Response to Dr Tyron Venn report for the South East Timber Association

January 2023

The South East Timber Association (SETA) is a group representing the forest industry which advocates for continuation of native forest logging. SETA has commissioned Dr Tyron Venn to undertake a review of the following study by Frontier Economics and Prof. Andrew Macintosh of the Australian National University (ANU): *Comparing the value of alternative uses of native forests in Southern NSW, 30 November 2021*.

Dr Venn's analysis lacks credibility as it makes fundamental errors relating to the use of cost benefit analysis as well as errors of fact

Dr Venn claims that we have not adopted best practice cost benefit analysis (CBA) where projects differ in scale and claims that there are eight additional problems with our analysis. We have reviewed Dr Venn's report and conclude that the majority of his claims are incorrect or would not make any material impact on the CBA.

The remainder of this note addresses each of the key concerns raised by Dr Venn's in turn.

Claim: Analysis does not account for scale in best practice manner

Dr Venn claims we have not followed best practice CBA where projects differ in scale and has quoted Boardman et al., 2018 to support this claim.[1] **This is not correct and is not supported by a reading of Boardman et al., 2018.** In addition, our CBA study is compliant with the NSW Treasury guidelines for CBA, which is the best practice approach to analysis that informs NSW government decision making.[2]

It is not against 'best practice' to evaluate projects of different scale or to include benefits and costs of different scale within a CBA – and Boardman et al., 2018 do not assert this. Instead they recommend relying on the net benefit measure rather than benefit-cost ratios when ranking multiple options where there are differences in scale.

This has little relevance to our study which considers one alternative to the status quo, but in any case, we do assess and report the net benefit measure as recommended - which indicates that ceasing native forest logging in the Southern and Eden forest regions of NSW would be net beneficial. (See attachment for additional detail on this point)

[1] Boardman, A. et al 2018, *Cost–benefit analysis: concepts and practice*, Fifth Edition.

[2] NSW Treasury 2017, *NSW Government Guide to Cost-Benefit Analysis*, TPP17-03, March. Available here.

Problem 1: Misrepresentation of published work re carbon leakage from avoided harvesting of native forest

Dr Venn claims that our report misrepresents the work of Whittle et al. (2012)[3], suggesting that Whittle et al.'s findings are the opposite of what is claimed in our report.

This is not the report used in our analysis. Dr Venn has examined a different report to the one referenced in our report, which is Whittle et al. (2013).[4] If Dr Venn had examined the correct report, he would realise that his criticism has no basis.

The key findings from Whittle et al. (2013) indicate that:

- At the national level, estimated leakage rates for avoided harvesting of native forests ranged from 1.5% to 2.5%.
- It was acknowledged that this estimate could vary significantly between regions depending on types of logs harvested, the extent of available alternative forest resources for each log type, and the costs of harvesting these resources.
- There was found to be no leakage associated with the avoided harvesting of pulplogs due to limited spare capacity in private native forests.
- Avoided native forest harvesting can reduce emissions, due to the subsequent development of plantations.
- The leakage rate for NSW's public native forests was estimated to be between approximately 2% and 4%.

Problems 2 and 3: Ignored substantial direct cost

Dr Venn claims the CBA should include the following costs:

- Compensation payments from the NSW Government to the native forestry sector, and
- The cost to the NSW budget associated with managing the forest, which is no longer met by revenue from the sale of logs.

Dr Venn is wrong on both counts as this would be inconsistent with best practice cost benefit analysis. As we explain in more detail in the attachment, CBA excludes transfers between sectors (such as a compensation payment from government to a processing business) as CBA is from the point of view of society. From the point of view of NSW society, these two impacts do not contribute to incremental costs or benefits. This type of analysis would be relevant to financial and distribution analysis, not to CBA.

[3] Whittle, L., Hug, B., Burns, K., 2012. *Leakage from avoided harvesting in native forests under the Carbon Farming Initiative: A qualitative assessment*, ABARES, report to client prepared for the Department of Climate Change and Energy Efficiency, Canberra.

[4] Our report references Whittle, L., Berry, P., Heyhoe, E. 2013, *Leakage from avoided clearing and harvesting of native forests under the CFI: A quantitative assessment*. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra.

Similarly on the second point, the CBA accounts for the cost of managing the forest. How this is funded is only relevant to a financial analysis, not a CBA.

Problem 4: Inconsistent definitions of benefits and cost

Dr Venn claims that additional costs should be included in the CBA scenario where the forest is no longer harvested, namely costs for park visitor accommodation, meals and incidentals. It is not assumed that additional accommodation is required. The cost of meals could be included but would be an extremely minor cost that would not impact on the result of the CBA.

Problem 5: Mental health costs

Dr Venn claims that the CBA should include health costs associated with ceasing the native forest hardwood industry (including mental health costs), as we have included health benefits associated with the forest recreation activities.

