

Submission to the IAC regarding objections to the Kalbar mineral sands mining project

Presentation to the IAC by Alistair Mailer - Submitter #705

Wednesday 16 June 2021

Introduction

My original submission #705 was made on 29 October 2020, with a supplementary submission on 26 March 2021. In the intervening 7 months since the original submission, and after following closely the proceedings of the IAC hearings, together with the very large number of additional documents, I have neither seen nor heard anything to change my original objection to the Kalbar mineral sands mine proposal for the Fingerboards. On the contrary, my objection has been markedly strengthened.

I wish to reaffirm the comments in both my original & supplementary submissions, and to amplify some of these and other issues.

Section A – The smash & Grab

1. Smash & Grab – summary of the Kalbar proposal
2. We, the people of Victoria, via The Crown, own the resources located beneath the Fingerboards
3. Kalbar is making an offer to the People of Victoria :
 - We want what you've got, we want these resources
 - We'll pay you a small royalty for what we take
 - We'll attempt to comply with your laws in doing so
4. But, in doing so, over the next 20 years or so, :
 - we'll rip up thousands of hectares of agricultural land
 - we'll rip up hundreds of hectares of your native vegetation
 - we'll destroy many hectares of endangered & threatened plants
 - we'll destroy over 800 of your large trees
 - we'll destroy habitat for some of your endangered flora & fauna
 - we'll use at least 3 Gl of your precious water every year, from your rivers or your aquifers
 - we'll discharge Gl of polluted water back into the environment
 - we'll, from time to time, send some radio-active dust across to your horticultural farms
 - we'll disrupt the local environment with noise & dust
 - we'll use a few chemicals in the process, nice things like polyacrylamides and dust suppressants, some of which will break down & pollute the environment

So, you see, we will, unfortunately, have to smash your environment in order that we can grab your resources and line our pockets with heavy mineral sands.

5. There are many uncertainties about how we will go about our intended take because we haven't wanted to spend too much money at this stage, but we think that the risks are quite acceptable, to us that is, and in any case, if things go wrong, we will adapt our management plans to cope with the situation, even if this causes a few more problems to your local environment
6. This is the gist of our, admittedly, half-baked EES – take it from us, we will ensure that everything will be OK.
7. Our apologies if some of these issues haven't been fully thought through at this time, but as you know, time is money, and we are pretty desperate to get our hands on what you've got. It's worth a lot of money to us. If we can just dig it out of your ground and ship it to China, we will be very happy, and laugh all the way to the bank, our bank that is.
8. We, that is our company, its investors & shareholders, not you the people of Victoria and the people of the Fingerboards, we have assessed the situation, we have provided your government with an (admittedly) half-baked EES, but, trust us, everything will turn out, in the long run, to be acceptable to us, and we think that you will cope, despite the destruction of your local environment.
9. We have paid our consultants to advise us that the measures we have proposed to mitigate any of the unfortunate impacts of our mine, will be acceptable. Perhaps we paid too much to some of them, but you can't win them all. Where our case was particularly weak, we decided that the best course of action was not to pay anyone to say something unfortunate, and to act dumb in

the hope that no-one would notice. For example, the absence of an economic expert – he would only have been cross-examined and might have then had to admit to some unwelcome facts.

10. Don't smash and don't grab

We, the people of Victoria, and citizens of East Gippsland, say thank you, but no thank you to your most kind offer. Please apologise on our behalf to your investors and to your putative Chinese customers, but the game is not worth the candle.

We value too much our environment, our biodiversity, our social amenity ...

