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About The Timber Development Association

The Timber Development Association of New South Wales (TDA) is an industry funded association representing all segments of the timber industry, from manufacture to supply. For over 77 years, the TDA has effectively promoted the educated use of timber and timber related products.

The TDA was incorporated in October, 1938. Its original mission was to promote the use and sale of timber of all kinds, whether native to Australia or imported from abroad. It was also mandated to promote the interests of all persons, firms or companies in Australia involved with timber or wood technology, or engaged in forestry.

The TDA mission has evolved considerably over the years. The TDA now concentrates on the technical advancement of the timber industry in the building sector.

Introduction

The issues that face the Australian timber industry can be best summarised by the choice of building images used by the Forest Industry Advisory Council; A Strategic Direction Issues Paper. The two buildings NSW's Netball Central (page 12) and the Library at the Dock Centre (page 28) are predominately made from imported timber products as well as the buildings where both fabricated overseas. The only Australian wood components were some decorative coverings flooring, decking and cladding, with even some of these Australian products being from a recycled timber source.

The buildings we feature as representative examples are not manufactured here or use many Australia forest products

Forest and Wood Products Australia (FWPA) research on consumer attitudes shows that consumers (end users) like timber products. In fact two and half times more favourable compared to major product competition steel and concrete.

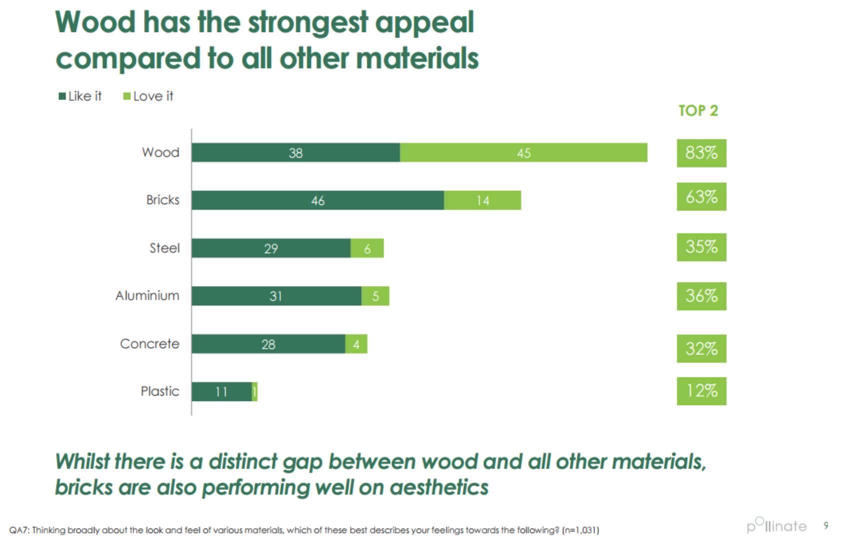

Figure 1: Material with the greatest Appeal[1]

[1] WOOD. NATURALLY BETTER. Media Advertising & Consumer Research 6th June 2014 by Pollinate

Timber use is the most favoured of all materials by the general public hence there will be demand for timber irrespective where it comes from

Consequently there is no problem in consumers wanting timber and wood product, in fact it is favoured.

Question for Consideration

As TDA is predominately focussed on the market end of products used in the building sector, this submission will be based on this. Also not all questions have been answered, only the questions that felt appropriate for TDA to answer.

Vision and Objectives

Question 1: What should the vision be for the forest products sector in the coming decades?

To become the most economical viable and sustainable (building) product for consumers.

Issue 1: Market Trends and Pressures

Question 3: What forest products does Australia have a local and/or international competitive advantage in producing?

None. Our common species radiata is readily available in other southern hemisphere marketplaces. Our indigenous hardwoods are also grown elsewhere and are not competitive to them.

