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

EIS Submission - Hunter Valley Operations Continuation Project

27 February 2023

Thank you for the opportunity to make a submission on the EIS for the Hunter Valley Operations Continuation Project (North and South)

Lock the Gate is a national grassroots organisation made up of over 120,000 supporters and more than 260 local groups who are concerned about risky coal mining, coal seam gas and fracking. These groups are located in all parts of Australia and include farmers, First Nations Peoples, conservationists and urban residents.

Our vision is of healthy, empowered communities which have fair, democratic processes available to them to protect their land and water and deliver sustainable solutions to food and energy needs. The mission of Lock the Gate is to protect Australia's natural, cultural and agricultural resources from inappropriate mining and to educate and empower all Australians to demand sustainable solutions to food and energy production.

We understand that Hunter Valley Operations (owned by Glencore and Yancoal) is seeking approval for the HVO Continuation Project (the Project) and that the Project involves:

- continuation of mining to optimise resource recovery from the existing operation, predominantly by extracting coal from deeper seams;
- extension of mine life at HVO North from 2025 to the end of 2050 and at HVO South from 2030 to the end of 2045;
- extraction of an additional 400 Mt of run-of-mine (ROM) coal.

Lock the Gate Alliance **objects** to this project.

SUMMARY - KEY ISSUES

Greenhouse gas emissions

1. Global heating will not stabilise at *any* temperature until the world gets to net zero. Approval of this Project - which would add ~ 1.2 Gt CO2-e in lifetime emissions - is not consistent with the goals of the Paris Agreement. We note that in 2016, the NSW Government endorsed the Paris Agreement and pledged *to "take action that is consistent with the level of effort to achieve Australia's commitments to the Paris*

Agreement."[1] Approval of new coal capacity in NSW - which would add to NSW and global GHG emissions - is consistent with global CO2 emissions continuing to rise, and not with abatement that would halt global temperature rise between 1.5℃ and 2℃.

2. Glencore and Yancoal's Hunter Valley Operations Continuation coal project is the largest coal project proposed in NSW since the Paris Agreement.

3. **HVO is seeking permission to double annual Scope 1 GHG emissions** (mainly fugitive methane and diesel emissions) from the 0.56 Mt CO2-e reported in their 2021 Annual Environmental Review to an average of 1.19 Mt CO2-e for the next 27 years.[2] 1.19 Mt CO2-e per annum would be a very large Scope 1 GHG footprint. If that were the footprint of the mine in 2020-21, the HVO Continuation Project would place second on the list of most polluting coal mines in NSW.

4. HVO is seeking approval to double its own direct GHG emissions at a time when the NSW Government's policy is to **reduce GHG emissions by 70% by 2035.**

5. **This Project seeks approval to more than *triple* Scope 1 fugitive methane emissions from 182,625t CO2-e projected for 2023 to 590,284 t CO2-e in 2030.** Fugitive emissions are rising at the existing mine and are projected to rise significantly all the way out to the late 2040s if this new proposal is approved. The only way to control fugitive emissions and set them on a downward trajectory is to refuse consent for new and additional mining of deeper coal seams at HVO with higher in-situ methane content. We note that the Global Methane Pledge (to which Australia is a signatory) requires at least a 30% cut in methane emissions globally by 2030.

6. Data on the NSW Net Zero Emissions Dashboard's 'NSW Projections Under Current Policy' tab, reveals that 'Fugitive Emissions' (about 95% of which are coal mine emissions) are the ONLY sector's GHG emissions projected to grow between 2020 and 2030.

7. **Instead of electrifying their mining fleet to eliminate diesel emissions, Yancoal and Glencore are applying to steadily *increase* their diesel emissions.** This Project seeks approval to *increase* Scope 1 diesel emissions by 43% from 414,245t CO2-e in 2023 to 592,462 t CO2-e in 2035.

8. **The International Energy Agency (IEA) said back in May 2021, that to maintain a safe climate, no new coal, oil or gas could be developed.** Between that policy statement from the IEA in May 2021 and now, 4 new coal projects have been approved in NSW, being: Mount Pleasant Optimisation Project, Wongawilli Coal Mine - MOD 2, Narrabri Underground Stage 3 and Dartbrook Coal Mine MOD 7.

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[1] NSW Climate Change Policy Framework, November 2016, https://www.energy.nsw.gov.au/sites/default/files/2022-08/nsw-climate-change-policy-framework-160618.pdf

[2] Table 30, Pg 87 of Appendix H - Air quality and GHG

At least another eight coal projects are under active consideration right now and are likely to be approved in 2023 under current policy settings.

Aboriginal cultural heritage

An expansion of open cut coal mining at HVO would impact significant Aboriginal cultural heritage values. Lock the Gate calls on Glencore and Yancoal to respect the wishes of the Plains Clans of the Wonnarua People and withdraw plans to damage more country in the Project area with open cut mining.

Voids

HVO South and HVO North pit lakes are expected to take about 1,000 years to 'reach an equilibrium level', that is to say 'salty lake' that will remain an environmental hazard in perpetuity.[3] Allowing the coal mining industry to create larger, deeper voids is not a desirable outcome for the Hunter Valley. This should not be permitted at the HVO site.

Air pollution

The expansion of activities at HVO would inevitably result in degraded air quality, with significant and prolonged air pollution in the form of PM10 and PM 2.5 emissions. PM 2.5 emissions are of particular concern. As recent studies by air quality experts have not been able to identify where a safe limit for exposure to PM2.5 is, the precautionary principle requires no further approval of open cut mining.

Biodiversity

The Project would clear 397 ha of native vegetation, 97.4 ha of which is home to Threatened Ecological Communities (TECs).[4] Approval of this Project will exacerbate pressure on Threatened Ecological Communities and threatened species.

