



Green Building Council of Australia

Green building priorities: the green building agenda for 2011-2013

GREEN BUILDING PRIORITIES: THE GREEN BUILDING AGENDA FOR 2011-2013

The next three years will determine whether green building practices become 'normal practice', rather than just 'best practice'.

The Green Building Council of Australia (GBCA) has released this green building agenda for 2011-2013 to encourage all parties to commit to green buildings, communities and cities as part of their election policies.

The five priorities set out over the following pages will help transition Australia's green building practices from voluntary to vital, and spell out the deliverables needed to achieve this change.

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ABOUT THE GBCA

The Green Building Council of Australia (GBCA) is Australia's leading authority on green building. The GBCA was established in 2002 to develop a sustainable property industry in Australia and drive the adoption of green building practices. The GBCA has nearly 900 member companies who work together to support the Council and its activities. The GBCA promotes green building programs, technologies, design practices and processes, and operates Australia's only national voluntary comprehensive environmental rating system for buildings - Green Star.

The Green Star environmental rating system for buildings was launched in 2003. Green Star evaluates the sustainable attributes of building projects in nine categories, including energy and water efficiency, indoor environment quality and materials. Green Star rating tools are currently available or in development for a variety of sectors, including commercial offices, retail centres, schools and universities, multi-unit residential dwellings, healthcare and industrial facilities. The GBCA has certified more than 310 Green Star projects, has more than 400 projects currently registered for certification, with a further 75 being processed, and is now developing the Green Star Communities rating tool.

PRIORITY 1: Provide visionary government leadership

Strong leadership is needed to ensure we tackle climate change. Our challenge – and our opportunity – is to realise the full economic and environmental potential of the building sector by overcoming some of the market failures, skills deficits and institutional barriers that impede action.

All levels of government should demonstrate their commitment and leadership by:

- **achieving environmental ratings for every building** they own, occupy or develop, at the time of either refurbishment, retrofitting or development. Such buildings should have both Green Star and NABERS ratings where possible, and case studies should be developed to communicate the business case and outcomes. Government should also demonstrate leadership through a commitment to achieve ratings for public sector buildings such as education and healthcare facilities (see also Priority 2), in order to encourage best practice developments, retrofits and operations. Green Star rating tools already exist for education and healthcare facilities, and a Green Star rating tool for public buildings is nearly complete.
- **implementing regulatory change** in order to continually raise standards in the Building Code of Australia (BCA) and to set clear, contemporary targets. The BCA should work with Green Star and NABERS to set complementary minimum standards for compliance alongside incentives for projects achieving best practice and above. The role of government is to ensure minimum compliance; the role of the GBCA is to reward best practice; and the two must work together to realise real change and reduce environmental impacts in the most effective manner.
- **working with industry to establish a clear, long-term pathway** towards a sustainable built environment for Australia. This pathway must have both financial and non-financial incentives available, whilst ensuring that neither regulation nor ratings limit projects' desire or ability to pursue innovation. Buildings are one of the most cost-effective target areas for climate change action and the Intergovernmental Panel on Climate Change (IPCC) concluded that, with proven and commercially-available technologies, the energy consumption in both new and old buildings could be cut by an estimated 30-50% without significantly increasing investment costs. Such opportunities must be outlined, with details of incentives available, to agree to a clear, long-term pathway for the industry.

DELIVERABLES:

- Commitments gained from federal, state and territory governments** to achieve environmental ratings for buildings they own, occupy or develop, and to broaden the sustainability focus beyond energy efficiency for their own accommodation requirements.
- BCA Working Group established** to examine minimum standards for compliance alongside Green Star and NABERS, to emphasise the need for both contemporary standards and voluntary ratings in raising industry levels of standard practice.
- Long-term pathway mapped out** to achieve a sustainable built environment for Australia, with a series of targets, incentives, metrics and increments established in conjunction with key industry associations and stakeholders.

PRIORITY 2: Retrofit and improve existing buildings

Each year, only around 2% of Australia's buildings are considered 'new'. The remaining 98% represents the built environment's 'next frontier' – greening our existing stock. However, cost-effective improvements to existing buildings can only be achieved if the market has access to:

- **Systems, technologies and information:** ClimateWorks' 2010 Low Carbon Growth Plan argues that Australia can reduce its greenhouse gas emissions to 25% below 2000 levels by 2020 at an average annual cost of AUD\$185 per household, and that this reduction can be achieved using technologies that are available today. The most cost-effective abatement opportunity, according to ClimateWorks, is retrofitting commercial buildings such as offices, shopping centres, schools, public buildings and hospitals. The easiest 'win' would be removing, replacing or downsizing inefficient equipment to reduce energy waste. This is followed by retrofitting heating, ventilation and cooling systems, appliances, lighting, water heating and insulation.

