Energy Efficiency Council – National Adaptation Plan Issues Paper submission

15 April 2024

Overview

The Energy Efficiency Council (EEC) welcomes the opportunity to comment on the *National Adaptation Plan Issues Paper*.

The EEC is Australia's peak body for energy management, electrification, and decarbonisation with a membership of businesses, universities and governments working to guide Australia on the path to an efficient, prosperous net zero economy.

The EEC is supportive of the Government's approach to ensure Australia's built environment is resilient to the future impacts of climate change such as higher average temperatures and increased frequency of extreme weather events, including heatwaves and drought. Please see our high-level comments on the paper below.

Energy efficiency is essential to Australia adapting to a warmer climate.

Energy efficiency, particularly improving the thermal performance of buildings, is essential to helping Australians adapt to a warmer climate and should be central to strengthening the adaptive capacity of the built environment. Energy efficient technologies like insulation and double-glazed windows boost the thermal performance of homes, keeping them warmer in winter and cooler in summer, which contributes to improved comfort and health outcomes for occupants, as well as emissions reductions and cost savings.

Research shows a strong link between buildings' thermal performance and health outcomes for occupants.[i] Therefore, as the climate warms, and heatwaves become more frequent, the thermal performance of homes will become increasingly important for ensuring Australians are safe and healthy indoors.

Victoria's Healthy Homes Program demonstrated this effectively in vulnerable households. Each household subject to the program received a pre- and post-upgrade assessment of their home, and the upgrades administered prioritised 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. The average cost per upgrade was relatively minor, at $3500[ii]. Analysis indicated that these relatively minor upgrades had wide-ranging benefits, including healthcare savings of almost $900 per person over the winter period[iii]. In fact, for every $1 saved in energy, more than $10 was saved in healthcare.[iv]

In New Zealand, a similar program delivered an estimated $7 in benefits for each dollar spent, largely due to improved health outcomes.[v] These included benefits in many areas of health, including reduced hospitalisation, medical visits, days off school or work and pharmaceutical cost savings.[vi]

Poor thermal performance means more energy is required to get homes and buildings to a safe and comfortable indoor temperature, resulting in higher energy costs. Rising energy bills are a significant source of stress for many householders, with energy poverty contributing to negative social and health outcomes for Australians. Vulnerable people, including the elderly and those with chronic illness or disability, are at higher risk of sub optimal health and financial impacts associated with poor thermal performing homes.[vii]

Many householders, particularly renters, do not have control over the energy performance of their homes and have minimal capacity to make upgrades. These people are at risk of suffering disproportionately from the effects of climate change. It is

imperative to ensure policy and regulatory settings are inclusive of them when considering the role of energy efficiency in adaptation.

Improving demand-side energy performance will boost the resilience of the electricity grid as the climate warms

Flexible demand and energy efficient thermal performance upgrades offer the potential to shift and reduce cooling loads in warm weather, supporting a more resilient electricity grid during extreme weather conditions. Already, under current climate conditions and hazards, the electricity grid is struggling to deal with high demand on hot days, particularly while relying on ageing fossil fuel and transmission infrastructure[1]. Decreasing and re-shaping electricity loads via thermally efficient and grid-connected buildings partnered with decentralisation of generation of storage assets is therefore pivotal to boosting the resilience of the electricity system.

Relatively minor energy performance upgrades like draught proofing, window dressings and insulation can have a significant impact. Well insulated buildings with high thermal performance minimise heating and cooling loads, promoting grid stability, while also reducing energy bills and improving thermal comfort inside the home.[viii] Adding energy-efficient digitally connected appliances and equipment to buildings allows for shifting electricity use away from peak periods in the mornings and evenings, helping to boost electricity grid resilience.[ix]

The Federal Government plays an integral role in adaptation

The Federal Government is not solely responsible for mitigating risks associated with climate change; however, it can play an important leadership role to drive strong action across different levels of government, and build knowledge across the community.

Many members of the community are unaware of their personal climate-related risks and subsequently, how they can take actions to mitigate these risks. These risks are often very specific to local climate conditions, so it is important that adaptation policy responses are designed collaboratively with people and communities at the local level so that local knowledge is incorporated into policy responses and local people feel empowered and engaged in decision-making processes. The Federal Government can play an important role to support local-level adaptation through data provision, by convening key stakeholders, and by providing funding, particularly given local government is often under-resourced.

