LOCK THE GATE ALLIANCE
AUSTRALIANS WORKING TOGETHER TO PROTECT OUR LAND, WATER, AND FUTURE

DENDROBIUM MINE EXTENSION PROJECT: SUBMISSION

14 June 2022

Thank you for the opportunity to make a submission. Lock the Gate Alliance **objects** both to this development application and to this bespoke assessment and determination process.

Back in February 2021, the NSW Independent Planning Commission rejecteda coal mine expansion plan at Dendrobium for good reasons, including "*finding the proposed mine design risks long-term and irreversible damage to Greater Sydney and the Illawarra's drinking water catchment.*"

Now South32 has submitted a smaller, revised plan that would still result in very significant impacts. The NSW Deputy Premier claims the Project is justified "given its importance to Port Kembla steelworks", however South32 have conceded that "BlueScope may be able to source alternate supplies of metallurgical coal locally". In addition, the business case outlined in Bluescope's application to NSW DPE to upgrade their coal import terminal, fundamentally undermines South32's suggestion that the Dendrobium mine will be important to Bluescope beyond the cessation of mining of Wongawilli seam coal at Dendrobium at the end of 2024. As outlined below, Bluescope's Scoping Report for this application prioritises an urgent upgrade to their coal import capacity as "critical" to their business and its ongoing contribution to the Illawarra economy.

Bluescope's plan to upgrade their seaborne metallurgical coal import capacity "to accommodate at least an additional 1 million tonnes per annum from as early as November 2024" is a response - in part - to the inability of South32 to mine Wongawilli coal beyond 2024. To be clear, the development application before NSW DPE does not propose to mine any Wongawilli seam coal beyond 2024. Without this Wongawilli (or 3-seam) coal, Bluescope says it has to import a replacement from outside of the Southern Coalfield as it is "unlikely that a mix of locally sourced coal would be able to produce a competent coke capable of maintaining the current blast furnace performance."

The conflation of Bluescope's steel making business beyond 2024 with approval of this Project is a 'straw man'. Bluescope itself has completed a dispassionate assessment of security of coal supply for its business at Port Kembla and has determined that South32's aspiration to create an additional supply of Bulli seam coal at Dendrobium is not critical to its operation (they can purchase Bulli seam coal from IMC's Appin mine).

What we are now left with, is a proposal that is not in the public interest. This Project:

- would result in losses to the drinking water catchment at a time when demand for fresh water is growing in Greater Sydney and the Illawarra
- would result in a tripling or more of Scope 1 GHG emissions (predominantly methane) by about 2030 at a time when the global community is working together to cut methane emissions by 30% over the same period
- would result in potentially 'irreversible' damage to 16 endangered swamps
- is the only project that is seeking a new approval to continue longwall mining method inside a Special Area of our water catchment. Recent assessments of other proposals that sought to continue longwall mining underneath the Metropolitan Special Area were refused (Russell Vale and the former Dendrobium extension project) primarily due to their impacts on drinking water supply.

IMPACTS ON ILLAWARRA AND SYDNEY'S DRINKING WATER

Civil society has long called for an end to longwall mining inside the Special Areas of Sydney and the Illawarra's drinking water catchment due primarily to the impact of subsidence on fresh water supply to reservoirs. WaterNSW maintains that the Special Areas are pristine areas of bushland that have been specifically set aside for drinking water supply, and protected from human access and activities since the 1880s.

Mining in Area 5 is predicted to result in the loss of about 428 ML/yr in surface water losses. This will compound the predicted 'take' from surface watercourses up to 1450 ML/yr from the whole of Dendrobium Mine, including Area 5.[1]

Groundwater take is predicted to peak at about 5,600-5,900 ML/yr. This predicted inflow is an increase on historical inflows at Dendrobium Mine.[2]

The NSW IPC found that the last time South32 proposed longwall mining in the same area, there was a risk of "potentially irreversible impact upon the quantity and quality of surface water in perpetuity". Given the potentially serious consequences of this development on drinking water, a second round of public consultation should be opened up once the IAPUM report and submission from WaterNSW are both on the public record. Only then, will a more fulsome assessment of the likely impacts of this Project on drinking water be available. Given the conflict of interest that NSW DPE has with this bespoke assessment created specifically for South32, the NSW IPC should review NSW DPE's assessment of impacts on our water supply.

Draft Greater Sydney Water Strategy, September 2021

The Hon Melinda Pavey MP Minister for Water made some key points in the draft Greater Sydney Water Strategy (September 2021) that NSW DPE should consider carefully when deciding whether or not to recommend approval of new longwall mining in a Special Area:

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[1] APPENDIX B, Groundwater Assessment, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-33143123%20220420427T061045.250%20GMT, pg 183

[2] APPENDIX B, Groundwater Assessment, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-33143123%20220420427T061045.250%20GMT, pg 183

- "without action, we are almost certain to face a future gap between our demand for drinking water and the available supply. Our sustainable supply level is up to 540 gigalitres (GL) per year (a bit less than the volume of water in Sydney Harbour) and modelling suggests this may be about 40 to 70 GL/year less than we need under a moderate growth scenario. Increasing climate variability means that, without action, we could face a shortage of drinking water with more and longer periods of severe drought."