11. The IAC must recommend refusal of Kalbar's offer to plunder the Fingerboards

Section B – Kalbar's Part B submission doc # 358

1. On 18 May 2021, Kalbar had the opportunity to present what would be, in effect, an updated EES, incorporating all the changes so far announced. It chose not to do so, six months after the original EES was put on public display – one wonders why they chose not to. This indicates that Kalbar is not being honest and transparent with the community about its intentions ... we've told you what we intend to grab, but the extent & nature of the 'smash' is still being finalised.
2. EGSC, MFG and individual submitters consequently do not yet have a final proposal to critique.
3. Kalbar includes technical notes filed by its legal team [doc #358, para 3] but there has been no opportunity to cross-examine Kalbar on the contents of these notes. Is this a legal trick, a slight of hand, to avoid scrutiny ?
4. Kalbar claims [paras 4 &5] that the MRSD Act offers strong strategic support for the conduct of mining operations across Victoria, but notes that this support is qualified, but is not overridden, by the need to ensure that the conduct of mining activities can proceed with acceptable economic, social, or environmental impacts. Under this Act, acceptable to whom ? The implication here from Kalbar is that the 'strong support' applies regardless of whether the economic, social, or environmental impacts are acceptable. Not so Mr. Morris.
5. Kalbar claims that the MRSD Act has 'primacy', with other complementary frameworks also applying, including radiation protection, water licencing, cultural heritage, environment protection and town planning. Further, Kalbar claims that these issues regarding the ancillary infrastructure are "relatively straightforward". Not so, Mr. Morris. Much as you would like, some of these issues are far from straightforward.
6. Kalbar claims that the Environment Protection (Scheduled Premises) Regulations 2017, exempts discharges to land for mining undertaken in accordance with the MRSD Act from licencing and works approval requirements, and that accordingly, EPA's approvals jurisdiction is limited to discharges to surface water and groundwater, and that the mine will be regulated pursuant to the MRSD Act.
7. Well, here we have Kalbar again trying to wriggle out of their obligations to the community based on a legal quibble as to whether the provisions of the new EP ACT will apply to seepage from tailings deposited into the mining void. Does it really matter which Act takes precedence ? Surely the obligation is to avoid harm to human health and the environment, as set out in the EP Act. Would Kalbar like a licence to proceed despite harming human health and the environment, just because the MRSD Act may not require compliance with this more restrictive obligation ?
8. The point here is that it is not a question of having "strong policy support" [para 9] under the MRSD Act, but it is a question of whether the probable environmental & social impacts are acceptable to the community. This issue should not be resolved on the basis of a contentious legal argument that this or that Act / regulation does / does not apply.
9. If the MRSD Act permits this mine to proceed despite the probable harm to human health and the environment, then the law is an ass.
10. Kalbar claims [para 10] that even government planning policy (and the local planning scheme) express policy support for extraction of natural resources, but notes the qualification (in both cases) that such work should be in accordance with "acceptable environmental standards ... and practice". Surely, this qualification requires that a mining operation comply with the government's Environment Protection Act, where such 'acceptable' standards have been clearly

set out. Kalbar can't claim support of government policy for their 'smash & grab' without acknowledging the conditions attached to that policy.

11. Kalbar asserts [para 12] that it is "... Parliament's desire for a consistent approach to decision-making across different legislative domains", but Kalbar prefers that approval be given under a more lenient MRSD Act, than a more restrictive EP Act.
12. It is submitted that, in line with Kalbar's argument, that Parliament would not have more recently passed the New EP Act 2017 if it did not want harm to human health and the environment to be minimised as part of the General Environment Duty (GED), and accordingly, the GED should be the yardstick for acceptability in the decision-making process.
13. Kalbar talks about [para 14] the "...locational rarity of economic mineral deposits" and that Kalbar has spent \$50 million in bringing their project to this stage. Is this meant to be a justification – Look ! we've spent all this money, so you can't refuse us approval at this late stage. The financial risks to date taken by Kalbar have nothing whatsoever to do with the unacceptable impacts of their project on both human health and the environment.

Dept. of Transport - Document # 376 18 May 2021

14. DoT 's 28 October 2022 submission during the EES exhibition period, confirmed that the Department had a number of transport concerns regarding the proposal; and due to insufficient (traffic and transport) information was not able to support the proposal. As at 18 May 2021 DoT remained concerned with the lack of detailed transport information provided within the EES documentation.
15. The Department has submitted that the level of investigation informing the EES and PSA has provided minimal detail regarding:
 1. the proposed road and intersection alignments and design;
 2. the rail siding location and design;
 3. the land required for the proposed road and rail infrastructure, ownership of such land and how the use of such land will be secured;
 4. the type of materials and construction method for the backfill of the mine for the areas where the Dargo Road is to be reinstated whether the proposed road infrastructure is temporary or permanent;
 5. the decommissioning and remediation required following the closure of the Project; and
 6. the potential requirement for short term road haulage of product, or alternative road haulage routes if the preferred transportation method of rail is disrupted.
16. A key issue will be the management of trucks and related transport issues. DoT remains concerned (as at 18 May 2021) about the traffic and transport information provided in the EES.

Use of chemicals in the mining process

17. Kalbar are still attempting to mislead the community in regard to the use of chemicals in the mining process. Kalbar's website still maintains that " Unlike some other types of mining, no chemicals are used to extract the mineral."
18. In fact, of course, Kalbar plan to use chemical flocculants and chemical dust suppressants.

Assessment of alternative mine proposals

19. Rhetorical question : Does the IAC, in assessing the Kalbar project proposal, have regard to the relative strategic merits of similar mine proposals (in production or proposed) either here in Victoria or in South Australia & NSW ? For example the five mineral sands mining projects listed on the ERR website (refer table) and/or the NSW mine proposals (insert NSW map)
20. Since the IAC is not charged with this task [refer IAC Terms of Reference] , then how can the Minister [for Planning] assess the relative merits of Kalbar's proposal with the other potential projects in Victoria ?
21. Note that even the Earth Resources Regulator (ERR) admits to not assessing applications for mining licences other than on their specific merits – apparently in accordance with the MRSD

Act. [reference Doc. # 497 page 3 – ERR’s 9 June 2021 letter in response to IAC’s 28 May 2021 request for information]

22. Clearly, the Minister cannot perform this relative assessment task because the relevant information will not have been provided either by the IAC or ERR. It’s not like there aren’t any alternatives to the Fingerboards mine proposal. It’s not a bridge, or a jetty or a rail link or some project with unique characteristics. There are alternative heavy mineral sands mine sites, both in Victoria, NSW & South Australia.
23. This raises the question of consideration of what is or is not acceptable in terms of economic, social or environmental impacts. Acceptability is comparative – no comparison, no assessment.

