

Australian Government  
Department of Climate Change,  
Energy, the Environment and Water

24 January 2023

Submitted via online form

**RE: National Energy Performance Strategy: consultation paper**

The Affiliated Insulation Industry Coalition (AIIC) welcomes the opportunity to make a submission regarding the National Energy Performance Strategy.

The AIIC is a collective of insulation trade associations including the Australian Modern Building Alliance (AMBA), Insulation Australasia (IA), Insulation Council of Australia & New Zealand (ICANZ) and The Insulation Academy (TIA), each representing different product types and installation services.

Improving the thermal performance of buildings – particularly through basic upgrades such as insulation – will play a key role in improving Australia’s energy performance, reducing emissions, reducing energy supply infrastructure stresses and costs and saving money for businesses and consumers. Insulation plays a fundamental role in reducing the energy consumption and peak energy demand of homes and commercial premises while also enhancing demand flexibility, and will be essential to accelerating the transition to net zero, futureproofing and enhancing the climate safety of Australian homes.

More than eight million Australian homes were built prior to mandatory minimum energy efficiency requirements, and a substantial portion of these homes lack basic measures to ensure thermal comfort and safety such as insulation. Many of these homes are occupied by Australia’s most vulnerable people, and the poor performance of these dwellings presents long-term risks to health, comfort and welfare of their inhabitants. A coordinated residential rehabilitation process is needed to address this issue.

**Insulation for building decarbonisation and net zero**

Well-insulated homes reduce the need for heating and cooling and reduce the size and cost of heating and cooling equipment required, which in turn reduces greenhouse gas emissions and capital costs for consumers and the energy supply sector. This is a particularly valuable benefit given Australia’s homes are responsible for around 24 percent of overall electricity use and 12 percent of the nation’s total carbon emissions<sup>1</sup>. Well insulated buildings are also more resilient, as they heat up and cool down more slowly when energy supply is interrupted.

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<sup>1</sup> [Residential buildings](#), Department of Climate Change, Energy, the Environment and Water.

It's estimated that insulating new and existing buildings could reduce Australia's annual emissions by a substantial 7.1 million tonnes of CO<sub>2</sub>e.<sup>2</sup> Beyond direct emissions reductions, reduction of energy waste through improved thermal performance can have other benefits to building decarbonisation and net zero outcomes. For example, efficient use of reverse-cycle air conditioners can support demand flexibility by pre-heating and cooling our homes, which in turn supports grid reliability by better matching supply and demand in a renewably powered energy system. Pairing efficient heating and cooling solutions with a high-performing thermal building shell has a double dividend – both by reducing energy wasted through heat transfer to and from the environment, and by reducing the size of heating and cooling infrastructure needed to maintain healthy comfortable homes. This can substantially reduce the demands on energy systems, particularly if deployed at scale.

Energy demand from the residential sector, particularly space heating, is the most mis-aligned with the periods of supply of low-cost renewable energy (principally solar PV), so efforts to reduce heating load through improving the thermal performance of buildings will have an immediate, significant impact on reducing the amount of new supply infrastructure (such as storage) required to cover residential energy demand.

### **Health and comfort**

Hot and cold weather kills around 3,000 Australians each year and upgrading our homes can reduce the number of deaths from heatwaves by as much as 90 per cent<sup>3</sup>. However, health benefits go beyond mortality. A recent Australian program to make homes of vulnerable elderly more energy efficient led to benefits in health, with reduced breathlessness and improved quality of life, particularly in mental health and social care aspects. It also found that savings were biggest in the area of healthcare. In fact, for every \$1 saved in energy, more than \$10 was saved in health<sup>4</sup>. This is not a one off, similar programs in other regions such as New Zealand and the United Kingdom reported comparable results.

### **Economic benefits**

Industry estimates the value of the national retrofit market for insulation upgrades at more than \$20 billion over the next 30 years.<sup>5</sup> In addition to healthy global supply chains, we have strong onshore local advanced manufacturing capability. These facilities as well as local and international supply chains are capable of expansion to meet demand, representing a significant industry development opportunity for Australia. Further, the deployment of insulation reduces Australia's exposure to global fossil fuel supply chains by reducing energy demand, creating further resilience in the economy.

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<sup>2</sup> [Industry-led roadmap for quality control and safety in insulation installation](#), p.5.

<sup>3</sup> [Industry-led roadmap for quality control and safety in insulation installation](#), p.5.

<sup>4</sup> ['The Victorian Healthy Homes Program Research findings.'](#) Sustainability Victoria, 2022

<sup>5</sup> [Media release: Industry-led roadmap provides a path to safely deliver healthier, better insulated homes and reduced energy costs](#), Energy Efficiency Council and the Affiliated Insulation Industry Coalition (2022).

