The Industry Cooperative Innovation Programme – Buildings and the Environment
Full Life Cycle Assessment

Currently building products and materials used in Australia are being promoted for their environmental attributes based on single issue claims like “recycled”, “recyclable”, “FSC Certified”, “non-toxic”, “natural”, “renewable”, “low VOC” etc.

The impact of building materials impacts tend to be addressed simplistically within environmental assessment and rating tools. This can, result in perverse outcomes that are actually more rather than less damaging to the environment.

A proper assessment of building products and materials, used in construction, needs to use Life Cycle Assessment (LCA) - assessing a comprehensive pallet of environmental impacts that takes account of the whole supply chain and use of the products over their full life to and including their disposal.

Currently, in Australia, there is no consensus agreed “level playing field” national methodology for LCA and no consistent database of Life Cycle data that can be used to inform design and procurement decisions for the selection of building products and materials.

The United Kingdom does have an agreed methodology and Database of Life Cycle Date that have been used to develop practical design tools (Green Guides to Specification) which are referenced for credit in the UK BREEAM environmental rating tools.

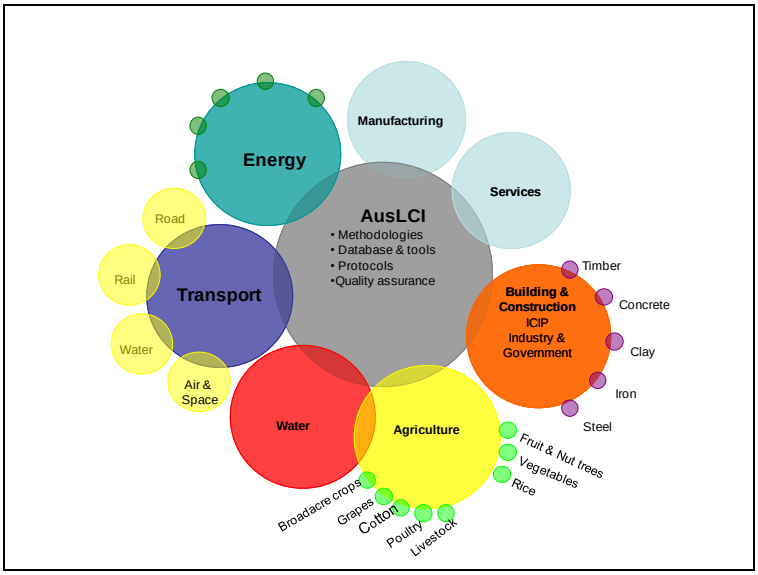
The UK BREEAM for Homes has recently been adapted as the Code for Sustainable Home and as from 1 May 2008 it is now compulsory for every new home in England to have a rating against the Code and for information on this rating to be provided to prospective purchasers. The code includes minimum mandatory levels of performance for:

- Energy efficiency /CO_2
- Water efficiency
- Surface water management
- Site Waste Management
- Household Waste Management
- Use of Materials
- Lifetime homes

Under subsidiarity rules in Europe, this means that all European countries will be able to use this system or develop compatible national systems.

The Australian Life Cycle Assessment Society (ALCAS) and CSIRO have led a consortium of stakeholders to establish the Australian Life Cycle Inventory (AusLCI)

project. This project is intended to develop a nationally agreed “level playing field” methodology and database of Australian life cycle data and make this available to Australian industry.



The Building Products Innovation Council (BPIC) is the peak national body representing Australia’s building products manufacturers.

In an historic move, BPIC has embarked on an ambitious scheme to establish a uniform method in tracing the life cycle of various building products.

