NSW Net Zero Consultation

Submission to NSW Net Zero Commission

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About the Housing Industry Association

The Housing Industry Association (HIA) is Australia's only national industry association representing the interests of the residential building industry, including new home builders, renovators, trade contractors, land developers, related building professionals, and suppliers and manufacturers of building products.

As the voice of the industry, HIA represents some 60,000 member businesses throughout Australia. The residential building industry includes land development, detached home construction, home renovations, low/medium-density housing, high-rise apartment buildings and building product manufacturing.

HIA members comprise a diversity of residential builders, including the Housing 100 volume builders, small to medium builders and renovators, residential developers, trade contractors, major building product manufacturers and suppliers and consultants to the industry. HIA members construct over 85 per cent of the nation's new building stock.

HIA exists to service the businesses it represents, lobby for the best possible business environment for the building industry and to encourage a responsible and quality driven, affordable residential building development industry. HIA's mission is to:

> *"promote policies and provide services which enhance our members' business practices, products and profitability, consistent with the highest standards of professional and commercial conduct."*

The residential building industry is one of Australia's most dynamic, innovative and efficient service industries and is a key driver of the Australian economy. The residential building industry has a wide reach into manufacturing, supply, and retail sectors.

The aggregate residential industry contribution to the Australian economy is over $150 billion per annum, with over one million employees in building and construction, tens of thousands of small businesses, and over 200,000 sub-contractors reliant on the industry for their livelihood.

HIA develops and advocates policy on behalf of members to further advance new home building and renovating, enabling members to provide affordable and appropriate housing to the growing Australian population. New policy is generated through a grassroots process that starts with local and regional committees before progressing to the National Policy Congress by which time it has passed through almost 1,000 sets of hands.

Policy development is supported by an ongoing process of collecting and analysing data, forecasting, and providing industry data and insights for members, the general public and on a contract basis. The association operates offices in 22 centres around the nation providing a wide range of advocacy, business support including services and products to members, technical and compliance advice, training services, contracts and stationery, industry awards for excellence, and member only discounts on goods and services.

Introduction

Executive Summary

The Housing Industry Association (HIA) supports a coordinated and nationally consistent approach to improving the energy efficiency and resilience of new homes. Efforts to address new building standards must align with the nationally established Net-Zero trajectory, and resilience projects and be progressed through the existing Australian Building Codes Board (ABCB).

Introducing competing or divergent building standards complicates stringency and national consistency for consumers and manufacturers and ignores the possibility of greater more harmonised national action.

New homes have already made significant contributions to Australia's decarbonisation efforts. HIA urges policymakers to focus on other sectors and policy levers with real potential for emissions reductions. In particular, decarbonising the electricity grid noting some manufacturing lacks alternatives, holds the greatest potential for reducing embodied emissions in Australian-made products.

Continuing to target already high performing and contemporary buildings increases housing costs and commits more Australians to older, less efficient, and less resilient homes. This undermines both equity and environmental goals and reduces housing affordability.

A key risk in this policy space is the increasing burden on those remaining on the natural gas network, potentially leading to rising energy costs and threatening network viability. Mandates—particularly in areas like electric vehicle readiness and heat pump installation—may not fully account for consumer readiness or practical constraints.

Resilience policies must look to areas where there is the highest vulnerability. Incentives focused on adaptation have shown promise, and proactive approaches can minimise financial loss and disruption from climate-related events. However, HIA argues that caution must be applied with overly precautionary models, which can reduce credibility of interventions and may lead to poor policy decisions.

Transparent, credible scenario development and inclusive stakeholder engagement are essential for building public trust. Consumers need clear, accessible information to make informed choices about risk and resilience.

National frameworks are already in place to guide building standards on energy efficiency, resilience, and climate adaptation. These must not be duplicated or weakened by disjointed state-based initiatives.

Finally, in the face of affordability and supply crisis, policy must incentivise good decision-making through disclosure and incentives rather than new and unrealistic burdens on already high performing homes.

Summary Recommendations

Built Environment

Q. 19: Electrification and Energy Efficiency in Buildings

- Prioritise disclosure, coupled with incentives and more efficient energy saving alternatives for existing buildings, where the highest abatement potential exists.
- Do not diverge from well-established and coordinated national net-zero processes for buildings though the trajectory for new buildings and the National Construction Code (NCC).
- Focus on broad energy efficient benefits including improvements to fabric, which are longer lasting and less dependant on starting conditions.
- Policies should focus on creating market conditions conducive to voluntary electrification, allowing homeowners to choose the appliances they wish to install from a range of sources/products under an outcomes-based approach.

Q. 20: Social Equity in the Electrified Built Environment

- Recognise the practical challenges and costs of electrification mandates.
- Complimentary policies should, through incentives and replacement schemes, focus on those without capacity to finance decarbonisation and the remaining users on the gas network.

Q. 23: What Does a More Resilient NSW Look Like?

- Support for proactive resilience approaches and incentives to minimise property loss and disruption from hazards:
  - Governments and industry working together on upgrading programs for existing homes to improve their resilience against hazards.
  - A central repository of adaptation guidelines and tools should be developed to help homeowners and builders improve resilience.
- Encourage better voluntary and tailored tools, particularly for existing buildings and extend incentives like those which have been successful for resilience.
- Support government-backed reinsurance pools and voluntary buy-back programs for homes in high-risk areas and insurance incentives for renovations and additions that prioritise resilience.

Q. 24: Information and Evidence for Adaptation Progress

Q. 25: Using NARCliM Climate Projections

Potential uses include:

- Supporting improved public information on risk and develop credible, transparent scenarios with broad stakeholder involvement.
- Improve mapping under a consistent national climate scenario framework.
- A benchmark for how credible models that underpin innovative tools to inform choices.

Q. 27: Preparing for Extreme Heat and Humidity

- Support proactive resilience and preparedness and incentives to minimise property loss and disruption to communities.
- Encourage voluntary standards and investigate how insurance incentives could improve building resilience after occupation.