Regulatory system

24. As indicated by the IAC [ibid page 5], if the mine were to be approved (despite the weight of evidence indicating to the contrary) it will need to operate under complex and detailed environmental management requirements, requiring a highly functional and effective regulatory system.
25. Despite the ERR response to the IAC, and given their record, there is considerable doubt that the ERR’s ‘operational regulatory model’ would be up to the task. BDEC’s 14 June 2021 advice to the IAC [Document #502] would seem to confirm this situation.
26. Consequently, any advice from the IAC to the Minister as to the acceptability (or otherwise) of the proponent’s mine proposal, would have to be conditional upon an assessment as to whether ERR is up to the job of regulating the mine.

Rehabilitation bonds

27. According to ERR, the task of setting the dollar amount for a bank guarantee to be provided if a mining licence were to be granted, involves either the ERR’s ‘bond calculator’ or a bespoke liability assessment from first principles [ibid p. 7].
28. It would be of interest to know whether the rehabilitation bond in the Kralcopic P/L mine at Woodvale & Bendigo [ibid p. 6] was adequate for the task when the ERR took ownership of the abandoned mining plant, and the responsibilities of site monitoring, maintenance & rehabilitation. Again, BDEC’s 14 June 2021 advice to the IAC [Document #502] would seem to confirm that the rehabilitation bond in this case, was totally inadequate.
29. If the bond is to cover 100% of the estimated cost to rehabilitate the mine site in the event that the licensee defaults on its obligations, the amount of the bond must be adequate for the task. But, of course, this is not under the Minister for Planning’s control.
30. State regulators entrusted with upholding the law have often seemed to be more interested in making life easy for mining companies than protecting the environment. As a result, regulators have failed to require bonds to be set at amounts adequate to cover the costs of reclamation. So, even when there is a reliable third-party surety bond, it often turns out that the money is not enough. [Deign, Canary media 19 May 2021].
31. Mine closure, complete rehabilitation and relinquishment of the former mine site is almost unknown in Australia [Dark side of the boom – Australia Institute 2017]. There are no examples of major, modern open cut mines completing rehabilitation to the point where the site can be relinquished.
32. In stark contrast, numbers of abandoned mines are huge across Australia, with estimates of around 60,000 sites ... while definitions and data limitations make exact numbers of abandonments difficult to estimate, what is certain is that this is not a practice limited to distant history. On average one mine is abandoned per year in Victoria, including the Benambra gold mine which has already cost Victorian taxpayers \$7 million. This represents a massive subsidy to the mining industry, paid by taxpayers and the community through a degraded environment.
33. In 2017, Australian governments held around \$10 billion in environmental bonds to assist with rehabilitation if companies abandon their sites. In most cases there is considerable concern that these bonds may be insufficient to cover rehabilitation liabilities of operating mines. Large open cut mines can cost hundreds of millions or even billions of dollars to rehabilitate. Departments

and Auditors General in several states have expressed concern that states are facing serious liabilities. The large number of historical and modern abandoned mines compared with the handful of fully rehabilitated sites shows that the mining industry does not have a good record at cleaning up after itself.

34. As an aside, would Kalbar's bond be sufficient to cover the clean-up costs in the event of the temporary TSF tailings dam failure at the Fingerboards site ?

Climate change and Biodiversity

35. It is important for the IAC to recognise slowing global heating and stemming the loss of biodiversity have, for many years, been viewed as independent challenges. But a new landmark report concludes that climate change and the rapid decline of natural ecosystems are intertwined crises that should be tackled together if international efforts to address either are to succeed.
36. The report, released this month, was written by 50 of the world's leading experts on biodiversity and climate change, representing two major international scientific groups collaborating for the first time: the Intergovernmental Science Policy Platform on Ecosystem Services (IPBES) and the Intergovernmental Panel on Climate Change (IPCC).
37. Until now, global collaborative efforts to address climate change, through platforms including the IPCC and the Paris climate agreement, have operated on a different track from efforts to address biodiversity, carried out through the UN Convention on Biological Diversity and other international organizations.
38. The report says that we've tended to see climate and biodiversity as separate issues, so our policy responses have been very siloed; Climate has simply got more attention because people are increasingly feeling the impact of climate change in their own lives – whether it is bushfires or hurricane risk. In fact, biodiversity loss has that similar effect on human wellbeing.
39. Positive outcomes are expected from substantially increasing intact and effectively protected areas. Global estimates of exact requirements for effectively protected and conserved areas to ensure a habitable climate, self-sustaining biodiversity and a good quality of life are not yet well established but range from 30 to 50 % of all land and surface areas.
40. The report says that successful implementation depends on rapid action. Overall, **every bit of warming matters, and every lost species and every degraded ecosystem matters.** There is a real risk that biodiversity will die from a thousand cuts.

