

Safeguard and Industrial Policy Section
Department of Industry, Science, Energy and Resources
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Dear Minister

Re: Mine Site Rehabilitation Production Variable

The Australian Aluminium Council (the Council) welcomes the opportunity to provide feedback to the KPMG Discussion Paper on Mine Site Rehabilitation Production Variable (the Paper) and the one-page Departmental summary circulated with it. The Paper outlines potentially suitable production variable (PV) to represent the emissions resulting from mine rehabilitation.

In considering its response to the Paper, the Council has considered the state of the Australian bauxite mining industry which includes five large and at least two small bauxite mines, plus exploration and approvals processes are also underway for at least three other potential mining operations, which the Council is aware of. These mines provide bauxite for feedstock for Australia's six alumina refineries, as well as an export market. The refineries in turn supply alumina to the four Australian aluminium smelters and an export market. Australia is the world's largest producer of bauxite.

Sector Specific Issues

As the Paper notes, rehabilitation is not a revenue stream for mines, so it will always be done as efficiently as possible to incur least reasonable cost. Attempts to define a production variable for rehabilitation, should support progressive or end of life rehabilitation occurring efficiently and effectively. Many mines operate under or around the current Safeguard threshold of 100,000 t CO₂-e/annum and from this it can be inferred that rehabilitation could also occur under this threshold. Examples of situations where the threshold could be exceeded for a facility include:

- When other activities such as mining, fugitive emissions or electricity generation are significant contributors to the emission budget;
- The Safeguard threshold is reduced; or
- Intensive rehabilitation occurs over a short period of time.

Although separate PVs exist for mining (various) and onsite electricity generation once the threshold has been exceeded all emissions are relevant.

While rehabilitation may not result in facilities exceeding the current Safeguard threshold but if a PV is developed now, it should be sufficiently robust that it will support efficient rehabilitation, were the threshold to be reduced in the future. The Council recognises that some facilities may require a baseline dependent on an output variable now as intensive rehabilitation could result in emissions over the current Safeguard threshold.

Surface Mining

Most of the world's bauxite comes from surface mines in tropical and sub-tropical areas, where bauxite typically occurs in extensive, relatively thin near-surface layers, normally beneath a few metres of overburden. Because bauxite deposits often cover a very large area, bauxite mining involves disturbance of comparatively large land areas compared to the mining of other minerals, though for



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a shorter time. Australian bauxite deposits have high grades and are shallow and relatively easy to mine. Bauxite mining is well suited to progressive rehabilitation and this has been largely built into the bauxite mining PV. The Paper suggests that the PV should be used when the overall energy consumption is not reflective of the mining activity and suggests that this could be based on when the rehabilitation activity exceeds perhaps 10% of the energy. Due to the large areas and ongoing nature of surface mining, the percentage of emissions resulting from rehabilitation are likely to be higher than for open pit and underground mining. Therefore, creating a single threshold for all mining types may result in an overallocation where a higher percentage of rehabilitation is built into the mining PV.

The consumption associated with rehabilitation should be evaluated on an emissions rather than energy basis. Energy or emissions attributed to other production variables such as electricity generation should be excluded when evaluating the overall energy/emissions consumption against any threshold. Often vehicles and equipment are deployed for multiple tasks, so depending on the fuel tracking processes at a facility, the metric could be difficult to calculate accurately.

PV Definition

The Paper proposes that of the PV options analysed “tonne-km hauled” best fits the criteria. While, the Paper has considered this option as being potentially suitable for underground or open pit mining, the Council does not believe it is suitable for Surface Mining (such as bauxite). The footprint of bauxite mines is large, rehabilitation is undertaken progressively, and a large proportion of the fuel is used for grading and land shaping, compared to hauling.

PV Measurement

While bauxite mines retain reliable records of total of fuel purchases and consumption, there is very limited data on fuel consumption for end of mine life rehabilitation undertaken to date; and nor do current mines routinely collect this data for ongoing rehabilitation activities. New systems would have to be put in place to allow accurate estimation of emissions resulting from rehabilitation activities and/or how these emissions are split between hauling and other rehabilitation related activities.

PV Application

Based on broad estimates from progressive rehabilitation, facilities are unlikely to exceed the current 100,000 tonnes CO₂-e threshold during rehabilitation unless a facility is generating electricity (such as for a township) as well. Therefore, the Council provides the following suggestions in Table 1. The Council believes that this is a consistent, practical and robust method for setting a baseline that won't create the potential to deter sustainable rehabilitation of mine sites. Efficiency will be obtained by other cost drivers, particularly fuel costs.

The Council would like to continue to work with the Department, on this, and other applications of the Safeguard Mechanism, to develop workable solutions for industry; while maintaining the durability and policy intent of the scheme.

Yours sincerely,



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Table 1. Design of end of life rehabilitation production variable (based on the Paper)

Proposal	Description	Advantages	Potential Issues
Default baseline of 100,000 t CO ₂ -e for end of life rehabilitation activities alone	Exclude end of mine life rehabilitation by allowing the threshold of 100,000 t CO ₂ -e/annum to apply to the end of life rehabilitation activities alone	<ul style="list-style-type: none"> • Positive incentive to carry out complete rehabilitation • Covers all rehabilitation activities that are additional to what is included in the relevant mining PV • Creates consistency between facilities that have onsite power generation compared to those that import power • Does not set the same precedent as full baseline exclusion 	<ul style="list-style-type: none"> • Does not relate to a unit of production • Apart from an incentive to use low carbon energy sources, overall, this does not provide an incentive to use energy efficiently (however fuel cost would drive this)
Thresholds for applicability	Separate thresholds for percentage of rehabilitation emissions for the different mining types (open pit, underground and surface) for when the PV is applicable. The thresholds should only relate to the mining activity and exclude other activities that have PVs	<ul style="list-style-type: none"> • Recognises that different amounts of rehabilitation are built into existing mining PVs • No disincentive to increase rehabilitation while production is ramping down or when development of a new area is occurring 	<ul style="list-style-type: none"> • More complex than a one size fits all applicability threshold
If emissions are above the default baseline, a fixed baseline	For facilities where rehabilitation is intensive and of short duration, resulting in emissions above the threshold a fixed baseline, as discussed in the Paper, could apply for a limited duration	<ul style="list-style-type: none"> • Positive incentive to carry out complete and timely rehabilitation • Covers all rehabilitation activities that are additional to what is included in the relevant mining PV • Recognises that the same vehicles used in the mining phase may be used in rehabilitation 	<ul style="list-style-type: none"> • Does not relate to a unit of production • Apart from an incentive to use low carbon energy sources, overall, this does not provide an incentive to use energy efficiently (however fuel cost would drive this)