HVO joint venture partner Glencore is not 'fit and proper'

The NSW Mining Act and the Commonwealth Environment Protection And Biodiversity Conservation Act 1999 both have provisions which require a mining title holder to be 'fit and proper'. For reasons including those outlined in this submission, Glencore - 49% owner of this Project - is not a fit and proper entity to be granted further mining rights in NSW.

Greenhouse gas emissions

Summary of GHG emissions

This Project would result in 1,202,020,000 t CO2-e of greenhouse gas emissions.

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[3] EIS Main Report, pg 239

[4] Appendix L - Biodiversity Development Assessment Report, Pg i, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-11826681%2120221219T104754.910%20GMT

Figure 1: Jacobs' summary of greenhouse gas emissions

Period	Estimated greenhouse gas emissions (Mt CO_2-e)		
	Scope 1	Scope 2	Scope 3
Annual average	1.19	0.07	41.67
Total over life of Project (2023-2050)	33.28	1.88	1,166.86

Source: Appendix H - Air quality and GHG, Jacobs, pg 87 (Table 30)

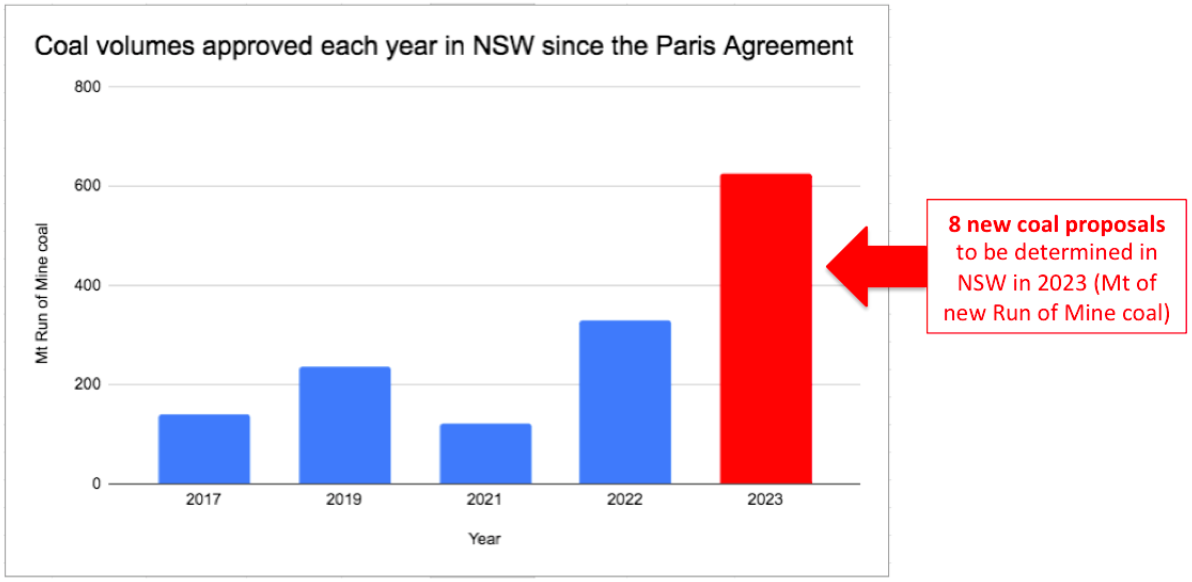
Single largest expansion since Paris Agreement

New coal mine proposals in the NSW planning system right now (to be determined in 2023) represent the largest increase of new coal capacity proposed in NSW since the Paris Agreement entered into force at the end of 2016. Under current policy settings in NSW, it is very likely that this Project will be approved, despite clearly not being in the public interest.

HVO is the single largest proposed expansion of new coal capacity in NSW since the Paris Agreement entered into force in November 2016.

Yancoal and Glencore seek permission to mine an additional 400 million tonnes of ROM coal out to 2050, which will result in 1.2 gigatonnes of carbon pollution (1,202 Mt CO2-e).

Figure 2: Coal volumes approved in NSW since the Paris Agreement (blue) vs coal volumes proposed across eight new coal projects (red)



Expert reports warn of grave risks of slow or no action

A steady stream of expert reports over the last two years or so highlights the folly of ongoing approvals of any new coal expansions in NSW:

Date	Organisation / expert analysis

March 2021	The Australian Academy of Science called for an **acceleration of Australia's transition to net zero**
May 2021	The International Energy Agency declared that **no new oil, coal or gas** projects can be developed anywhere in the world if we are to meet the Paris Agreement's 1.5 degree temperature goal.
October 2021	UNEP's 'Production Gap Report' - produced in collaboration with the UN Environment Programme (UNEP) – found that global coal production **"must start declining immediately and steeply to be consistent with limiting long term warming to 1.5°C."**
February 2022	NSW EPA's NSW State of the Environment 2021 report found that **key trends and indicators are "getting worse"** including annual mean temperature, sea level rise. The EPA told us that the "effects of climate change on the people and the environment of NSW are expected to become greater as warming continues".
July 2022	The Australian Government's 'Australia state of the environment 2021' found that "[o]verall, the state and trend of the environment of Australia are poor and **deteriorating as a result of increasing pressures from climate change**, habitat loss, invasive species, pollution and resource extraction."
July 2022	CSIRO released their 'once-in-a-decade report' Our Future World that "identifies seven global megatrends that hold the key to the challenges and opportunities ahead. "Global emissions have risen sharply over the past few decades and time series data do not yet show indication of decline."
November 2022	The Climate Council released The Great Deluge: Australia's New Era Of Unnatural Disasters detailing the rapidly increasing costs of extreme weather: • Storms and floods that affected Southeast QLD and coastal NSW in February and March 2022 caused $5.56 billion in insured losses • Extreme weather events over the past 12 months cost every Australian household, on average, $1,532. This figure is expected to jump to more than $2,500 a year by 2050. • The Feb-March 2022 floods in New South Wales badly damaged transport infrastructure costing at least $1.5 billion.
February 2023	The IEA released their Global Methane Tracker 2023. The report found that "the global energy industry was responsible for 135 million tonnes of methane released into the atmosphere in 2022, only slightly below the record highs seen in 2019." IEA says that "Methane is responsible for around 30% of the rise in global temperatures since the Industrial

	Revolution. It dissipates faster than carbon dioxide but is a much more powerful greenhouse gas during its short lifespan. **Cutting methane emissions is one of the most effective ways to limit global warming and improve air quality in the near term.**
February 2023	The Cross Dependency Initiative (XDI) released new analysis showing that Victoria, New South Wales and Queensland are among the top 10% of global jurisdictions most at risk from the physical impacts of climate change. Rohan Hamden - former Director of the Climate Adaptation Program for the South Australian government - is CEO of XDI: The Cross Dependency Initiative.

