I'm lodging an objection to the Dendrobium expansion proposal because of the grave social and environmental impact of the project.

I'm a Wollongong City Councillor, representing Ward 2 which includes the Dendrobium mine portal any of the tributaries that lead from the Mt Kembla pit top and Kemira Valley mine workings. I was born and raised in Wollongong, and recognise the manufacturing capability and mining history of our region. My father is a retired materials engineer, having been a metallurgical cadet at the Port Kembla steelworks when it was owned and operated by BHP. and working there all his working life.

However, I can not support and indeed I ardently object to the Dendrobium expansion proposal because of the mine subsidence the longwall mining method causes. It will lead to a decline it will cause in the surface water quality and quantity in the Special Areas, will cause the ecological collapse of 15 upland swamps turning them from saturated carbon sinks into dry flammable peat, and damage the Aboriginal heritage of 30 sites and the cultural landscape diverting the surface water that provides important context for so many of those sites such as axe grinding groves.

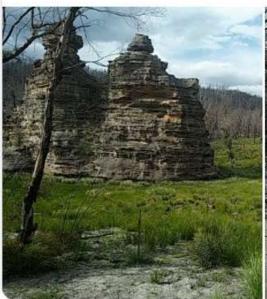
This proposal should be rejected. I'm dismayed that South 32 are continuing to pursue longwall mining method, rather than non-caving alternatives that avoid subsidence.



Emma Spencer @EE Spencer · Oct 21

Two endangered swamps, pictures taken on the same day. Both were burnt in the 2019/2020 NSW bushfires but only one has been severely affected by mining activities. Nature can recover from fire but damage from mines (even when they are "hidden" underground) is just terrible.

Show this thread





WATER RESERVOIR

I am concerned that the location of the longwalls are only a limited 300m from the Full Supply Level (FSL) of the drinking water reservoir. South 32 writes they will develop "mitigation, management and monitoring measures for potential subsidence impacts to the Avon Dam (i.e. detailed monitoring program and Trigger Action Response Plan (TARP)". These fail to protect surface water resources – they respond to actual damage, they don't prevent damage. When there is water egress within the mine, 350m below the surface, it's too late – the damage is irreversible.

During the IPART hearing into Sydney Water pricing in November 2019, David Harris, the CEO of Water NSW said, that in a prolonged drought the water supply of Wollongong would be the "first to fail".

(Ref: Hearing transpcript: Review of Sydney Water's Maximum Prices for Water, Sewage and Related Services and Water NSW"s Maximum for Bulk Water Services in Greater Sydney, 26 November 2019, Independent Pricing and Regulatory Tribunal https://www.ipart.nsw.gov.au/sites/default/files/documents/transcript-review-of-sydney-waters-maximum-prices-for-water-sewerage-and-related-services-and-waternsws-bulk-water-services-public-hearing-26-november-2019.pdf

Because Water NSW recognise that the Wollongong water supply form Avon dam is so vulnerable, they propose a deep water access project for Avon Dam at a cost of \$200 million. Water NSW have alarmingly indicated that this project may be at risk should the Dendrobium Extension go ahead.

On 28 August 2015, DPE requested that Illawarra Coal prepare a remediation program for the impacts to watercourse WC21. Remediation has still not be achieved, and the restoration of surface flow and removal of subsidence cracks is just not possible.

Water security a key concern for our residents in Wollongong. No project that openly admits it will cause drinking water loss is acceptable in that context. It fails on economic, social and environmental grounds.

On the 23rd November 2020, Local Government NSW, the association of council's and shires in NSW (I was not a delegate that year), passed a motion to oppose the approval of long-wall coal mines under Sydney's drinking catchments due to the loss and contamination of surface water.

There is a significant social benefit to protecting the Sydney-Illawarra drinking water catchment from longwall coal mining.

THREATENED SPECIES

I object to this mine proposal because of the subsidence impacts on endangered ecological communities and threatened species. The subsidence impacts on upland swamps will destroy vital habitat of the Giant Dragonfly, and the watercourse impacts will destroy the habitat of the Littlejohn's Tree Frog. It is a heinous oversight that the koala assessment has not included the impact of vegetation decline caused by mine subsidence. Vegetation

requires soil moisture, but mine subsidence will desiccate the soil, and cause important habitat trees to be water-stressed and more susceptible to decline. If the mine is approved the whole surface area that is subject to subsidence must be included in any biodiversity offset calculation. However, I do object to the very concept of biodiversity offset – preventing the impact is a higher priority.