EPA Draft EPA Section 50(3) Notice to [Kalbar] to supply further information

41. It is extraordinary situation when, as at 8th June 2021, after Kalbar's legal team have tabled their Part B Submission to the IAC, the EPA tables a letter [Document #488] to Kalbar with a draft Section 50(3) notice to supply further information, following Kalbar's original application for a Works Approval [a Development Licence under the new EP Act] in July 2020.
42. It is indicative of the current EES still being half-baked, mediocre at best, and deficient in so many respects. Examples (from EPA's draft Notice) of requests to provide information include *inter alia* :
- a. Information to demonstrate how the proposed activities can be considered to use *Best Available Techniques or technologies*;
 - b. The quality of discharges into the Mitchell River and any potential environmental effects at the point of discharge
 - c. The quality and volume of the leachate from the tailings returned to mine voids following dewatering by the centrifuges;
 - d. How the proposed treatment of fine & coarse tailings will minimise risks of harm to human health or the environment so far as reasonably practicable;

- e. Details of any flocculants proposed to be used in the dewatering process, and identify any by-products and their concentrations from their use that may contaminate the centrate and tailings leachate;
 - f. how the fine tailings cake will be stockpiled (prior to and after the establishment of the mine voids) after being produced in the centrifuge and how runoff from these stockpiles will be managed;
 - g. Update the relevant Energy and Greenhouse Gas Emission (GHGE) and noise sections to include energy demand and GHGE & noise generated by the centrifuges;
 - h. Clarify the operational arrangements and circumstances for active management of Water Management Dams, and Freshwater Dam, and provide an explanation for changes in the proposed mine's water balance.
 - i. If the SILO rainfall data is now considered to be more reliable, then all water management balance studies, modelling and assessment work should be updated to reflect this new data;
 - j. Given the importance of the water balance to predicting water demand and subsequent surface and groundwater discharges, a detailed explanation of the changes and justification for the figures used is required – with reference to relevant field data/experience;
 - k. The EPA is currently unable to determine the potential effects that the proposed surface water discharges to the Mitchell River may have and its consequential impact upon the specific environmental values of the ERS as it is unclear on the circumstances under which surface water discharges will occur, where and how the water will be discharged, and the quality of the water proposed to be discharged. Further detailed information is required;
 - l. Further information on the quality of surface water (including levels of nitrogen and other contaminants, noting that it is unclear from the application and Kalbar Expert Witness Statements whether aluminium, copper, or flocculant by-products are of concern) to be discharged to the Mitchell River from the Freshwater Dam;
 - m. Further information should be provided on the seepage rates used in the groundwater modelling for water leaching out of the tailings, which has then been used in the water balance calculations;
 - n. Further details to demonstrate how potential risks of harm from leachate will be minimised;
 - o. Information on radiation and potential presence of radionuclides in sources (i.e., ore, mine contact water) and subsequent wastes (including surface water and groundwater discharges and solids wastes), the collected DAF plant solids, and the expected radioactive concentration of the tailings cake and the centrate from the centrifuges, and the coarse tailings;
 - p. Where, if at all, any “radiation sources” are present within the works (and discharges) that require approval from the EPA;
 - q. The form and characteristics of the solid waste produced by the DAF plant, and describe how the DAF wastes will be disposed of;
43. It is clear from the long list above that much work remains to be done by Kalbar before the EPA can assess with any certainty the environmental impacts of Kalbar's proposed mine.

General Environmental Duty (GED)

44. The General Environmental Duty ([EPA Opening submission para. 38] states that “a person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste must minimise those risks, so far as reasonably practicable.”
45. Further, the EPA submitted that “it is through this lens that the proposed activities, technologies and mitigations strategies proposed by the Proponent ought to be considered given that the GED will apply by the time the IAC comes to write its report.

46. It is submitted that Kalbar have failed to comply with their GED in many respects, and that it is critical that the IAC also use this lens when considering the acceptability (or otherwise) of Kalbar's project proposal. Both EGSC & MFG in their Part B submissions have pointed out numerous instances – too many to list all of them here.