- "Our analysis shows that we will need to invest in additional water supply in the next 5-10 years, then again around 2040 and once more by 2060."

- "For Greater Sydney, accommodating over 1 million extra people by 2036 while also contending with climate variability and climate change will require new approaches to securing the region's water supply."

- "Mining activities can have long-term impacts on GDEs, surface water flows and groundwater levels."[3]

Given these serious pressures on a sustainable drinking water supply in future for the Illawarra and Greater Sydney, it makes no sense to approve additional longwall mining in the Metropolitan Special Area.

Bord and pillar: South32's assertion that it's unviable is unreliable and requires independent expert review

Due to the refusal by the NSW IPC to allow longwall mining at Russell Vale, Wollongong Coal made a commitment that all future mine planning at Russell Vale *"would be based on non-caving bord and pillar mining methods"*.[4] Russell Vale is very close to the proposed Dendrobium Extension and in the same water catchment Special Area.

When NSW DPIE assessed the Russell Vale mine's plan to mine using bord and pillar, they found that *"the proposed bord and pillar mining method significantly reduces potential impacts on groundwater resources and stream baseflow, when compared to the previously proposed longwall mining method."*[5]

South32 has ruled out bord and pillar mining for this Project, claiming *"it is uneconomic … at depths from the surface that are greater than about 200 m."* NSW DPIE and NSW IPC have found otherwise, approving a bord and pillar plan at Russell Vale that mines *only* at depths greater than 200 m, and finding that this plan is economic:

[3] https://www.industry.nsw.gov.au/__data/assets/pdf_file/0017/470501/draft-strategy.pdf

[4] Russell Vale Revised Underground Expansion Project (MP09_0013) | Secretary's Final Assessment Report, September 2020, pg 6

[5] NSW IPC, Russell Vale SoR, 8 December 2020, 177, pg 26

> *"The target resource remains the Wongawilli Seam, which has a depth of cover ranging from 200 – 320 metres (m) in the eastern and 400 – 450 m in the western portion of the application area."*[6]

South32 dismiss bord and pillar, justifying this with a statement made by DoP almost 15 years ago:

> *"Bord and pillar mining would not be economic for the Project as longwall mining is the only economic primary production method in Australia to use at depths from the surface that are greater than about 200 m (Department of Planning [DoP], 2008). Therefore, bord and pillar mining would not meet the Project objective of continuity of mining."*[7]

It is not possible for NSW DPE to accept this statement as accurate given the Department's finding in the Russell Vale assessment that bord and pillar mining at depths greater than 200m is economic.

South32's assessment of bord and pillar viability

The statements in column 1 below are taken from South32's EIS 'Consideration of Alternatives', A11-24. Column 2 refutes the statements in column 1, primarily with findings made by DPE and the NSW IPC in the most recent assessment and determination of bord and pillar mining at Russell Vale

Table 1: South32 have failed to establish that bord and pillar in unviable

IMC claims bord and pillar is uneconomic	**Reasons to be sceptical of South32's claims**
"Bord and pillar mining would not be economic for the Project as longwall mining is the only economic primary production method in Australia to use at depths from the surface that are greater than about 200 m (Department of Planning [DoP], 2008)."[8]	**NSW DPIE and NSW IPC approved a bord and pillar plan at Russell Vale that mines *only* at depths greater than 200m.** This plan was declared to be economic by the IPC. "The target resource remains the Wongawilli Seam, which has a depth of cover ranging from 200 – 320 metres (m) in the eastern and 400 – 450 m in the western portion of the application area."[9]
High depth of cover (majority of the underground mining area is 350-400 m) and associated higher stress regime, which would result in low productivity development	See above. Approved and so-called 'economically viable' mining at Russell Vale in the western portion or the area will occur at depths of 400 – 450 m.

[6] Russell Vale Revised Underground Expansion Project (MP09_0013) | Secretary's Final Assessment Report, September 2020, pg 6
[7] South32, EIS, Justification for the Project, Section 8, pg 8-4
[8] South32, EIS, Justification for the Project, Section 8, pg 8-4
[9] Russell Vale Revised Underground Expansion Project (MP09_0013) | Secretary's Final Assessment Report, September 2020, pg 6