Other relevant Questions

Q. 9: Accelerating Decarbonisation in Freight and Passenger Transport

- Consider the practical challenges and costs associated with in building mandates for EV-readiness before imposing building obligations.

Q. 14: Accelerating Industrial Heat Electrification in NSW

- Prioritise grid decarbonisation to support emission reductions in manufacturing and reduce embodied emissions in Australian-made products.
- Avoid policy actions that ignore the lack of alternatives and increase costs for those remaining on the gas network and risk its viability.

Q. 15: Addressing Waste Generation and Resource Recovery

- Investigate opportunities in regional operations where the volume of waste is not economic to approach in the same way recycling of waste as metropolitan areas.
- Support waste management facilitating accurate collation and recording of data at landfill and recovery facilities, where practical and cost free.
- Investigate utilise building solutions that both reduce waste, such as prefabricated building elements, and products that utilise minimal packaging.

Built Environment Consultation Questions

Question 19: What additional measures could accelerate electrification and increase energy efficiency of new and existing buildings?

HIA acknowledges that there is, and will remain, a need to build environmentally responsible residential buildings and land developments. However, over the last decade, regulations for new homes have been the primary focus in reducing the impact of housing developments on the environment.

No new building stringency increases should be pursued outside of the established and coordinated Net-zero trajectory for new building targets set through the NCC as part of the existing ABCB work program, which in addition to the operational efficiency gains needs to consider:

- impacts and consequences on established energy networks of renewable and onsite storage and infrastructure of transitioning to electrification over time, as part of the ongoing robust consultation framework
- coordinated standard setting which takes into account energy and emission reductions and climate models and targets, consequences and other interactions with safety health and amenity of building occupants.
- Electrification has been considered in previous NCC reforms, which has shown under sufficiently robust analysis that there are equity issues which need a managed transition.

Government policies related to net zero need to be done in a holistic manner, rather than the current piecemeal approach.

Overlapping policy ambition

The NCC has proposed the full electrification of commercial buildings as part of changes to NCC in 2025. If coincident would compete for similar resources, exacerbating the issues outlined above.

It is therefore important that all arms of Government work together on any such proposals in a coordinated way and developed with industry to ensure the proposals are realistic, proportionate and deliverable and timed to ensure the least industry disruption possible. The optimal timing of any transition must ensure it does not undermine housing supply and affordability, particularly given recent National Cabinet Commitments to build 1.2 million homes over the next five years.

The federal government targets are under review and are currently aim to reduce Australia's Scope 1 and 2 carbon emissions by 43 per cent by 2030. All states have equally or more ambitious interim targets.

This ambition has resulted in multiple overlapping government proposals with potential to affect building activity and housing affordability including vehicle emissions, transport, banking and finance, resources, or manufacturing.

- National Construction Code's Minimum Thermal Performance and Energy Use Standards
- National Energy Performance Strategy
- Electrification proposals and Enquiries
- Carbon Boarder Leakage Adjustment Mechanism
- Sectoral Targets and Plans
- Fuel efficiency standards
- Climate and sustainability reporting obligations for businesses
- Environmental and Sustainability Goals
- Mandatory Disclosure
- Embodied Emissions.

The Built Environment Sector Plan (BESP) is one of six plans developed by the Climate Change Authority (CCA) - a statutory authority tasked with providing independent advice on 2035 targets. The CCA notes "The Australian Government does not intend to set emissions reduction targets for each sector. Some individual sectors may not reach zero emissions…all sectors must reduce their emissions from current levels"

HIA contend new buildings have made a significant contribution to decarbonisation efforts. There are also challenges with electrification. There are polices and other sectors need to be investigated to drive decarbonisation further.

Electrification

Home electrification is taken to mean a policy to design a new dwelling or converting an existing dwelling from reliance on solid fuel or fossil fuel to fully electric regulated fixed appliances powered either from the grid or Distributed Energy Resources (DER). Electrification policies are therefore expected to be aimed at or result in:

- higher volume of solar panels and PV inverters on homes;
- installation of onsite generation (battery storage systems);
- electrical vehicle charging for homes and apartments;
- differing and more efficient hot water systems (electric storage, solar electric or heat pump hot water systems) and heating/cooling systems.

Several public and policy exercises that have claimed to support widespread electrification and benefits for all households omit important variables or fail to account for the diversity of housing, second order effects such as transfers or simplifications around appliance preference and choice or presence of DER.

The reality is substitution of fuels can result in a variety of outcomes ranging between 'good', 'marginal' and 'poor' financial choices depending on starting conditions[1] .

Electrification must be supported and timed in a way that does not unduly add to, materials, labour, delay, approval, financing or reduce occupant amenity at a time of increased housing need.

[1] See 4.1.1 Household energy choice in the ACT, 2020 ACIL ALLEN, which suggests several factors influence outcomes https://www.environment.act.gov.au/__data/assets/pdf_file/0011/1784315/Household-energy-choices-in-the-ACT-Modelling-and-analysis.pdf

The cost of carbon emissions is also subject to contested methodologies, scopes and discount rates resulting in a wide range of values which lack of transparency in assumptions.

Capital upgrade costs are driven by supply chains, availability of skills, labour and competition and limited by household budgets and borrowing eligibility.

Other omitted considerations have included a reduction in property rights, choice or amenity which are not adequately valued. This also brings equity issues. See Question 21.

The government's own analysis for the trajectory for low energy buildings supports existing buildings present magnitudes of higher abatement potential, the vast majority built prior to the establishment of minimum standards and incentives schemes a favourable lower marginal cost.

Extent of electrification

Often electrification proposals rely on PV and compensation from fee in tariffs to justify the extent of saving s achievable. Recent changes to the solar feed-in tariffs. NSW and ACT energy network operators Ausgrid, Endeavour Energy, Essential Energy and EvoEnergy are moving to 'two-way' pricing, following the Australian Energy Regulator (AER) Export Tariff Guidelines in May 2022.

