

NSW Minister for Planning &

NSW Dept of Planning & Environment

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17 September 2019

## **Submission OBJECTING to South32's proposed Dendrobium Mine Extension (SSD-8194)**

Thank you for the opportunity to make a submission. I have not made any reportable political donations.

**I strongly object to South32's Dendrobium Mine Extension proposal.** I ask the NSW Planning Minister to reject this massive longwall coal mining extension proposal, and instead actively plan and prepare for the permanent closure and remediation of Dendrobium Colliery over the next decade. I feel so angry, frustrated and scared just reading the proposal.

I object for the following reasons.

### **THE PROPOSED LONGWALL COAL MINING WILL FURTHER DAMAGE THE WATER CATCHMENT AND DEVASTATE ECOSYSTEMS CONTAINED WITHIN IT. APPROVAL WILL FURTHER REDUCE HUMAN WATER SUPPLY AND WATER QUALITY.**

It seems to me that there have been many government (NSW/Australian) inquiries or reports into coal mining in water catchments over the past two decades. And I know that there is also even a current independent expert panel convened by the NSW Planning/Chief Scientist-Engineer to report about mitigating or limiting damage caused by coal mining in the water catchment. These reports all document that mining damages the water catchments. Many of these reports also document that more damage occurs than is outlined in proponent EIS reports provided at the planning assessments/approvals stage. And these reports show that longwall coal mining (as proposed here) is particularly damaging.

As far as I can tell, no reports say that coal mining in the catchment is good for the water catchment, its ecosystems, habitats or species survival, or that coal mining in the catchment protects or enhances water supplies or that coal mining in the water catchment protects or improves stored water quality. None of these many reports say that. Yet these things – healthy ecosystems, adequate water supply, high quality fresh water – these things are the things that we count on for our very survival. How can we seriously consider trashing them?

The reports that are already out there, consider that longwall coal mining causes the types of damage discussed in the proponent's *Appendix A: Subsidence Assessment* (Mining Subsidence Engineering Consultants, 2019), namely:

- Vertical subsidences: for example, 2.05 m expected above Area 5 proposed longwalls & 2.45 m expected above Area 6 proposed longwalls. But based on past experiences these are likely conservative estimates!
- Tilt, hogging, sagging curvatures
- Closures of creeks
- Fracturing along streams; fracturing of bedrock; fracturing/instability of cliffs
- Tension cracks at tops of rock outcrops
- Buckling of bedrock at bottoms of rock outcrops
- Compression ridges at bottoms of steep slopes
- Surface deformations with crack widths typically 100-150 mm wide, but as much as 400 mm wide (as already previously observed at Dendrobium).

These past government reports also talk about destruction of threatened upland swamp ecosystems and collapses of cliffs. Well, why not consider doing more and similar damage in the Metropolitan Special Area of the Sydney Water Catchment with Dendrobium? Expand on the damage already inflicted by Dendrobium Colliery? I consulted the proponent's *EIS Appendix A: Subsidence Assessment* (Mining Subsidence Engineering Consultants MSEC, 2019): There are 46 upland swamps in the study area (the area defined as likely to experience impacts) with 26 of these upland swamps partially or entirely located above the proposed longwalls. These 26 are expected to experience the full range of predicted movements and resulting damage. There are also 40 cliffs directly above the proposed Area 5 longwalls. Further according to the proponent *EIS Appendix B: Groundwater Assessment* (HydroSimulations, 2019) the proposed Area 5 is only 300 m from Avon Reservoir at the closest (with an average lateral distance 400-600 m); and the proposed Area 6 is only 630 m from Cordeaux Reservoir at the closest (with an average lateral distance 950 m). In the study area, MSEC (2019) documents that natural and built features within or in the vicinity of the Study Area include the Avon River, the Cordeaux River, Wongawilli Creek, Donalds Castle Creek, drainage lines, cliffs, minor cliffs, steep slopes, swamps, disused railway corridor, Picton Road, unsealed tracks, gas pipelines, 330 kV transmission line, 33 kV powerline, Avon and Cordeaux Reservoirs and associated dam walls, Aboriginal heritage sites, historical heritage sites, survey control marks, buildings and other structures. WHY risk further damage to any and all of these?