due to the requirement for high density roof and rib support	
Low seam height (approximately 2 to 3 m) which would yield lower volumes of ROM coal per metre of mining	This appears to be a dubious claim given the statement below from Palaris Mining Pty Ltd. "Palaris Mining Pty Ltd (Palaris), in consultation with the WCL, identified an **optimum cutting height of 2.4m in the lower section of the Wongawilli Seam**." "The Wongawilli Seam is located approximately 20m below the Balgownie Seam and ranges in thickness from about 8m to 12m. The lower section contains the best quality and **bottom 2.4m of the seam section is the target height of the proposed mining**."[10]
The high capital investment required to establish the Area 5 underground mining area (i.e. development of underground roadways to Area 5 from the existing Dendrobium Mine workings)	This statement clearly requires independent expert review. Other underground miners like Wollongong Coal establish mining areas and roadways. If smaller, less profitable miners can do it, why can't South32?
Unviability of operating a bord and pillar operation only when the market pricing cycle is in the mid to high range (i.e. due to costs and delays associated with stopping and starting the operation)	This statement clearly requires independent expert review. Wollongong Coal would be impacted by the same market conditions. If they can cope with this volatility, why can't South32?
Gas drainage requirements within Area 5 would add further complexity and productivity constraints.	This statement clearly requires independent expert review. Damaging the Special Area of the water catchment above with further longwall mining will add 'further complexity' in managing a stable drinking water supply to a growing population. Prima facie, the complexity of gas drainage may not be something which should preclude active consideration of bord and pillar.

[10] Umwelt, Russell Vale Revised Underground Expansion Project, Revised Preferred Project Report and Response to Second PAC Review, Final, July 2019, pgs 223/942 and 234/942

A commercial imperative to maximise the sale of this asset presents a clear conflict of interest for South32.

IMC claims it has investigated bord and pillar mining as one of the mining methods for Area 5 and found that conditions in Area 5 are uneconomic for exclusively bord and pillar mining. Everyone accepts that longwall mining - with higher production and where costs like GHG emissions and drinking water loss are externalised - is more profitable than bord and pillar, but that does make bord and pillar unviable. It might make it less profitable, but not necessarily unviable.

Just two days ago, The Australian reported that "[s]peculation is mounting that one of the next assets in the mining and metals space to be placed on the block will be South32's metallurgical coal operations in the Illawarra."[11] If this story is correct, then NSW DPE must view any statements about the mining method proposed for the Dendrobium Extension through this lens. If South32 can get away with pretending that longwall mining is the only viable form of mining at this location, then it is very clearly in their commercial interests to do so as it will maximise the value of a future mine sale. What is in South32's commercial interest however, may not align with the public interest (as was demonstrated by the NSW IPC with the previous application).

ENDANGERED AND NATIONALLY-SIGNIFICANT SWAMPS WILL BE UNDERMINED

16 swamps listed as 'threatened' would be undermined by longwall mining.[12] Scientists have warned of 'irreversible' damage to endangered swamps near Sydney if longwall mining continues.[13] Not only are the swamps a repository for a lot of very important biodiversity, like the giant dragonfly and threatened plant species, they also function as a giant sponge, which contributes to a stable supply of drinking water.

We note that when the NSW IPC refused consent for the previous longwall proposal, they concluded that there was *"no documented, reliable and practical rehabilitation technique for returning the pre-mining water balance to the impacted swamps"*.[14]

EMPLOYMENT

If any further mining inside the Special Area can be justified (and to be clear, Lock the Gate Alliance's position is that no further mining should be approved in our water catchment

[11] Bridget Carter, 12 June 2022, The Australian, South32 set to put Illawarra coal mine up for sale, https://www.theaustralian.com.au/business/dataroom/south32-set-to-put-illawarra-coal-mine-up-for-sale/news-story/1145314c70bcaf36f427c3ee5dfe836d?btr=3727d7ae17c65879221d95270fd185af

[12] EIS Section 7, 7-61, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-33143123%2120220427T061037.452%20GMT

[13] Scientists warn of 'irreversible' damage to endangered swamps near Sydney if longwall mining continues, ABC Illawarra, Kelly Fuller, 22 Mar 2021, https://www.abc.net.au/news/2021-03-22/coal-mining-causing-irreversible-damage-to-endangered-swamps/13262840

[14] NSW IPC, Dendrobium Extension SoR, 5 Feb 2021, pg 16

Special Areas), bord and pillar mining would not only result in less damage to the catchment, it would also create significantly more employment than longwall mining. South32 say that *"[i]n comparison to existing and recent bord and pillar operations in Australia, bord and pillar operations in Area 5 are forecast to require approximately two times the labour hours per tonne of coal mined."* [15]

GREENHOUSE GAS EMISSIONS

GHG emissions predicted

	Total (LOM)	Annual avg
Scope 1	10,961,913	789,551
Scope 2	1,175,101	65,283
Scope 3	75,307,326	4,183,740
Total Scope 1 and 2	**12,137,014**	

Data source: Table 8-8 Summary of GHG emissions (tonnes CO2-e), EIS, APPENDIX I Air Quality and Greenhouse Gas Assessment

Background - why Scope 1 emissions from this Project matter

In 2020-21, 33 facilities in NSW reported emitting more than 100,000 t CO2-e of GHG emissions (excluding electricity generation). Of these 33 facilities, **24 (~70%) were coal mines**.[16] Despite comprising a significant chunk of NSW's GHG inventory, there is no effective regulation at either state or federal level to drive down Scope 1 and 2 emissions from coal mining.