Network operators in NSW have begun this two-way pricing in 2024, with Ausgrid imposing full mandatory adoption by July 2025. This enables network operators to apply to the AER to charge owners for exporting to the grid during certain times (i.e. daylight). The intent of this tariff change is to drive behaviours to not export to the grid during periods of high solar generation to avoid spikes and imbalances.

From the Ausgrid Fact Sheet on Export Pricing in 2024:

- *"As more residential and small business customers invest in their own energy solutions, they are using distribution networks (like Ausgrid's) to not only receive energy but also to export solar energy back to the grid.*
- *This changing use of our network means the network also needs to change to support the exported energy while continuing to provide a safe, reliable supply to all our customers. There is a cost to making this change; while we expect the total cost increase over in the next five years to be fairly small, it could grow significantly in the future.*
- *This tariff encourages customers to consume their self-generated electricity themselves or time their grid exports to later. It ensures that customers who cannot access rooftop solar systems or behind the meter batteries do not shoulder most of the increased costs."*

For a building owner to avoid these costs, an additional energy storage system (i.e. battery) and energy management system alongside the solar PV installation is required, which is unlikely to be both widely used or economical.

For electrification proposals to be in the absence of a battery system for the foreseeable future means excess generation will impose a cost to the building owner, above certain limits at times of peak generation.

Alternative sectors and options to decarbonise the economy

HIA support a simple national mandatory disclosure scheme of minimum energy and/or water efficiency measures that could be completed prior to the sale or lease of existing homes.

Mandatory disclosure

This could be used to quantify the energy and water efficiency of existing housing stock and could assist the industry and regulators in developing policies and rebates to improve environmental efficiency of these dwellings.

HIA support a simple national mandatory disclosure scheme of minimum energy and/or water efficiency measures that could be completed prior to the sale or lease of existing homes. Any scheme should provide for the recording of relevant data concerning the energy efficiency of existing homes in a central national repository.

Holistic abatement

HIA maintain that improved thermal performance of existing buildings has a more critical role to play in reducing energy use. A reduction in demand of all fuels is achieved via well sealed and insulated homes would significantly improve occupant comfort and reduce energy use, emissions and demand for new and alternate energy infrastructure networks.

Critically, this could be achieved via a combination of targeted incentives, information and education, and concessions.

New Building Contributions

New building standards are developed by the Australian Building Codes Board (ABCB) which maintains the National Construction Code (NCC). Energy efficiency standards which have been present in the NCC since 2005, along with market led initiatives like HIA Green Smart, which has been in operation for over 20 years, has seen significant reduction in energy use by residential buildings:

- In 2021, more than a third of new buildings on average exceeded the minimum standard.
- Prior to the introduction of 7-star requirements, around 11% of new buildings already exceeded the proposed stringency.
- Since 2006 an apartment building's energy use allowance has fallen from around 85mj/2 to around 11mj/m2. Emissions are millions of tonnes lower under these initiatives.

In part due to its success, the scope of savings from the built environment only represents 6% of emissions (see Figure 1). However, abatement from increasing stringency of standards for new buildings is not cost effective in many cases.

Scope 1 and 2 emissions from residential energy use are forecast to reduce 12% from 11 to 8 Mt CO2-e annually by 2035. Relative to the size of emissions from other sectors and the required reduction, the contribution of recent national stringency increases from concurrent NCC changes in 2019 and 2022 were 3.8Mt and 4.3Mt CO2-e are small (see Figure 2).