While a direct link can be drawn between active recreation and health benefits, this would be far more speculative in terms of additional health costs associated with impacted workers in the native forest sector. It is reasonable to assume that the impacted businesses and employees would be given significant financial, training and other support to transition to alternative forms of employment. Hence, it is difficult to determine the extent of any mental health cost, and we note that Dr Venn has not done so.

Problem 6: Level of employment in the native forest sector

Dr Venn claims that our estimate of direct employment in the native forest sector in the Southern and Eden RFA at approximately 290 to 320 is unsubstantiated.

The NSW Natural Resources Commission (NSW NRC), which defined direct employment on the same basis as in our paper, has reported that direct employment in the Southern and Eden regions prior to the 2019-20 bushfires was 332, and may be slightly lower now given the severe fire impacts on wood supply.[5]

This demonstrates that our direct employment estimate accords with a recent NSW Government agency estimate.

Problem 7 and 8: Alternative employment

Frontier Economics undertook an employment impact analysis that was separate to the CBA.

Dr Venn is concerned that we have referred to non-peer reviewed documents relating to employment in the mountain bike trail industry (Problem 7). This was not a part of our formal CBA and industry information is a valid source for a high level assessment of employment impacts.

[5] NSW Natural Resources Commission 2021, *Coastal IFOA operations post 2019/20 wildfires*. This is a Cabinet-in-Confidence report that was publicly leaked. The NSW NRC reported that sustainable wood supply will be significantly reduced in the South Coast, Eden and Tumut subregions due to the bushfires.

Finally, Dr Venn notes that the employment impacts outside NSW should be considered. The scope of our study was to consider the impacts in NSW as this will be the material concern of NSW policy makers.

Attachment: Further detailed comments on Dr Venn's report

In this attachment we provided additional information to demonstrate the material errors of Dr Venn's report and to address additional comments made by Dr Venn.

Background: Our study is a cost benefit analysis, not a financial or distributional analysis

In order to understand some of the comments made by Dr Venn, it is important to understand the difference between cost benefit analysis (CBA), financial analysis and distributional analysis. This is briefly explained below.

The study by Frontier Economics and Prof. Macintosh is a CBA which compares the costs and benefits to the NSW community as whole, including economic, environmental and social costs and benefits that are not necessarily reflected in market prices such as environmental values.

Financial analysis is cash flow analysis that considers financial impacts that relate to particular entity or group, and does not include non-market values such as environmental costs and benefits.

Distributional analysis assesses the impacts of an investment or change on different groups. This is important analysis, but was outside the scope of our study, other than some initial analysis of current employment in the native forest sector and alternative employment sources.

Other concepts that are important in understanding the difference between CBA, financial analysis and distribution analysis are the following:

- In CBA, costs and benefits are valued with reference to opportunity cost (resources are priced at their value against their best alternative use, which may be above or below the actual cost of production) and willingness to pay (outputs are valued at what consumers are willing to pay for them). These concepts of economic value can be different to accounting based values.
- CBA compares the incremental costs and benefits to society associated with a change from the status quo. Financial transfers between one part of the economy to another (e.g. due to distributional impacts or subsidies, payments or taxes) do not result in a change to overall costs and benefits and hence are not included in CBA.

Dr Venn's inappropriate recommendations for modifications to the CBA

Dr Venn makes a number of suggestions for modifications or inclusions in the CBA that would violate accepted CBA methodology and would mean that our analysis was no longer compliant with the NSW Treasury guidelines for CBA.[6] Some of these suggestions would be relevant if we had undertaken financial or distributional analysis, but not to CBA.

These include the following.

6 NSW Treasury 2017, *NSW Government Guide to Cost-Benefit Analysis*, TPP17-03, March. Available here.

Ignore the economic value of carbon abatement

Dr Venn (p. 1) appears to criticise the fact that our analysis uses an economic value of carbon abatement rather than a financial one, noting that:

> *Currently there is no legal basis for carbon trading in Australia's production and conservation native forests. Therefore, the carbon values do not represent financial flows to government or southern New South Wales communities. They represent an estimate of the economic benefits....*

Precisely because we have done a CBA, we have estimated an economic value associated with the carbon abatement arising from no longer logging native forests in the Southern and Eden RFA areas. Observed market prices are a reasonable proxy for the economic value of abatement, and we included sensitivity analysis that tested the sensitivity of the CBA to the assumed carbon cost. Even using a very conservative carbon cost of $\$20/tCO_2$ in our central case, which is well below the cost recommended by NSW Treasury (of $\$85/tCO_2$) and by Transport for NSW (of $\$65/tCO_2$) for use in CBAs[7], and is also below the current spot price of Australian Carbon Credit Units (ACCUs) (just over $30 in September 2022[8]), the analysis still shows net benefits from stopping native logging.