At a federal level, no coal mines in NSW were required to purchase carbon offsets in 2020/21 to offset their GHG emissions under the Safeguard Mechanism. In NSW, the Department of Planning stated in February 2022 in their assessment of GHG emissions at the Narrabri Underground Stage 3 coal project, that "*there is no clear guidance on how to assess potential mitigation or abatement measures (e.g. what measures are considered 'reasonable and feasible' or 'best practice'), both for current and future activities".*[17]

Nine major new coal and gas projects have been approved in NSW over the last 2 ½ years. These projects - if all are built - would add **~6 Mtpa CO2-e** in Scope 1 and 2 emissions to the

[15] South32, Appendix 11 - Consideration of Alternatives of their EIS, pg A11-24

[16] The largest Scope 1 GHG emitting facilities in Australia (excluding the electricity sector) are covered by the Australian Government's Safeguard Mechanism. Facilities that emit more than 100,000 t CO2-e per annum are required to report to the Clean Energy Regulator.

[17] NSW DPE, January 2022, **Narrabri Underground Mine Stage 3 Extension Project** (SSD 10269) | Assessment Report , pg 55

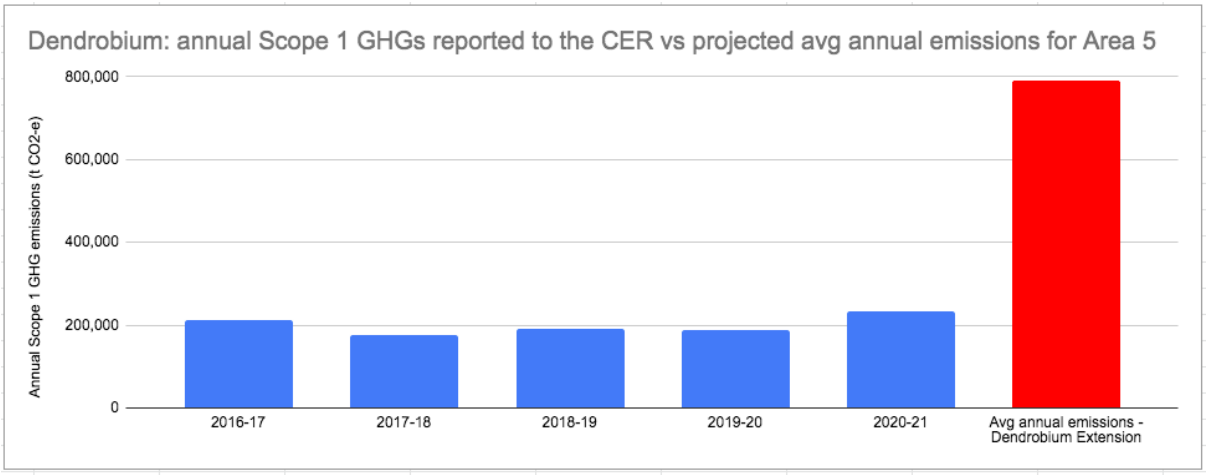
NSW GHG inventory.[18] At least another three major coal projects are due for determination in 2022 (as at June 2022), being Glendell Continued Operations, Mount Pleasant and Dendrobium. If all three of these projects are approved, about another **2 Mtpa CO2-e** in Scope 1 and 2 emissions would be added annually to the NSW GHG inventory.

GHG emissions from the proposed Dendrobium Mine Extension Project are unacceptable

In total, the Dendrobium Extension Project would result in ~88Mt CO2-e of Scope 1, 2 and 3 GHGs. The Extension would add between 12.2 Mt - 15.5 Mt CO2-e of direct Scope 1 and 2 GHGs to the NSW GHG inventory over the life of the Project.

Based on the average Scope 1 emissions (assuming flaring) of 789,551 tonnes CO2-e per annum, **the Dendrobium Extension could become the 4th highest emitting coal mine in NSW**. In 2020/21, 24 coal mines in NSW emitted more than 100,000 t CO2-e, but only three mines emitted more than 789,551 tonnes with the highest emitting mine being IMC's other mine at Appin. As the Project is proposing to extract from Area 5 which has "a higher gas concentration", the Extension project would **more than triple current Scope 1 GHG emissions**.