MINE WASTEWATER

I object to this mine expansion because the proponent a terrible track record of pollution in the Wollongong Council area. I object to Allans Creek, Tom Thumb Lagoon and Port Kembla Harbour being used to dump industrial effluent from this mine expansion proposal. South 32 should not be permitted to dump mine waste water at LDP5 into our environment. If this mine is approved please ensure only water filtered by reverse osmosis is disposed at LDP5, not the contaminated concentrate. The contaminated concentrate should be disposed of at a licensed contaminated waste facility as an enforceable condition if consent is granted.



Photo: Me at the Dendrobium coal mine licence discharge point 5, where it flows into Allans Creek

The collapse of the Kemira Valley Tailing Dam on 10th August 2020 resulted in 10 ML of coal tailings flowing down Brandy and Water Creek. The culvert under the dam collapsed, blowing out 339 cubic metres of gravel and creaking a giant void in the bottom of the sediment dam. The proponent was issued a \$15,000 fine, an inconsequential infringement for a company of South 32's scale. On the conclusion on a environmental assessment by Niche consultants, South 32 issued a media release which claimed the spill had 'no impact', but failed to say according to which parameters. It omitted the evidence of dead fish and frog

(one which was identified as Leaf Green Tree Frog, *Litoria nudidigita*) from residents of Darragh Drive, Figtree that back onto Brandy and Water Creek. If the expansion is approved please impose a condition that requires on-going regular monitoring of water quality upstream and down-stream from the Kemira Valley Dam so that when there is a spill the impact can be compared to under natural flow conditions. This should include a visual assessment and in situ physiochemical and water sampling up and downstream of the sediment dam and up and downstream of American Creek and Brandy and Water Creek confluence, and a spring AUSRIVAS study.



Photo: Two weeks after the Kemira Valley dam wall collapse, retired steelworks engineer Paul Downing spoke to <u>WIN News Illawarra</u> about the coal sludge he saw in his backyard. South 32 has commissioned contractors to clean up coal fines along the banks - see the bags on the far bank. Unfortunately coal fines still remain in the creek's water holes.

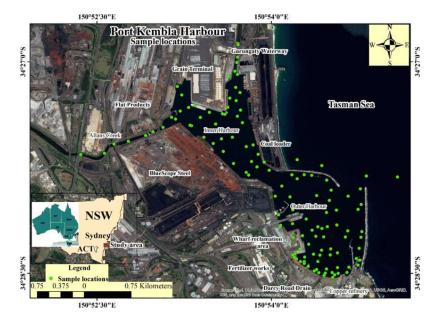


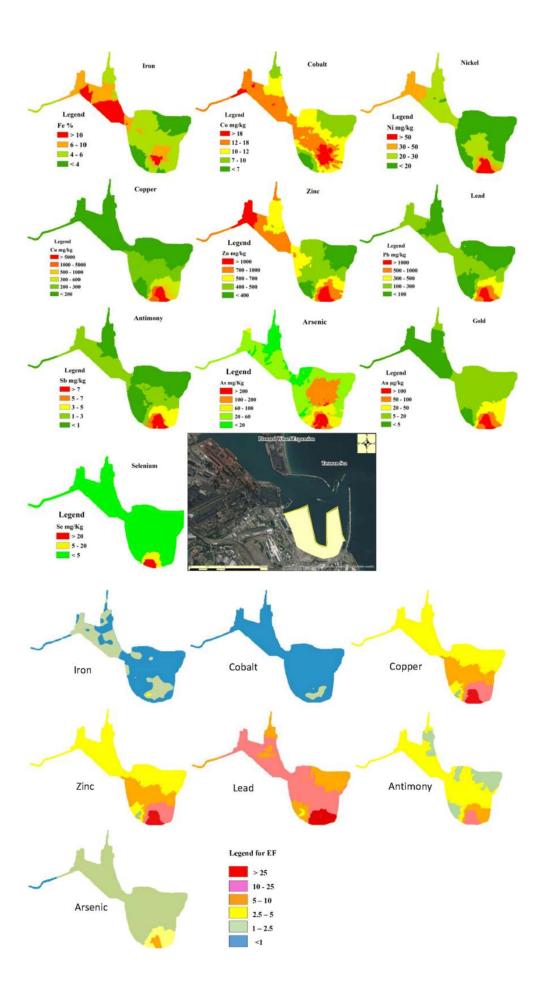
Photo: Coal tailings along Brandy and Water Creek 2 weeks after the Kemira Valley sediment dam wall collapse, August 2020