By 2035, this Project alone would be responsible for 2.5% of all GHG emissions in NSW

Estimated annual average Scope 1 and 2 emissions from the Project are 1.26 Mt CO2-e (pg 88, GHG assessment). In 2005, the NSW GHG inventory was 165.01 Mt CO2-e.[5] The NSW Government's latest GHG target is for a reduction of 70% by 2035. This sets a target of 49.5 Mt CO2-e for the state's entire emissions in 2035.

1.26 Mt CO2-e in 2035 would represent 2.5% of NSW's entire remaining GHG inventory (from a single coal mining project).

Scope 1 emissions

HVO is seeking permission to double annual Scope 1 GHG emissions

Annual Scope 1 GHG emissions (mainly fugitive methane and diesel emissions) are projected to increase from the 0.56 Mt CO2-e reported in their 2021 Annual Environmental Review to an average of 1.19 Mt CO2-e for the next 27 years (Table 30, Pg 87 of Appendix H - Air quality and GHG).

HVO is seeking approval to double its own direct GHG emissions at a time when the NSW Government's policy is to **reduce GHG emissions by 70% by 2035.**

In 2020-21, only 1 coal mine in NSW emitted more Scope 1 emissions than the HVO Continuation Project proposes on average (1.19 Mt CO2-e), which was South32's Appin mine (1.94 Mt CO2-e).

1.19 Mt CO2-e per annum would be a very large Scope 1 GHG footprint. If that were the footprint of the mine in 2020-21, the HVO Continuation Project would place second on the list of most polluting coal mines in NSW.

[5] DCCEEW, State and territory greenhouse gas inventories: annual emissions, https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-accounts-2019/state-and-territory-greenhouse-gas-inventories-annual-emissions

	2020–21 Safeguard facility data		
	Facility name	State	2020-21
1	**APN01 Appin Colliery - ICH Facility**	NSW	1,940,513
	Hunter Valley Operations Continuation Project		*1,190,000*
2	**Mandalong Mine**	NSW	1,184,162
3	**Tahmoor Coal Mine**	NSW	1,124,934
4	**Warkworth Mine**	NSW	779,189
5	**Mount Pleasant Operations**	NSW	675,893
6	**Hunter Valley Operations mine**	NSW	563,127
7	**Integra Underground Mine**	NSW	553,209
8	**HVY01 Hunter Valley Energy Coal - CCL Facility**	NSW	546,521
9	**Bulga Coal Complex**	NSW	516,616
10	**Chain Valley Colliery**	NSW	467,650
11	**Bengalla Operations**	NSW	449,399
12	**Ashton Coal Mine**	NSW	411,570
13	**Myuna Colliery**	NSW	402,866
14	**Metropolitan Colliery**	NSW	401,341
15	**Wambo Coal Mine**	NSW	395,641
16	**Narrabri Underground Mine**	NSW	384,304
17	**Ravensworth Operations**	NSW	324,204
18	**Maules Creek Open Cut Mine**	NSW	304,625
19	**Glendell**	NSW	278,984
20	**Dendrobium Colliery**	NSW	234,807
21	**Boggabri Coal Minesite**	NSW	184,492
22	**Liddell Coal Mine**	NSW	168,540
23	**Moolarben Coal Mine (Open Cut & Underground)**	NSW	164,989
24	**Ravensworth Underground Coal Mine**	NSW	155,993
25	**Wilpinjong Coal Mine**	NSW	141,409

Data: Clean Energy Regulator, Safeguard facility reported emissions

Safeguard Mechanism reforms aim to *reduce* Scope 1 emissions; this Project proposes dramatically increasing them at HVO

It would be somewhat farcical for the NSW Government to allow Hunter Valley Operations to double their annual GHG emissions as the Albanese government attempts to 'cut' 4.9% GHG emissions per annum via reforms to the Safeguard Mechanism.

Lock the Gate's calculations suggest that even if the proposed Safeguard Mechanism cuts represented actual emissions reductions of 4.9% per annum (there's much talk of allowing offsets rather than requiring actual emissions reductions), it would take 15 years at 4.9% per annum for HVO's emissions to 'reduce' from almost 1.2 million tonnes per annum back to the same level they are now.

In other words, we would have to wait until 2039 to see any reduction at all compared to the existing level of Scope 1 emissions currently emitted at HVO.

Fugitive emissions

This Project seeks approval to more than triple Scope 1 fugitive methane emissions this decade

This Project seeks approval to more than *triple* Scope 1 fugitive methane emissions from 182,625t CO2-e projected for 2023 to 590,284 t CO2-e in 2030. The Global Methane Pledge (to which Australia is a signatory) requires at least a 30% cut in methane emissions globally by 2030.

Coal mine operators and owners in NSW should be setting clear timelines to eliminate all technically avoidable fugitive methane emissions. Instead of doing this, Yancoal and Glencore are applying to steadily *increase* their Scope 1 fugitive methane emissions.

Coal mining is the only sector in NSW projecting an increase in emissions this decade

Data on the NSW Net Zero Emissions Dashboard reveals that 'Fugitive Emissions' (~95% of which are coal mine methane emissions) will grow between 2020 and 2030. Under the latest 'current policy scenario' in the 'NSW Greenhouse Gas Emission Projections, 2021−2050' - published on 20 January 2023 - fugitive emissions from coal mines (open cut and underground) are projected to **increase** by ~10% from 11.63 Mt CO2-e in 2020 to 12.8 Mt CO2-e in 2030.