Figure 1: Comparison of the last five years of Scope 1 emissions reported to the CER with average annual Scope 1 emissions predicted for the Dendrobium Mine Extension



Even in the 5 years post mining, legacy Scope 1 emissions are projected to be more than 100,000 t CO2-e per annum higher (at 351,437 t CO2-e) than those currently being reported by Dendrobium to the Clean Energy Regulator in Canberra.[19]

[18] These projects are: Narrabri U/ground Stage 3, Mangoola, Tahmoor South, Maxwell Underground, Russell Vale, Narrabri Gas Project, Vickery Coal Project, Rix's Creek South Mine and United Wambo

[19] South32, EIS, Appendix I, Table 8-8 Summary of GHG emissions (tonnes CO2-e)
Air Quality and Greenhouse Gas Assessment, pg 76

Table 2: Scope 1 emissions will be higher post-mining than they are now

Table 8-8 Summary of GHG emissions (tonnes CO_2-e)

Project Year	Approved Mine Mt	Project Underground Mining - Area 5 (ROM Mt)	Scope 1	Scope 2	Scope 3	Scope 1 & 2
1	3.9	0.0	132,542	70,192	30,533	202,735
2	4.3	0.0	146,590	78,191	33,727	224,781
3	3.6	0.1	239,156	65,088	161,582	304,244
4	3.1	0.2	350,397	60,052	553,679	410,448
5	2.4	0.4	335,353	51,362	1,010,420	386,715
6	0.0	1.3	439,449	23,775	3,116,670	463,224
7	0.0	3.2	884,140	57,878	7,721,715	942,018
8	0.0	4.6	1,095,496	83,490	11,207,754	1,178,985
9	0.0	5.2	1,151,701	93,256	12,529,034	1,244,957
10	0.0	4.7	1,123,937	85,026	11,373,356	1,208,962
11	0.0	4.7	1,184,539	85,361	11,336,292	1,269,901
12	0.2	3.4	1,090,745	64,955	8,231,020	1,155,700
13	0.3	3.5	1,030,684	68,135	8,410,240	1,098,819
14	3.3	-	356,810	58,932	24,425	415,742
15	3.4	-	359,051	60,661	24,900	419,712
16	3.3	-	357,535	60,305	24,517	417,840
17	3.1	-	345,805	55,331	21,720	401,137
18	2.9	-	337,985	53,111	19,772	391,096
Max annual			**1,453,818**	**93,256**	**12,473,782**	**1,547,075**
Average annual			**789,551**	**65,283**	**4,183,740**	**854,834**
LOM total			**10,961,913**	**1,175,101**	**75,307,326**	**12,137,014**

These emissions will primarily be fugitive methane emissions. The International Energy Agency - in their Net Zero by 2050 report - called for the "elimination of all technically avoidable methane emissions by 2030". This Project plans to emit more methane in 2041 than it did last year (and for the 4 years prior to that).

Scope 1 and 2 GHG emissions likely to equal between 1.25% and 1.4% of NSW's entire GHG emissions inventory by 2030

"Estimated annual average Scope 1 emissions represent approximately 0.58% of total GHG emissions for NSW and 0.15% of total GHG emissions for Australia, whilst estimated annual average Scope 1 and 2 emissions represent approximately 0.63% of total GHG emissions for NSW and 0.16% of total GHG emissions for Australia based on the National Greenhouse Gas Inventory for 2019." [20]

In yr 8 of the Project, Scope 1 emissions are predicted to be 1,095,496 Mt.[21] We note that by 2030, the NSW Government is projecting NSW emissions to be 78.9–87.6 Mt CO_2-e.[22] This would mean that Scope 1 emissions from this mine alone would be somewhere between 1.25% and 1.4% of NSW's entire GHG emissions inventory.

As the Project with proposed mitigation still results in a tripling or quadrupling of Scope 1 emissions, it must be refused consent

In regard to greenhouse gas emissions, a review of best-practice greenhouse gas emission reduction measures relevant to the Project was undertaken by South32, and peer reviewed by Palaris (2022). Based on this review, greenhouse gas mitigation measures that are proposed for the Project include:

[20] APPENDIX I, Air Quality and Greenhouse Gas Assessment, pg 79
[21] APPENDIX I, Air Quality and Greenhouse Gas Assessment, Table 8-8 Summary of GHG emissions (tonnes CO2-e)
[22] Net Zero Plan: Stage 1 Implementation Update, pg 27

- implementation of best practice abatement technology for fugitive emissions by maximising the capture of gas via effective inseam drainage of the Bulli Seam prior to longwall extraction (pre-drainage), cross measure drainage of the underlying Wongawilli Seam during longwall extraction (post-drainage) and flaring of methane (thereby converting methane to carbon dioxide and lowering the global warming potential by a factor of 28); And

- investigation of further opportunities to maximise gas capture via pre-drainage of the underlying Wongawilli Seam and management of goaf gas, and implementation of these measures if technically feasible and commercially viable.

Palaris (2022) has stated the proposed mitigation measures, in addition to the optimisation opportunities (the feasibility of which needs to be determined via further studies during the operation of the Project) would minimise GHG emissions where practicable. Further details of the proposed management and mitigation of GHG emissions from operations can be found in Appendix 6.[23]

Even with all of these measures described above, the proponent has advised NSW DPE in its EIS paperwork that the project - with proposed mitigation - still results in a tripling or quadrupling of Scope 1 emissions. Given this assessment by South32, this project must be refused consent.