Please require that sufficient freeboard is available in the sediment dam at the Kemira Valley Coal Handling Facility to ensure it doesn't over-top in times of heavy rain. This may require the dam to be expanded to increase it's storage capacity, or supplementation with a safety dam activated in times when there is an excessive volume of contaminated waste water. The current practice of permitting polluted discharge during times of heavy rain creates environmental pollution that is a burden on the Wollongong community. It is important to stop adding industrial pollutants. The study by Jones, Alyzaichi et al (2019) shows that LDP5 has become a hot spot of heavy metal pollutants. Maher et al (2019) show that these metals are bioaccumulating in the marine ecosystem – a particular concern when the adjacent Five Islands are nature reserve celebrated by snorkel and dive tourists for their seal population.



https://www.researchgate.net/figure/Location-map-of-Port-Kembla-Harbour-showing-the-distribution-of-surrounding-industries fig1 333895334







The use of the marine gastropod, *Cellana tramoserica*, as a biomonitor of metal contamination in near shore environments

W. Maher • N Maher • A. Taylor • F. Krikowa • R. Ubrihien • K. M. Mikac

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Abstract The use of the marine gastropod, Cellana tramoserica, as a biomonitor of metal exposure was investigated. The factors influencing metal concentrations, such as mass, gender, substrate, shoreline position and temporal variation were examined. Tissue metal concentrations were mostly found to be independent of mass and gender. When metal concentrations were significantly correlated with mass, correlations were low and explained little variability. The underlying substrate

significantly higher tissue Cu, Zn, As and Pb concentrations than the populations from relatively uncontaminated locations. *C. tramoserica* therefore can be considered to be a net accumulator of metals. A sample number of >10 is required to detect changes of 25 % from the mean concentrations at uncontaminated locations. This species meets the requirements of a suitable biomonitor for metal contaminants in the environment i.e. hardy, sessile, widespread, sufficient tissue mass and a metal accumulator. As



ASSESSMENT PROCESS

Site visits are important to inform the determining authority, in this case the Minister and the Department. During the IPC inquiry the commissioners did attend site visits accompanied by the proponent and community members from Illawarra Residents for Responsible Mining and the National Park Association. Site visits are an integral and significant part of the assessment process. The last approval and inquiry for a major mining project in the NSW Southern Coalfield was the Bulli Seam Operations (BSO) PAC (2009-10). It set a standard that should be the benchmark in site visit protocols. Not only did PAC members attend site visits conducted by the proponent, but also sought out a field trip with a small group of community members familiar with sites, issues and damage scenarios. There is a danger that relying alone on field trips conducted by the proponent, insofar as they may only reveal what supports their case. So in the interests of balance and fairness, I therefore recommend either or both of the following: The IPC requests a site visit led by Water NSW to specifically view past damage to both streams and swamps in the already mined domains of the current Dendrobium project. Or the IPC instigates a site visit, with consent from Water NSW, but jointly planned with the interested stakeholder community members who have been into the areas of damage in the Dendrobium project area previously, and then can be sure that the IPC sees what they know. In 2019 I had the great privilege of accessing the special areas lead by Water NSW, accompanied by Julie Shepherd and Peter Turner from the National Parks Association Branch and Duncan Rayner, the principal engineer at the UNSW Water Research Laboratory who had field monitoring stations to measure surface water loss in the upland swamps as the longwalls proceeded underneath (pictured below).