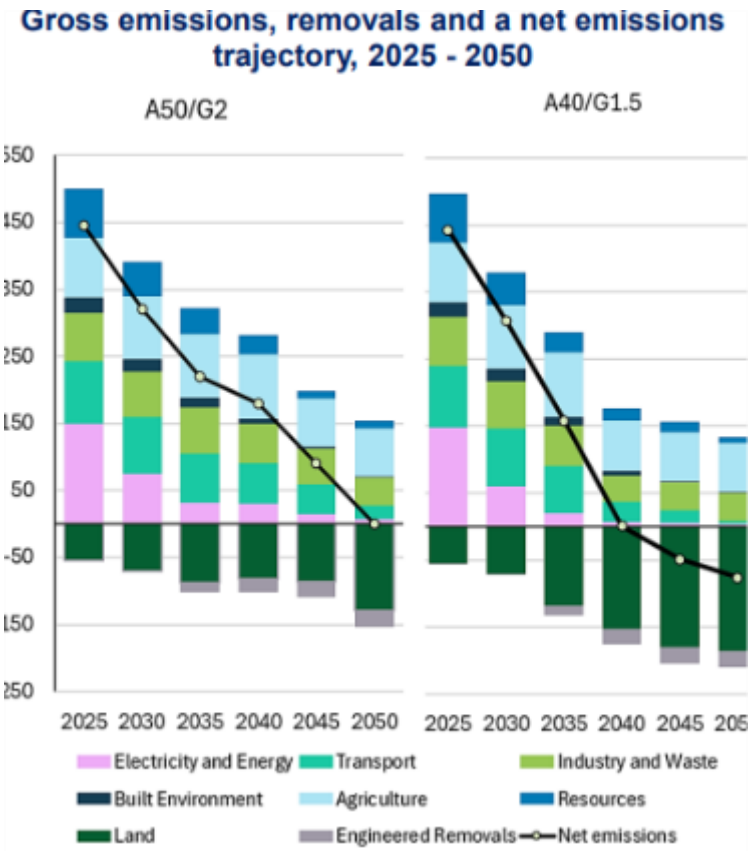

Figure 1: Sectoral Pathways for Decarbonisation 2025-2050

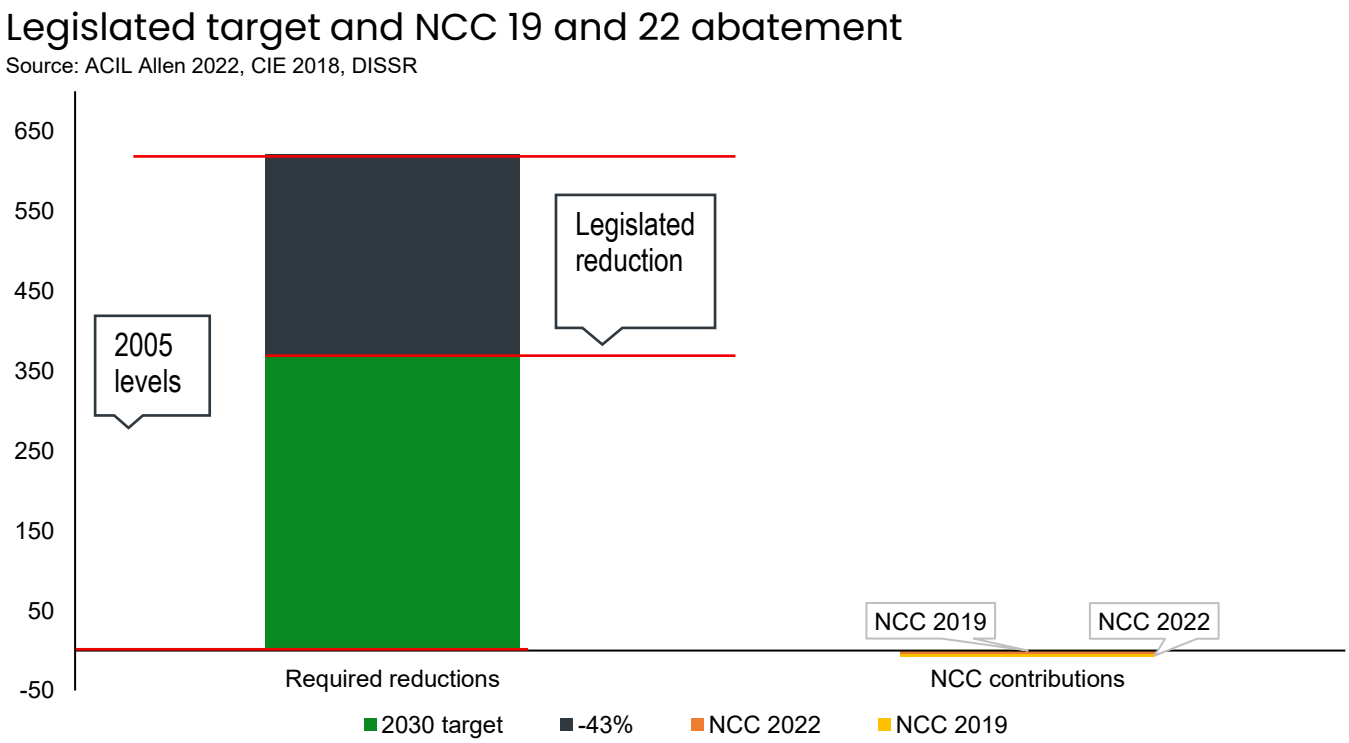

Figure 2: Comparison of NCC contribution to required abatement targets.

The report highlights grid decarbonisation will make the largest difference, to manufacturing investment in emission reduction reduce embodied emissions for Australian made products.

Other segments identified as large sources of emissions, all of which significantly outweigh the built environment contribution mean resolving more in these industries (such as generation, transport) can further contribute to driving down emissions from the built environment.

Existing Buildings

HIA position is that larger contributions can be achieved through improving the efficiency of almost nine million existing residential dwellings built before current minimum standards rather than focusing on marginal efficiency improvements that will be achieved by further increases to the standards for less than 200,000 new dwellings built each year (See Figure 3).

The role of existing buildings in improving environmental outcomes extends beyond housing, with a significant proportion of energy and water consumption arising from the commercial, short term accommodation residential buildings and retail buildings, as well as infrastructure and major industry users.

HIA position on Environmental performance of existing houses (including mandatory disclosure), highlights:

- The introduction of mandatory disclosure should be used to quantify the energy and water efficiency of existing housing stock and assist the industry and regulators in developing policies and rebates to improve environmental efficiency of these dwellings.
- Disclosure should be designed to improve public understanding of what may be achieved in respect to energy or water efficiency, however, the actual upgrading of the building to include any items identified in an assessment should remain a voluntary matter for the homeowner.

The introduction of mandatory disclosure is the responsibility of individual states.

