



Name: Property Council of Australia

Submission date: 6/06/2025

1. Reduce the cost of meeting carbon targets

1. What could be done to improve the cost-effectiveness and alignment of policies to reduce emissions across the industrial, electricity and transport sectors?

We strongly recommend the Productivity Commission consider the built environment as a discrete sector in the context of this review. Buildings present significant opportunities for low-cost abatement leveraging existing technology ready for deployment. There are a variety of interdependencies between the buildings sector and emissions reduction across the industrial, electricity and transportation sectors which must not be overlooked. In the context of the electricity sector, buildings are energy nodes, drawing on, and supplying energy through an increasingly complex network of distributed nodes. Increasingly, buildings fitted with solar PV contribute to the supply of electricity, enable storage of energy in thermal or battery systems and will become intermediaries to supplying energy to electric vehicles. Buildings are essential infrastructure, providing safety and comfort in homes while providing productive environments for Australia n workers in offices, shops and logistic buildings. Managing energy performance of buildings supports the broader economy to meet societal needs at the lowest overall financial and environmental cost. The interdependencies between the built environment, energy system and the transport sector will only increase into the future as we try and create an energy system fit for the 21st century. The importance of strategic policy coordination between these sectors in the context of maximising productivity cannot be overstated. Supply and demand side policy interventions are two sides of the same coin, and we encourage the Productivity Commission to make it clear the points at which buildings contribute to decarbonising energy supply. We fully support decarbonisation of Australia 's energy grid and that we estimate that implementing a comprehensive suite of energy efficiency policy measures could deliver \$20 billion in financial savings by 2030 , and 64MT of avoided CO₂e emissions by 2050 . Further, electrifying the built environment could deliver 199MT avoided CO₂e emissions and \$49 billion in energy savings by 2050 compared to business as usual. We produced a comprehensive suite of policy recommendations to unlock this abatement in our report 'Every Building Counts.'

2. Are there gaps in the emissions-reduction policies in the industrial, electricity and transport sectors which should be addressed?

Gaps - Electricity Demand-side participation is key to an energy system that acts holistically, reduces costs, empowers participants and can reduce emissions as fast as possible. Our failure to fully harness the power of demand-side participation needlessly locks us in higher future energy costs and emissions, while failing to serve the interests of the whole community. There are five specific barriers to improving demand side involvement: 1. Mis-prioritisation: Energy system frameworks don't set out to achieve what matters. 2. Unaccountability: The demand side of the energy system isn't anyone's job. 3. Invisibility: The demand side of the energy system is ignored in system planning. 4. Inaudibility: Energy users (the demand side) are poorly represented in policy making. 5. Misunderstanding: Energy governance misconceives demand side participation. The

best way to deliver consumers' energy needs for warm and affordable homes is through an integrated mix of demand-side and supply-side measures. However, the legal framework for national energy market laws do not currently drive visibility, consideration or development of demand-side measures in energy markets. They primarily consider energy supply, with energy demand considered from a consumer protection perspective. Several areas of the national energy legal framework require reform to better facilitate demand-side participation. The European Union has adopted the principle of 'energy efficiency first' to ensure that energy efficiency is elevated when policies and investments in energy are being considered. To embed this principle in Australia, a suite of reforms should be implemented:

- Australian governments should agree on an appropriate target to increase energy performance, and a range of metrics to measure progress towards that target. A target provides a clear point to aim for, and a frame of reference for policies and programs to achieve it. Better informing the Integrated System Plan and plans to close the gas shortfall currently projected for 2027 would be particularly useful
- reform the National Energy Objectives to focus on optimising cost or affordability of energy for energy users, rather than just the price of energy, and introduce social equity into the objectives
- reform national energy laws to require consideration of the principle of 'demand-side first' at every stage of energy market development, regulation, and operation
- amend energy market body establishment Acts to enable and require greater board representation of members with expertise in consumer and vulnerable consumer issues and demand-side matters
- rebalance energy market bodies to better incorporate demand-side opportunities into energy system policy, planning and regulation by:
 - o establishing a National Energy Performance Agency, separate to or within an existing market body. It is becoming clear that the lack of a central home for demand side policy is significantly hampering efforts to improve demand side participation. A dedicated agency to oversee, coordinate, facilitate and champion demand-side actions to improve energy performance is a critical enabler to advance this agenda
 - o strengthening energy system planning, fully incorporating demand-side measures
 - o adjusting the remits and skills of other market bodies to create an efficient distribution of responsibilities that incorporates both supply and demand-side planning.
- create an annual statement of demand-side opportunities alongside statements of opportunity in supply, and include demand-side planning in the Integrated System Plan
- expand and resource the role of consumer advocates in energy system planning, governance and delivery, to ensure outcomes are consumer-focused
- Investigate opportunities for the aggregation of demand-side flexibility certificates that would allow third party involvement in driving demand flexibility
- Address the issue whereby networks currently hold stronger negotiation power than the built environment in the application and fair valuation of distributed energy sources and storage capacity, to ensure that the full potential of distributed energy can be unlocked in an equitable way. Every new building equipped with gas is one more building to retrofit at a significant cost in the future. At the same time, around 80 per cent of the buildings that exist today will still be in use in 2050 creating an urgent need for strategic investment to improve the climate resilience and deliver emissions reduction of current building stock.