Photo: Inspecting field equipment in an upland swamp above Dendrobium longwall in September 2019 – from left – Peter Hanan (journalist), Kaye Osborne (Illawarra Residents for Responsible Mining), Cath Blakey (Wollongong City Councillor, myself), Peter Turner (National Parks Association) and Duncan Rayner (UNSW Researcher)

(ref: "Where's the squelch?" 18 September 2019, Peter Hanan, Sydney Morning Herald https://www.smh.com.au/environment/sustainability/where-s-the-squelch-coal-mine-drying-out-greater-sydney-catchment-20190917-p52s4v.html

"Sydney, Illawarra drinking water catchment under threat as mining takes toll on key wetlands" 17 Sep 2019 by ABC Illawarra / By Ainslie Drewitt-Smith and Justin Huntsdale https://www.abc.net.au/news/2019-09-17/longwall-mining-impact-on-drinking-water/11519970

VEGETATION CLEARANCE

I object to the land clearing and vegetation associated with the ventilation shaft, off the Picton Road, and the car park at Mount Kembla.

For the ventilation shaft the added construction vehicle movements and access during ongoing operation creates a greater biosecurity risk within a vulnerable ecological community of the Special Areas. If this is approved there should be strict vehicle, footwear and other equipment hygiene protocols, and sterilisation of road building and maintenance materials, to prevent the spread of weeds and pathogens like phytophthora and chytrid fungus.

TRAFFIC

There should be a reduced speed limit on Cordeaux Road in the Mount Kemba village as this is a residential street that includes a primary school. 30 km/hour is recognised as best practice for reducing road trauma as at this speed the vehicle driver can take evasive action.

The South Western Illawarra Rail Link (SWIRL), also known as the Maldon-Dombarton route, is an important *freight and passenger link that is already reserved* between the Main South Line at Maldon in the Southern Highlands and Dombarton in the Illawarra. I'm concerned that the proposed Area 5 goes under the proposed SWIRL rail corridor. Longwall mining, which results in subsidence, should avoid the rail corridor. With significant urban development in Western Sydney, and increased trade through Port Kembla – it's vital that this rail corridor is protected. The economic analysis undertaken on behalf of South 32 has not adequately taken into account the threat of the subsidence impacts to this future rail corridor. SWIRL is estimated to have an annual \$892 million annual benefit to the Illawarra and South West Sydney. Mine subsidence changes the landform and is a 4-dimensional impact upon the ground surface, which will impose heighted engineering requirements and monitoring on the future railway construction company and operator, and may result in speed restrictions.

(Ref: South West Illawarra Rail Link Executive Summary, 2002, University of Wollongong SMART Infrastructure https://www.nswports.com.au/sites/default/files/Summary%20-%20South%20West%20Illawarra%20Rail%20Link.pdf)

Coal dust causes irreversible chronic respiratory symptoms and sometimes progression to fibrosis. Whether it's coal dust from the mine, from the railway corridor with exposed coal loads (please impose covers!), or with proximity to the stockpiles, dump 21 or the coal terminal. Visible particulate pollution layers our homes, schools and city. Climate epidemiologist Professor Hilary Bambrick points that out there is no "safe" of air pollution exposure that we know of. "What we do know is that cleaner air means fewer people will suffer stroke, heart disease, cancer and acute and chronic respiratory disease, including asthma." If this expansion is approved please require that all the trains have covers to reduce the coal dust along the rail corridor.

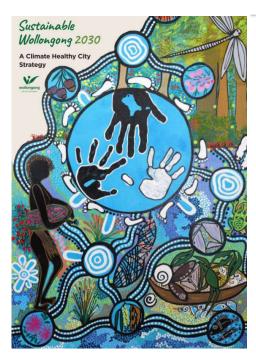
WASTE

If this project is approved please remove the ability to emplace Dendrobium coal wash at the Appin Mine Coal Wash Emplacement Area. The full impact of the emplacement area within the Special Areas is not sufficiently factored into this expansion application, nor it's impact

on water quality downstream, nor an economic comparison if it had to be sent to a licensed solid waste landfill.