Furthermore the long-time barrier of Australia being an island, is no longer a barrier. Timber and wood products come from all parts of the globe and in many cases are cheaper. Moreover prefinished systems in components is less of a problem as seen with examples of whole buildings from Europe being "flat packed" to Australia i.e. Forte; 10 storey apartment building, Library at the Dock Community Centre and NSW Netball Central stadium, the last two featured in the FIAC publication. Furthermore, timber housing being built elsewhere other than Australia is becoming more possible, seen with panelised systems being manufactured in Asia.

Size of volume of timber components is no longer a barrier to imports

Question 4. What is the potential demand for forest products in the coming decades?

The outlook of wood and forest product use in Australia is great, but we are not convinced that they will be Australian sourced or fabricated. As stated throughout this submission, markets for timber and wood products are changing. Some in the delivery of the products i.e. the supply chain and others are in demand in new territory for timber and wood products.

Potentially there is an increase in demand for timber and wood products in the coming decades as seen in the previous decades. The key driver here is population growth. The issue facing Australia is will the fibre to be used be grown here.

Demand for forest products in the coming decades is good, it's just a matter will it be sourced in Australia

Traditional Markets

Traditional markets such as timber for housing is changing in two ways, demand is less due to single family building demand being lower and secondly how they are supplied.

Housing Starts

A vast amount of timber products are utilised in the single family construction markets. Long term trend data (30 years) from ABS indicates that single family housing is declining in favour of multi-family housing, refer Chart 1 below. As well, the type of multi-family housing is predominately in mid to high rise construction. In fact, the growth of this sector has increased 2.5 times in the last 5 years. Australian timber products are presently not suited to this market segment.