Even worse in the 2040s

It beggars belief that the NSW Government is considering approving a project that proposes to still be emitting in excess of 1 Mt CO2-e of fugitive emissions in 2047 just to extract and process coal at HVO.

Fugitive emissions

			Emission factor (t CO2-e/t ROM)			Emissions (t CO2-e/year)			
Year	ROM coal (t)	-	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2023	19,908,276	-	-	-	-	182,625	-	-	182,625
2024	20,976,889	-	-	-	-	249,818	-	-	249,818
2025	18,177,901	-	-	-	-	235,235	-	-	235,235
2026	28,173,230	-	-	-	-	450,007	-	-	450,007
2027	30,409,148	-	-	-	-	413,873	-	-	413,873
2028	31,213,520	-	-	-	-	527,872	-	-	527,872
2029	30,710,095	-	-	-	-	365,237	-	-	365,237
2030	31,500,000	-	-	-	-	590,284	-	-	590,284
2031	29,370,406	-	-	-	-	422,105	-	-	422,105
2032	30,057,815	-	-	-	-	451,025	-	-	451,025
2033	30,797,847	-	-	-	-	534,789	-	-	534,789
2034	31,500,000	-	-	-	-	538,123	-	-	538,123
2035	31,012,508	-	-	-	-	408,494	-	-	408,494
2036	31,500,000	-	-	-	-	604,714	-	-	604,714
2037	31,433,780	-	-	-	-	452,705	-	-	452,705
2038	29,452,270	-	-	-	-	469,173	-	-	469,173
2039	34,000,894	-	-	-	-	667,179	-	-	667,179
2040	38,263,102	-	-	-	-	1,071,195	-	-	1,071,195
2041	29,996,243	-	-	-	-	544,341	-	-	544,341
2042	29,500,000	-	-	-	-	946,518	-	-	946,518
2043	28,830,479	-	-	-	-	1,207,940	-	-	1,207,940
2044	27,723,390	-	-	-	-	1,464,963	-	-	1,464,963
2045	24,318,601	-	-	-	-	1,508,445	-	-	1,508,445
2046	19,310,031	-	-	-	-	856,297	-	-	856,297
2047	18,626,435	-	-	-	-	1,010,945	-	-	1,010,945
2048	16,291,191	-	-	-	-	926,548	-	-	926,548
2049	9,742,001	-	-	-	-	722,712	-	-	722,712
2050	3,789,709	-	-	-	-	352,944	-	-	352,944
								Average	649,147
								Total	18,176,106

Source: Appendix G: Greenhouse gas emissions by activity

Diesel emissions

Instead of electrifying their mining fleet to eliminate diesel emissions, Yancoal and Glencore are applying to steadily *increase* their diesel emissions.

The GHG assessment for this Project states that "[d]iesel fuel consumption represents nearly half of estimated direct emissions" from this development (pg 87).

Coal mine operators and owners in NSW should be setting clear timelines to eliminate their diesel emissions by electrifying their mining fleets. Instead of doing this, Yancoal and Glencore are applying to steadily *increase* their diesel emissions. NSW's policy goal overall, is to cut the state's GHG emissions by 70% on 2005 levels. Rather than cut emissions, this Project seeks approval to *increase* it's Scope 1 diesel emissions by 43% from 414,245t CO2-e in 2023 to 592,462 t CO2-e in 2035. This cannot be allowed.

Appendix G. Greenhouse gas emissions by activity

Diesel usage

			Emission factor (kg CO2-e/kL)			Emissions (t CO2-e/year)			
Year	ROM coal (t)	Usage (kL)	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2023	19,908,276	152,223	2721.3	0	138.96	414,245	-	21,153	435,398
2024	20,976,889	154,989	2721.3	0	138.96	421,771	-	21,537	443,308
2025	18,177,901	170,141	2721.3	0	138.96	463,005	-	23,643	486,648
2026	28,173,230	191,719	2721.3	0	138.96	521,726	-	26,641	548,367
2027	30,409,148	197,755	2721.3	0	138.96	538,152	-	27,480	565,632
2028	31,213,520	188,921	2721.3	0	138.96	514,111	-	26,252	540,364
2029	30,710,095	220,002	2721.3	0	138.96	598,693	-	30,572	629,264
2030	31,500,000	213,819	2721.3	0	138.96	581,866	-	29,712	611,578
2031	29,370,406	222,720	2721.3	0	138.96	606,088	-	30,949	637,037
2032	30,057,815	232,237	2721.3	0	138.96	631,987	-	32,272	664,259
2033	30,797,847	235,155	2721.3	0	138.96	639,926	-	32,677	672,603
2034	31,500,000	228,460	2721.3	0	138.96	621,707	-	31,747	653,454
2035	31,012,508	217,713	2721.3	0	138.96	592,462	-	30,253	622,715
2036	31,500,000	227,300	2721.3	0	138.96	618,553	-	31,586	650,138
2037	31,433,780	227,502	2721.3	0	138.96	619,100	-	31,614	650,714
2038	29,452,270	246,653	2721.3	0	138.96	671,216	-	34,275	705,491
2039	34,000,894	270,140	2721.3	0	138.96	735,131	-	37,539	772,669
2040	38,263,102	271,303	2721.3	0	138.96	738,297	-	37,700	775,997
2041	29,996,243	260,402	2721.3	0	138.96	708,633	-	36,186	744,819
2042	29,500,000	240,862	2721.3	0	138.96	655,457	-	33,470	688,927
2043	28,830,479	209,323	2721.3	0	138.96	569,630	-	29,087	598,718
2044	27,723,390	203,260	2721.3	0	138.96	553,132	-	28,245	581,377
2045	24,318,601	144,884	2721.3	0	138.96	394,272	-	20,133	414,405
2046	19,310,031	146,836	2721.3	0	138.96	399,585	-	20,404	419,990
2047	18,626,435	134,543	2721.3	0	138.96	366,132	-	18,696	384,828
2048	16,291,191	96,075	2721.3	0	138.96	261,450	-	13,351	274,800
2049	9,742,001	56,302	2721.3	0	138.96	153,215	-	7,824	161,039
2050	3,789,709	22,030	2721.3	0	138.96	59,951	-	3,061	63,013
								Average	549,913
								Total	15,397,551

Pg 178 of the GHG Assessment

HVO has FAILED to reduce emissions intensity at the existing mine

Overall, the GHG emissions reduction performance at this mine has deteriorated. The Scope 1 and 2 emissions intensity of ROM coal mined has increased over the last three years.