GREENHOUSE GAS EMISSION

I object to this mine expansion because of the greenhouse gases that it will generate in it's operation, and once the coal it uncovers is burnt. In August 2019 I was an elected representative on Wollongong City Council when it declared a Climate Emergency. Since then Council has set greenhouse gas emissions reduction targets to reach net zero by 2030 within its own operations, and net zero by 2050 for the city. In November 2020 Council adopted the "Sustainable Wollongong 2030: A Climate Healthy City Strategy". In April 2021 Wollongong City Council adopted a 2 year Climate Mitigation Plan which included \$32 million worth of actions to reduce emissions and transition to sustainable practices.



PRIORITY AREA	GOAL
A city whose council shows leadership	Environmental and climate leadership underpins Council decision-making and service delivery which inspires the same in others
A city that works together	Together we protect our environment, reduce emissions and increase our resilience to climate change
A low emissions city	We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city
A city in harmony with our environment	Our ecosystems and waterways are enhanced, our urban areas are cooler and greener and our community is connected to our natural environment
A low waste city	Our community only take what they need, reuse and recycle what they can and are aware of the resources that they consume
A climate and water resilient city	Our infrastructure and community can adapt to a changing climate and water is valued as a vital natural resource

Ref: "The Sustainable Wollongong 2030: A Climate Healthy City Strategy" by Wollongong City Council

https://www.wollongong.nsw.gov.au/ data/assets/pdf file/0011/121214/Sustainable-Wollongong-2030.pdf

If Area 5 is approved for mining South 32 has said it would delay mining in the area with existing mine approval, Area 3C. The stated aim of this to enable Area 3C to off-gas as it has higher gas concentrations without any attempt at gas capture and utilisation as is conducted at Appin. If this mine is approved there should be a condition placed on South 32 to capture and utilise coal methane from existing workings, namely Area 3C.

(Ref: Dendrobium Community Consultative Committee Meeting Minutes, 19 May 2022, South 32. <a href="https://www.south32.net/docs/default-source/illawarra-coal/dendrobium/dendrobium-community-consultative-committee/dendrobium-community-consultative-committee/dendrobium-community-consultative-consultative-

<u>consultative-committee-working-group-meeting-minutes---may-2022-</u>
(draft).pdf?sfvrsn=5b99eeed 4&fs=e&s=cl&fbclid=lwAR0LUN31xKN4sgBb7 rjfZZHq5xBvs7
g4mxTl32wRBQ8AVDUdxs2jmGN3ZY)



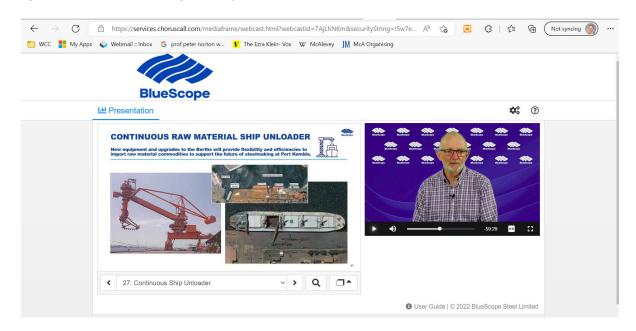
Photo: Screenshot from presentation on Whytes Gully landfill gas capture

Over 80% of Wollongong City Council's operational emissions come from landfill methane, on the south-face of Mt Kembla at Whytes Gully. Council is making considerable investment in collecting the methane from the landfill to convert it from methane to carbon dioxide, cutting the greenhouse gas potency to over 25% of what it was (pictured above). I would like to see the same sort of gas capture, flaring and electricity generation used for their mine ventilation air. I am disappointed that the mine ventilation air is considered fugitive emissions is not included in South 32's emissions responsibility.

ECONOMIC JUSTIFICATION

Steel production at Port Kembla, and in Australia, is not reliant on the expansion of the Dendrobium coal mine. On 28th October 2021 I attended an online presentation by Bluescope about their proposal to reline the #6 blastfurnance. During this presentation Dave Bell the General Manager of Manufacturing for Bluescope stated they are upgrading their berths with faster ship unloaders so they can create gaps on the berth to get more raw materials in faster, so that they can continue operations if there are "difficulties with the (local coal) supply due the Dendrobium next domain not being approved". Mr Bell concluded saying "we've got a bright future for the region and for steelmaking in Australia." Bluescope can keep making steel by sourcing coking coal from elsewhere – be in Queensland, or further afield.