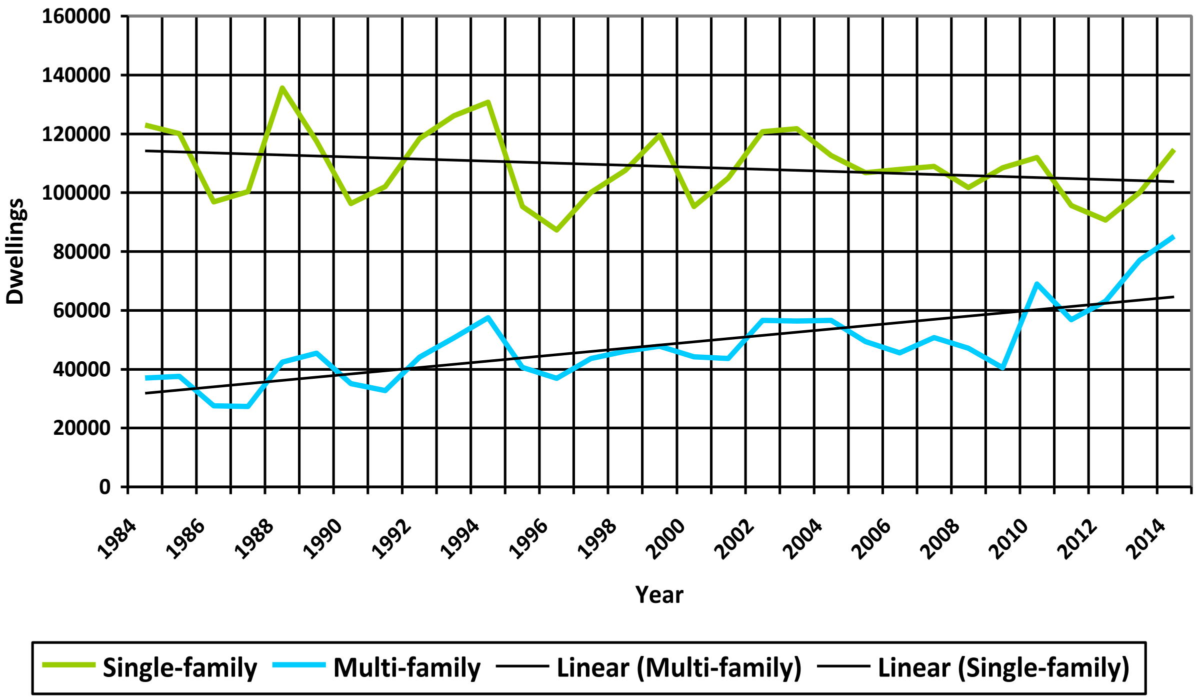

Chart 1: Australia's attached versus detached approvals since 1992. Source: ABS

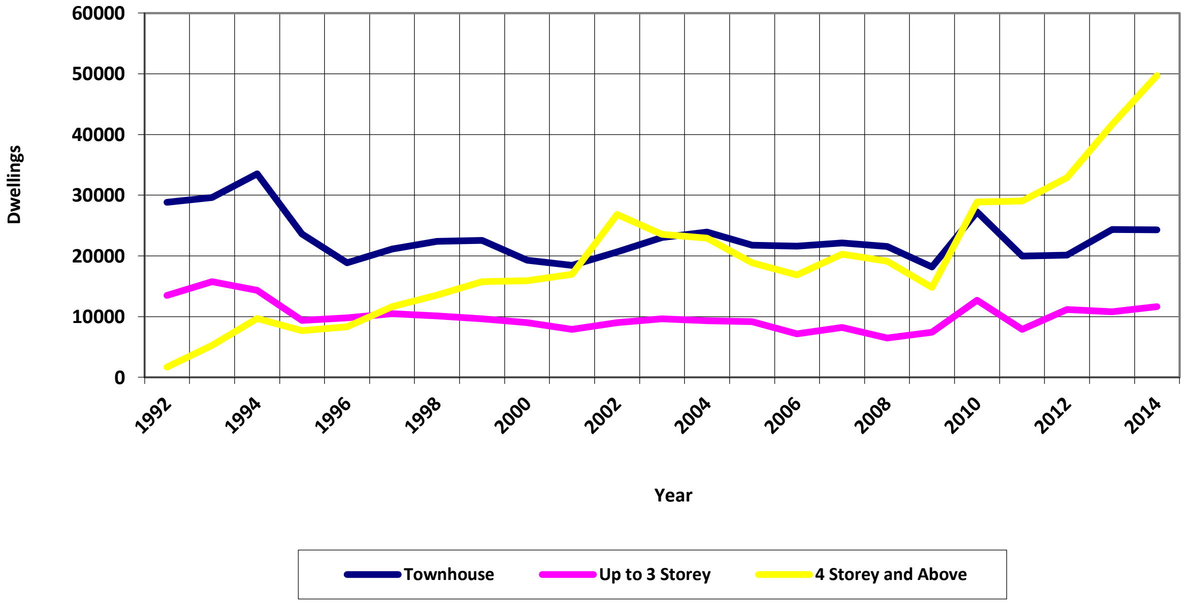

Chart 2: Australia's multi-residential market break-up since 1992. Source: ABS

Long term trends indicate a decrease demand for single family housing

The method of delivery of timber products to the housing sector is also changing, seen with the recent commencement of CSR's Velocity housing factory, and the Japanese builders in the Australian marketplace, such as Sekisui House with Shawood, Ichijo Homes and others.

Question 5: How can Australia best position itself for this demand, both nationally and internationally?

There are excellent opportunities to supply both technical knowledge and timber and wood products to Asia. At our door step we have a very large population base. An understanding of this market could be critical for future growth. Due to the Japanese government *pro wood* policies, it has been reported that demand for CLT products in Japan is likely be equivalent to current total world production.

Question 6. What are the other drivers or disruptions that will potentially affect supply and/or demand?

The following discuss the treats and change in the market for common timber products in the housing (detached) market.

Steel House Framing Growth

There is evidently more and more steel framing being used for housing. A number of issues are presently combining together which is seeing a growth in steel framing market share and the result is a loss of traditional timber house builders to steel. Some of these drivers are:

Frame Software

Timber framing systems have had an advantage over steel framing in that timber framing is readily accepted by certifiers without an independent (engineer) providing this. Steel framing requires an engineer's certification whilst timber frame suppliers use the nail plate companies' software certification or Australian Standard AS1684. The steel industry is catching up in this area with techniques that are similar to the timber frame market segment. This will result in that steel framing and timber framing will be a similar products with a much narrowed the price gap.