Hunter Valley Operations	2018/19	2019/20	2020-2021
Scope 1 (tCO2-e)	574,870	562,450	563,100
scope 1 fuel	312,240	315,130	261,300
scope 1 fugitive	262,670	247,320	301,800
Scope 2 (tCO2-e)	112,660	111,920	94,930
Total (Scope 1 and 2)	687,530	674,370	658,090
ROM coal production	18,050,000	16,830,000	14,410,000
Emissions intensity per t ROM coal	0.038	0.040	0.046

- **Scope 1 fugitive emissions:** fugitive emissions are rising at the existing mine and are projected to rise significantly in future if this new proposal is approved. The only way to meaningfully control fugitive emissions and set them on a downward trajectory is to refuse consent for any new mining of deeper coal seams at HVO with higher in-situ methane content.

  As the IEA noted in their recently released Global Methane Tracker 2023: “Cutting methane emissions is one of the most effective ways to limit global warming and

improve air quality in the near term."

- **Scope 1 diesel emissions:** HVO should already have a clear timeline to be progressively electrifying their entire mining fleet between now and 2030. NSW DPE should require a timetable with clear annual emissions reduction targets.

- **Scope 2 electricity emissions:** We note that the NSW Minister for Planning considers that the purchase of renewable electricity is 'in general' a 'reasonable and feasible' abatement measure.[6] The simplest direct emissions to abate are Scope 2 electricity emissions. There really is no excuse for HVO to still be consuming electricity generated from the combustion of coal. NSW DPE should require a clear commitment from HVO to eliminate Scope 2 electricity emissions attributable to this mine this FY.

Statewide failure on Scope 1 and 2 GHG regulation at NSW coal mines

The process of mining coal in NSW consumes large amounts of fossil fuels producing diesel GHG emissions and GHG emissions from the generation of the electricity used to power coal mines. Extracting coal from the ground also releases very large amounts of fugitive methane emissions.

According to the NSW Treasurer and Minister for Energy, Scope 1 and 2 GHGs from coal mining in NSW in 2019-20 were 18.6 Mt CO2-e or ~14% of all of NSW's GHG inventory.

The current regulatory system that purports to minimise Scope 1 and 2 GHGs from coal mines in NSW is not fit for purpose. It features a mostly hands-off, light-touch approach, with patchy reporting of Scope 1 and 2 coal mine emissions to the NSW Government (at least 15 coal mines don't report their GHGs at all to the NSW Government). There is an absence of guidelines and standards for mitigation measures and offsets for coal mines. Conditions of consent are generally vague and legally unenforceable. Over the last five years in NSW, no coal mine in NSW has been prosecuted for breaching GHG conditions of consent.

See Appendix 1 for a more detailed analysis of the NSW Government's ongoing failure to drive Scope 1 and 2 GHG emissions down at coal mines in NSW.

IEA said 'no new coal' but NSW Gov't is not listening

The International Energy Agency (IEA) said back in May 2021, that to maintain a safe climate, no new coal, oil or gas could be developed. Between that policy statement from the IEA in May 2021 and now, 4 new coal projects have been approved in NSW, being: Mount Pleasant Optimisation Project, Wongawilli Coal Mine - MOD 2, Narrabri Underground Stage 3 and Dartbrook Coal Mine MOD 7.

At least another eight are under active consideration right now and are likely to be assessed and approved in 2023 under current policy settings.

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[6] QON 9318 - Planning - REASONABLE AND FEASIBLE ACTIONS TO REDUCE GREENHOUSE GAS EMISSIONS, https://www.parliament.nsw.gov.au/lc/papers/pages/qanda-tracking-details.aspx?pk=92748

New coal projects in NSW will increase the direct GHG emissions at facilities that the Albanese government is attempting to reduce via proposed reforms to the Safeguard Mechanism.

Table 1: Coal projects expected to be assessed this year and their emissions:

Project	Status	Total Scope 1 GHG Mt CO2~e	Total Scope 2 GHG Mt CO2~e	Total Scope 3 GHG Mt CO2~e	Total GHGs (lifetime) Mt CO2~e	Seeking approval until	Additional ROM coal approved (Mt)	References
Newstan Mine Extension Project	Response to submissions	0.58	0.21	64.57	65.36	2037	**25.9**	ROM coal: Newstan Mine Extension Project EIS Main Report, pg i. GHG info: Table 48, pg 79, Appendix O Air quality and GHG
Angus Place West	EIS expected Q1 2023	Data not yet available (will be released in EIS)					**8.5**	Scoping Report
Mt Arthur Coal MOD 2 (Pathway to 2030)	EIS expected Q1 2023	Data not yet available (will be released in EIS)				4 yrs (2026 - 2030)	**88**	*ROM coal # is an estimate as the EIS for this Project has not been released. 88Mt ROM is based on current production continuing for another 4 years.*
Hunter Valley Operations Continuation Project	EIS exhib ends 27/02/23	33.28	1.88	1,166.86	1202.02	25 yrs (2025 - 2050)	**400**	HVO Continuation Project - EIS Main Report, pg ES.9
Boggabri MOD 8	Response to submissions	0.79	0.32	61.73	62.84	3 yrs (2033 - 2036)	**28.1**	BOGGABRI COAL MINE, Mod 8, Amendment Report, 28 Nov 2022