Please view the video here - slide 27 in which Dave Bell describes the berth upgrade. https://services.choruscall.com/mediaframe/webcast.html?webcastid=7AjLhNKm&securityString=I5w7eCBwormYJvEtgs4KtY8j



Furthermore in the Blast Furnance 6 Reline SSI application Bluescope highlighted that "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."

(Ref: "Commodity Logistics and Import Project Scoping Report by BlueScope Steel (AIS) Pty Ltd, produced by GHD on 3 February 2022

https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?Att achRef=PDA-36073707%2120220204T005757.754%20GMT)

Dendrbobium coal mine expansion is so clearly not required for Bluescope's on-going operations because it has been demerged from common ownership. Dendrobium coal mine has only been operating since 2001, but the Port Kembla Steelworks has been operating since the late 1920s. BHP Steel Limited, BlueScope Steel Limited was demerged from BHP Billiton Limited in July 2002. South32 is a demerged subsidiary of BHP founded in 2016.

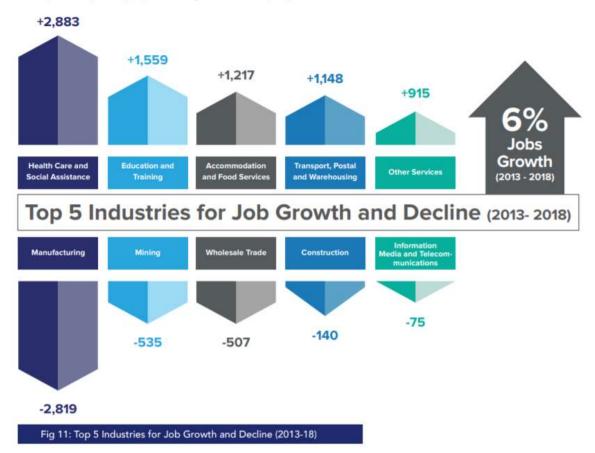
It is alarming that NSW's royalty taxes are half that of Queensland producers. (Ref: "Taxes will kill the 'coal'-den goose" 9 June 2022 Australian Mining https://www.australianmining.com.au/news/taxes-will-kill-the-coal-den-goose/)

Wollongong City Council's economic development strategy also highlights that water is a target sector. The Independent Pricing and Regulatory Tribunal (IPART) recently recommended a scarcity charge for water use. The fluctuation of water pricing will have a negative economic impact on domestic, commercial, and industrial water users. It is designed to spur efficiency and innovation in water use to enable conservation of primary drinking water. As this projects reduces and degrades the quality and quantity of drinking water it should not be accepted in its current form.

Council's Economic Development Strategy also highlights that mining is in decline, and that the biggest employment gains have been in sectors health care, social assistance, education and hospitality.

Gains and losses

The slower growth in median incomes is related to the types of jobs Wollongong has been gaining and losing in recent years. Fig 11 highlights the top 5 sectors for job gains and losses.



(Ref: Wollongong City Council Economic Development Strategy 2019-2029 Page 37 – https://www.wollongong.nsw.gov.au/ data/assets/pdf file/0018/43218/Economic-Development-strategy-2019-2029.pdf)



(Wollongong City Council Economic Development Strategy 2019-2029 Page 36 – https://www.wollongong.nsw.gov.au/ data/assets/pdf file/0018/43218/Economic-Development-strategy-2019-2029.pdf

The economic case of this mine fails to take into account the economic costs of solid, liquid and gaseous pollution. The proponent should be required to manage waste to the same standard and cost profile as municipal waste management. For example wastewater has been permitted to overtop the sediment dam at Kemira Valley in times of heavy rain and discharge into Brandy and Water Creek through the residential suburbs of Figtree Figtree, coal wash has been permitted to be emplaced at Appin in the emplacement area, and waste water has been permitted to be discharged at LDP 5 at Allans Creek in Unanderra. The

standards of treatment should be enhanced to protect environmental health in this highly populated area of Wollongong.