Case studies must be freely available which explain the use of regulations, and encourage the use of rating tools, such as Green Star and NABERS, for all types of existing buildings. Case studies should explain the incremental improvements that are possible, and should be based on the financial benefits as well as environmental impacts.

Energy efficiency assessment and communication is a key part of improving the performance of existing buildings. The focus should be widened beyond energy efficiency to include greenhouse gases and other voluntary and auditable metrics such as water, indoor environment quality, waste and materials.

- **Funding, incentives and innovation:** There are a variety of funding sources that could contribute to the retrofitting effort: the Renewable Energy Future Fund, the Australian Carbon Trust and the Green Building Fund.

In the absence of an emissions trading scheme, other policy mechanisms are needed to motivate buildings owners and tenants to reduce Australia's greenhouse gas emissions. The Australian Sustainable Built Environment Council's research argues that green depreciation could provide one of the few ways to influence investment in existing buildings. It suggested that green depreciation would only need to influence a relatively small proportion of refurbishment investment to be brought forward (over that which is already projected to occur in the normal refurbishment cycle) to make a significant reduction to energy demand and greenhouse gas emissions.

Financial incentives and industry support for innovation is also critical if we are to improve upon the technologies that are available today; the Built Environment Innovation Council must be assisted in its promotion of new approaches and systems.

DELIVERABLES:

- Joint industry and government existing building pathway established** which supports a coordinated approach to policy development and information sharing, and the development of one strategy with a clear message, comprehensible case studies and a range of incentives available.
- A green depreciation scheme established as one of a range of key incentives** to encourage retrofits in existing buildings.

PRIORITY 3: Green education and healthcare facilities

The GBCA believes every Australian student deserves a school environment that is conducive to learning, while also saving energy, resources and money. Every teacher also deserves a workplace which offers a safe, comfortable and effective learning environment. Patients and staff of healthcare facilities similarly deserve spaces which are conducive to better health outcomes, greater comfort and staff productivity.

There is no good reason why the facilities for Australia's pupils, teachers, patients and staff should not be constructed to best practice standards. Perceived cost increases remain the most-quoted barrier to best practice, yet the benefits would be numerous and long-term economically and environmentally-sustainable facilities should simply represent fiscal responsibility. International research has confirmed that simple green building principles such as good passive design, access to natural light and fresh air can deliver exceptional increases in health, productivity and happiness of students and teachers, patients and staff.

One international review of 30 green schools, Greening America's Schools: Costs and Benefits, found that green schools and universities deliver a 41.5% improvement in health of students and teachers (through reduced incidence of asthma, 'flu, respiratory problems and headaches), a 15% improvement in student learning and productivity and a 25% improvement on test scores from good lighting and ventilation.

The Heschong Mahone Daylighting Study of more than 21,000 students showed a dramatic correlation between daylit school environments and student performance, including a 20% faster progression in maths, a 26% faster progression in reading and a 10% increase in overall performance simply by having access to views out of windows.

Green buildings are also healthy buildings. Natural light and cleaner, fresher air are the foundation stones of green buildings, and healthcare professionals are seeing accelerated recovery rates as a result. A number of international studies have confirmed that green healthcare facilities enable better patient care and reduce the length of stay required in hospital. Studies include:

- The Bronson Methodist Hospital in Michigan, which found that applying green design principles such as improved ventilation, private rooms, music, light and nature in its redevelopment project led to an 11% reduction in secondary infections and a decrease in nursing turnover rates to below 7%
- The Inha University Hospital in Korea, which found a 41% reduction in average length of stay for gynaecology patients in sunlit rooms over patients in dull rooms. The study found a 26% reduction similarly for surgery ward patients.

DELIVERABLES:

- a. Governments referencing Green Star in education and healthcare building and accommodation guidelines**, in order to support the adoption of green building practices in their construction, with certification achieved for at least 50% of projects.
- b. A dedicated Green Education Campus roundtable established**, creating an alliance between governments, the GBCA and education associations such as the Tertiary Education Facilities Management Association (TEFMA) to assist in disseminating case studies and best practice guidelines, as well as identifying funding opportunities for projects wishing to achieve more sustainable outcomes.
- c. A dedicated Green Healthcare roundtable established**, creating an alliance between governments, the GBCA and healthcare providers to assist in disseminating case studies and best practice guidelines, as well as identifying funding opportunities for projects wishing to achieve more sustainable outcomes.

PRIORITY 4: Move beyond buildings to communities and cities

Many of Australia's challenges, such as population growth, transport congestion, housing affordability, energy and resource limitations, will be most severely felt in our major cities, which will accommodate around 85% of our 35 million plus population by 2050. Sustainable and more liveable Australian cities will deliver a stronger Australian economy and an enhanced lifestyle for all. However, the nation's capital cities lack an holistic approach to climate change mitigation and environmental issues, and cohesive urban policy is needed to seize opportunities while they are still available.

