE is incorrect

Page xvi of NSW DIE’s Assessment Report claims that Scope 1 and 2 greenhouse gas emissions (GHGE) over the life of the Project represents approximately 0.65% of total NSW emissions and 0.2% of total Australian emissions. Both numbers are wrong.

Page 125 of the DPIE AR finds that over the life of the Project, the maximum estimated total GHGE (unabated scenario) would total 93.8 Mt CO<sub>2</sub>-e, including approximately:

- 26.7 Mt CO<sub>2</sub> of Scope 1 (with an annual average of 2.22 Mt CO<sub>2</sub>);
- 1.24 Mt CO<sub>2</sub> of Scope 2 (with an annual average of 0.1 Mt CO<sub>2</sub>); and
- 65.8 Mt CO<sub>2</sub> of Scope 3 (with an annual average of 7.81 Mt CO<sub>2</sub>).

### Percentage of Scope 1 and Scope 2 NSW GHG inventory almost triple that claimed by NSW DPIE

Total emissions for New South Wales in 2018 were 131.7 Mt CO<sub>2</sub>-e.<sup>7</sup>

2.32 Mt of Scope 1 and Scope 2 emissions annually represents 1.76% of the 131.7 Mt CO<sub>2</sub>-e 2018 NSW GHG inventory (the latest year for which information is available), almost triple the 0.65% claimed by NSW DPIE.

### Tahmoor South GHGEs as a percentage of the Australian GHG inventory are more than double the amount claimed by NSW DPIE

Australian emissions for the year to March 2019 were 538.9 Mt CO<sub>2</sub>-e.<sup>8</sup>

<sup>7</sup> <https://www.industry.gov.au/sites/default/files/2020-05/nga-state-and-territory-greenhouse-gas-inventories-2018.pdf>

<sup>8</sup> <https://www.environment.gov.au/system/files/resources/6686d48f-3f9c-448d-a1b7-7e410fe4f376/files/nggi-quarterly-update-mar-2019.pdf>

2.32 Mt of Scope 1 and Scope 2 emissions annually represents 0.43% of the 538.9 Mt CO<sub>2</sub>-e 2019 Australian GHG inventory, more than double the amount claimed by NSW DPIE.

## **Contradictory information from DPIE regarding proposed mitigation of Scope 1 and Scope 2 emissions**

NSW DPIE's Final Assessment Report (FAR) for this project clearly states that at best, Tahmoor South hopes to reduce Scope 1 and 2 GHGEs by around 26.5%. During the Public Hearing however, a claim was made that a reduction of Scope 1 emissions of "*something in order of ... 80 per cent*" may be achieved. The 80% claim does not appear to be supported by information in NSW DPIE's FAR.

The first thing to notice about the 26.5% claim is that even if this is achieved, a 26.5% reduction would amount to 7.4 Mt GHGEs, meaning that Scope 1 and Scope 2 GHGEs would still be just over 20 Mt GHGE in total. 20 Mt represents a significantly larger Scope 1 and 2 footprint than any other coal mine assessed and approved since the NSW IPC was created (United Wambo 6.6 Mt CO<sub>2</sub>-e, Rix's Creek 1 Mt CO<sub>2</sub>-e, Vickery Coal 3.9 Mt CO<sub>2</sub>-e, Russell Vale 1.5 Mt CO<sub>2</sub>-e, Glendell expansion 0.2 Mt CO<sub>2</sub>-e and Maxwell Underground 11 Mt CO<sub>2</sub>-e).

NSW DPIE has presented quite a muddled picture of precisely what is proposed by SIMEC regarding the mitigation of Scope 1 and Scope 2 emissions. Our submission is that the NSW IPC should require NSW DPIE to clarify contradictory statements claiming that emissions may be reduced by 26.5% or perhaps 80%. NSW DPIE should also provide an update to the Commission on the track record of the proponent to date on site regarding mitigation of Scope 1 and Scope 2 emissions. At the end of the day, the only effective strategy to drive maximum mitigation of Scope 1 and Scope 2 GHGEs is to require the proponent to offset 100% of GHGEs that they are unable to avoid or mitigate.

### **Claims made in the DPIE FAR**

At page xvi of NSW DPIE's FAR, it is claimed that "Tahmoor Coal proposes to minimise its Scope 1 and 2 GHGEs by around 26.5% through either flaring or using the methane gas for power generation."

At page 125 of the same report, NSW DPIE provide a little more context:

*"Under the 'abated' scenario, around 35% of the methane gas would be captured and either flared or used for power generation. This would reduce Scope 1 and 2 emissions by around 26.5%. However, Tahmoor Coal has advised that the concentration of methane within captured gas is not always suitable for beneficial re-use and therefore flaring and power generation is subject to variability. Additionally, gas management infrastructure on the site is operated by a third party and is therefore subject to commercial contractual considerations."*

### **Answer to NSW IPC panels question in Public Hearing**

On the final day of the Public Hearing, Professor Mackay put the following question to Mike Young, NSW DPIE:

*"The Public Hearing has heard a number of presentations and submissions about greenhouse gas, and in relation to greenhouse gas emissions, the presentation from Mr Floro from the EDO proposed that if the Commission were of a mind to approve the application - and that would be despite all the other concerns that the EDO expressed - then they were of the view that the Scope 1,2 and 3 greenhouse gas emissions should be fully offset. Could the Department please comment on the merits of requiring any offsets for greenhouse gas emissions please?"*

Having stated in the FAR that "Tahmoor Coal proposes to minimise its Scope 1 and 2 GHGEs by around 26.5%", NSW DPIE proceeded to claim to the Commission at the Public Hearing that

should it be approved, a system would be in place to “capture 99 per cent of the gas drainage or the gas that is emitted from the mine in the form of methane, and to either flare or use that for power generation.” Mr Young then suggested that his understanding is “that that abatement or that minimisation is substantial and that the abated versus unabated, you’re talking about something in order of an 80 per cent reduction in overall greenhouse equivalent or CO2-equivalent tonnages emitted by the mine, so they’re not trivial undertakings.”<sup>9</sup>

## DRYING AND BIODIVERSITY

Undermined quotes from the **Long-term changes to water levels in Thirlmere Lakes – drivers and consequences** paper by Samira Schädler and Richard T. Kingsford (Centre for Ecosystem Science, School of Biological, Earth & Environmental Science, University of NSW, NSW 2052, Australia) as their scientific study links biodiversity, heritage and the drying of Thirlmere Lakes.

“These serious declines in water levels in the three Thirlmere Lakes were not climate related and are best explained by anthropogenic impacts. There are two potential explanations for the draining of Thirlmere Lakes, which may have acted synergistically: either there was considerable pumping of groundwater or longwall coal mining disrupted the groundwater aquifers, causing diversion of groundwater resources.”

Undermined submits the IPC should refuse the TSCP Application because if it were to proceed, the mistakes and environmental damage of the past would continue, making it even harder and more expensive to rectify in the future.

Submitted by

Undermined Inc

David Eden, President

2021 February 24

---

<sup>9</sup> NSW IPC transcript, Day 3, P-67