My understanding is that all this structural damage profoundly changes the environment and particularly has very negative impacts on water quantity and water quality. The damage affects how water moves, whether it remains stored and accessible by ecosystems and humans or is "lost" down cracks or fractures into mine workings. As water travels downwards it comes polluted through contact with exposed minerals; similarly gases can be released from fractured rocks below and move upwards and through water above and contaminate it that way too. The result is water lost from ecosystems and precious swamps that would otherwise harvest rainwater and release it slowly. IT seems not unexpected that some various ecosystems/communities will die, because the proponent falsely proposes offsetting them with replacements elsewhere. But, infuriatingly, this conveniently completely ignores the fact that each of these lost/damaged/destroyed ecosystems is unique and no-one anywhere has the capacity or capability to recreate the same elsewhere, ever. WE will likely never even know the full scope of fauna/flora/microbiota species that we would lose if we allowed that. We would never know or appreciate how as humans we are related and

dependent on these ecosystems until they are lost. Further, South32's proposal to offset catchment land but there is no equivalent land that could compensate for the damage and compromised water catchment. The offset concept is preposterous and in no way would compensate for the destruction caused by the mining and the related social/environmental/economic costs borne by NSW residents (now and in the future).

The proposed mining is in the protected Metropolitan Special Area of the water catchment. My understanding from various statements within the proposal (*Executive Summary, Appendix B: Groundwater Assessment; Appendix C: Surface Water Assessment*) is that known existing water losses at Dendrobium average about 6 – 6.5 ML/day. The predicted expected water losses after the proposed extension are be about 9,500 – 10,074 ML/year. This equates to a loss of upto 1 % of the Avon and Cordeaux catchment yields. It equates to a loss of an average daily loss of about one-fortieth of the current daily water supplied by WaterNSW to the Greater Sydney Catchment. This is the loss of daily drinking water supply for more than 130,000 Sydney residents.

About 5 million people rely on water from the Sydney Water Catchment. We are in drought, paying for desalinated water and our dam levels are around or below 50% and yet the Dendrobium proposal has the highest water loss of any mine operating in the Greater Sydney Water Catchment area. It makes no sense to approve this mine in any form.

**THE DENDROBIUM EXTENSION WILL RESULT IN SIGNIFICANT QUANTITIES OF GREENHOUSE GAS EMISSIONS. THIS IS AT A TIME WHEN THERE IS A CLIMATE CRISIS AND WE NEED TO CHANGE COURSE URGENTLY RATHER THAN CONTINUE THE STATUS QUO.**

The proponent's *Environmental Assessment* reports that the project is estimated to result in upto 0.77 Mt CO<sub>2</sub>e/year Scope-1 emissions and 0.1 Mt CO<sub>2</sub>e/year Scope-2 emissions. The Scope-1 emissions, by themselves, constitute one-two hundredth of NSW 2016 GHG emissions and one-thousandth of Australia's total 2016 GHG emissions. These emissions are shocking and significant enough. But the expected Scope-3 emissions associated with the transport and combustion of the coal at 8.2 Mt CO<sub>2</sub>e/year totalling 237 Mt CO<sub>2</sub>e over the project life, are even much more important to consider (though the proponent seems to want to discount them because they are reportable as Scope-3).

The IPCC Special Report (2018) Figure SPM.3b on page 14 (see <https://www.ipcc.ch/sr15/chapter/spm/>) explores climate change mitigation scenarios to limit global warming to 1.5 °C. These show that by 2030, primary energy from coal needs to have reduced by a minimum of 59% relative to 2010 coal use levels. This minimum is under the least responsible scenario in which warming temporarily exceeds the 1.5 °C increase but average global temperatures return to at or below 1.5 °C warming within decades. Other explored, more responsible scenarios required higher faster rates of transitioning away from coal. Yet even under this ultra-conservative scenario, we cannot afford to allow the Dendrobium extension which would lock in coal use and large greenhouse gas emissions for the next 30 years.

Similarly, the Australian government has international commitments (Kyoto and Paris) to reduce GHG emissions – to 5 % below 2000 levels by 2020, and a 26-28 % reduction below 2005 levels by 2030. The NSW government has a net-zero emissions policy/goal by 2050. None of these commitments are going to be met just through wishful thinking. These require that we actively

change and plan our way out of emitting further unnecessary harmful emissions. We cannot honour these commitments/goals without changing what we do and how we do it.