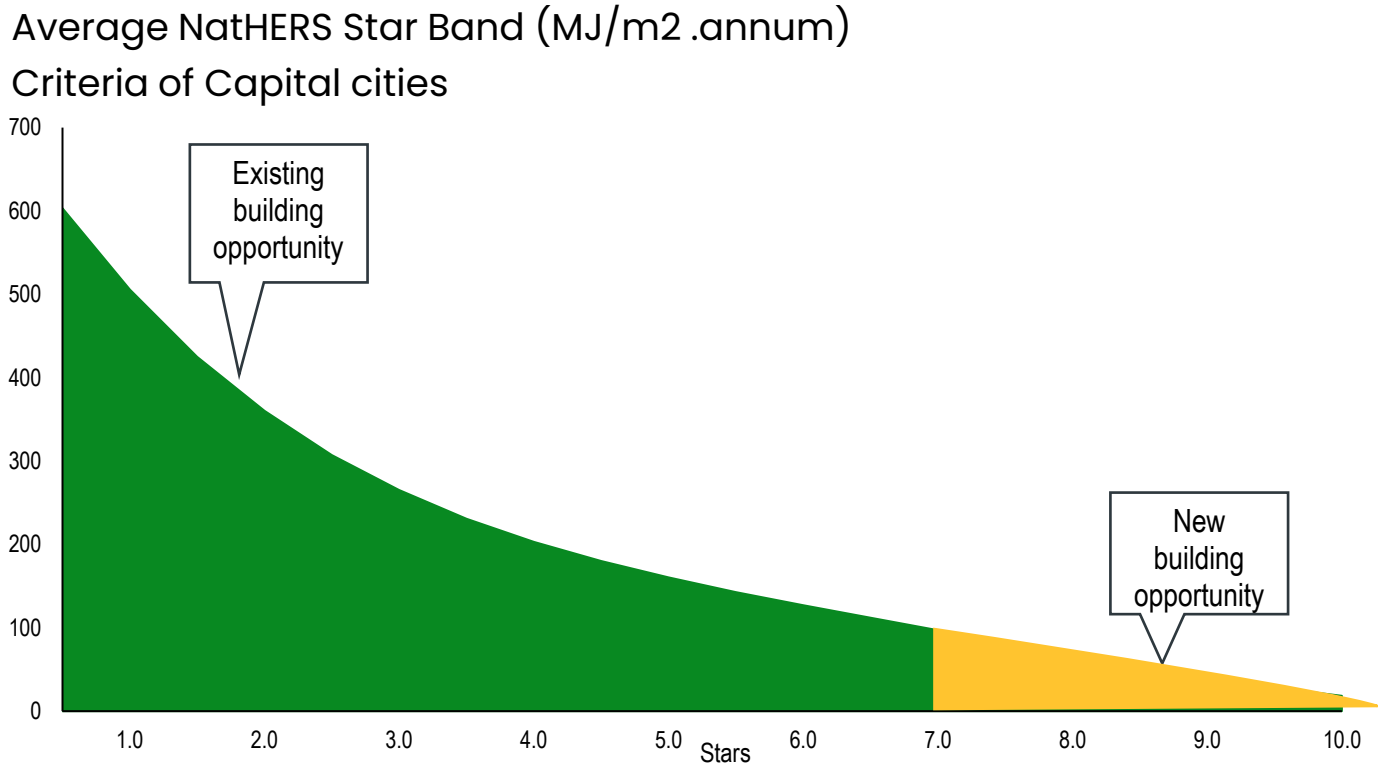

Figure 3: Energy use reduction potential (average of capital cities)

Targeting new building performance in existing buildings is impractical, both more difficult and more expensive as new standards do not cater directly to the challenges in existing buildings. HIA suggest a combination of disclosure, a reasonably achievable target and incentives would achieve far greater improvements in existing buildings. Improvements an existing building rating from 0.5 star to 3 stars has, has 23 times the reduction potential for a building in Sydney East, 17 times in Mascot and 13 times on average, relative to a move from 7-8 stars. Lower costs are also likely to achieve these outcomes due to solutions being those lower on the cost curve than those for already high performing new housing.

Grid capacity

The reliability of the existing gas network that has the proven capacity to meet winter demand for energy (and store it during off-peak season) should not be entirely discarded. Additional network investment is bought forward by; more electrification where consumption is moved to a time of higher peak demand; or where buildings are in an area of the network which is currently constrained.

Changes to demand arising from updates to energy efficiency standards for a 10-year horizon of new Inquiry into residential electrification buildings alone (at a 2 per cent annual contribution to stock) were assessed to result in a marginal $1.9 billion PV increase in wholesale prices in aggregate[2] .

[2] ACIL ALLEN Report to Australian Building Codes Board DRIS, proposal to increase residential building energy efficiency requirements, 7.5.3 pg. 227, August 2022.

Addressing information asymmetry

HIA supports the introduction of a simple checklist approach to mandatory disclosure at the sale of any property to assist with providing the energy and water efficiency of the home.

Tools are rapidly developing in capability building off those being developed by CSIRO, to allow the building performance to be understood at the time of purchase and capitalised into prices.

Market solutions and lending rate concessions play a role in any transition. For lower performing buildings, lower cost and higher impact building fabric performance improvements are available that will lead to passive improvements in occupant comfort, emission reduction and energy saving.

These could be embedded in an industry code of practice targeting high impact interventions to compliment signals from disclosure tools. Ideally these strategies could be incorporated when owners are considering undertaking alterations or additions to an existing home. Voluntary or incentives like lending concessions avoids discouraging or displacing investment or other improvements related to resilience which is also a priority of adaptation policy.

Targeting lower efficiency appliances

Heated water and space heating has seen appliance's improvements in coefficient of performance (COP). There are practical limitations and technical disadvantages (noise, space, safety placement, climate compatibility and availability) mean one type does not suit all possible circumstances.

Schemes have proven effective in NSW that target existing buildings and appliances with lower COP. Notwithstanding the need to ensure flexibility and choice in equipment, targeted replacement with heat pumps in existing buildings has the potential to achieve comparable CO2-e abatement with around only half the dwellings subject to NCC changes in 2022 and at a lower capital cost.

Any scheme needs to be carefully designed to account for misconduct that were reported to the NSW IPART in its report of (March 2023) including ensuring those installed are fit for purpose, the correct number and size, eligibility, removal and recycling of decommissioned units and the same service level is achieved.

Notwithstanding the potential, the NSW Productivity and Equality Authority report *Ensuring a cost-effective transition*,[3] acknowledged the relativity efficiency of both of these interventions was both higher cost/lower impact than many alternatives (see Figure 4).