DELWP 19 May 2021 submission [Document # 377]

47. DELWP have detailed a number of key concerns including :
- a. the proposed railway siding facility siting
 - b. construction and use of a new road, new powerlines and a new pipeline in the vicinity of Chettles Road and associated vegetation removal
 - c. haulage roads and the potential for impacts upon existing native vegetation
 - d. the amount of affected native vegetation and its value
 - e. proposed management plans within the incorporated document, and
 - f. the offset management strategy
48. DELWP have requested clarification of numerous aspects of Kalbar's proposed project including :
- a. vegetation impacts associated with the water pipeline, overhead 22kV powerline and easement over private land to a new pumping station on the Mitchell River;
 - b. vegetation impacts associated with the water pipeline and associated bore pumps to the south of the project area;
 - c. vegetation impacts of clearing remnant roadside native vegetation;
 - d. vegetation impacts associated with any roadworks on haulage roads;
 - e. total impacts on large trees within patches, large scattered trees and small scattered trees;
 - f. assessment of native vegetation at 2705 Dargo-Bairnsdale Road;
49. DELWP assert that the following assessments are incomplete that :
- a. avoid adverse impacts on native vegetation with the highest biodiversity values, including mapped habitat for threatened species, endangered and vulnerable EVCs and large trees;
 - b. reduce the total area of native vegetation proposed for removal;
 - c. consolidate and revise all of the 'avoid and minimise' statements that demonstrates compliance with the requirements of the Guidelines, and which demonstrate how measures are commensurate with the value of the biodiversity;
 - d. exclude already protected areas from consideration
 - e. revise native vegetation removal and offset calculations to include the omitted property at 2705 Dargo – Bairnsdale Road and the changes to impacts resulting from the recently identified native grasslands
 - f. revise the Biodiversity Offset management Strategy to include an offset statement that satisfies the requirements of the Guidelines by providing evidence that the offsets required are available and able to be secured.
50. DELWP also notes that the current offset management strategy does not satisfy the requirements of the Guidelines, and doesn't include evidence that the offsets required are available and able to be secured.

Noise, GHGs & Electric vehicles

51. Further to the requirement for Kalbar's project proposal to comply with the GED, it was mentioned in my original submission that at least 50% of the project's predicted GHG emissions are expected to be sourced from operation of diesel generators and mining machinery. No consideration appears to have been given to any requirement that mining machinery could be electrical rather than diesel driven.
52. Large-scale mining operations by the big iron ore miners in the Pilbara are already using electrically-driven (and remotely operated) haulage trucks, with the benefit of reduced usage of fossil fuels, reduced atmospheric emission of pollutants, and reduced ambient noise levels.

53. Although the issue of using electric trucks was raised in my October 2020 submission, I am not aware of any response from Kalbar in this regard.
54. In accordance with the EPA's GED, the proponent would (and should) require the use of best available technology for its mining operations, that would minimise fossil-fuel usage, minimise GHG emissions (including CO₂ & N₂O), and minimise noise emissions from the proposed 24-hour day operations.
55. A switch to heavy electric vehicles, combined with the other 50% of emissions from project electricity use, it is clear that the proponent should purchase clean & green electricity off-take from a large-scale solar/wind/battery electricity generating operation, preferably located in the Gippsland region.
56. In December 2020, BHP (Australia's largest resource company) told the Energy & Mines virtual World Congress that the increased use of *inter alia* renewable energy and the deployment of electric vehicles, would be key to achieving carbon-neutral mining [Mazengarb, RenewEconomy 9 December 2020] and that BHP was committed to transitioning its operations to be consistent with the Paris Agreement goals of reaching zero net emissions. BHP saw potential value being created when they displace diesel and switch to efficient and renewable energy sources. Although diesel's high energy density and flexibility in use makes this area a challenge, BHP saw big opportunities in the efficiency gains to be realised by switching from internal combustion engines to electric motors.
57. Australian mining equipment manufacturer BME has retrofitted a mining vehicle with batteries that meet industry standards [slide].
58. DEVELOPMENT: 123-TONNE EDUMPER - [slide & YouTube Video]
A fully laden Komatsu eDumper from Kuhn Switzerland AG can transport 65 tonnes of lime and marl from the high-elevation extraction area to the permanently installed transport system below. The energy stored in the batteries from Lithium Storage GmbH is used for the unladen leg uphill and the surplus is fed into the electricity grid. This development is based on the experience and the building of electrified trucks.

Scope 3 GHG emissions

59. As mentioned in my original submission, Kalbar have made no provision for compensation for the so-called 'scope 3' GHG emissions. Kalbar's estimate stops at the Port of Geelong and ignores the remaining emissions produced by its customer, both in shipping the HMC to (probably) China, refining the HMC to produce mineral products, and use of those products in manufacturing prior to shipping the finished goods back to Australia.
60. China now accounts for 27% of global GHG emissions [Rhodium Group report - Washington Post 6 May 2021], now surpassing those of the USA and the developed world combined.
61. Kalbar's PR material claims the benefits to the community of using the refined products from mineral sands mining but avoids claiming the disbenefit of the impacts in producing those products. They can't have it both ways.

Ionising radiation and health

62. It is submitted that the IAC should give much weight to the expert evidence and presentation of Tilman Ruff [Document # 445]. Despite Kalbar's legal team attempting to belittle this evidence, the recommendations have the authority of a person with extensive experience & knowledge in this field. Mr. Ruff's key recommendations included :
- a. Radiation exposures for workers and the public should be kept much lower than regulatory limits;
 - b. Trigger levels in the radiation plan need to be real time, multifaceted, include workers and offsite residents, have clear levels that would trigger review, investigation, additional measures, and should be low.