When we consider the wider context of greenhouse gas emissions (see The Australia Institute (2019) report *High Carbon from a Land Down Under*, [https://www.tai.org.au/sites/default/files/P667%20High%20Carbon%20from%20a%20Land%20Down%20Under%20%5BWEB%5D\\_0.pdf](https://www.tai.org.au/sites/default/files/P667%20High%20Carbon%20from%20a%20Land%20Down%20Under%20%5BWEB%5D_0.pdf)) we have even more responsibility and obligation to reject this Dendrobium extension proposal. Based on 2016 emissions data, Australia domestically is a major GHG polluter with higher emissions than 90% of countries and contributed 1.4 % of global emissions. We rank seventh in the world for emissions per person and first among OECD countries for emissions per person. This is shameful. As an exporter we are even worse. Australia's exported emissions are more than twice our domestic emissions. We are the third biggest fossil fuel exporter globally by CO<sub>2</sub>e potential, with coal constituting more than 80% of our fossil fuel emissions potential. While the world as a whole needs to reduce use of coal as a primary energy source by at least 59 % by 2030 to stay within 1.5 °C warming, we as a country clearly have to play a major part in reducing our coal exports to help this occur. WE cannot behave like a drug-dealer, supply the coal but then wash our hands of responsibility for the consequences of its use. We in NSW and Australia need to say no to this Dendrobium proposal. It would be immoral to do otherwise.

**SOUTH32 FRAMES ITS PROPOSAL AS A FALSE CHOICE BETWEEN SUPPORTING STEEL MANUFACTURE IN AUSTRALIA OR NOT SUPPORTING AUSTRALIAN STEEL. BUT THE TRUTH IS THAT STEEL CAN BE MADE WITHOUT COKING COAL. 26 % OF THE WORLD'S STEEL IS CURRENTLY MADE WITHOUT COKING COAL AND CURRENT TECHNOLOGICAL INNOVATIONS MEAN THAT FOSSIL-FUEL STEEL MAY WELL BE COMMERCIAL AND MORE COST-EFFECTIVE THAN BOF STEEL WITHIN A DECADE.**

Green (fossil fuel free) steel technologies are in development. There is the pilot-scale HYBRIT process in Sweden (using hydrogen produced by renewable energy as the reducing agent) – this is likely to be commercial within the decade, and although currently costs are about 30% higher than steel produced using coking coal, Dr John Pye at ANU expects this technology will be commercial and possible also cheaper (given rapidly reducing renewable energy prices) within the next five years. Dr John Pye in a recent *Green Steel* presentation (see ANU Energy Change Institute *Green Steel* 27/08/2019 event <https://www.facebook.com/ANUEnergyChange/>) also outlined other electrolytic technologies that are advancing in development. He indicated that they are more likely 10 – 20 years away from full commercialisation but will likely have significantly lower energy requirements (per tonne steel produced) than the hydrogen-as-reductant process.

South32 frames their proposal as supporting or not supporting Australian steel, but this is misleading. We in Australia should support our steelworks to transition away from use of coking coal and make use of abundant renewable energy potential to make our own green steel. WE could become green steel leaders. Dr John Pye explored scenarios in which rather than relying so much on our exports of coal and iron ore, instead Australia could replace coal exports with green steel exports at much higher cost and significant benefit to the Australian economy. His arguments seem so sound – especially when compared to further longwall coal mining damaging a water catchment for the next 30 years!

## SUMMARY

I object to the proposed Dendrobium coal mine extension. I object on the grounds of all the existing damage, and all of the proposed damage that would occur in our water catchment and to the ecosystems and communities contained within. This damage is permanent and irreparable. No further level of damage is acceptable. I object to the lost and polluted water. No further amount of water loss or water pollution is acceptable. I object to the continuation of the status quo proposed by South32 and the inaction on climate change. I object very strongly to Australia not doing its fair share as a global citizen to reduce our domestic and exported greenhouse gas emissions. I feel ashamed as an Australian that this is so.

I object very strongly that the NSW government has not already banned coal exploration and expansions of existing coal mines in the Sydney Water Catchment. I find it outrageous and utterly offensive from the proponent's *Executive Summary* their statement that *Underground coal mining is currently the only major revenue generating industry that is both compatible with the catchment status of the Project area, and permissible with consent*. This feels utterly contemptible. There are values beyond money. Some things are so precious that they are not for sale. The water catchment nurtures and nourishes us all. It is so precious that it should not be for sale. I urge you to reject this proposal outright. It is immoral.

Thank you for considering my submission.