Australia needs to design, build and manage environmentally sustainable communities, precincts and neighbourhoods as well as individual buildings. The GBCA would welcome government support for the current work on a Green Star Communities tool, including financial backing, data and intellectual property. The GBCA understands the need to include existing rating tools and systems in this work, to ensure current metrics are used, and to capitalise on the work already undertaken around Australia.

There is a clear emergence of interest at all levels of Government in the planning of our major cities. The Major Cities Unit (MCU) within Infrastructure Australia is developing national policy which will seek strategic investment opportunities in our cities, enabling them to be productive, connected, affordable and sustainable. These objectives align with the outcomes being sought by the GBCA's Green Star Communities project and the GBCA has therefore increased the level of engagement with Infrastructure Australia, the MCU and many other key stakeholders in an effort to build support for the Green Star Communities project. The GBCA's intent is to develop the Green Star Communities tool in a way that acknowledges and translates this national sustainable cities agenda into practical guidance for our member companies that are planning and delivering sustainable communities, precincts and places, and in line with the Council for Australian Governments' (COAG's) Strategic Plan.

In June 2010, the Built Environment Meets Parliament (BEMP) Alliance released Spotlight on Australia's Capital Cities: An Independent Audit of City Planning Systems. The report, which involved an independent audit of Australia's capital city planning systems by KPMG, made several recommendations, supported in-principle by the BEMP alliance, which included an expanded role for the Australian Government in urban policy, the establishment of metropolitan authorities in capital cities to improve decision-making and delivery, and setting city-based performance targets and national reporting on progress.

The Green Precincts Fund was announced in the 2008-09 Federal Budget, with funding of \$15 million over four years to support high-profile demonstration projects. While the Green Precincts Fund is welcome, the fund should be increased for projects that prove they can deliver a retrofit of an entire precinct as a demonstration project.

DELIVERABLES:

- a. **Government support provided for the Green Star Communities project**, with both financial backing and provision of data and information.
- b. **Green Precincts Fund increased** to provide additional support for precinct, community and neighbourhood projects showing reduced environmental impacts and sharing case study information.
- c. **Cohesive urban policy formulated** to provide an holistic, integrated approach to climate change mitigation and environmental issues across Australia's capital cities.

PRIORITY 5: Embed green skills across all industry training

As Australia transitions to a low carbon economy, we can expect a booming demand for 'green collar workers' across the property and construction industry. But our industry must have the skills to ensure we fully capitalise on this green collar growth. In the same way that Occupational Health & Safety has become an integrated part of industry training, green skills must be embedded into the curriculum to ensure we develop better, safer, greener buildings.

In addition, these green skills must be recognised as integral to the delivery not only of environmentally sustainable buildings, but also of buildings that deliver health, productivity and financial benefits for owners and occupants.

Green skills must not be considered in isolation, however. Provision of expertise around water efficiency or energy efficiency is to be encouraged, but such skills should be seen as part of a larger picture. In this way the relationship between these skills, and their effects upon the building, its occupants and its performance, can be fully understood. A more holistic approach to those skills associated with the design, construction, maintenance and refurbishment of buildings will ensure more economically and environmentally sustainable outcomes.

The government and private sector must work together to encourage the uptake of green skills. A sustained education effort is needed so industry can be clear on the role, and differences, between regulation (BCA, mandatory disclosure, BASIX, etc.) and rating schemes (Green Star, NABERS, etc.), and how industry participants can use the different measures and systems.

Case study information from Australian and internationally-certified green buildings (in particular Germany, Scandinavia, US and UK), can help to demonstrate the business case and the capabilities, systems and innovation that are available.

The GBCA is a leading learning resource. Our membership represents the majority of the knowledge and skills in the industry, and our case studies represent the best examples across the country. The GBCA has successfully run courses for government previously, and would welcome the opportunity to do so again.

DELIVERABLES:

- a. **An holistic approach taken to green skills**, with integration of sustainability into the nation's skills base as part of an overall approach, rather than with green skills being seen as an 'add-on' to current curricula.
- b. **Government support provided to development of learning programmes**, case studies and examples of innovation which demonstrate the opportunities and explain the benefits of green building.
- c. **Increased government green skills training undertaken** to broaden the current focus on sustainability beyond energy efficiency to other metrics and improve the dialogue between government and industry stakeholders.

FURTHER INFORMATION

Advocacy and International Contact:

Robin Mellon
Green Building Council of Australia
Tel: 0434 495 388
Email: robin.mellon@gbca.org.au

Media Contact:

Karen Jamal
Green Building Council of Australia
Tel: 0412 179 135
Email: karen.jamal@gbca.org.au

Business Development Contact:

Suzie Barnett
Green Building Council of Australia
Tel: 0419 959 604
Email: suzie.barnett@gbca.org.au

Website:

Green Building Council of Australia
www.gbca.org.au