- c. All aspects of the proposed project should take account of the greater radiation risk for children, and women and girls – currently not mentioned;
- d. Extensive environmental and foodstuff monitoring pre-, during and post-project should be established for all potential radiation exposure pathways; Data always trump modelling
- e. Especially with the largest radiation exposures estimated to be with HMC transport, every effort should be made to minimise dust generation, and especially dust-generating loading of HMC onto and off trucks and onto ships;
- f. The project should consider and plan for plausible impacts of global heating over its full life, including increased frequency of drought, bushfire, intense rainfall, flooding, intense storms, high winds
- g. Clarify nuclear safeguards implications/obligations given the significant amounts of uranium and thorium in HMC; Extractable Uranium especially could cause major long-term widespread environmental and health harm e.g. through nuclear weapons ;
- h. The final destinations for HMC from the proposed project over its life could not be confidently foreseen now, and could potentially involve nations with which Australia does not have pre-existing nuclear safeguards agreements.
- i. The issue of potential uranium extraction was a federal responsibility and that the IAC assessment process was not well placed to address a clearly federal responsibility;
- j. It is highly desirable from a public health viewpoint that these matters of long-term significance and public interest are subjects of transparency and clear accountability,
- k. Current ICRP dose coefficients be applied to radiation dose assessment, monitoring and management for the proposed project, reflecting 2009 ICRP and WHO doubling of lung cancer risk estimate for radon, and halving of WHO recommended reference level for indoors to 100 Bq/m³;

Mine life

- 63. Kalbar have frequently quoted a mine life of 15 years plus rehabilitation time, but it is quite probable that there will be water shortages at some time during the mine life, delaying production activities, and extending mine-life.
- 64. It is quite probable, that if the mine were to proceed, Kalbar would ‘discover’ some additional heavy mineral sand resources under adjacent land - Kalbar has already (as late as May 2021) proposed an extension of the mine area - and would, in all probability, seek an extension of the mine life.
- 65. It is quite possible that there will be variations in the resource quality, leading to reduced efficiency of centrifuge operations on the fine tailings, requiring either increase centrifuge capacity or a reduced rate of mining, leading to an extended mine duration.

Kalbar’s commitment to carbon reduction [Doc # 339 17 May 2021]

- 66. This document is a lamentable attempt at greenwashing. It is riddled with inadequate statements, vague promises, and is deficient in major respects. The IAC should give no weight to the assertions made by Kalbar in this document.
 - a. Emission reduction targets are based on federal government policy, which itself is generally recognised being insufficient to meet Paris Agreement targets.
 - b. The proposed adoption of ‘best practice design & technology options’ to ‘avoid or reduce’ [note the option merely to reduce] scope 1 GHG emissions
 - c. Kalbar will benchmark its approach to industry best practice – They must be joking to benchmark against the mining industry; this is totally unacceptable.
 - d. “... adopting technology solutions and alternative energy suppliers ... where feasible ... to reduce emissions, with a review every 5 years. Every 5 years !! Weasel words !!

- e. Kalbar commits to the development, and implementation, of an off-setting strategy ... !!
Very vague statements ...
- f. "... scope 1 emissions will be measured or estimated – lots of wriggle room here
- g. Kalbar seems to think that electrifying vehicles will be reasonably practicable, but In fact, the technology is here now; no need to wait for technological advancements.
- h. Purchasing carbon offsets is incompatible with the GED 'reduce harm to the environment'.
Measures should have been incorporated into the project from the outset.
- i. No mention in Kalbar's 'carbon reduction commitment to meeting the EES scoping requirements of "accounting for climate risks and the potential effects of climate change"
No mention of the environmental impacts of burning fossil fuels;
No mention of the availability now of battery-powered heavy-duty trucks;
No mention of purchase of 100% green power from energy supplier

Hydro-climatic variability [Kiem Doc # 391]

67. The comments & recommendations from Anthony Kiem in regard to the impacts of hydro-climatic variability, are of serious concern.
- a. The need for modelling to be redone to re-evaluate the water balance, and to quantify how much & how often external water would be required
 - b. Catchment characteristics & dynamics are unlikely to remain the same in the future due to
(i) climate change-induced changes to rainfall, evaporation & temperature and
(ii) changes in land use, vegetation & soil
 - c. The EES scoping requirements of accounting for climate risks and the potential effects of climate change have not been met –just one climate scenario has been considered;
 - d. The existing work [in the EES] does not consider what is plausible, and so is not precautionary;

Offsets for biodiversity impact [Lane Doc # 392 & 392A]