A recent report from Ember underscores the urgency of rapidly reducing methane emissions

'Tackling Australia's Coal Mine Methane Problem' was commissioned by Lock the Gate Alliance and published by Ember on 8 June 2022. Some of the findings from this report (attached to this submission) that are relevant to the assessment of Scope 1 emissions from this mine include:

- When measured over a 20 year horizon, fossil methane has a global warming potential (GWP) 82.5 times more than CO2 with an atmospheric lifetime of just 12 years, compared to centuries for CO2. This makes rapidly reducing methane a prime target to slow down climate change in order to stand a chance of limiting temperature rises to 1.5 degrees.
- Methane leaking from coal mines has been ignored for many years, but tackling it is the 'low hanging fruit' in Australia's effort to combat climate change.
- The IEA estimated that Australian coal mines emitted 1.8 million tonnes of methane in 2021, double the officially reported figures.
- Australia is the world's 6th largest coal mine methane emitter and on track to become the 3rd worst.
- Existing methane leaks aren't being plugged with any urgency. Mines are not voluntarily stepping up to implement methane abatement technology, and regulation on methane emissions measurement and reporting is patchy. What's more, new coal mines are likely to result in further increases in methane leaks …

[23] APPENDIX I, Air Quality and Greenhouse Gas Assessment, pg 77

- Globally, political focus on reducing methane emissions has grown significantly in recent years. At the COP 26 climate talks in November 2021, the United States and the European Union led the launch of the Global Methane Pledge, a commitment by over 100 countries to reduce anthropogenic methane emissions by 30% on 2020 levels by the end of the decade.
- In December 2021, the European Commission proposed legislation targeting methane emissions, including coal mine methane.

Bluescope Steel not dependent on coal from Dendrobium in future

Bluescope's SSI berth upgrade

The future of Bluescope Steel is not linked to Dendrobium beyond 2024 when mining of the Wongawilli seam ceases. Bluescope Steel's 'Commodity Logistics and Import Project' Scoping report (3 Feb 2022), has a plan to replace Dendrobium coal "*once local supply ceases as early as November 2024":*

> *Recent and emerging disruptions to key commodity supply chains have highlighted the importance of the upgrade to three of the five berths operated by BlueScope, which is proposed as a key component of the No.6 Blast Furnace Reline Project. In particular, without the proposed upgrade, the berths will not be able to accommodate the increase in capacity which BlueScope will require to import the additional quantities of premium hard coking coal needed to replace 3-seam coal from South32's Dendrobium mine, located in the Illawarra and currently transported by rail, once local supply ceases as early as November 2024. The current ship unloading infrastructure located at the berths is approximately 50 years old. By investing in state-of-the-art commodity handling facilities on these berths, BlueScope is ensuring its blast furnace operations will have security of raw material supply now and well into the future.*
>
> *Based on information currently available to BlueScope, supply of raw materials necessary for 6BF (once operational and subject to approval from the Minister) is dependent upon the upgrade to the Berths' capability which is proposed by the CLIP project.*[24]

Bluescope's preferred proposal involves building a ship unloader that will be capable of achieving a discharge rate of up to 50,000 tonnes per day of coal. At present, Bluescope's Berths handle about 6 million tonnes of raw materials per annum. Bluescope's plan is to expand this capacity "to accommodate at least an additional 1 million tonnes per annum from as early as November 2024".[25]

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[24] Commodity Logistics and Import Project, Scoping Report, BlueScope Steel (AIS) Pty Ltd, 3 February 2022, pg iii, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PDA-36073707%2120220204T005757.754%20GMT

[25] Ibi., pg 9

Bluescope doesn't need Dendrobium (it's SSI berth upgrade solves its problem)

Bluescope says it is an “increase in imported metallurgical coal” that is “critical to BlueScope’s operations”.[26] BlueScope says it “remains committed to maximising local coal supplies where they are available and suitable but must maintain the quality of its coal blend to avoid the need for increased throughput of coal (which will in turn increase greenhouse gas emissions).”

Bluescope says that unless “South32’s inability to supply 3-seam can be addressed, to maintain the quality of its coal blend, BlueScope will need to blend the existing Appin coal with an alternate third-party coal to produce an equivalent and suitable coking coal blend. BlueScope has not identified suitable alternate coal supply located within NSW (that is, it has not identified alternate sources within NSW which would not negatively and significantly impact both productivity and greenhouse gas emissions). The distances and logistics involved in sourcing suitable coal are such that the alternative metallurgical coal must be imported via Port Kembla Harbour.”

