



## COMMERCIAL AND PUBLIC BUILDING ENERGY MEASURES

*New energy-efficiency measures for commercial and public buildings will be introduced into the Building Code of Australia (BCA) 2006, from 1 May 2006. The changes will provide benefits to the environment through reduced greenhouse gas emissions and to owner/occupiers through reduced energy costs.*

### Why do we need energy-efficient commercial buildings?

The Australian Greenhouse Office projects that greenhouse gas emissions from the operation of commercial buildings will increase by a staggering 94 per cent during the period 1990-2010. The new energy-efficiency measures, to be included in the BCA 2006, form a key feature of the federal and state governments' commitment to reducing greenhouse gas emissions in Australia.

### Which building will the measures apply to?

The requirements will apply to all classes of commercial and public buildings. It is important to note that the energy measures apply to buildings being **refurbished**, **altered** or **extended** as well as **new** buildings.

Commercial building classes include:

- Class 5 – Commercial office building
- Class 6 – Shop or other retail building
- Class 7 – Car park or wholesale goods facility
- Class 8 – Laboratory or industrial building
- Class 9 – Public building: health care facility, school, assembly building

### What are the measures?

The new measures require commercial and public buildings to achieve minimum levels of energy-efficiency through performance-based provisions. The measures are designed to reduce the use of artificial heating and cooling, improve the energy performance of lighting, conditioning and ventilation, and reduce energy loss through air leakage.

Provisions include:

- **Building fabric** – includes requirements for roof, wall and floor insulation, and area and thermal performance of roof lights.
- **External glazing** – provides a maximum glazing allowance under different circumstances related to climate, orientation of the building, type of glazing and amount of shading.
- **Building sealing** – includes requirements for sealing chimneys and flues, roof lights, external windows and doors, exhaust fans and during construction of roofs, walls and floors. Requirements apply only in certain circumstances.
- **Air movement** – includes requirements intended to increase natural ventilation and reduce the need for mechanical cooling.
- **Air-conditioning and ventilating systems** – requirements for minimum levels of energy-efficiency for heating, ventilation and air conditioning equipment installed.
- **Artificial lighting and power** – requirements limit the illumination density of artificial lighting systems. The maximum limits vary by building type, allowing more lighting for retail spaces, car park entries and health-care examination areas.
- **Access for maintenance** – requires adequate space and access to facilitate maintenance of equipment.



The building fabric, glazing and building sealing measures do not apply to Class 7, 8 and 9b buildings that are not conditioned, ie heated or cooled.

#### **What are the benefits?**

The energy-efficiency measures will result in commercial and public buildings that have greater levels of comfort and reduced reliance on artificial heating and cooling. Within the first year of operation, the anticipated environmental benefits of more energy-efficient buildings will include annual savings of around 300,000 tonnes of greenhouse gas emissions. This is equivalent to removing around 70,000 cars from our roads or planting 450,000 trees every year.

Within 10 years, energy-efficient commercial and public buildings will save Australians over 18 million tonnes of greenhouse gas emissions.

There are also significant non-environmental benefits including financial savings associated with reduced energy use and the reduced size of the air conditioning plant required for more energy-efficient buildings. Under the new energy measures the average three-storey office building could save more than \$7,300 in energy costs every year.<sup>1</sup>

#### **When will the laws take effect?**

The new energy-efficiency requirements will be adopted into the BCA 2006 effective from **1 May 2006**.

Building permits issued in Victoria prior to this date will not be required to comply with the measures. For permits issued in Victoria on or after 1 May 2006 for Class 5-9 buildings, the building must generally comply with the BCA 2006. The exception to this is where a relevant building surveyor issues a certificate under Section 10 of the Building Act 1993. This would delete the requirement for the new works to comply with the new energy efficiency measures.

#### **How to comply with the measures**

The new commercial and public building energy-efficiency measures will be implemented through the BCA 2006 – a performance-based building code. Compliance with the BCA can be achieved by complying with the deemed-to-satisfy requirements in the BCA or by developing an Alternative Solution which demonstrates that the proposal meets the relevant BCA performance requirements.

#### **More information**

The Australian Building Codes Board (ABCB) will be running seminars in Victoria in early March 2006 to provide further information on the new measures. Information on the seminars will be made available on the Building Commission website [www.buildingcommission.com.au](http://www.buildingcommission.com.au) and the ABCB website [www.abcb.gov.au](http://www.abcb.gov.au). A copy of the Regulation Impact Statement can be viewed at [www.abcb.gov.au](http://www.abcb.gov.au).

For further information contact the Building Commission's Technical Services on 1300 360 380.

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<sup>1</sup> Figure based on \$6.14 per m<sup>2</sup> for a total floor space of 1200 m<sup>2</sup> as quoted in ABCB Regulation Impact Statement