68. The comments & recommendations from Brett Lane in regard to the biodiversity assessment are of serious concern.
- a. Lane notes that the extent of native vegetation is greater than mapped in the EES
 - b. Some of the targeted flora & fauna surveys were not appropriately timed;
 - c. A substantial deficit exists for some species offsets required, and that there isn't a high level of confidence that the sometimes-considerable offset targets can be met;
 - d. Offset requirement must be clarified
 - e. Further investigations are required to determine the extent of Gippsland Red Gum Grassy Woodland, and the extent of native vegetation;
 - f. Further targeted surveys recommended for species not yet surveyed, and in areas found with native vegetation not previously mapped;
 - g. The need for proper assessment of the property at 2705 Bairnsdale-Dargo Road
69. As an objector, I have major concerns with the concept that it is officially considered acceptable (DELWP's Assessor's handbook) for the destruction of `250 ha native vegetation, and the removal of 837 large trees - to be offset by the purchase & promise of future good management of existing vegetation.
70. It is simply not possible, let alone practicable, to compensate for the loss of such a huge number of large trees, most of which are probably hollow-bearing. Mature vegetation & habitat cannot be recreated in this way.
71. Common sense dictates that the offset strategy proposed cannot work. It cannot be accepted that managing an existing patch of vegetation into the future (which should have happened

anyway) can, in any way, compensate for the destruction of native vegetation proposed, in particular, the destruction of such an enormous number of mature trees.

72. Government policy that facilitates such a charade is a nonsense. There is no justification in the IAC considering that the offsets proposed are fit for the intended purpose – despite a *prima face* appearance of doing so.
73. As previously mentioned, every species potentially lost, matters; every degraded ecosystem potentially lost, matters. This grab for native vegetation and loss of habitat is simply unacceptable – no ifs, buts or maybes. This destruction is totally contrary to requirements for an acceptable environmental impact. It would be just another nail in the coffin of biodiversity.

Environmental impact assessments aren't protecting the environment

74. William Laurance (James Cook University) & David Salt have written extensively on this subject [ENSIA 6 December 2018] and their considered view is that too many EIAs (or EESs) are failing to stop environmental calamities, and too many are increasingly not worth the paper they're printed on.
75. The EIA is the frontline of environmental protection; It's a legal requirement placed on a developer to measure the impact on nature of their proposed development. If that impact includes anything the government has pledged to protect, such as a threatened species, then the development may be halted or redesigned to avoid the impact. Or that's the idea, anyway.
76. The only problem is that the EIAs are rarely stopping bad projects. All around the world we see a growing catalogue of cases where EIAs are giving green lights to developments that should never see the light of day — projects that are destroying irreplaceable habitat or threatening the last representatives of endangered species.
77. Why aren't the EIAs doing their job ? Laurance & Salt give reasons including :
 - a. Inadequate investment – limiting EIAs to 'quick & dirty' assessments saves money and also helps avoid detecting rare species that might block development {refer Lane submission}.
 - b. Insufficient scope – the impacts of any development are rarely confined to its planned footprint.
 - c. Vested interests - Most governments require the developer to fund the EIA. And the last thing the developer wants is an EIA that stops it dead in its tracks. Assessors (mostly private consultants) who conduct stringent EIAs may be blacklisted by other developers in the future.
 - d. Poor governance - Governments responsible for ensuring the integrity of the EIA process are failing to ensure it actually happens at the level required. Governments have vested interests, too. Development is usually equated with economic growth and jobs, and politicians can turn these benefits into votes. It's easy to see how developers often gain an unhealthy hold over political and governance processes, including the EIA.
78. Assessing such impacts in a way that prevents or greatly limits their environmental impacts is technically doable; the science is available. A greater challenge, however, is demanding appropriate transparency, accountability, and compliance around our assessment efforts. Without those ingredients, we are unprepared for the development tsunami. Laurance & Salt suggest things that we can do to help include :
 - a. Call out EIAs that recommend approving projects with only minor 'tweaks' that make the project seem palatable but are actually superficial and minimally effective;
 - b. Say 'no' far more often – many projects are simply a bad idea, with serious environmental, economic, social & financial risks, and should be cancelled altogether.
 - c. Watch the government closely – just because an EIA recommends certain mitigation measures, doesn't mean that the developer will be compelled to do them. Government agencies that oversee development (ERR for instance !!) are often overwhelmed and sometimes compromised by big money behind projects.

79. Laurance & Salt advise : Don't trust EAs. A few EIAs are strong and some are mediocre, but far too many are just boiler-plate documents that fall apart on close inspection. Expect EIAs to be full of holes.
80. It is requested that the current IAC recognise the problems that can occur with EESs, and ensure that the above problems do not occur with this process.