“The Berths at PKSW cannot accommodate the increase in capacity which will be required to import alternate coal sources, maintain existing raw material volumes and provide flexibility or contingency for supply chain disruptions in other raw materials required for steelmaking. As a result, Bluescope says an upgrade of the Berths is urgently required. Construction of the project is expected to take greater than 27 months to complete. “The project will allow operations to continue at PKSW, maintain the provision of steel to the domestic and export markets, and continue to provide economic benefit to the Illawarra region."[27]

“Current trials have shown that it is unlikely that a mix of locally sourced coal would be able to produce a competent coke capable of maintaining the current blast furnace performance, thus impacting the volume of hot metal produced in the blast furnace, and increasing the fuel required per tonne of hot metal. Increased fuel rate would, in turn, increase GHG emissions and erode the cost competitiveness of steel products on the global market.”[28]

Has an offence been committed under under S10.6 (1) of the EP&A Act?

Under S10.6 (1) of the EP&A Act, a *“person must not provide information in connection with a planning matter that the person knows, or ought reasonably to know, is false or misleading in a material particular.”*

The Executive Summary for this project mentions ‘Bluescope’ 34 times. The EIS’s Justification of the Project’ mentions ‘Bluescope’ 28 times. Cumulatively, the EIS presents a business case that strenuously asserts and/or implies that approval of *this Project* is of great importance to ongoing steel-making at Port Kembla. The documents also quote various

[26] Ibid pg 10
[27] Ibid., pgs 9 and 10
[28] Ibid, pg 10

other studies / authorities such as a 2017 ACCC statement about “the importance of multiple local metallurgical coal supplies to the Port Kembla Steelworks.”

The EIS for this Project was published by NSW DPE on 4 May 2022. What the EIS documents for the Dendrobium Mine Extension fail to communicate, is that in early February 2022, NSW DPE published a ‘Commodity Logistics and Import Project, Scoping Report’ from BlueScope Steel, which contains a number of statements that fundamentally undermine the implied reliance of steel making at Port Kembla in future on coal from Dendrobium:

- Bluescope says it is an “increase in imported metallurgical coal” that is “critical to BlueScope’s operations” not approval of the Dendrobium Mine Extension Project.[29]

- “By investing in state-of-the-art commodity handling facilities … BlueScope is ensuring its blast furnace operations will have security of raw material supply now and well into the future.”

- “Based on information currently available to BlueScope, supply of raw materials necessary for 6BF (once operational and subject to approval from the Minister) is dependent upon the upgrade to the Berths’ capability which is proposed by the CLIP project.”[30]

- “Unless South32’s inability to supply 3-seam can be addressed, to maintain the quality of its coal blend, BlueScope will need to blend the existing Appin coal with an alternate third-party coal to produce an equivalent and suitable coking coal blend. BlueScope has not identified suitable alternate coal supply located within NSW (that is, it has not identified alternate sources within NSW which would not negatively and significantly impact both productivity and greenhouse gas emissions). The distances and logistics involved in sourcing suitable coal are such that the alternative metallurgical coal must be imported via Port Kembla Harbour.”

  Note that the statement above specifically refers to Bluescope’s need to blend *Appin* coal with either: a) 3-seam (or Wongawilli coal - a seam which South32 will NOT mine at Dendrobium under the this proposal); or b) “alternative metallurgical coal must be imported via Port Kembla Harbour”. The Scoping Report does not state that Bluescope wants to blend Bulli seam coal from Dendrobium into its blend.

- “The project will allow operations to continue at PKSW, maintain the provision of steel to the domestic and export markets, and continue to provide economic benefit to the Illawarra region."[31]

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[29] Ibid pg 10

[30] Commodity Logistics and Import Project, Scoping Report, BlueScope Steel (AIS) Pty Ltd, 3 February 2022, pg iii, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PDA-36073707%2120220204T005757.754%20GMT

[31] Ibid., pgs 9 and 10

In the EIS's SECTION 8, 'Justification of the Project', South32 make the claim that the project's coal may provide "carbon advantages to BlueScope." (pg 8-2) This claim appears to be directly contradicted by Bluescope in its Feb 2022 berth upgrade application. In this document, Bluescope find that "a mix of locally sourced coal" without the current 3-seam / Wongawilli content, would result in an increased use of coal, which "would, in turn, increase GHG emissions and erode the cost competitiveness of steel products on the global market."[32]

Bluescope's plan to transition to low carbon steel raises additional questions about future demand for Dendrobium's coal for steel making at Port Kembla

Bluescope produces about 3Mt of steel at Port Kembla, which requires the use of around 2.9Mt of coal (2.5Mt of hard coking coal and 0.4Mt of PCI coal). Of the total coal use, 2.4Mt is sourced locally from the Southern Coalfield while the remainder is supplied from Queensland.[33] In FY19, saleable coking coal from the Southern Coalfields was approximately 11Mtpa, being the combined output from Appin, Metropolitan, Tahmoor and Dendrobium. Since FY19, new 3-seam / Wongawilli coking coal capacity has been approved at Russell Vale and Wongawilli.