Chain Valley Colliery Consolidation	Response to submissions	1.97	0.22	23.49	25.35	2 yrs (2027-2029)	**9.5**	Appendix 14 - Greenhouse Gas and Energy Assessment
Ulan Coal Mod 6 - u/ground extension	Response to submissions	0.13	0.25	64.59	64.97	2 yrs (2033-2035)	**27.5**	Appendix 15 - Greenhouse Gas Assessment
Moolarben OC3 Extension Project	Response to submissions	0.60	0.20	85.80	86.59	10 yrs (2025-2034)	**40**	EIS GHG Assessment
TOTALS		**37.35**	**2.90**	**1467**	**1507**		**627.5**	

Aboriginal cultural heritage

We understand that the Plains Clans of the Wonnarua People (PCWP) object to any expansion of open cut coal mining at HVO as significant Aboriginal cultural heritage values would be impacted by this Project.

The PCWP has lodged a Section 10 application to the Commonwealth under the ATSIHP Act to protect Aboriginal Cultural Heritage in this area. This application is still afoot, was material to the NSW IPC's October 2022 refusal of the Glendell COP and also covers portions of the HVO Project area. HVO should be required to explain their position on this S.10 application and how they propose to protect the cultural heritage values identified in the report commissioned by the Department of Agriculture, Water and Environment (DAWE) and written by anthropologist Daniel Leo.

In October 2022, the NSW IPC found that Aboriginal cultural heritage values adjacent to this Project would be "harmed" by Glencore's 'Glendell Continued Operations Project' (COP). This was one of the key reasons the Glendell COP project was refused consent.

Voids

Over 25 final voids have been approved to be left across the Hunter. The Hunter Valley Renewal project - in a new report, 'After the coal rush, the clean up. A community blueprint to restore the Hunter' - estimates that these unfilled mining holes will have a combined surface area the size of Sydney Harbour, but will be much deeper.

- *Modelling predicts that each void will take hundreds, even thousands of years to reach hydrological equilibrium, with each destined to become a contaminated super-saline lake.*

- *Some suggest that these sites might become nice recreational water parks, or dirt bike tracks, or renewable energy stations, but experts and local authorities warn that*

the Hunter's voids will become perpetual hazards to human and environmental health, needing active management long after the mining companies have gone.

- *As Muswellbrook Council has said "Voids are not a naturally occurring element in the landscape, so planning to retain a void is planning to create an irreversible and permanent negative change to the environment".*

HVO South and HVO North pit lakes are expected to take about 1,000 years to 'reach an equilibrium level', that is to say 'salty lake' that will remain an environmental hazard in perpetuity.[7] Allowing the coal mining industry to create larger, deeper voids is not a desirable outcome for the Hunter Valley.

Air pollution

The expansion of activities at HVO would inevitably result in degraded air quality, with significant and prolonged air pollution in the form of PM10 and PM 2.5 emissions.

PM 2.5 emissions are particularly concerning. Last year, Associate Professor Gabriel Da Silva - expert on the chemistry of air pollution at The University of Melbourne - made a submission on the expansion of the Mount Pleasant mine, finding that for health reasons, "the mine shouldn't be allowed to expand." Reaching this conclusion, Dr Da Silva found "emerging science" is telling us "that PM2.5 is actually more harmful than we once understood" and that "the latest studies are showing we can't actually work out where a safe limit for exposure to PM2.5 is."[8]

Biodiversity

The Project would clear 397 ha of native vegetation, 97.4 ha of which is home to Threatened Ecological Communities (TECs).[9] At least two TECs face 'Serious and Irreversible Impacts (SAII)' as a result of the Project, being Hunter Floodplain Red Gum Woodland in the NSW North Coast and Sydney Basin Bioregions EEC and Warkworth Sands Woodland in the Sydney Basin Bioregion EEC.[10]

The newly discovered legless lizard - the Hunter Valley delma (Delma vescolineata) - is also at risk. While the Hunter Valley delma is not currently listed as a threatened species, it is expected that it soon will be. It is understood that the species has been nominated for listing under the Commonwealth EPBC Act. The species is only known to occur in a geographically restricted area in the Hunter Valley, which is heavily impacted by mining and agriculture with

[7] EIS Main Report, pg 239
[8] Dr Da Silva, NSW IPC, Public Hearing Day 2, Transcript of Proceedings, Mount Pleasant assessment
[9] Appendix L - Biodiversity Development Assessment Report, Pg i, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-11826681%2120221219T104754.910%20GMT
[10] pg iii, Appendix L - Biodiversity Development Assessment Report

no parks or reserves in the region known to conserve habitat for this species.[11]

The Australian Government's 'Australia state of the environment 2021' (July 2022) found that "[o]verall, the state and trend of the environment of Australia are poor and deteriorating **as a result of increasing pressures from climate change**, habitat loss, invasive species, pollution and resource extraction." Approval of this Project will exacerbate pressure on Threatened Ecological Communities and threatened species.

HVO joint venture partner Glencore is not 'fit and proper'

The NSW Mining Act and the Commonwealth Environment Protection And Biodiversity Conservation Act 1999 both have provisions which require a mining title holder to be 'fit and proper'. Glencore owns 49% of this Project. Glencore is not a fit and property entity to be granted further mining rights in NSW.

- Glencore has been found guilty of systematic bribery overseas. In November 2022 Glencore was fined £281m in the UK for "sustained criminality", the largest ever payment imposed on a company in a UK court.

- In May 2022, the US Department of Justice advised that Glencore Entered Guilty Pleas to Foreign Bribery and Market Manipulation Schemes and agreed to pay US$1.1 billion as a settlement.