SOCIAL IMPACT

I appreciate the social impact report identifying that Intergenerational Equity Considerations are raised by the coal mine expansion proposal – particularly when it comes to Aboriginal heritage, drinking water resources and climate change. The social impact of climate change, bushfires and water insecurity are more apparent than ever. It is abhorrent that climate change is "not identified and assessed as a social impact in itself" (page 4 of the report). In February this year the IPCC reported "Climate change is a threat to human wellbeing and health of the planet.". My family has first hand experience of the displacement impacts of climate change. In November 2019 my partner's family home in Nymboida was burnt down in the catastrophic bushfires. It's within a village surrounded by Gondwanan rainforest that has never burnt in the history of Australia as a continent.

Claims that the Bluescope steelworks is dependent on the expansion of Dendrobium Mine is having a negative social impact on our decision making systems. There has been a conflation between steel making and coal mining in the Southern Coalfields, even though the majority of locally hewn coal is exported, and there is interstate coal import capacity at Bluescope. This negative impact on decision making system has manifested in calls for political interference to overturn the IPC¹, scare mongering claims that the determination "creates a period of great uncertainty for over 10,000 coal and steel workers"², abuse of against WaterNSW the lead agency to manage the drinking water catchment³, and warnings that "the credibility of the NSW Planning System was on the line and the Illawarra community faced being short changed by dubious economic claims"⁴.

I have another concern about the social impact of this decision making process. It has fallen to unfunded community volunteers to make critical submissions, an impost considering the lengthy, iterative complicated and difficult to evaluate EIS. The proponent driven presentations mean that the public consulation is not independent or robust. This is a poor decision making process, not a neutral one.

I object to the social impact assessment of "Sustaining Mount Kembla's identity as a traditional mining community". Miners have fought for safety and a fair go, and there are

¹ NSW One Nation Mark Latham pushes for legislative solution to Dendrobium mine rejection https://www.abc.net.au/news/2021-02-17/one-nations-mark-latham-fights-ipc-dendrobium-mine-rejection/13163864

Written by Kelly Fuller and published by ABC Illawarra 17 February 2021

² "Statement on Dendrobium Coal Mine application and IPC decision"

 $[\]frac{https://paulscullymp.com.au/news/media-releases/statement-on-dendrobium-coal-mine-application-and-ipc-decision/$

Published by the Member for Wollongong, the Honourable Mr Paul Scully on 5 February 2021

³ <u>Dendrobium coal mine expansion rejected by planning commission, John Barilaro vows to overturn ruling - ABC News</u>

https://www.abc.net.au/news/2021-02-05/dendrobium-coal-mine-expansion-rejected-by-planning-commission/13124466

Reported by Ainslie Drewitt Smith, published by ABC Illawarra on 5 Feb 2021

⁴ <u>Independent economic assessment of Dendrobium Expansion required for State Significant Infrastructure assessment to have credibility - Justin Field MLC</u>

https://www.justinfield.org/independent economic assessment of dendrobium expansion required Written by MLC Justin Field and published 6 December 2021

many that are critical of mine company CEO's for prioritising profits over safety, health and the environment. I have spent years singing with the Illawarra Union Singers about the local mining history, including songs from "Windy Gully" the play by Wendy Richardson that celebrates the labour history of Mount Kembla mine. We don't need to keep mining to remember the contribution of mining to Mount Kembla. There is a cememetry and memorial to the 1902 mine explosion that took the lives on 96 people. When this mine disaster occurred mining was done with pit ponies, not the aggressive long-wall methods that cause such devastating subsidence.

The social impact assessment conflates this longwall expansion proposal with mining as a whole. There are other mining methods which do not cause such devastating subsidence and still provide employment, as seen by the Russell Vale bord and pillar operations.

The social impact assessment fails to recognise what the loss of koala habitat would do to Australia's identity.

Furthermore, Bluescope is upgrading it's berth importing capacity which is generating construction jobs and creating operational efficiencies and does not require the Dendrobium coal mine expansion. There is also already investment by the steelworks in emissions reductions and renewable energy that will provide more jobs without the adverse impacts associated with the Dendrobium expansion proposal.