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Department of Climate Change, Energy, Environment and Water (DCCEEW)

Via <https://consult.dcceew.gov.au/managing-noxious-emissions-from-non-road-diesel-engines>

14 July 2023

Dear Minister

Re: Non-Road Diesel Engines – Noxious Emission Standards: Impact Analysis

The Australian Aluminium Council (the Council) represents Australia's bauxite mining, alumina refining, aluminium smelting and downstream processing industries. The aluminium industry has been operating in Australia since 1955, and over the decades has been a significant contributor to the nation's economy. It includes six bauxite mines which collectively produce over 100 Mt per annum making Australia the world's largest producer of bauxite. Australia is the world's largest exporter of alumina with six alumina refineries producing around 20 Mt per annum of alumina. Australia is the seventh largest producer of aluminium, with four aluminium smelters and additional downstream processing industries including more than 20 extrusion presses. Aluminium is Australia's highest earning manufacturing export. The industry directly employs more than 19,000 people, including 6,600 full time equivalent contractors. It also indirectly supports around 60,000 families predominantly in regional Australia.

The Council welcomes the opportunity to provide feedback to DCCEEW on the proposed Non-Road Diesel Engines – Noxious Emission Standards: Impact Analysis as outlined in its consultation paper (the Paper). The Council will limit its response to specific consultation questions in the Paper. The Paper responds to concerns about absence of emissions standards and data associated with non-road diesel emissions. The Paper outlines that non-road diesel is likely to be responsible for around:

- 10-15 per cent of national anthropogenic nitrogen oxides (NOX) emissions,
- up to 5 per cent of particulate matter (PM) 2.5 emissions,
- around 1-2 per cent of PM10 emissions, and
- approximately 5 per cent of national greenhouse gas emissions.

Any proposed regulation needs to be considered in the context of available technologies and the cost / benefit of reform versus inaction. For greenhouse gas emissions, the Council believes that other measures such as the Safeguard Mechanism already present a preferred regulatory pathway to avoid duplication through this measure. For particulate matter, these are estimated to be 5% or less of total national emissions. In this context, it is worth considering what other measures are being applied across the economy which may be more successful in reducing national emissions.

Aluminium Industry Context

Aluminium is one of the commodities most widely used in the global transition to a clean energy future¹. It is also recognised for its importance to both economic development and low emissions transition. Aluminium use is highly correlated with GDP, so as countries urbanise, per capita use of aluminium increases. It is expected that by 2050, global demand for aluminium is expected to nearly double from around 100Mt per annum to around 190Mt². While an increasing proportion will be met through recycled aluminium, there will still be a need for increased production of primary aluminium requiring a comparable increase in global bauxite mining and alumina refining rates. The major use of non-road diesel engines by the industry is in bauxite mining.

The ultimate goal of the industry is to achieve net zero emissions and in doing so, it will need to eliminate diesel vehicles and replace these with alternate technologies³. The industry is investigating opportunities to implement these horizon technologies however, these are likely to be implemented post 2025 due to technical limitations. Replacing diesel vehicles with either biofuels or ultimately electrification of mobile heavy mining equipment will, ultimately, eliminate the current emissions from diesel vehicles. The Council believes that any short term reforms focussed solely on air emissions only may be out of step with the innovations underway to decarbonise industry.

Response to Consultation Questions

4) *Do you agree that the information above and provided in the CBA Report supports the need for government intervention?*

The Paper acknowledges that a transition towards higher tiered technology is underway, however despite this, Government intervention also regarded as unavoidable. The CBA does not seem to adequately address the transition already underway in industry, which ultimately aims to eliminate this source of air emissions. However, interventions focussed solely on air quality without consideration to other parameters will be costly to industry, deferring investment from more substantial step change opportunities in the future. Government intervention should only be considered when there is industry specific example of the failure of the current system.

Australia's air quality is among the cleanest in the world, and this is especially true in regional areas where bauxite mines are generally located. Australia's bauxite mining industry is committed ongoing improvement across all aspects of environmental management, including air quality.

9) *Are there any elements in the results of the CBA that you feel do not reflect the true position of the market as a whole?*

10) *Do you believe there has been sufficient consultation with all stakeholders during the development of the cost-benefit analysis?*

11) *If no, what other types of consultation would you have liked to have been included and why?*

The consultation and CBA consider a national framework, without differentiating between regions. For example, most of the bauxite industry is located either in regional Western Australia or in Far North Queensland. A regional approach to cost benefit analysis and consultation with more remote participants may provide a differentiated outcome. As it stands, with the proposed approach remote mining operations may wear a disproportionately high cost with little benefit to population level human health.

¹ <https://www.worldbank.org/en/topic/extractiveindustries/brief/climate-smart-mining-minerals-for-climate-action>

² International Aluminium Institute High Substitution Scenario, <https://alucycle.international-aluminium.org/>

³ <https://aluminium.org.au/wp-content/uploads/2021/10/220719-PATHWAY-FACT-SHEET-02-BAUXITE.pdf>

12) Which management scenario would best meet your purposes (including BAU)?

13) What are the arguments to support this option, including priorities you think the government should give more weight to for any decision?

The Paper is targeting alignment with international best practice emission standards (Tier 4f). However, this raises concerns for industry:

- Consultation with equipment manufacturer has indicated that currently Tier 4f specification for some of the types of vehicles used by the industry (for example 190T trucks) are not currently in Australia. The best available emissions performance in some categories of vehicles is Tier 2. This lack of availability of Tier 4f equipment in Australia presents a barrier to transitioning to a higher specification;
- A focus solely on Tier 4f vehicles to achieve air emission reductions, without focus on industry aspirations for decarbonisation, may influence investment decisions away from the ultimate aim of eliminating diesel vehicle use in decarbonisation.
- Vehicle equipment purchases are typically long lead items. This needs to be factored into the scenario selection and phased approach as business may not be able to adjust their long lead time equipment orders; and
- Changing the operating parameters of one aspect of a vehicle can impact performance in others. For example, ensuring a vehicle meets Tier 4f requirements may in fact mean it cannot meet the same loading requirements as other vehicles, meaning more vehicles would in fact be required to do the same task.

If you have any questions regarding this submission, please do not hesitate to contact me.

Kind regards,



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