Also, if the implication of Dr Venn's comment is that the carbon abatement value should be excluded from the analysis, this would leave our study open to significant criticism that it had ignored a key economic benefit of stopping native forest logging.

Do not use net present value

Dr Venn (p.2) criticises the CBA for using NPV analysis:

> *Condensing the analysis into a NPV hid the enormity of these differences, and the extent to which sequestered carbon is relied on for the mountain bike recreation and strict conservation scenario to surpass forestry.*

Comparing cost and benefit streams that are incurred over time in present value terms is a foundational element of CBA methodology. Because a dollar's future consumption is usually valued less than a dollar's consumption today, future costs and benefits are discounted to a 'present value'. The key test of a beneficial project is that the present value of benefits exceeds the present value of costs.

Any move away from this approach would be in breach of the NSW Treasury guidelines for CBA and accepted, best practice CBA approaches.

It is also not credible to claim that we hid any differences in the size of estimated costs and benefits. These are clearly laid out in the report, and have been readily observed by Dr Venn.

Difference in scale of projects

Dr Venn's claims that:

[7] Transport for NSW 2022, *Transport for NSW Economic Parameter Values*, August, p. 42. Available here. This document recommends economic parameter values for common benefits and costs in transport economic appraisals.

[8] Clean Energy Regulator 2022, *Quarterly Carbon Market Report September Quarter 2022*. Available here.

> *Best practice in cost-benefit analysis for situations where evaluated projects differ enormously in scale was not followed by Frontier Economics and Macintosh (2021).* (p. 1)
>
> *The net present value (NPV) and benefit to cost ratio (B/C) investment criteria need to be interpreted cautiously when there are large differences in the scales of projects being evaluated (Boardman et al., 2018). In these cases, other information should be presented to support decision-making by highlighting the enormity of the scale differences.* (p. 2)

We find the following errors with Dr Venn's statements:

- Dr Venn has incorrectly reported Boardman et al., 2018[9]
- Our study follows the approach that is recommended in Boardman et al, 2018, based on a correct reading of this reference, and
- Our study follows best practice CBA and is compliant with the NSW Government CBA guidelines.

It is not against 'best practice' to evaluate projects of different scale or to include benefits and costs of different scale within a CBA. Boardman et al., 2018 do not assert this (see quotes relating to scale issues from this text in **Box 1)**. Rather they observe that when the projects under consideration are of different scale, benefit-cost ratios can be misleading and hence it is better to rely on the net benefit measures.

This advice is particularly important when a number of alternative options are being compared. It is less relevant to our study which only considers one option relative to the status quo. Regardless, consistent with the recommended approach in Boardman et al., 2018, we have considered and reported the net benefit which indicates that ceasing native forest logging in the Southern and Eden forest regions of NSW would be net beneficial.

[9] Boardman, A. et al 2018, *Cost–benefit analysis: concepts and practice*, Fifth Edition.

Box 1: Boardman et al., 2018 re scale issues

While the NPV criterion results in a more efficient allocation of resources, it does not necessarily recommend the most efficient allocation of resources because the most efficient alternative might not have been actually considered by the analyst or might not have been feasible because of budget constraints, political concerns, or other reasons. (p. 15)

Note that project B, which offers the largest net benefits, does not have the largest ratio of benefits to costs. Project A has a benefit–cost ratio of 10, while project B has a benefit–cost ratio of only 3. Nevertheless, project B should be selected because it offers larger net benefits than project A. This comparison shows how the benefit–cost ratio can sometimes confuse the choice process when the projects under consideration are of different scale (that is, project B involves substantially higher costs than project A). (p. 35)

Furthermore, the benefit–cost ratio is sensitive to whether negative WTP (willingness to accept) amounts are subtracted from benefits or added to costs. (p. 35)

For these reasons, we recommend that analysts avoid using benefit–cost ratios to rank policies and rely instead on net benefits. (p. 35)

Source: Boardman, A. et al 2018, Cost–benefit analysis: concepts and practice, Fifth Edition

There is no suggestion in Boardman et al that assessing projects of different scale is against best practice, and the assertion that comparing options of different scale in CBA is not appropriate would suggests that the bulk of the CBAs undertaken in real world settings (such as to compare infrastructure or policy interventions) is also against best practice. This is not credible.

Include transfers

Dr Venn incorrectly recommends that we should include transfers in the CBA such as compensations payments from government to the native forestry sector. This would not accord with best practice CBA.

Study scope

Dr Venn is critical that the study excludes costs and benefits accruing in Victoria. Our report is clear that the scope of our CBA is the costs and benefits that accrue to NSW as this is what will be the material concern of NSW policy makers.