[3] https://nswproductivitycommission.cmail19.com/t/j-l-gkylkjd-hjkyojukk-r/

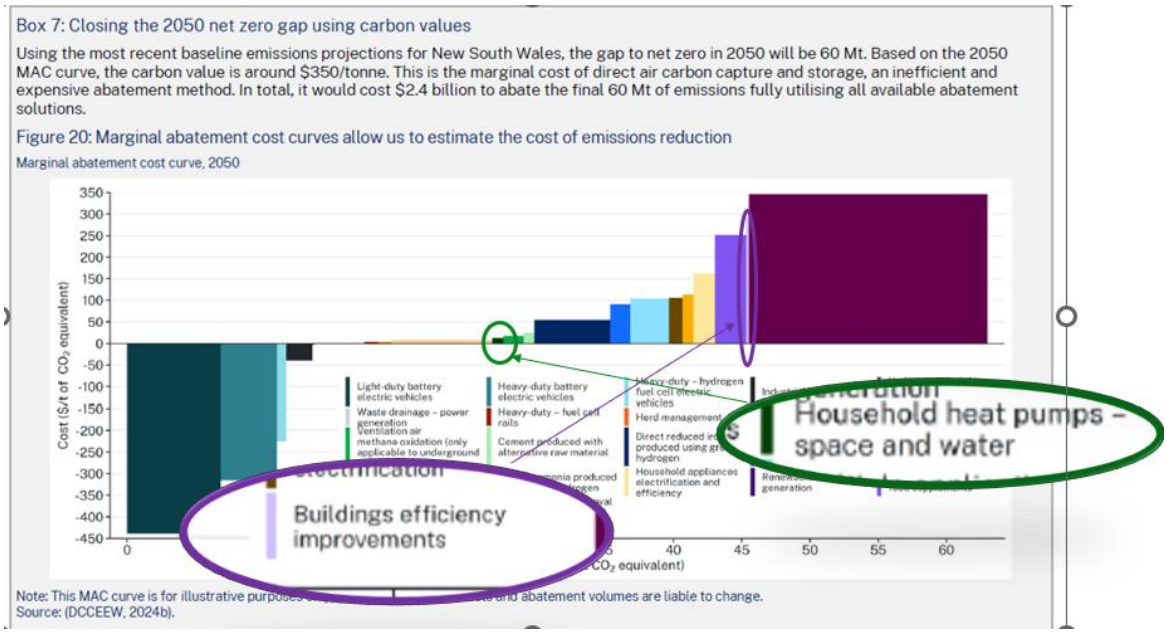

Figure 4: illustrative Marginal Abatement Curve (NSW 2024)

Question 20: How could social equity be better addressed in the transition to an electrified built environment?

Accurately capturing costs on users

The effect of transfers in the economy need to be separated when assessing the costs and benefits. Retail costs of energy overstate the value savings, as they include fixed costs transferred to other energy users.

Policies that reduce energy costs for some households, do not necessarily result in costs being avoided, but a proportion being transferred to other energy users – pecuniary externalities are imposed on the rest of society.

Large changes in purchasing behaviour for natural gas from bans or electrification incentives inevitably mean a smaller pool of users remain to repay the gas network's fixed costs.

It is well established that challenges which increase costs for those who remain on gas network and can ultimately undermine the viability of a natural gas network[4].. Yet, highly uncertain network augmentation costs are implied or incorrectly assumed to be avoided from energy efficiency measures, leading to savings being over-stated.

Energy market infrastructure costs are not linear for generation and distribution infrastructure for several reasons being insufficient, temporary or not of a scale to avoid the next increment energy of investment. Similarly, a higher capacity network is unlikely to be reduced where there is increased net demand. Analysis must therefore be comprehensive and robust and test a range of scenarios to be credible.

[4] Getting off gas Why, how, and who should pay? Grattan institute Pg.43

HIA made a comprehensive submission to the Department of Transport and Planning in February 2025, outlining the analytical shortcomings of their analysis and areas where exemptions would be justified[5].

Brownfield regional and remote areas

For remote and rural developments or in established urban infill areas, demands of full electrification are likely to exceed the ability to be supplied by local infrastructure.

In standalone Class 1 (separate dwellings) which are serviced by constrained networks, often rural blocks with longer mains runs can be subject to voltage drop, for several km will require larger mains upgrades.

Combined with the changes proposed in NCC 2025 for future electrification under 13.7.10 which are aimed at discouraging gas, conversely it is more, not less likely to be used for many domestic services, where it reduces a home's maximum demand and avoids expensive upgrade costs. This would leave the mandates and additional circuits redundant for the long life of the installed appliances. Both polices need to be coordinated.

Greenfield areas and Multi-unit developments

Currently in any given subdivision only a percentage of the network may be allocated to 3 phase power supply (e.g. 30% of the stage). Therefore, building switchboard upgrades will apply to most homes and will have a major impact on the required demand of the street electricity infrastructure where electrification is mandated.

The above issue would then be replicated many times over in a multi-unit greenfield development[6]. Multiple phase upgrades are infeasible in many cases due to the feasibility to increase supply.

The NSW Government would need to consider exemptions for these scenarios where the cost of network augmentation may be disproportionately high based on simple rules and exemptions.

Governments have prioritised electrical upgrades without accounting for the costs of supply and have instead contended occupants will reduce energy consumption and accept supply interruptions rather than implement electricity supply upgrades. In contrast, HIA's member experience suggests owners and occupants will not sacrifice other aspects of current living standards to achieve government aims.

Incentives

The costs for existing buildings switching from gas to electricity could be excessive unless greater consumer incentives are provided. Changing one appliance for another may be difficult and costly where like-for-like (e.g. installing reverse cycle air conditioning systems for a gas wall heater) is not achievable.

[5] See https://hia.com.au/our-industry/-/media/files/newsroom/submissions/2025/building-electrification-regulatory-impact-statement---280225.pdf

[6] A typical 21-unit townhouse development, requiring 141Amps phase max demand (3 phase) the additional 32 Amp max. demand equates to 160 per cent above the original allowance and 10's of thousands in costs result under a developer pays model for mains upgrades.

A gas ducted system, depending on the size of the dwelling and number of rooms, may require three or more reverse cycle air conditioning systems to cover the same area. Floors, ceiling, and roof repair removal of the existing ducted system and disposal are also required.

Victoria recently committed over $1.7 billion to the replacement of gas with electrical alternatives at the end of an assets life through incentives and rebates to assist with electrification[7].