South32 has conceded that without the Dendrobium Extension *"BlueScope may be able to source alternate supplies of metallurgical coal locally"*. When the IPC refused the last Dendrobium longwall project, they stated that *"[t]he Commission is of the view that the dependence of BlueScope on Wongawilli Seam coal from the Dendrobium Mine is unclear …"*

In March 2022, Bluescope described measures under development likely to reduce coal consumption:

- BlueScope are currently investigating the use of sustainably sourced biochar as a replacement for pulverised coal (their Blast Furnace application states that *"[r]esearch has shown the replacement of PCI coal with biochar to be viable")*.
- BlueScope is investigating a pilot-scale 10-megawatt renewable hydrogen electrolyser. It would be used to test how green hydrogen would work in the blast furnace at the Port Kembla Steelworks.
- BSL has also signed a Memorandum of Understanding with Rio Tinto Group to explore using renewable hydrogen to replace coking coal to directly reduce iron ore.
- The company is also planning to replace blast furnace PCI coal consumption with coke oven gas, which contains 60% hydrogen.[34]

Bluescope state that "[s]ecuring access to the raw materials that are currently used in the blast furnace process, such as metallurgical coal, will be critical in the ***early transition***

[32] Ibid, pg 10
[33] BAEconomics Report, pg 5 here: https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-8194%2120201102T060302.347%20GMT
[34] GHD, Blast Furnace No. 6 Reline Project, Greenhouse Gas Report, BlueScope Steel (AIS) Pty Ltd, 07 March 2022, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-22545215%2120220307T040033.538%20GMT

period …" [emphasis added]. How much coal will be required beyond this early period and how much of that coal would need to be sourced from the Southern Coalfields, is an open question.

Finally, we note that the newly elected Australian government's Powering Australia Plan states that *"[e]normous opportunities exist to develop green steel manufacturing hubs across Australia using abundant and low cost renewable energy resources, and green hydrogen."* The Plan refers to Hydrogen Breakthrough Ironmaking Technology as an opportunity to transition from traditional blast furnaces (like the one currently in use at Port Kembla).

RESTORING INTEGRITY TO THE ASSESSMENT PROCESS FOR DENDROBIUM

In February 2021, the state's Independent Planning Commission rejected expansion plans for Dendrobium, *"finding the proposed mine design risks long-term and irreversible damage to Greater Sydney and the Illawarra's drinking water catchment."*[35] This same Project was recommended for approval by NSW DPE. Without independent scrutiny from the NSW IPC, this project would likely have been approved.

Although the new project is significantly smaller than the project refused last year by the IPC, significant questions remain. Now - for the first time ever for a coal mine expansion application - this new proposal has been declared "State Significant Infrastructure (SSI) given its importance to Port Kembla steelworks".[36]

As demonstrated above, the dependence of the Port Kembla steelworks on coal supply from Dendrobium has not been established beyond 2024. Bluescope's application to expand their coal import facility strongly suggests that beyond 2024, Bluescope's operation can be decoupled from coal production at Dendrobium.

Given this set of information, Lock the Gate's view is that NSW DPE should write a Briefing Note to Anthony Roberts to explain that a substantial conflict of interest has arisen for NSW DPE, where the politicised and unprecedented declaration of this Project as SSI createsa pressure to recommend this Project for approval which is not supported by the evidence before NSW DPE. As such, our view is that NSW DPE should recommend to the Minister that he exercise his power under S. 2.9 (1) (c) of the EP & A Act to task the NSW IPC with reviewing independent reports (including security of coal supply for Bluescope). This provision in the Act allows the IPC *"to advise the Minister or the Planning Secretary on any matter on which the Minister or the Planning Secretary requests advice from the Commission"*. Such a review could occur as part of this SSI process, with public submissions to the IPC and a transparent review of this project's merits. Such a review would not alter the SSI status of this Project as Minister Roberts would still make the final determination (as per the request from a NSW Legislative Council motion last year).

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[35] NSW IPC, 05.02.2021, Mine expansion blocked by Commission over significant catchment concerns, https://www.ipcn.nsw.gov.au/news/2021/08/mine-expansion-blocked-by-commission-over-significant-catchment-concerns

[36] Media release, Deputy Premier Paul Toole, 4 Dec 2021, Coal certainty delivers job security, https://www.nsw.gov.au/media-releases/coal-certainty-delivers-job-security

A NSW DPE recommendation to the Minister to task the NSW IPC with an independent review would be consistent with the NSW Government's Code of Ethics and Conduct which requires DEP staff to "role-model behaviour that promotes and maintains public confidence and trust in our services". Lock the Gate's view is that this is the only course of action which would promote public confidence in this assessment and determination.

To underscore this last point, please see this story published by the ABC in the Illawarra last week: 'FOI shows NSW planning department 'coaching' miner to stress BlueScope link, green groups say'.