Now add extra cost to builder for the frame straightening and termite protection then the steel framing is now becoming very competitive.

NASH's Bushfire Standard

The 2015 National Construction Code (BCA) has referenced NASH's industry Standard Steel Framed Construction in Bushfire Areas. It gives two solutions, one covering lower BAL's (BAL-12.5, BAL-19, BAL-29 and BAL-40) and a separate solution for flame zone (BAL-FZ). The roofing must be steel cladding and the external wall cladding may be constructed from masonry, steel or non-combustible material e.g. fibre cement. All framing must be steel and combustible items must not be used in the roof space and wall cavities. Doors and windows must meet the requirements of AS 3959 for the appropriate BAL.

The solution for the lower BAL's is broadly similar to current industry practice. Roof sarking is not required and precise gap control on the building exterior to exclude embers is not required with the NASH's solution.

The flame zone roof solution (BAL-FZ) requires a layer of reflective foil backed glass wool insulation blanket be installed under the roof sheeting, entirely different to the timber solution. The external walls may be masonry veneer or steel cladding. When steel cladding is used, a plasterboard thermal barrier must be attached to the wall studs to provide additional protection.

The net effect of the NASH's industry standard is that compliance to it for Bushfire construction will be substantially cheaper than for timber construction, irrespective if no timber elements are used on the outside of the building. In states such as Victoria, the NASH standard will likely bias construction to steel framing as 85% for the state is considered bushfire prone areas or expressing it in another way, almost 100% of all new construction is within bushfire prone area.

Straightness of Timber Studs

As the cost difference between steel and timber narrows the additional cost of straightening timber studs prior to wall sheeting, as well as call backs due to timber distortion after occupation, has seen some builders prefer steel framing. In some cases where timber is still used, there is a preference of imported timber as they are less prone to distortion when compared to Australian grown timber.

Timber Frame and Truss (F&T) Suppliers

Due to many years of low housing starts F&T capacity has reduced. With the return in housing recently, current timber F&T are not able to supply housing at the rate required. This supply issue is likely to see greater share of housing go to steel framing and stay there.

Recent developments have seen some F&T companies running both timber and steel framing option and occasionally use a combination of either in the house design. The benefit is the ability to provide the most cost competitive house framing component, either in timber or steel system, providing price advantage over suppliers dealing in one material only.

Timber industries main market - timber framing for housing, is reducing from decline in the single family demand as well as from competition.

Do we really know what our consumers want?

Although some reasons are given above, it is not entirely clear what the specific drivers are truly affecting the decisions of builders in material purchases. A better understanding of drivers would help in recommending activity to lessen competitor's penetration of into the housing market.

Recommendation

There is a need to better understand our consumers' <u>specific</u> needs in the future and work to provide them these solutions so that sales in current timber products continue.

Issue 2: Emerging uses and markets

Question 7. Which emerging forest products have the greatest potential for Australia?

The greatest increase in forest product use recently is in the commercial building markets. Interest from the commercial building sector has not been this high, only surpassed in the early 1900 century where there was no alternatives to forest products. The type of forest product is one that allows faster, safer and cheaper ways to build. At this stage what that product mix will be is just emerging but more investigation is needed to understand this market and the potential for timber and wood products.

Recommendation

Greater understanding of the market's needs is required and then match this need with products. This will also need a willingness to go beyond current product mix.

Also looking toward the United Kingdom market is a good insight on what the Australian market place could be like in the next decade. With UK population nearing three times that of Australia, their single family housing starts are a similar size, or less than Australia. They also do not produce much timber, other than from Scotland, and predominately are an import country. But they are also a good user of timber and wood products.

United Kingdom could be a role model of what Australia's timber product market may look like in the next decade

Question 8. What are some of the barriers to the development and/or uptake of these emerging forest products in Australia?

Supply Chain

The industry itself. Much of the industry is focussed on supply to domestic markets and we are very good in this market. The same supply chain does not work in the commercial building sector, meaning timber and wood product sales are being missed out on.