Industry hired experts downplay impacts of projects

81. A Canadian study [Judith Lavoie, *The Narwhal* 21 December 2018] found, in a review of EIAs, that professionals hired by companies generally find ways to diminish the significance of health and environmental impacts. When experts, such as engineers and geoscientists, submit reports on a project, the generally accepted idea is that their information will reflect environmental standards and identify problems, allowing a project design to be changed or rejected if necessary. But that is not usually what happens.
82. Researchers found that experts — usually hired by a company applying to build a mine, pipeline or other project — rarely stick to generally accepted thresholds to determine if there is an environmental or health concern. The study also found when impacts are likely to exceed established criteria, experts find a variety of innovative ways to minimize potential problems.
83. Biases and unscientific practices used in the environmental assessment process underlines the need to balance evidence given by industry-paid experts. If an environmental impact, such as the release of pollutants which have human health consequences, is predicted to surpass a threshold of concern for human health, it would be expected that that impact would be considered important or significant.
84. Instead of flagging problems, the experts — who have an interest in ensuring the project goes through without expensive changes or mitigation measures — minimize the significance of impacts, even when they are likely to exceed set environmental thresholds. Common strategies include referring to less strict criteria used in other jurisdictions or claiming that modelling uncertainties could mean problems are unlikely.
85. Another strategy is expanding the scale. For example, an impact on a local community, such as a local population of fish used by a community, might seem less important at a larger regional scale, such as the species as a whole in the province, and that larger focus would be used in the analysis even if it was not meaningful for stakeholders.
86. Opinions of the proponent-paid professionals are usually accepted by regulators, illustrating the underlying conflict of interest in using experts hired by industry. The entire point of doing a scientific evaluation is to have an unbiased and transparent consideration of the potential impacts of projects on key areas of the environment and to have decisions helped by robust analysis. If we can't ensure that (assessments) are conducted according to good standards of evidence, guided by best practices in relevant scientific and other fields, then what's the point of doing the assessment in the first place?
87. Making matters worse, an international study found a lack of enforcement of mitigation efforts. Roughly one in 10 mitigation actions across the seven countries that were sampled are worded in such a way that they do not need to do anything - weasel words. That means that the company promises to take action "if feasible" and then claims mitigation was not feasible. Sound familiar ?

Experts hired by parties opposing a development

88. It is clear that the IAC has depended heavily on submissions made by parties opposing the Kalbar development, having itself hired only a couple of independent experts.
89. Where would the IAC find itself without the critical assessments of experts hired by EGSC & MFG ? What would have happened if the original EES had been accepted by government without further review, without discussion in the conclaves, and without the independent experts?

90. As an EGSC rate-payer and contributor to Environmental Justice Australia (MFG's solicitors) it has been of great satisfaction to hear both the Council's & MFG's submissions to the IAC. IMHO, they have done a splendid job in raising issues, debunking Kalbar's assessments, pointing out the many, many deficiencies and lack of significant information provided in the EES.
91. EGSC has been funded by the rate-payers, and MFG funded by the community plus a government grant, but their resources pale in significance compared to the well-funded proponent – whoever these people turn out to be. A solution would be to have government running the whole investigation, including paying experts to do the analysis. Even then however, the proponent would still have to provide the bulk of the evidence.
92. Submissions from the EPA and Dept. of Transport have contributed significantly to an understanding of Kalbar's obligations, but there has been a lack of submissions from many members of the Technical Reference Group following the major changes introduced by Kalbar subsequent to the original EES. The TRG could have provided a third-party scientific review of the latest project proposal – its data and information.

Demonstration pit

93. Letter dated 31.05.21 from Kalbar to ERR [Document 498]
The legal advice from Stuart Morris QC to Kalbar re ERR refusal to approve an application for a demonstration pit at the Fingerboards site states [Advice para. 19] "...One of the purposes of the exercise is to obtain information that may be used in making an assessment of the environmental impact of mining."
94. This statement implies, clearly, that Mr. Morris does not consider that the IAC yet has sufficient information to hand to complete the assessment of the environmental impact of the mining proposal.
95. So, when can we expect a completed assessment ?

Conclusions

96. In summary :
- a. Kalbar is making a **GRAB** for resources owned by the people of Victoria, as represented by The Crown;
 - b. In order to grab these resources, Kalbar are proposing to **SMASH** the local environment;
 - c. This is a **heist** that East Gippsland can do without;
 - d. The price proposed by Kalbar is unacceptable;
 - e. This is a project, the foundations of which are, quite literally, built on sand;
 - f. The published EES was a half-baked attempt by Kalbar to demonstrate that the social, economic & environmental impacts were either acceptable or could be mitigated to an acceptable degree.
 - g. Even with further information of the project plans, modification after modification, technical note after technical note – all have served to reinforce the inadequacy of the exhibited EES.
 - h. Government body after government body (including DELWP, Dept. of Transport & EPA Victoria), expert after expert have all verified the notion that many of the statements produced by Kalbar are either not-present, inadequate, deficient, un-tested, requiring significant additional work, or simply do not address the EES scoping requirements.

Recommendations

97. The IAC should advise the Minister that they are not in a position to make a proper assessment of Kalbar's project;
98. From what is known, Kalbar's project has unacceptable potential environmental, social & economic impacts, which are in most instances, unable to be adequately mitigated;
99. The IAC cannot recommend the project, and further approvals should be denied.
100. Kalbar's smash & grab must not be permitted to proceed.