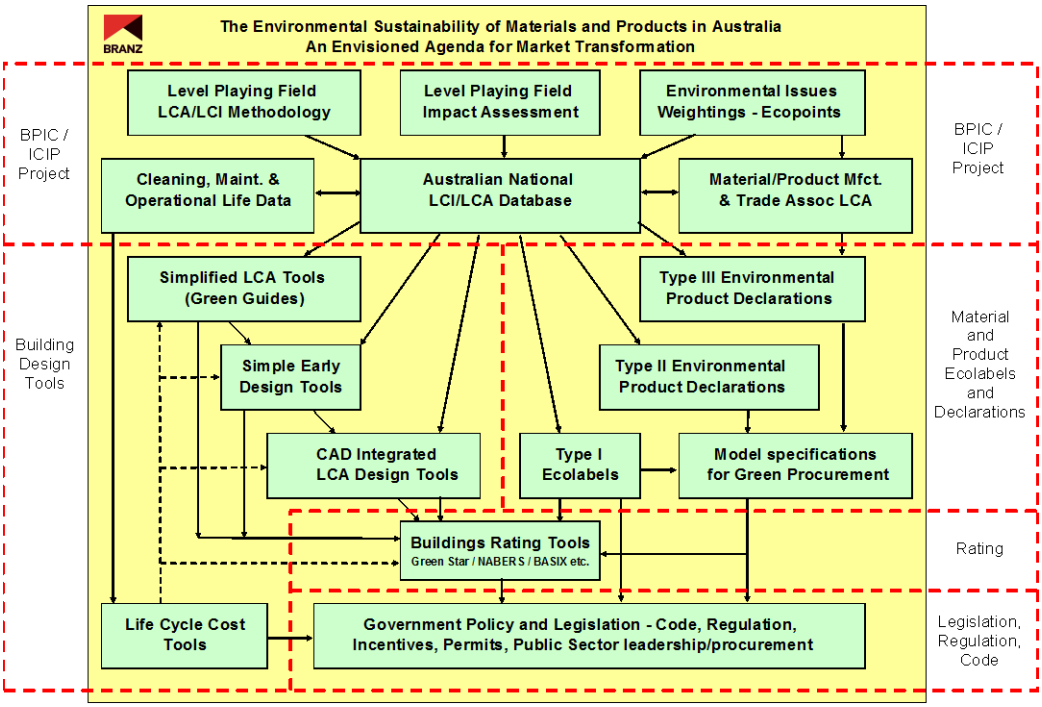
This project, known as the BPIC ICIP project , is led by BPIC on behalf of a consortia of ALCAS and BRANZ in partnership with the Department of Innovation, Industry, Science & Research and with the support and participation of BPIC’s 10 major building material national representative associations

The project aims to represent the building products and materials industry in contributing to the AusLCI project, The construction industry presents many special challenges for LCA because:

- materials and products from every industrial sector are used and compete for particular applications – the methodology must be consistent and fair for informing these decisions
- buildings and infrastructure have very long lives, with many cycles of repair, maintenance and refurbishment of components over their lives
- construction provides opportunities for wastes from one industry to become the feedstock or fuel sources for another
- the operational phase of a building often has a 10-fold greater environmental impact than the materials production phases – requiring appropriate tradeoffs between materials and operational performance
- Construction uses mass materials requiring substantial transportation, generating large waste streams and making location a significant factor
- The operational performance of buildings is highly location and climate sensitive

The BPIC/ICIP project will deliver:

- A consistent “level playing field” methodology for use in construction material and product LCA and for representation into the AusLCI project.
- An extensive database of Life Cycle Inventory data for construction materials and products all compiled in accordance with the methodology.
- A database of replacement lives for materials, products and assemblies used in Australian buildings
- A consistent set of weightings for the relative importance of different environmental impacts adapted to the priorities of local stakeholders in different locations and climates.



The BPIC/ICIP project will provide the basis for life cycle design tools and guidance for the design and specification of buildings. It will also provide the basis and benchmarks of performance to underpin the development of Ecolabels and Environmental Product Declarations creating opportunities for environmental innovation and competition in the development of specific company materials and products.

The BPIC/ICIP Project Programme

Significant funding has been raised equally from government through Industry Cooperative Innovation Programme (ICIP) matched by BPIC and its members to progress this project over a 3 year period.

Each of BPIC’s 10 major building material national representative associations have established technical working groups to determine their respective positions on the different aspects of LCA methodology development. prior to agreeing on a consensus methodology.

CSIRO have been contracted by the consortia to design and build a database that will hold and allow controlled web based access to the data.

In addition an LCA protocol will be written to describe how the LCI data should be used, for example by, LCA Tools and Ecolabels.

When completed, this project will lay the foundation for the national procedures and tools that are needed to deliver a fair scientifically sound basis for measurement of the environmental impact of building products and materials.

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The Building Products Innovation Council (BPIC) is the peak national body representing Australia's building products manufacturers.

BPIC's membership directly employs over 200,000 Australians with more than 470,000 employed indirectly. Their collective industries are worth over $54bn annually to the Australian economy.