Timber product that can work in commercial sector need to be system based and supplied on the same terms as other non-wood product to the market segment. This includes support and system certification to Codes and Standards.

Timber product use in commercial building sector needs a different supply chain model

Research Capacity

The ability to react to opportunities or threats in the market place is seriously hampered due to the grave shrinkage in research capacity over the past few decades. Australia does not presently have the capacity to provide the research needs of the industry. Continuing this trend will see greater dependency on other nation's research, reducing Australia's ability to progress the industry sector on its own.

Technical Support

Like the reduction capacity in research discussed above there is also a parallel reduction in the industry to funding extension programs and technical support at a satisfactory level to capture all of the market opportunities. The ability to take advantage of emerging timber and wood products or markets will again be limited.

Education

Parallel to research and technical support there is a lack of qualified professions capable of timber design going forward. Without qualified architects, engineers (fire and structural) there will be significant hampering to the adoption of timber outside traditional residential work.

Question 9. What opportunities exist to better utilise wood resources?

Growth in wood composites and wood modification are the best market opportunity for wood resource, particularly underutilised pulp plantation. This issue is not unique to Australia and exploration of other markets to see what is working or not, is recommended. Wood composites and modified wood need not to be seen as competition to sawn timber but subset products utilising fall down material.

Issue 4: Innovation, research and development

Question 13. What are the future research and development needs for Australia's forest products sector, and which of these needs are specific to strengths and opportunities in the Australian context?

There are many and some are listed below:

1. **Understand the Industries customer**

Understanding what customers' needs, to preference forest products is critical. Too much effort is placed on production without understanding the markets actual needs. This is highlighted in the housing and commercial building sector where understanding of the customers' needs is poor.

2. **Future Proof the Timber Frame Housing Product**

Research is required to understand the changing markets needs in the housing sector with a focus for it withstand competition for the next 20 years. The timber frame system used in housing has remained the same for many decades with the last major review undertaken in mid-1990's i.e. since the current house design standard (AS1684 Residential Timber Framed Construction) was last reviewed. With changing supply chain and need for more affordable housing, it is recommended that timber framing be looked at to meet these challenges.

3. **Wood composites and modified wood**

With the world growth in residue availability, there is a great opportunity to exploit this market. Radiata pine has unique properties that are an opportunity for this sector. An example of Radiata pine's unique properties is the use in acetylated treated timber.

4. **Commercial Building Sector**

This does not mean research into CLT as stated above but understanding what the sector needs and matching the need with products will assist the industry the greatest. In simple terms it is the growth in demand for off-site manufactured building systems that is the growing area. Timber is well suited to this sector due to its light weight and ability to be easily machined. Once an understanding of the customers' needs is found, commercial forces will take over.

14. What are the current inhibitors to private sector investment in research, development and extension and what role, if any, does the Australian Government potentially have in addressing these?

Understanding of the market needs is limiting investment.

15. How can the framework for coordinating Australian forestry research and development be strengthened?

Greater networking with other likeminded bodies globally will assist Australia. For example, greater involvement of researchers and industry with Europe's "Cost Action" on various timber and wood (bio based) products initiatives would see greater understanding of other markets activity and opportunities for Australia.

More communication with like bodies on all levels will increase knowledge

Issue 5: Consumer and community engagement

16. How can domestic and international consumers be better engaged on the environmental, economic and social credentials of Australian forest products?

Oddly timber and wood product use in Europe equals sustainability but unfortunately this can't be said for all in Australia timber products following years of battles with green movements that has tarnished wood's image.

Therefore one step to assist consumer engagement is to adopt what others have been doing in the International markets and have a "*pro wood use*" policy. Markets that have these policies, listed below, have seen the greatest growth in timber and wood product use in recent times.

