



A CENTRE FOR EXCELLENCE IN TROPICAL DESIGN
Sustainability & Innovation
North Queensland

Sustainable Commercial Buildings in Tropical Environments

Workshop Notes

14 September 2005



First Workshop

Q. What are the lessons learned here – giving greater understanding of the issues in the community?

Response

Housing is leading commercial sustainability and not vice versa

Q. Identify champion for project – keep project going if unsuccessful
How to define champion?

Response

- Get the philosophy right
- Experience from previous projects – e.g. failure and issues which might affect current project
- Look at how to manage these issues down the track – so previous failures are not repeated
- Riverway Project – Initiatives which community and stakeholders can own

Q. How to retro fit old buildings?

Response:

- Quite easy to retro fit old building
- Cost is key – technology is available and it is not expensive. Get industry to be aware of this.

Q. What the role of building certifiers? Are there any barriers?

Response:

- Health & Safety – technology is not impacting much on these issues
- Fed Gov level – reference to outside air ventilation. Codes are in two versions 1991 & 2002. 2002 addresses outside ventilation in the tropics. Energy saving to be made by using the 2002 code. E.g. Smoking. Fed Gov not to adopt the 2002 code because of the smoking/anti smoking lobby. If adopted will reduce. 1991 code allowance for having 1 person to smoke 1 cigarette an hour.
- From project point of view? – Bond Building – the issue is address. Building certifier does not impact on sustainability outcome of the building. Only from H&S perspective. Fresh air contributes to healthier staff working in the building.

Q. What is the definition of Sustainability?

Response:

- Bond Building – Brundtland definition: what we do today is not affecting ability of future generation. Maintaining it for future generation (e.g. forest) We are borrowing from the future generation.
- Global question from bottom line perspective. Reducing loss of resources in the future. Larger aspect of ESD - larger city. Be careful not to be locked to pigeonhole project.
- Comment – providing leadership for project. How does leadership demonstrated?
- Interesting dilemma. How to identify leadership? E.g. project manager becoming Minister's pet. People expect good outcome – learn from experience. Sometimes stuff up creates opportunity to different and

appropriate outcome. Look at the environment and find someone. Project manager to scan their environment for resources to achieve best outcome for the project and provide support to allow this person to be leader.

- CoT – proactive city- e.g. CEC being champion for project and Mayor all get behind the project and to see the project through. These leaders and champions must be aware of benefits – project manager to provide information.
- Bond – 5 champions. Champions make sure that project works. CEO champions from above and 5 are the driving force. People who are committed and passionate about the project. As well as power broker at the top.

- Q.** Do we know what we mean by sustainable commercial building?
How do we ascertain, which building is more sustainable?
What are the indicators of sustainable building? E.g. carbon consumption
Have we really progressed into sustainability in the last 30 years
How do we know this and by how much?

Response:

- Economic sustainability – Cairns building address economic sustainability. Sourcing materials and services from the local area
- Social sustainability – provision of facilities e.g. bike track for cycling to work
- William McCormack Building – building next door need cooler change and the new cooler will result in more sustainable – in terms of energy saving, ease people entering the building and comfort for staff → design address intangible benefits of using sustainable technology. EPA as tenant can now walk the talk and they promote sustainability

- Q.** Do you think it is desirable to design sustainability index for commercial building?

Response:

- Green Building Council
- Commercial Office Building
- Existing design, retail tools
- Environmental rating
- Economic Index
- Australian Sustainable index – Dow Jones
- Lacking is how community can work with sustainability
- Bond is a progress step. Currently, design is going backward to the previous period where there was natural outside air vitalisation e.g. courtyard. Old buildings are great

Second Workshop

Leads for group to think about:

- Setting the scene for change?
- We are facing climate change
- Increase fuel cost
- Urban growth (TCC and Cot)
- Social Fracture – rich and poor and young and old
- Cultural Need

Q. Given there is considerable design effort, would it be more appropriate and encouraging for designer to be paid based on performance? Where should the driving force coming from?

Response:

- Performance-based contract – contractors or designers are paid every time milestone is achieved.
- There are energy companies using this method now. Resulting in reduced energy consumption. It is easy to do with energy and water.
- If looking at only the financial return– lost efficiency and productivity. Must look at overall outcomes in terms of trying to reduce.
- Penalty cost

Q. Is the process for Cultural change happening at the moment?

Response:

- Smart State of Council – 3 topics business development, tropical science and research. Research into Tropical building. Cultural change – good if NQ build a research station to research into Tropical design and sustainability this e.g. JCU – an actual building.
- Create massive front for project à create resources to tap into for ideas and innovation. Phenomenal opportunity to build this centre.
- Premier – biomedical field – where is it going. Build environment – everybody is involved e.g. recreation, à built environment has massive effect on our well being – far more than biomedical. Unification of individual effort – collaborative effort on design. Opportunity exists in Townsville and tremendous support from CETD.

Q. What is the single most important thing to shift toward ESD in Townsville? How to translate these ideas in subtropical environment?

Response:

- recognising that it can be done
- Any new building can look into sustainability issues
- Doesn't cost anymore to build energy efficient building. Once started – the momentum for change will already be happening.
- Sustainability is the recipe?
- Funding/assistance need to be available to help developers push forward.
- Legislation
- Melbourne – government provides funds for workshop which helps sustainability

- Council planning Dept CoT – checklist so they can incorporate sustainability ideas into project
- Think about generational change. Working with Dept Ed. Release in May – mandatory study. Student selects one of three designs – student then builds it and incorporates ESD idea ⇒ Sustainability report card – allow students to learn to make the right choice. As homework – students discuss ESD ideas with their parent to educate and make their parent aware. Very valuable tool. Generational change will come from below as well as from existing building/projects completed. Eg. Bond building.
- Function of CETD and panels are to be available for discussion and provide assistance

Q. Where are commercial buildings heading? Where are we heading in the future? What are the evolutions to cater for ageing population? Is it going to be completely based on the Internet?