Question 23: The adaptation objective is for NSW to be more resilient to a changing climate. The Act allows for regulations to further define the adaptation objective. What does a more resilient NSW look like to you?

Buildings constructed in accordance with the NCC are high quality, standards are regularly reviewed, and rigorous assessment processes provide a strong foundation for assessment of changes. This finding is supported by post incident reviews of extreme weather and regulation including by the Productivity Commission.

New Housing is higher performing than existing dwellings, in particular those bult prior to 1980. A similar dynamic is likely to be the case for bushfire risk. Yet constraints supply unnecessarily increase prices, and consign more Australians to fewer homes which are on average less efficient, and resilient.

Likewise, any future climate or event will be influenced by a housing mix which has an accumulation of decades of building, planning and policy and homeowner's decisions.

Proponents have attempted to justify a focus on future and changing climate through mitigation of residual risk. However, this ignores the existing stock where a higher vulnerability currently exists.

HIA's position on building resilience recognises the vast majority of Australia's housing stock already exists which justifies:

- Broader mitigation strategies must be considered, the NCC and Australian Standards alone should not be the sole tool to achieve resilience.
- Governments and industry working together on upgrading programs for existing homes to improve their resilience against hazards.
- A central repository of adaptation guidelines and tools should be developed to help homeowners and builders improve resilience.

Proactive approaches are likely to minimise property, financial loss and disruption for some hazards. QLD have adopted a similar approach under the Household Resilience Program[8].

Those eligible for the grants receive 80% of the cost of improvements up to a maximum grant value of $15,000 for items like external solid core doors and garage doors, over battens and roof replacement.

[7] See https://www.energy.vic.gov.au/renewable-energy/victorias-gas-substitution-roadmap
[8] See https://www.qld.gov.au/housing/buying-owning-home/homeowners-financial-help/resilience-to-floods-and-cyclones/household-resilience-program/about-household-resilience-program

There is evidence from the US retrofitting programs can both reduce exposure to hazards and reliance on insurance may require legislating[9].

Bushfire assessment and certification could similarly be enhanced to incentivise lower premiums under a similar model, for solutions which are effective and long lived.

The NSW Government has estimated that its expansion of the 'Resilient Homes Program' in Northern Rivers and Central West of New South Wales was established following the 2022 floods to all other floodplains across the state would open up more than 12,000 managed relocations for existing properties.

Finally, rebate schemes have been popular for solar installations could also be applied to individual measures where evidence supports their effectiveness.

Adaptation guidelines

It remains the role of standards to ensure buildings are designed in a way which means they can withstand the loads they are likely to be subjected to. Better (more tailored) voluntary standards could play a role along with insurance incentives in both new and existing buildings.

Guidance material such as that provided by NEMA[10] for bushfire are passive forms and more than identify generic solutions. This type of advice lacks an assessment against hazards, more detailed minimum standards or deployable solutions to would encourage action which make other approaches more effective.

HIA support broader efforts by Government including Government-backed reinsurance pools should be used to ensure home insurance remains affordable for people in high-risk areas and voluntary buy-back programs for homeowners whose properties have been significantly impacted and are likely to face future disasters.

HIA's policy on building resilience17[11] recognises that emergency recovery and response are important aspects of building resilience. In this regard we support an increasing focus on areas which can assist with climate resilience in the inevitable response to extreme events.

Question 24: What additional information and evidence should the commission consider when assessing progress towards the adaptation objective?

There is a growing body of information on how choices made by an owner affect a building's resilience. These occur at a point after it which regulation can't control - typically when occupation begins.

Despite buildings being constructed to identical standards, location risks can differ. There is a role for market-based mechanisms to disclose risk, assisted or informed by that currently played by insurance which provides a market signal if risk is tolerable.

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[9] 4See My Safe Home website https://mysafeflhome.com/, which notes the policy provides premium discounts 'by law'

[10] . www.nema.gov.au/sites/default/files/2024-11/D2024%2083121%20%20NEMA%20-%20Your%20bushfire%20resilient%20home_1.pdf

[11] https://hia.com.au/our-industry/newsroom/industry-policy/2023/05/building-resilience?srsltid=AfmBOorvlHE1A1_tLHfWDAFpAsihW82iYhk0Yylvc5r0L7SoPWEDMC4P

HIA are supportive of providing information to owners and the public to inform their risk. It would serve as a potentially simple means of communicating potential risk.

Question 25: How can adaptation planning better use the NSW Government's climate change projections (NARCliM)?

The report notes:

> *"the commission stated that NSW Government agencies should engage and make better use of the latest climate change projections to ensure that decisions account for the future vulnerability of NSW communities to climate change. We are looking at whether capability within government, and other organisations, is a barrier to their effective use."*

The climate scenarios relied upon to inform the outcomes in risk tools are often unclear.

HIA are supporting the development of broadly accepted climate futures, as these are a recognised shortcoming of current policy analysis.

HIA has made submissions[12] that highlight how in the absence of agreed scenarios, analysis can be:

- Blunt, simplistic or deterministic assumptions based on theoretical and prefect foresight rather than evidence informed probabilistic assessment of risk.
- Selective or unrealistic climate assumptions, time horizons, or discounting which skew potential benefits and ignore other plausible scenarios.
- Lead to solutions which would compromise a building's current comfort in preference of future and uncertain eventualities. •
- Fail to account for external factors beyond the building regulatory system like, skills and affordability.

The Bushfire Resilience Rating in response to the 2020 Royal Commission into National Natural Disaster Arrangements, to help understand which actions measurably increase the resilience of individual homes.

