



What you need to know about

Sustainability in the built environment



Why is sustainability important?

Buildings have significant environmental impacts over their whole life cycle – during construction, operation and even demolition. Most significant among these impacts are:

- Energy consumption and resultant greenhouse gas emissions
- Water resource utilisation and waste-water flows
- Materials consumption
- Waste generation to landfill.

In Victoria for example, the commercial and residential sectors account for over 40 per cent of our greenhouse gas emissions. Failure to reduce greenhouse gas emissions will lead to acceleration of climate change.

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What is the Commission's role?

The Building Commission has been working on improving the energy efficiency of our buildings and their impact on the environment for more than a decade.

The Commission is working with the building industry through the Green Building Council's Sustainability Roundtable to develop a common vision on the wider issue of environmentally sustainable buildings. The Roundtable is made up of representatives from Sustainable Energy Authority Victoria, Department of Sustainability and Environment, Melbourne City Council, EPA Victoria, EcoRecycle Victoria and the Building Commission.

The Building Commission is committed to environmental sustainability in the built environment and has been involved in the following initiatives in the course of implementing its *Building Sustainability* strategy:

- Introducing a 5 Star energy efficiency standard for all new homes
- Developing a guide to sustainable housing – *Your Home*.

What is the 5 Star energy efficiency standard?

New houses and apartments in Victoria will be the most energy and water efficient in Australia under new regulations to help Victorians reduce greenhouse gas pollution and save water.

The standard will be introduced from July 2004 when all new homes will be required to meet the new 5 Star standard. There will be a 12 month implementation period that allows builders flexibility in the way they achieve 5 Star. Options to improve energy and water efficiency will include a combination of orientation, design, building techniques and materials such as window glazing, weather stripping, rainwater tanks or solar hot water to achieve the standard.

The 5 Star energy efficiency standard will make new homes 50 per cent more energy efficient and reduce water consumption by up to a quarter. While some leading builders are already building 5 Star homes, the average home in Victoria is just 2 Star. With more than 35,000 new homes built each year in Victoria, the new standard will make a significant improvement to the way we live.

Victoria is the first state in Australia to introduce compulsory 5 Star energy efficiency standards and include water measures. As a result of this initiative, Victorians will enjoy new homes that are *more affordable, more comfortable, more environmentally sustainable and good for Victoria's economy*.

- *More affordable*: on today's prices, new homebuyers will save an average \$50 a year on their water bill and \$210 on energy bills.
- *More comfortable*: 5 Star homes will be up to five degrees warmer in winter and 10 degrees cooler in summer.
- *More environmentally sustainable*: within 5 years of introduction, 5 Star will reduce Victoria's annual greenhouse gas emissions by 200,000 tonnes – the equivalent to taking 50,000 cars off Victoria's roads.
- *Good for Victoria's economy*: the initiative will add \$570 million to the economy through new jobs and the creation of new housing products.

What is the guide to sustainable housing?

The Building Commission helped develop *Your Home* magazine, a guide to sustainable housing, with the Federal Government and the building and design industries. It helps consumers and builders create a home that is better for the environment but still comfortable, stylish and affordable. *Your Home* offers the following tips on how to make homes more energy efficient:

- Better orientation to the sun.
- Increased wall and ceiling insulation.
- Improved window protection to stop heat transferring in or out.
- Improved sealing of airflow points to prevent air leakage and assist draft control.

- Higher performance windows, including double glazing.
- Using 5 Star rated heating and hot water systems.
- Using energy efficient cooling systems.

Your Home can be obtained free of charge by visiting www.yourhome.gov.au or telephoning 1300 130 606.

What does the future hold?

Improving the energy efficiency of new homes is just the first step in a long journey to transforming the built environment into being truly sustainable. The next step is to develop energy efficiency measures for alterations and renovations of houses, as well as existing dwellings.

It is also crucial that we introduce energy efficiency measures for non-residential buildings, which are not currently subject to regulation. Research by the Australian Greenhouse Office predicts that in the period from 1990 to 2010, greenhouse gas emissions for the residential sector will grow by 17 per cent, while emissions for the non-residential sector will grow by 94 per cent.

To counter this trend, energy efficiency standards for non-residential buildings will be phased in from mid-2006 through the Building Code of Australia.

Another important step forward has been establishment of the Green Building Council of Australia. The Council aims to provide industry-driven solutions to create greater sustainability outcomes in the commercial building sector. These solutions go well beyond the minimum standards prescribed in regulation. Building Commissioner, Tony Arnel represents the Victorian Government on the Board of the Council.

The Building Commission is committed to providing continued leadership to the building industry as it begins a necessary transition to environmental sustainability. However, the push for sustainability needs the full support of all industry stakeholders to make it a reality.

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