> *"The scope of this criminal bribery scheme is staggering," said U.S. Attorney Damian Williams for the Southern District of New York. "Glencore paid bribes to secure oil contracts. Glencore paid bribes to avoid government audits. Glencore bribed judges to make lawsuits disappear. At bottom, Glencore paid bribes to make money – hundreds of millions of dollars. And it did so with the approval, and even encouragement, of its top executives."*

- Here in Australia, Glencore is facing an investigation by ASIC over greenwashing and "misleading and deceptive" conduct linked to their claims about cutting carbon emissions.

- According to Australasian Centre for Corporate Responsibility:

> *"Glencore remains one of the largest members of some of Australia's biggest blockers of climate action: the Minerals Council of Australia (MCA), the NSW Minerals Council and the Queensland Resources Council (QRC). The MCA was found by InfluenceMap in 2021 to be the single largest negative influence on Australian climate-related policy."*
>
> *"Glencore is the 8th most obstructive company blocking climate policy action globally, and remains one of the few diversified miners still promoting thermal*

[11] pg 94, Appendix L - Biodiversity Development Assessment Report

coal. Glencore's direct and indirect advocacy through industry associations continues to stand in the way of ambitious climate policy in Australia."[12]

Appendix 1 - The NSW Government has failed to regulate Scope 1 and 2 coal mining GHG emissions in NSW

SUMMARY

The process of *mining* coal in NSW consumes large amounts of fossil fuels producing diesel GHG emissions and GHG emissions from the generation of the electricity used to power coal mines. Extracting coal from the ground also releases very large amounts of fugitive methane emissions.

According to the NSW Treasurer and Minister for Energy, Scope 1 and 2 GHGs from coal mining in NSW in 2019-20 were **18.6 Mt CO2-e**[13] or ~14% of all of NSW's GHG inventory.

The current regulatory system that purports to minimise Scope 1 and 2 GHGs from coal mines in NSW is not fit for purpose. It features a mostly hands-off, light-touch approach, with patchy reporting of Scope 1 and 2 coal mine emissions to the NSW Government (at least 15 coal mines don't report their GHGs at all to the NSW Government). There is an absence of guidelines and standards for mitigation measures and offsets for coal mines. Conditions of consent are generally vague and legally unenforceable. Over the last five years in NSW, no coal mine in NSW has been prosecuted for breaching GHG conditions of consent.

The Mining SEPP requires that GHG emissions from coal mining in NSW "*are minimised to the greatest extent practicable".* A major problem arises however, when consent authorities translate this into specific language in coal-mine Development Consents. When this occurs, we typically end up with a cookie-cutter condition that reads: *"The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Planning Secretary" (Appin / Bulli Seams Development Consent).*

Generic requirements that coal mines implement 'reasonable and feasible' measures to reduce or minimise GHG emissions are failing to produce meaningful emissions reductions. Reasonable and feasible measures such as the use of renewable energy to avoid Scope 2 electricity emissions are routinely dismissed or deferred. Coal mines routinely pass 'Independent Environment Audits' based not on whether they are *reducing* emissions, but instead on whether vaguely defined and ineffective measures are being implemented.

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[12] Dan Gocher, ACCR, March 2022, Glencore Plc. Assessment of progress against its climate plan

[13] NSW Legislative Council, QUESTIONS AND ANSWERS No. 809 FRIDAY 19 AUGUST 2022, pg 16, 9330 ENERGY—GREENHOUSE GAS EMISSIONS FROM COAL MINES—Mr Justin Field to the Minister for Finance, and Minister for Employee Relations representing the Treasurer, and Minister for Energy—, https://www.parliament.nsw.gov.au/hp/housepaper/28717/QuestionsAndAnswers-LC-809-20220819-Revised.pdf

Fugitive emissions abatement at open cut coal mines

It's technically possible to pre-drain and combust mine waste gas from open cut mines however, coal companies and their consultants typically claim that "the capital and operational costs required to extract gas from the low gas environment makes the mitigation measure economically not feasible."[14]

BHP told the AFR in June 2022 that fugitive emissions from its open-cut mines are "quite a challenge for us and also may end up being that kind of residual component of emissions where we may utilise high-quality offsets in the longer term on that journey to net zero".[15]

In October 2021, the IEA published a report calling for a dramatic cut in emissions from the production of coal, finding that "[f]rom a climate perspective, it matters which coal operations carry on and which are retired" because there is a wide variation in the methane intensity of coal production with the worst-performing coal mines emitting as much as 100 times more methane than the best performing".

The coal industry is 'dragging the chain' on electrification of diesel fleets

GHG emissions from the combustion of diesel at coal mines in NSW are a very significant problem (particularly at open cut mines).

Close to zero coal mine operators in NSW have a clear timetable for the electrification of their mining fleets to eliminate diesel emissions and many are moving in the opposite direction. For example, right now, Yancoal and Glencore are applying to steadily *increase* their diesel emissions at their Hunter Valley Operations Continuation Project. The GHG assessment for this Project states that "[d]iesel fuel consumption represents nearly half of estimated direct emissions" from this development (pg 87). This Project seeks approval to *increase* it's Scope 1 diesel emissions by 43% from 414,245t CO2-e in 2023 to 592,462 t CO2-e in 2035. This cannot be allowed.

