

# Climate Change, Sustainability, and the Built Environment

"...in order to make an overall longer term impact on drawing down carbon emissions...**energy efficiency [is the] second plank.**"

*Kevin Rudd, Prime Minister of Australia, 19 August, 2008*

Buildings and their occupants account for **23% of Australian's greenhouse gas emissions** (GHG).<sup>i</sup>

## The Built Environment Offers a Ready Source of GHG Savings

Research conducted by the Australian Sustainable Built Environment Council (ASBEC)<sup>ii</sup> showed that significant abatement can be achieved with properly targeted incentives.

Relying on the Carbon Pollution Reduction Scheme (CPRS) alone the building sector is expected to reduce emissions by around 8 Mt a year.

The ASBEC research demonstrates that with complementary measures and incentives, abatement of around 60 Mt per annum is achievable by 2030.

## The Opportunity

A strategic approach to building energy efficiency could:

- **halve electricity use in commercial building** stock by 2030 and 70% by 2050;
- reduce **GHG emissions by 30%** within two decades;
- **cut the cost of carbon abatement by 14%** or \$30 per tonne by 2050;
- return **\$38 billion** each year to the GDP compared to conventional GHG abatement programs by 2050;
- provide breathing space for the development of clean energy alternatives; and,
- help the country **reduce its carbon footprint faster** and with less fuss.

The Voice of Leadership

### **Eco-efficiency in the Built Environment**

Energy efficiency does not provide the only opportunity for the built environment. A focus on eco-efficiency could deliver other significant sustainability dividends:

- new commercial buildings and their occupants could:
  - consume 60%-70% less water;
  - generate 40% less waste; and,
  - deliver higher indoor environmental quality;
- new dwellings and their occupants could halve their eco footprint compared to business as usual performance; and
- retrofitted existing commercial buildings could achieve at least half the efficiencies of new buildings over the next decade.

### **The Second Plank**

The ASBEC/CIE paper proposed three specific policy measures that would allow energy efficiency in the building sector to deliver greater abatement opportunities:

- a national white certificate scheme;
- provision of green depreciation; and,
- public funding for building retrofits – aimed at both the retail (residential and commercial buildings) and wholesale (energy retailer) sectors.

These recommendations are covered in more detail in the next section.

### **Sources:**

*Capitalising on the Building Sector's Potential to Lessen the Cost of a Broad Based GHG Emissions Cut*, Centre for International Economics (September, 2007)

*The Second Plank – Building A Low Carbon Economy With Energy Efficient Buildings*, Centre for International Economics for ASBEC (August, 2008)

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<sup>ii</sup> *The Second Plank – Building A Low Carbon Economy With Energy Efficient Buildings*, Centre for International Economics for ASBEC (August, 2008)