Industry Study - Environmental & Sociological Issues

Environmental and social issues are increasingly something that businesses in the Timber Products & Furniture Technologies need to consider as legislation is developed and the media and other social groups question how businesses operate.

Resources

The TP&FT obviously uses a large amount of solid timber and timber products. This causes problems with deforestation. Deforestation reduces photosynthesis and the air purification capacity. One solution for this is to use alternative resources such as plantation timbers like Radiata Pine. Radiata Pine provides the raw material for most manufactured boards and the solid timber generally used in drawer construction and framing for mass produced items of furniture.

Alternative resources: Power, Processes; Materials; Limitations

Alternative resources in the areas of power and processes need to be addressed by businesses. Processes that draw significant amounts of energy consumption need to be modified so less power is used. This may mean that new equipment is purchased or a whole manufacturing process is overhauled to increase efficiency and cost less.

Alternative resources such as materials can be considered when designing and manufacturing a timber or furniture product. Polymers, metals or glass may be used in place of a timber product, however, the 2003 Review of the Environmental Impact of Wood Compared with Alternative Products Used in the Production of Furniture suggests that it may actually be detrimental to the environment if materials are used in the place of timber when manufacturing furniture.

Recycling & reusing

Recycling materials benefits a business not only in a financial sense, but also by boosting public image. Companies can promote the fact that they use recycled materials or help the environment by implementing an in house recycling program. Recycling materials can also help recover costs from what would otherwise have been waste products. Businesses may look at

developing a recycling program including aspects of the 3 R's: reduce, reuse and recycle.

Not all materials are able to be recycled or reused. For example it is difficult to recycle manufactured boards in a cost effective way. Chemicals such as thinners may become contaminated and be unable to be recycled or reused and so they need to be disposed of in the appropriate manner. Some of this information may be found in the Materials Safety Data Sheet (MSDS) for each specific material.

Waste management & minimisation

Waste Management is not simply the disposal of rubbish. It is a system that involves the following steps: Monitoring, Collection, Transportation, Processing, Disposal / Recycle. This process deals with the disposal or recycling of products that have been used in the manufacturing process and have been left over. Each material must be dealt with in the correct manner. Instructions for the disposal of materials can usually be found on the (MSDS) that accompanies the material upon delivery.

Through an effective evaluation of a production process, efficiency can be improved. This increased efficiency will usually include some form of waste reduction process. This in turn, assists a business become more profitable because they are minimising the amount of material that they have paid for and are wasting or not using.

Pollution

The air quality of the environment is very important because we need to breathe the air around us. Sanding timber products produces dust and finishes produce airborne fumes. Without proper filtration systems in place these pollutants find their way into the nose, throat and lungs of the people in the vicinity of the airborne particles. There are usually legislative, local council regulations and building codes relating to the placement and orientation of vents in buildings that allow these airborne particles to escape from the factory.

Noise pollution is a large problem when machinery and power tools are used, especially if they are used on a continuous basis. Continuous noise above a certain level can cause permanent hearing damage. Sound proofing walls can help to protect people outside of the workshop but people inside

must take precautions such as wearing the correct Personal Protective Equipment (PPE).

Sustainable development
'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.' From the Brundtland Report "*Our Common Future"*

Rehabilitation of commercial sites
This involves repairing and damages that have been done to a site through the use of industrial processes. It may include the demolition of a building and replacing it with a small nature reserve or restoring a valuable building so that it may serve a purpose other than that which industry has used it for.

Legislative requirements: Local; State; Federal
Legislative requirements come from different levels of government. They involve laws and regulations that must be complied with at a local, State and Federal level.

Legislative requirements: Environmental studies
Environmental Impact Studies (EIS) are one example of legislation that must be complied with. They take into consideration the location of the business, the activities the business performs and how the business will affect its surrounds.

An EIS is a study undertaken in order to assess the effect on a specific environment of the introduction of any new factor which may upset the ecological balance.

In Australia an EIS may contain the following areas:

- Contents
- Introduction – containing background information and a basic outline of the EIS.
- Statutory Planning – containing legislative requirements and influences
- Current Situation
- Alternatives
- The Proposal

- Ecologically Sustainable Development – principles behind it, what it means
- Economic Evaluation
- Cultural Heritage – containing sub-headings such as: Current Situation; Proposed Situation; Compliance with Relevant Plans; Potential Impacts; Mitigative Measures; Conclusion. The following 14 points use similar sub-headings as these.
- Aboriginal
- Flora and Forna
- Marine Environment
- Fire Management
- Soil Management
- Visitor Health
- Visual Impacts
- Stormwater
- Water Supply and Sewerage
- Noise
- Light
- Traffic and Transport
- Social Impacts
- Land Use and Cumulative Impacts
- Heritage and Environmental Management Plans
- Justification
- Summary
- References

A search of "environmental impact statement" using Google for pages from Australia will bring up a number of publically available EIS where you can examine the contents more closely.

Locality: Land costs & availability; Transportation facilities; Workforce; Impact on surrounding population; Resource availability; Geographical factors

The location of a business may be affected by many factors. The cost of land required to build a factory, office or depot will influence a business' location, as will the availability of land in the potential area for development.

A factory will have different transportation needs to an office. Where an office will generally only need access for motor cars, a factory will need access for larger vehicles such as trucks. It may also be important for an office site to be located near public transport so employees can get to and from work easily.

The type of workforce employed by the business may be affected by the location. The ability of employees to get to the business is important. Suitably skilled employees may not be found in some areas, making it difficult for a business to function.

Government legislation and council zoning will affect how the location of a business impacts on the surrounding environment. Residential, commercial, industrial estates are set up so that the different activities done in these areas have a minimal impact on each other.

The availability of resources will affect the transport costs of materials and other resources used by the business. If they are too far away, costs go up.

Geographical factors such as the physical shape of the land may affect the type, size and features of a building that can be built. This will again impact the cost of development.