Examples of 'Wood First' policies[2] include countries such as Canada, France, Finland, New Zealand, Slovenia and the UK. In these countries they are now starting to see growth in timber and wood product use wood in building which can be beneficial on a number of levels and have introduced policies to encourage the amount of wood in buildings:

Country pro-wood policies

Japan

The Japanese national government introduced a Wood First Law in 2011. This law requires wood to be considered as the primary building material for any government funded building up to 3 storeys high, and for any privately funded buildings used in a public manner, such as elderly care facilities and hospitals.

Local governments are responsible for developing and implementing the law according to national policy, however adjustments are allowed according to various socioeconomic conditions in their areas.

France

The French government has issued a decree that will require new public buildings to have at least 0.2 of a cubic metre of wood building materials for every 1 square metre of occupancy.

Finland

Since 2004 the Finnish government has put in place land use planning incentives to encourage the increased use of wood in small house construction.

Netherlands

In the Netherlands new legislation will make it compulsory to provide environmental impact information for all new buildings. This will largely benefit wood building materials due to their significantly smaller environmental impact.

Province Based Policies

Latrobe City Council, Victoria, Australia

Latrobe City Council is the first in Australia to adopt a wood encouragement policy. It aims to promote the use of wood as the preferred material in both the construction and fit out of Council buildings and infrastructure.

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[2] Source: Planet Ark Makeit Wood Campaign http://makeitwood.org/made-from-wood/public-buildings.cfm

Rotorua District Council, New Zealand

Rotorua District Council has implemented a wood first policy which mandates the use of wood for all public buildings in the area and encourages all others to think about using wood as an option for construction.

British Columbia, Canada

Since October 2009, all newly constructed publicly funded buildings in British Columbia, Canada such as schools, libraries or sports complexes, must consider wood as the primary building material.

Quebec, Canada

In 2009 the Quebec provincial government established a policy to encourage environmental performance and the use of wood. Under this policy, construction project proposals that use wood instead of other materials and fall within 5% of the cost of other proposals will be considered the same.

Ontario, Canada

Ontario introduced a Wood First Act in April 2012. The Act aims to facilitate a culture of wood by requiring the use of wood as the primary building material in the construction of provincially funded buildings. The Act also increased the maximum allowed height for a wood framed construction from 4 storeys to 6 storeys.

Hackney Council, UK

Hackney Council is undertaking research on the appropriate use of sustainable construction materials in the Borough which includes sustainably-sourced timber and other materials such as concrete and steel to reduce carbon emissions in the building's full life cycle.

In these regions there is no doubt that more wood structures have occurred. Its early days for the only Australian example but policy that allows timber structure will encourage more wood use.

The policy may not necessarily be directly wood bias to be successful. A method to make it fair to all materials is to reward buildings that are sustainable. Furthermore actions man not necessarily be mandatory or financial, as incentives in many cases working better. Incentives could be related to planning relaxations which recognise sustainable objectives or just government purchasing policies.

Government policies that reward sustainable buildings may create greater demand of timber and wood products.

17. How important are consumer awareness programs to the future prosperity of the sector?

Imperative but it can not be the only engagement program. In many cases a combined effort of awareness overlaid with push for industry result in growth in market share. One without the other is prone to failure.

Consumer awareness programs require support in the market place as well

18. Can forest certification be better leveraged to achieve stronger demand and better prices for Australian forest products and, if so, how?

The short answer is that better prices for Australian forest products is not currently possible as Forestry certification has become a part of doing business in the Australia and the world. But this may not necessarily be, as there no doubt growth in demand for wood from lower risk regions into world markets. If Australian certification can match the success of how Australian meat is regarded highly worldwide then there could be an opportunity to find better prices for Australian certified timber.

Market Australian certified timber as a safe source of sustainable timber

Conclusion

Forest and wood product use in Australia is looking positive but the issue is that significant future growth for wood in Australian building markets is unlikely to be met by wood products grown or manufactured in Australia. Australia has a rich history of using Australian and imported timbers to meet our needs.

A much better understanding of the customers' specific needs for specific products is required to understand what timber and wood products are required in the future – Australian and imported.

Government policies that encourage and reward more sustainable design and procurement may assist greater timber and wood product use.