## Improving the Energy Performance of Residential Buildings with Insulation

### Existing activity in our states and territories

Several states and territories have been undertaking work to increase the energy performance of homes through the uptake of energy efficient products, including insulation. Examples include:

- The ACT Government's [Minimum energy efficiency standards for rental homes](#) and complementary financial support programs such as the [Sustainable Households Scheme](#);
- The [Victorian Healthy Homes Program](#); and
- Tasmania's [Energy Saver Loan Scheme](#).

Other states and territories are working toward regulatory and policy interventions to improve the thermal and energy performance of residential housing stock, including states such as New South Wales and Victoria, who along with the ACT have provided considerable support to the Energy Efficiency Council (EEC) to manage, maintain and improve the [Certified Insulation Installer](#) professional certification.

This professional certification helps to provide confidence to industry and governments that installers of insulation are appropriately trained to conduct their work safely and to a high standard. An Intergovernmental Forum on Insulation to promote collaboration and alignment on activity in this area is currently being run by the EEC.

Its first meeting included Victoria, New South Wales, the ACT, Tasmania, South Australia and Jobs and Skills Australia. All governments have an open invite to join with the next meeting anticipated to take place in March 2023.

### Opportunities to leverage existing activity

The Commonwealth is by no means limited to adopting similar programs to those already tested in the states and territories, however the existing knowledge and experience does provide government with opportunity to adopt, adapt and streamline.

Options based on existing activity may include:

- A program similar to the Energy Saver Loan program in Tasmania or the Sustainable Households Scheme in the ACT.

A Federal low or no interest loan program for energy efficient products and services in residential properties would help to empower consumers to undertake energy performance improvements in their properties, whether through insulation, other energy efficiency upgrades, or both.

If seeking to support renters in particular, government could target this form of assistance to states and territories with minimum efficiency standards for rentals in the first instance. This could be a lever to encourage states and territories to move ahead with this and other interventions targeted at landlords to benefit renters and vulnerable households. However, households in all jurisdictions will need support to improve their energy performance and, in turn, reduce strain on the system, save on bills and become more resilient to climate change. Pilot projects funded by governments and carefully monitored for the multiple benefits delivered, not just energy savings, will be important to build confidence and evidence.

Loans should apply to ceiling, wall and floor insulation within the confines of any loan cap specified by the program. This is because a fully insulated home is the best outcome for residents and maximises the thermal and energy performance of the home.

- A national pilot based on the Victorian Healthy Homes Program.

The [Victorian Healthy Homes Program](#) was a randomised controlled trial designed to measure the impact of an energy efficiency and thermal comfort home upgrade on temperature, energy use, health and quality of life. Each household received a pre and post upgrade Victorian Residential Efficiency Scorecard assessment of their home by a qualified assessor. This informed the choice of upgrades delivered to the home, prioritising energy efficiency and warmth.

The range of upgrades included insulation (ceiling, underfloor), draught sealing, space heating (reverse-cycle air conditioning or gas heater replacement), and internal window coverings. Target average cost per upgrade was \$3500<sup>6</sup>.

Analysis indicated that a relatively minor upgrade had wide-ranging benefits<sup>7</sup>. Studies of comparable projects in the United Kingdom and New Zealand have reported similar positive results<sup>8</sup>, consistent with existing knowledge. For example, upgrading a home from a 1 to 4 star NatHERS rating will reduce the heating and cooling energy usage of a house in Melbourne by 65 per cent, making a substantial reduction – an upgrade that could conceivably be made through the installation of insulation alone, though may include a mix of efficiency measures.<sup>9</sup>

As in Victoria, low-income, elderly and/or vulnerable households could be targeted as recipients of program and, based on the evidence available, the government may reasonably expect to see improvements in energy performance as well as significant health savings as a result of such an initiative.

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<sup>6</sup> Sustainability Victoria, [The Victorian Healthy Homes Program Research findings](#), (2022), p.6.

<sup>7</sup> Ibid, p.5.

<sup>8</sup> Energy Efficiency Council and Australian Sustainable Built Environment Council, [Ensuring quality control and safety in insulation installation: a research report to support an industry-led roadmap for healthy, comfortable buildings](#), (2021), p. 22.

<sup>9</sup> Sustainability House, [Residential improvements project: cost-effective energy efficiency improvements for a sample of new apartments, and existing houses and apartments in Australia](#), (2013), Pure Electric, [What does the home energy star \(NatHERS\) rating system actually mean in terms of home heating?](#), (2019).

A program such as this would complement the Government's recently announced Business and Household Electrification package by supporting households to capture the full benefits of their energy efficient appliances through maximised thermal performance.

**Quality and safety**

The insulation industry continues to take steps to ensure quality and safety, including through the AII and EEC collaboration to support the roll out of the recommendations in the [roadmap for quality control and safety in insulation installation](#).

While insulation programs have proven challenging in the past, strong industry training and independent third-party product certification options now exist to give government confidence that programs including insulation can proceed safely.

Should you wish to discuss the matters raised in this submission, please contact me on 0419 951 201 or at [scott.gibson@kingspan.com](mailto:scott.gibson@kingspan.com).

Sincerely,

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