Response:

- There is always a need for people to get together
- Building to be designed generically. If there is another way of doing business (other than meeting together).
- Recycled building as these are not requested for original purpose
- Transport systems will have to change dramatically before buildings
- Need for social contact – in 25 years there will be enormous need for change in the way we live. Less ability to move around as petrol price increases and supply decreases. ⇒ Eco Village and common transport operated with card system where one person can book and use.
- Mix residential and commercial building? – there is currently this requirement in some planning schemes. Development will continue
- CETD – aims to facilitate in tapping into local knowledge and tropical knowledge in terms into getting into the future

Q. Has your design take into consideration ecological footprint of the building construction and how do these costs compare?

Response:

- inform company on how much money will be saved
- ecological footprint – haven't got costs and is working on reducing costs through standards. Waste management.
- Staff do ecological footprint – current scheme to reduce ⇒ rewards given. Getting staff educated on reducing ecological footprint – e.g. at work. Staff who are parents can teach their children
- It wasn't done for Bond – did not own the building therefore careful with boundaries

Q. How do we get people to shift? Are energy efficient buildings with technology seen as prestigious buildings? Would this be the boundaries for change and shift? Eg. Through the kudos of completing sustainable building. It is Best Practice?

Response:

- translate into common language that community can understand. Eg. How the ideas in Riverway can be adopted at home. Ideas are translated into the smaller scale, which can be adopted at home. E.g. display
- Slick marketing – energy company ⇒ can't see how these fancy things advertised in energy efficient building help in reducing energy

- 23% of energy is used in appliances e.g. DVD, TV, etc. No matter how energy smart we make the technology, there needs to be education on getting users to use it appropriately
- Sustainability isn't a happy house. Not full of gadgets. Fear – we intimidate people with such technology
- It is back to the future.
- Big problem with defining sustainability – jargonised and used inappropriately to market things which are not.

Q: What is the role of government? Where is it going to be driven from? What roles can regulation play so it does not stifle progress?

Response:

- Motor vehicle legislation – unless there is legislation, little change. People are not going to volunteer unless there is some benefit from them or they are made to comply. Some of the changes happen because of legislation.
- E.g. water saving legislation drives change to different gardening concept to incorporate water saving

Q: Is Ergon Energy the key to push forward? Where is Ergon standing in their tariff structure?

Response:

- Ergon is not the driver of tariff – government is
- Make energy saving more attractive
- Contribution from government – e.g. cash rebate for installing thermal energy efficient building
- Board of Sustainability – lobbying to get government to drive change for energy saving
- Ergon has been actively involve in CETD from earlier this year.
 - § securing better understanding of industry need
 - § identifying issues specifically about energy saving
 - § presented a project to assess better use of energy
 - § emerging regulatory framework in Queensland to use energy saving devices

Q. Is the cost of technology a barrier?

Response:

- many technologies centre around energy ⇒ they are not very costly
- Education on how these technology work to make people aware and more comfortable with using them
- E.g. change colour of roof

Q. From a consultancy point of view, is there full disclosure of cost to developers and clients?

How do we convince these stakeholders?

How to manage downstream costs of energy saving – can be barriers?

Response:

- ESD project create/receive kudos – for lifecycle benefits
- Work effectively with project owner in terms of discussing budget- Give and take relationship. E.g. CoT and Mackay City Council, Brisbane City Council
- Information withholding is more common in private sector.
- Government needs to be open and transparent

Q. How do we better create awareness amongst clients of the long terms benefits of ESD technology?

Response:

- success of William McCormack Place – recognising costs of overall life of building. Short term costs - long term costs saving ⇒ look outside the immediate costs and try to work out the budget to gain benefits of long term cost saving

Q. How do we get developers to take responsibility for the installation of technologies that in the long term produce costs saving? Eg. Housing development.

Response:

- only way is legislation. Can't foresee that developers will volunteer to adopt energy saving and ESD technology to achieve long term benefits.
- Upfront costs result in developers adopting less efficient technology in order to cut cost.

Reflection on the day's workshop

- Need to look at bigger picture. If we want to achieve the moon, must aim for the stars.
- Look at it in terms of investment and not costs
- Lend Lease – at this stage limited but is adopting this approach
- Ability for client to have vision and leadership. It must come from the top but must permeate to the bottom as well
- Reverse learning process – not coming to project with preconceived ideas – there are common issues and ideas that will not be revealed until there is communication with users
- Can't apply a universal solution to all projects as each depends on environment, social structure, etc.
- Taking concept of thinking, component and ideas and adopting and incorporating these into new projects. Not taking existing solution and carbon copying to another project in different environment and context.
- Understand the process by which current success (Bond building) was achieved.
- State of dynamic – sustainability is very volatile and dynamic ⇒ must maintain balance.
- Sustainability is 80 percent common sense. 20% design and ideas to achieve common sense outcome
- Opportunity and momentum (through today's attendance) – sustainability is the individual contribution
- The issue of vision, leadership, public learning, recording of public success.
- Importance of champions. CETD is champion for excellence in tropical design in North Queensland.