Improving the thermal performance and resilience of buildings is a national infrastructure issue and requires a coordinated and collaborative approach to build community and industry literacy on the need for updating Australia's building stock to be more climate resilient – especially in existing buildings.

The Federal Government's role is particularly important for supporting and coordinating the necessary changes to regulations such as building codes and appliance standards that would unlock a step-change in the energy performance of both new and existing buildings.

[1] For example, on 13 February 2024, Loy Yang A, the largest coal fired powerplant in Australia was taken offline after storms damaged transmission lines. See: https://www.agl.com.au/about-agl/media-centre/asx-and-media-releases/2024/february/outage-at-loy-yang-a-power-station-on-13-february-2024?zcf97o=vlx3ap.

In line with the EEC's broader policy positions, the EEC recommends the Federal Government:

- Continues to encourage swift implementation of proposed updates to the National Construction Code with minimal delays in adoption of new standards;
- Expands the National Energy Performance Strategy (NEPS) to ensure it gives businesses and markets clear policy signals and the confidence to invest in energy efficiency and thermal performance by introducing programs that will deliver the benefits of efficiency flexible demand, and electrification across the built environment;
- Supports the implementation of a nationally consistent energy performance rating tool and mandatory disclosure of energy performance at point of sale; and
- Finalises the update to the Trajectory for Low Energy Buildings, ensuring it includes clear targets and a plan to improve thermal performance of buildings.

There are broader opportunities for adaptation in the built environment

In addition to directly improving the energy performance of Australia's building stock, there are other opportunities that could be taken advantage of to mitigate future risks of climate change and promote adaptation.

Smart urban planning that applies passive design principles poses an opportunity for the built environment to support both energy efficiency and adaptation. Examples of this include shading devices and increased canopy cover in cities to decrease radiative heat in public spaces and buildings, reducing energy use and mitigating the urban heat island effect.[x]

Successfully adapting to climate change also requires thinking holistically about intersecting systems to address multiple problems at once. For example, with increasing probability of drought events in the future, using water efficiently will help boost the adaptive capacity of communities and the energy system they rely on. Measures to safeguard water security can have positive impacts for energy system reliability (particularly while thermal and hydropower continues to be part of the electricity mix)[xi] while minimising leaks and utilising water efficient appliances helps to improve both water and energy efficiency, by reducing energy used required to pump and heat water[xii].

First Nations peoples' rights to self-determination

The EEC strongly supports the integration of First Nations' perspectives and paying respect to First Nations peoples' right to self-determination throughout the development of the National Adaptation Plan.

Housing quality is a recognised determinant of health outcomes in First Nations peoples, and many First Nations peoples' homes do not adequately protect occupants from extreme high or low temperatures.[xiii] First Nations' communities are disproportionately burdened by homes with low energy performance, making them more susceptible to poor health outcomes due to climate change and extreme temperatures[xiv]. Increasing the resilience of the built environment in First Nations' communities is essential to the success of the National Adaptation Plan and closing the health and life expectancy gap between Aboriginal and Torres Strait Islander peoples, and non-Indigenous Australians.

The EEC would welcome the opportunity to discuss these matters in more detail. Should you wish to speak further, please contact Jeremy Sung on jeremy.sung@eec.org.au.

Sincerely,

Jeremy Sung
Head of Policy
Energy Efficiency Council

---

[i] Sustainability Victoria 2022, The Victorian Healthy Homes Program Research findings, pp. 6.
[ii] Ibid.
[iii] Ibid. pp.5
[iv] Ibid.
[v] Grimes et al. 2012, *Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme Ministry of Economic Development*
[vi] Ibid.
[vii] Sustainability Victoria 2024, *Home insulation*.
[viii] Ibid.
[ix] Energy Efficiency Council 2023, *Clean Energy Clean Demand*, pp. 12
[x] NSW Government 2024, *AdaptNSW – Climate change impacts on urban heat*.
[xi] IEA 2020, *Introduction to the water-energy nexus*.
[xii] DCCEEW 2024, *Water efficiency*.
[xiii] Australian Housing and Urban Research Institute 2017, *Research synthesis of social and economic outcomes of good housing for Aboriginal and Torres Strait Islander People*.
[xiv] Medical Journal of Australia 2022, *Climate, housing, energy and Indigenous health: a call to action*,pp. 1-59.