22 July 2019

The Hon Lily D’Ambrosio
Minister for Energy, Environment and Climate Change
Level 16, 8 Nicholson Street
East Melbourne, VIC 3002

Dear Minister,


The Australian Modern Building Alliance (AMBA) welcomes the opportunity to provide input into the Victorian Government’s consultation on the Independent Expert Panel (IEP) interim GHG emissions reduction targets recommendations.

AMBA is an interest group established under the auspices of Chemistry Australia to promote the use of polymers to enhance the sustainability of the built environment. AMBA membership includes the leading suppliers of polymer materials to Australia’s building and construction industries, including BASF, Covestro, Dow, ERA Polymers, Huntsman Polyurethanes and Pacific Urethanes.

Polymers form the base of many of the construction materials that are integral to modern buildings such as foams, paints, sealants, rubbers and plastics. These materials cover a broad range of products and applications for building interiors and exteriors, including insulation, piping, flooring, wiring, window installation, solar modules, ventilation systems, awnings, painting, tiling and landscaping.

All AMBA members have operations located in Victoria performing a range of activities, including manufacture, formulation, design, R&D and sale of polymer materials for use throughout Australia. Victorian businesses use these polymers to produce a variety of building and construction materials, including insulation, wiring, windows, coatings, cool rooms and adhesives.

In Australia, our buildings account for 19 per cent of total energy use and about 18 per cent of total direct GHG emissions.\[1\] If indirect emissions are included, the total GHG emissions from buildings would be closer to those of the global building and construction sector at almost 40 per cent.\[2\]

It has been estimated that buildings constructed after 2019 are likely to make up over 50 per cent of Australia’s total building stock by 2050.\[3\]

In terms of the IEP’s recommendations, AMBA believes that the IEP has failed to fully recognise the role that the built environment can play in delivering comprehensive GHG emissions reduction across Victoria. While the report refers to zero emissions buildings, much of the IEP’s focus is on GHG emissions reduction that might be achieved by switching home heating, cooking and hot water from gas to electricity. Significantly greater GHG emissions reduction can be achieved by improving the energy efficiency and thermal performance of Victoria’s built environment.
Within the housing sector, 40% of the energy is used to heat or cool buildings [4,5], contrasting with 33% usage by home appliances and equipment which includes refrigeration and cooking.

Constructing and renovating buildings with sustainability, energy efficiency and thermal performance in mind is vital to Victoria’s our low-carbon future.

If the Victorian Government is committed to achieving the IEP’s recommended 2025 and 2030 GHG emissions reductions targets and its aim of net zero emissions by 2050, the opportunities for GHG emissions reduction from the built environment must be fully harnessed. It is imperative that Australia strengthens the construction codes to address the energy efficiency and thermal performance of new buildings and those requiring major retrofits.

Because heating and cooling of buildings is such an important factor in managing energy use and GHG emissions, better insulation of walls, roofs, ceilings and floors can lead to significantly lower GHG emissions through greater energy efficiency.

The performance and durability of construction products is key to creating more energy efficient buildings. Products should be weather resistant, long-lasting, require low maintenance to ensure structural and thermal performance (insulation) throughout their lifetime.

All insulation materials will play a role in the transition to a low-carbon economy. However, polymer-based materials such as rigid polyurethane insulation (PU) and polyisocyanurate insulation (PIR) are particularly applicable to the construction of low energy buildings.

Compared with other insulation materials at the same thickness, polymer-based insulation materials such as PU and PIR provide greater GHG emissions reduction and save more energy. A home with appropriately installed PU insulation can have half the energy usage of un-insulated brick house. Energy savings from PU are 25 per cent greater than those of other commonly used insulation materials.

The chemical structure of polyurethanes renders them highly adaptable and available in many forms – making them extremely versatile as energy efficient insulation solutions in new and old buildings.

Plastics Europe estimates that in an average house, polymer-based insulation materials recover the energy used to produce them in only one year. This energy recovery and saving continues for the lifetime of the product; in total, these materials can save more than 150 times the energy used in their production.[6]

Polymer-based insulation materials can be used safely when installed correctly in line with manufacturer guidelines and the National Construction Code (NCC).

In conclusion, AMBA recommends that the Victorian Government work with other governments and key stakeholders like AMBA to review the National Construction Code to set ambitious, economically achievable energy efficiency and thermal performance standards for buildings to deliver comprehensive GHG emissions reductions from the built environment.

Your sincerely

Craig Lovel
Chair
Australian Modern Building Alliance


