Submission by the Forest Industries Association of Tasmania

to the

Green Building Council

in respect of

Life Cycle Assessment in Green Star

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Preamble

The Forest Industries Association of Tasmania (FIAT) thanks the Green Building Council of Australia (GBCA) for the opportunity to comment on the inclusion of life cycle assessment (LCA) into the Green Star building rating scheme.

The Forest Industries Association of Tasmania (FIAT) is an industry association formed in 1983 to represent the interests of growers and processors of Tasmanian forest products. FIAT was formed out of a predecessor Association, the Tasmanian Timber Association. FIAT and TTA collectively have provided representational services to the Tasmanian timber industry for in excess of 60 years. Our members' activities are diverse and include:

- the production of veneers, hardwood and softwood timber, pulp and paper
- woodchip production and export
- plantation and native forest establishment and management.

FIAT members are all committed to sustainable forest management and the manufacture of high quality timber products.

Introduction

FIAT thanks the GBCA for extending the period of consultation; the extension has allowed us to make meaningful comment. The importance of genuine consultation with stakeholders, industry experts and professional life cycle organisations such as the Australian Life Cycle Assessment Organisations (ALCAS) in the development of Life Cycle Assessment methodology can not be overemphasised. FIAT encourages the GBCA to continue on in the spirit of thorough stakeholder consultation with which it has started.

FIAT has not commented on every question in the discussion paper, we have only commented on those questions where we believe our opinion could be of value to the GBCA. The answers to questions are provided under the headings as they appear in the discussion paper.

Answers to Questions

Provide Your Feedback

Is it appropriate for the GBCA to undertake this project or would any other organisation be better placed to do it?
The GBCA as a leader in setting standards for the environmental performance of buildings is well placed to be adopting a life cycle analysis methodology. In the development of this methodology it is essential the GBCA consults consistently and thoroughly with expert panels and stakeholders to ensure the finished methodology is of good quality and enjoys strong support by stakeholders.

Is the Austrlian market ready for LCA as a tool for assessing the environmental impact of materials? If no, in how many yeas time do you think the market would be ready.
The Australian market has shown that it is willing to adopt measures to improve the environmental sustainability of buildings and adopting LCA is in line with this, however it would be worth considering the parlous state of the construction industry in many States, and the extra cost impost taking a LCA approach would add. To help business compile data and get on board the GBCA could have a long lead in time of at least two if not three years before requiring compulsory LCA of materials.

Objectives

Facilitate the use of ISO 14025, Environmental Product Declaration (EPD) for materials assessment in Australia.

FIAT understands that you can have a LCA methodology without requiring EPDs for products. FIAT believes that for industry at the moment the cost of developing EPDs is too great, and we recommend that the GBCA holds off on this component until the LCA methodology is up and running.

Methodology

Is the use of a 'cradle to constructed, sealed and serviced' building approach appropriate?

Convention in LCA methodologies is to either focus on cradle to gate, or cradle to grave. FIAT is supportive of the GBCA taking a stepped approach but believes it would be more appropriate to stick with the conventional 'cradle to gate' split, this will allow product manufacturers to be able to supply standard useful information to customers, as opposed to each project requiring a unique set of figures, and would be a simpler first step.

Is it appropriate to limit the number of Environmental Categories to Six?

Given the Australian Building Products Life Cycle Inventory (BPIC) has fourteen categories picking six to go forward with seems rather arbitrary. FIAT understands that not all the data sets in the BPIC inventory are equal and that: 2.Land transformation and use, and 5. Water depletion, are particularly poor and outdated metrics. The GBCA should use all of the categories or "cherry pick" the high quality data sets as advised by industry experts or the team from AUS LCI.

If fewer categories are to be included which categories do you recommend be removed?

FIAT recommends removing the categories 'land transformation and use' and 'water depletion', it is known that these are poor metrics, and they do not accurately reflect the environmental impacts on water or biodiversity of growing and harvesting timber.

Land Transformation and Use measures land transformed as an indicator of 'environmental damage'. Paradoxically in forestry the greater the area of land you utilise per m3 of timber produced the smaller your actual environmental impact. This is because you are removing fewer trees per hectare which means more forest remains, and therefore less transformation of the landscape. Consider photo one below.

Photo one: A selective harvesting operation in dry eucalypt forest in central Tasmania.

Photo one shows a recently harvested forestry coupe in dry eucalypt forest in the central highlands of Tasmania. As you can see, the site retains its full complement of plant species and its ecosystem functions have been maintained. In Tasmania 70% of all forestry operations fall into the category of partial or selective logging.

The assumption that transformation necessarily equates to degradation is also wrong in the context of Australian forestry. The existence of government regulation and also voluntary certification schemes such as the Australian Forest Certification scheme and the Forest Stewardship Council which focus on maintaining the health and vitality of forest ecosystems including the flora and fauna, and anthropological values mean that even when a forestry operation or 'transformation' occurs there is no environmental damage.

Consider photo 2, although in the short term some forestry operations such as clearfell burn and sow silviculture can appear confronting and damaging to the environment when you consider the entire rotation of a coupe you can see that foresters manage the forests wisely to maintain all their values in perpetuity.

Photo two: A Tasmanian wet eucalypt forest regenerated using clearfell burn and sow silviculture.

Maintaining all the values of forests for eternity is the essence of sustainable forestry, which is practiced throughout Australia. This means that although you harvest some forest every year, bringing it back to age 0, much more of your forest is left to grow, so that over the entire forest estate you are always able to maintain the same distribution and area of trees in each age class. There will always be

some forest greater than 100 years old, just as there will always be some less than 20 years old.