> *"It is the first scientific system to measure the bushfire resilience of homes, and has the potential to give insurers, banks and investors a framework for financing and rewarding bushfire resilience adaptations."*

Such tools serve as an example of what is possible, and are planned to be expanded to other hazards. Reliance on climate model SSP 8.5 and a BAU from 2005, leaves it vulnerable to the above modelling critiques and the affordability of design outcomes. [13]

HIA support improvements to the way scenarios are developed with broadly representative stakeholder involvement and transparent and credible assumptions. Precautionary models have

[12] See HIA response to Impact Analysis of Commercial Building Energy Efficiency and Electrification Proposals in NCC 2025, https://hia.com.au/our-industry/-/media/files/newsroom/submissions/2024/impact-analysis-of-commercial-building-energyefficiency-proposals-in-ncc-2025.pdf?srsltid=AfmBOorP8xXMMZ4TfZzVcyriXccw9n5rqiE8E1aH08wwClA-1mqFgjsN

[13] For example, $20,000 and $130,000 are reported costs incurred voluntarily by owners for additional bushfire protection based on its recommendations: https://www.abc.net.au/news/2023-10-23/house-bushfire-resilience-star-rating-app-launchedprepare/102914534

little real-world application for policy making and impede wider support of innovative tools and more efficient approaches.

HIA are participating in the work of the CSIRO NESP Climate Systems Hub Building for the Future project[14] which is tasked with addressing the challenges to resolve future climate files for building policy and design.

Mapping is one way to inform risk and ensure consistent standard is used and stocktakes risks. It should occur under an agreed and consistent predicted future climate framework. This would allow risks to be mitigated at the appropriate level and ensure burdens do not fall unduly on individual buildings to be reduced after development when new maps or standards are developed. This can complement planning for vegetation management, which has shown to be one of the main driving factors for risk from bushfire.

Question 27: What initiatives should the commission consider in assessing NSW's preparation and responses to extreme heat and humidity events in NSW?

Climate resilience is an issue ABCB have been tasked with investigation by Ministers. NSW should continue to support this to the extent it can be demonstrated to be a risk in new buildings.

Future policy and ensure assessments are underpinned by reasonable emissions scenarios and assumptions of economic development. While energy efficiency modelling suggests one potential future, climate scenarios use in weather files have limited direct effect informing the individual risks dwellings are exposed to for most other hazards.

For example, while weather files can be used to model energy demand and 'comfort', there are no commercial tools or agreed metrics heat or cold stress at either a building or community level and will require specialised assessment.

Tools for other hazards are specialised, opaque and complex and are not well understood by anyone outside of the few who use and develop them. Benchmarking by a central authority would provide a degree of assurance if outcomes of assessments are appropriate to inform policy.

[14] NESP Climate Systems Hub Building for the Future project, https://nesp2climate.com.au/research/building-for-the-future/ .

Other Relevant Consultation Questions

Question 9: What are likely to prove the most effective approaches to accelerate rapid decarbonisation across freight and passenger transport?

HIA has seen push towards more EV charging options mandated in residential buildings. This brings new costs and potential risks[15], supply and building demand issues which interact with issues around adequacy and reliability of supply.

Provision of additional circuits or chargers lead to an obligation for a 32 Amp maximum demand which is likely to trigger the need for a three-phase upgrade[16]. The report acknowledges the network itself is a constraint on the abatement potential and a building's location will also determine its suitability for more supply (see response to Question 20).

Question 14: What measures could accelerate industrial heat electrification in NSW, where technology is viable?

Australian manufactures are currently underrepresented in the supply of Distributed Energy Resources (DER). The housing industry more broadly is sensitive to supply chain constraints and changes which increase demand for both labour and materials. Heat pump hot water unit supply is predominantly sourced from Europe and China, is one example of a supply chain currently under pressure.

HIA is concerned achieving electrification through prohibition of alternatives would restrict some product suppliers from participating in the market and result in less local manufacturing and more imported products. It would also lead to large changes in purchasing behaviour for natural gas inevitably leaving a smaller pool of users to repay the gas network's fixed costs. This has the potential for negative externalities as expanded above.

- NSW Sustainability SEPP already has measures in place for large commercial developments regarding capacity for future replacement of any fossil fuels
- Local manufacture of construction materials which still require gas as no feasible alternatives have been developed, and Green hydrogen and green ammonia are still experimental[17]
- Alternative energy sources are not suitable for some processes, in particular - brick and tile firing, and calcining of lime for cement manufacture.
- Many materials are not feasible or significantly expensive to import from overseas due to the mass involved.

NSW should not move out of alignment with the national trajectory; Australia's manufacturing based is not large enough to support individual states having different regimes. It requires investment in increased capacity and remove pressure on construction materials/appliances that are worsening affordability issues.

[15] https://www.abc.net.au/news/science/2024-12-17/strata-residents-banning-electric-vehicle-ev-charging/104707754
[16] https://electricvehiclecouncil.com.au/wp-content/uploads/2022/08/Home-EV-charging-2030.pdf
[17] https://www.efcf.com/fileadmin/user_upload/EFCF-2025_Paper_A0602_11055_Accelerating_scaling-up_of_green.pdf

Question 15: What short to medium term measures could be prioritised to address the systemic challenges regarding waste generation and resource recovery?

For manufacturing, the incorporation of recycled not virgin materials adds complexity to processes, costs despite the assumption recycled materials are cheaper there are other costs, (e.g. cost for sorting and cleaning or suffering unacceptable contamination risk). Some material standards may present barriers to recycled products.

HIA encourage reuse or recycling of waste where practical, including encourage recycling and reuse of materials on site and in addition:

- recycling opportunities and reuse of material in the housing industry to achieve a sensible balance between building in an affordable and efficient manner whilst minimising the impact on the environment
- Investigate opportunities in regional operations (outside of major centres) where the volume of waste does is not economic to approach in the same way recycling of waste as metropolitan areas.
- Support from all levels of governments and waste management bodies pursuing opportunities for minimizing waste facilitate accurate collation and recording of data at landfill and recovery facilities

Establishing a national materials inventory would be a way of identifying the greatest areas of gain in relation to waste management. Introduce initiatives for companies to utilise building solutions that both reduce waste, such as prefabricated building elements, and products that utilise minimal packaging.