This is what Glencore say about diesel emissions in their 'Pathway to net zero 2021 progress report'

> *Diesel is one of the largest contributors to our Scope 1 emissions. We have identified three pathways to address this:*
>
> - *In the near-term, we will consider deploying existing fleet electrification technologies at our large open-pit operations that are connected to national grids already utilising renewable energy sources.*

[14] Pg 20, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-8642%2120190705T025715.653%20GMT

[15] AFR, Peter Ker, Resources reporter, Jun 15, 2022, BHP warns offsets may be the only option for fugitive coal emissions

- *In the medium to longer term, our planning of mining fleet replacement will align with the expected arrival of new technology equipment not currently commercially available, such as battery electric or hydrogen fuel cell haul trucks. We anticipate these technologies becoming available before the end of this decade.*

- *In collaboration with our peers and equipment manufacturers through the ICMM, we continued to work to promote operational and technological innovation required to reduce emissions. The programme is working to accelerate the development of zero-emission mining equipment and ultimately aims to enable mining operations to adopt zero emission surface mining fleet by 2040.*

So the biggest coal miner in Australia has given itself another 17 years before they believe they should electrify their mining fleets. This is not acceptable. Coal mine operators and owners in NSW should be setting clear timelines to progressively eliminate their diesel emissions by 2030 at the latest, by electrifying their mining fleets. The ongoing 44 cent per litre Fuel Tax Credit subsidy from the Australian Government for coal miners - which acts as a disincentive to electrify - should be abolished.

A regulatory mess

In January 2022 - in their whole-of-government assessment of the Narrabri Underground coal mine Stage 3 proposal - NSW DPE assessed the NSW system for regulating direct GHG emissions from coal mining in NSW and found that *"there are still a range of uncertainties about the specific application of the various policies to individual SSD applications under the EP&A Act, including:*

- *Impacts: there is no clear methodology to assess the relative scale (or associated consequences) of emissions in a consistent manner, nor are there any definitions of different levels of emissions (e.g. low, moderate or high);*
- *Standards: there are no performance criteria or limits provided (e.g. maximum annual or total emissions) for any development types (e.g. coal mines, power stations, or industrial facilities), nor is there any clear timeline to measure any ratcheting down (e.g. a plan for staged reductions in fugitive emissions);*
- *Mitigation measures: 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; and*
- *Offsets: there is no guidance on whether offsets should be required for a particular development (e.g. trigger levels based on predicted unabated emissions), nor any methodology to calculate the quantum or type of offsets that may be warranted.*[16]

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

When Professor Ian Lowe examined conditions of consent for coal and gas projects approved by the NSW IPC, he found it unlikely that they would produce "any significant measurable mitigation" of their Scope 1 and 2 emissions.[17]

70% of Safeguard Mechanism facilities in NSW emitting 100,000 t CO2-e or more are coal mines

In 2020-21, 33 facilities in NSW reported emitting more than 100,000 t CO2-e of GHG emissions to the Clean Energy Regulator.[18] These are the largest emitting facilities in NSW (excluding electricity generation). Of these 33 facilities, **24 (~70%) were coal mines**, with remainder being facilities incl. Port Kembla Steelworks, the Tomago Aluminium smelter and Boral's cement works.

Emissions intensity rising at many coal mines despite claims that all 'reasonable and feasible' measures are being implemented

As at October 2022, the GHG emissions intensity per tonne of run-of-mine (ROM) coal mined was rising at at least 14 coal mines in NSW that publicly report their data. This is occurring despite those mines claiming to be implementing all 'reasonable and feasible' measures to reduce or minimise emissions.

26 new or expanded fossil fuel projects approved in NSW since Paris Agreement

New coal and gas approvals in NSW are making the problem worse. **Since the Paris Agreement entered into force in November 2016, the NSW Government has approved 26 new or expanded fossil fuel projects**.[19]

- The single largest new coal development since the Paris Agreement – the massive Mt Pleasant Optimisation Project in the Hunter Valley - was approved in September 2022. This Project will add ~16Mt CO2-e in Scope 1 and 2 emissions to the NSW inventory over its lifetime.

- The Narrabri Underground Stage 3 mine won approval in April 2022 with an abatement plan that promises <1% mitigation of predicted Scope 1 emissions. These emissions - after proposed abatement - are predicted to be huge: Narrabri mine expansion would make it dirtiest thermal coalmine in Australia, environmentalists say.

[17] Emissions from recently approved fossil fuel projects in New South Wales, Emeritus Professor Ian Lowe AO FTSE, July 2021, https://www.lockthegate.org.au/expert_analysis_mining_greenhouse_emissions

[18] 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.

[19] Calculated by adding Narrabri Underground Stage 3, Mount Pleasant Optimisation and Wongawilli MOD 2 to ACF's analysis: ACF, December 2021, The NSW Independent Planning Commission's contribution to global greenhouse gas emissions, https://d3n8a8pro7vhmx.cloudfront.net/auscon/pages/19889/attachments/original/1643946316/ACF_IPC_research.pdf?1643946316

The total Scope 1, Scope 2 and Scope 3 emissions of the 26 approved projects - if all projects are built and operate until the dates allowed by their development consents - would be approximately **4.5 billion tonnes of CO2-e**.[20]

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

Former Chief Scientist of Australia, Professor Penny Sackett provided expert evidence to the NSW IPC last year on the Mt Pleasant Optimisation Project:

> "the effects of climate change – which are caused by anthropogenic GHG emissions – are already serious; more than that, they are in fact dangerous. Furthermore, some of these effects are already irreversible and more will become so with even relatively small amounts of additional warming beyond that of 1.5°C, which is already locked in.
>
> Every tonne of GHG emission leads to (more) dangerous warming. It is not possible to know which amount, from which source, will precipitate environmental subsystems, including those in NSW, to tip irreversibly. In this context, the Precautionary Principle certainly applies."[21]

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

[20] Calculated by adding Narrabri Underground Stage 3, Mount Pleasant Optimisation and Wongawilli MOD 2 to ACF's analysis: ACF, December 2021, The NSW Independent Planning Commission's contribution to global greenhouse gas emissions, https://d3n8a8pro7vhmx.cloudfront.net/auscon/pages/19889/attachments/original/1643946316/ACF_IPC_research.pdf?1643946316

[21] Dr Penny Sackett, Distinguished Honorary Professor, ANU Institute for Climate, Energy and Disaster Solutions, 14 July 2022, 'Expert Report Regarding the Greenhouse Gas and Climate Implications of the proposed Mt Pleasant Optimisation Project (SSD - 10418)', pg 115