The ‘Land Transformation and Use’ metric does not pick up the complexities of current day sustainable forestry practices, and if applied would create perverse outcomes for forest and wood products. If the GBCA feels it necessary to include this metric it would be reasonable to begin the assessment for forest and wood products from the first processing point.

Water depletion measures the use of water from all water sources, and presumably the more water used the worse the product score under this category.

Although in many States and regions of Australia the use of water is a sensitive issue, here in Tasmania and also up North in Darwin water shortages are not an issue, so ‘water use’ loses much of its significance as an environmental impact. It would be reasonable if products sourced from areas with an excess of water were not subjected to this impact category.

Trees provide many important water related ecosystem services.

By slowing the rate of water infiltration into the soil, and intercepting much rainfall in their canopies, they ‘slow down’ the movement of the water which:

- Allows plants to absorb more nutrients, resulting in less eutrophication of out waterways.
- Results in less soil erosion.
- Provides a buffer against ‘peak flows’ downstream, which in turn means lower floodwaters and less erosion of stream banks.

Through transpiration trees;

- Release ‘clean’ water into the sky to fall as rain.
- Act as natural air-conditioners, cooling our planets air.

Equally there are many instances where trees have been planted for specific environmental benefits due to their transpiration capacity; examples include areas with high water tables and salinity issues. In this scenario the ‘water depletion’ category would disadvantage a product creating a genuinely positive water related environmental outcome.

Trees act like pumps pulling water out of the ground and releasing it into the sky, generally the more water available the more water a tree will transpire. Not surprisingly in Australia our most productive forests, in particular those grown for solid wood products and not just for fibre, grow in areas where there is plenty of water. Under this ‘water depletion’ category timber produced from these trees would be at a disadvantage when we can see that trees taking their natural place in the water cycle is actually of a great environmental benefit.

If the GBCA feels it necessary to include the ‘water depletion’ category, FIAT recommends for forest and wood products that ‘water depletion’ is only measured

from the point of primary processing onwards, and should not take into account the growing of the tree.

Is it appropriate to reference the BC LCI weightings? If not, what should be used instead?
BPIC themselves recognise that the weightings given to their LCI categories are controversial, FIAT believes it would be best not to adopt these weightings. Instead the GBCA could use a figure to denote how many of the categories are above the level set by the reference building, so the figures would be whole number from one to six. i.e. 1, would mean only one of the LCA criteria is better than the reference building, a score of 6 would mean the building in question performs better than the reference building in all six LCA categories.

Is it appropriate to have separate credits for each of the environmental categories or should the total score be weighed together and assessed in one credit?
It is appropriate to have separate credits for each environmental category, this allows building professionals more data rich information when comparing the performance of building design. It also gives designers more flexibility to adapt to the location of the building, for example if they are in Tasmania the water depletion category may not be as important to them as the ecotoxicity to land and water category. By using the method described in the previous answer of rating performance based on how many categories are better than average then you could both keep the rich information and simplify this information into one score for GBCA building rating processes.

The Assessment Model

Is it appropriate to nominate ISO 14025 as the reporting mechanism?
In the absence of an Australian standard it is appropriate to use ISO 14025.

Is percentage reduction in impact an appropriate way to award points for improvement?
FIAT considers that giving a point for any category in which a building performs better than the reference case would be a reasonable and uncomplicated way to manage points. The maximum number of points would be limited by the number of LCA categories.

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Other Matters for Discussion

Questions regarding software.
FIAT believes it is important for the GBCA to endorse the use of particular LCA software packages. FIAT believes the best way to achieve this endorsement would be for software companies to apply to the GBCA and for the GBCA to put their applications out for stakeholder comment and also for the GBCA to seek expert opinion on the software packages from organisations such as ALCAS.

What other requirements are necessary to endure best practice LCA modelling?
FIAT believes it is important for the GBCA to consider waste factors in LCA. The volume of materials required in the construction of comparable structures may well be the difference between one performing better than the other in a LCA. If a building site could demonstrate a very low rate of waste through innovative building practices this could be rewarded through a lower waste factor which would improve their buildings LCA performance under green star, and would be a win for the environment.

The Australian forest industry is largely third party certified, a demonstration of our commitment to best practice forestry and our high environmental standards. FIAT believe the GBCA is uniquely positioned to encourage the development and uptake of third party certification systems for other industries to ensure that in the manufacture of their products they are following best practice and hold equally high environmental standards.

CONCLUSION

FIAT thanks the GBCA for the opportunity to make comment on the development of an LCA methodology and asks that the GBCA continues to consult widely throughout the entire development process.

While industry is supportive of the sentiment behind reducing the environmental impact of buildings the timber industry in particular is facing a difficult period, the more time made available for industry to resource the human and financial capital required to develop LCA for our products, and the simpler the GBCA can make the initial process the easier it would be for our industry to participate.

FIAT is concerned that the ‘land transformation’ and ‘water depletion’ environmental impact categories chosen will actually have perverse outcomes when applied to forest and wood products. The land transformation category favours land use with a small footprint but a high impact, which is not

environmentally desirable; and the ‘water depletion’ category penalises forest trees for the very important ecosystem services they provide.

We hope you find our comments helpful.

For further information please contact the Forest Industries Association of Tasmania. The lead author of this submission was Petra Strich.