Electrification of our built environment is critically important. ASBEC's 'Unlocking the Pathway' report shows that 100 per cent electrification with renewable electricity is the lowest cost, fastest emissions reduction pathway for Australia's built environment. However, it is not a zero-cost option. As outlined in our report Every Building Counts – government has a critical role in unlocking emissions reduction in our new and existing buildings through electrification. Specifically, we have strongly advocated for the governments to use following policy levers, to support electrification:

- Require all new

residential and commercial buildings to operate on high-quality electric equipment in National Construction Code 2025 • Introduce a national plan to phase out fossil gas in existing buildings and appliances • Create a strategy for quality retrofits for existing residential and commercial buildings that prioritises low-income and vulnerable households

2.4 Urgently grow skills and market readiness for electrification • Grow the market for strategic electric technologies by removing obstacles to importation and supporting local manufacturing • Improve the business case for electrifying buildings with targeted incentives.

Gaps – Transport & Industry We commend to the Productivity Commission ‘Reshaping Infrastructure for a net zero emissions future’ from the Australian Sustainable Built Environment Council (ASBEC) which highlighted that infrastructure influences 70 per cent of Australia’s annual greenhouse gas emissions via:

- Embodied emissions: the material used in construction, as well as those from the construction process itself
- Operating emissions: the ongoing operation of infrastructure assets
- Enabled emissions: the activities enabled by infrastructure assets and use by end-users throughout an asset’s life.

The nature and scale of infrastructure projects, and the significant strategic investment decisions they demand from governments, create an important opportunity for government to send clear market signals on critical issues including product selection, construction processes and environmental impact management. We already know how to reduce operational carbon in the built environment; however, we are yet to develop most of the solutions to cut down on embodied carbon. The built environment sector can do more, now, to tackle emissions under our control (design choices, procurement practices, construction methods) and consistently signal to our supply chain that carbon reduction is both necessary and urgent. ASBEC’s report ‘Our upfront opportunity: Australia’s policy roadmap to reduce upfront embodied carbon in the built environment’ recommends using a decarbonisation hierarchy to prioritise actions by considering emissions at every stage – and generally the greatest emissions reduction opportunities can be realised at planning stage. The report outlines key recommendations for government and industry to start right now and continue the momentum over the next decade:

1. Update the Trajectory for Low Energy Buildings policy to include upfront embodied carbon measurement and reporting, and a staged approach to mandating minimum standards. Develop an aligned, nationally consistent policy approach for the infrastructure sector.
2. Increase and continue investment in aligned national framework and tools to baseline, measure, benchmark, disclose, and reduce embodied carbon through a unified methodology and common database. These need to be consistent across commercial property, residential and infrastructure.
3. Support Australian manufacturers and provide market drivers to:
 - Reduce the embodied carbon of their materials and products via support for technology transitions and low-emissions manufacturing practices.
 - Understand and disclose the embodied carbon of their materials and products through trusted and verified processes such as Environmental Product Declarations (EPDs).
4. Prioritise a re-use, repurpose, or “retrofit-first” approach through brownfield development projects, infrastructure renewals, and major retrofits of existing structures. This includes reforming and aligning planning policies and development strategies.
5. Demonstrate leadership by updating government funding, tender and procurement requirements or processes to include embodied carbon minimum standards, and transition towards fossil-fuel free transport and construction processes.
6. Build capability, awareness and skills by developing aligned training and education materials, and professional development, across the construction sector and its value chain, including practical guidance for reducing embodied carbon and achieving more with fewer resources.
7. Resource the inclusion of a minimum standard for upfront carbon for all new commercial buildings in NCC 2028 using NABERS methodology, with

increases to minimum standards over time. Start collecting aligned data on residential buildings and consider a simplified calculator to assist residential design decisions. 8. Implement policies that secure a level playing field for Australian manufacturers of building and construction products, underpinned by consistent and comparable emissions data in line with international standards, and incentivise low carbon products made or re-made, in Australia.

3. Are there any duplicative emissions-reduction policies in the industrial, electricity and transport sectors which could be streamlined?

While it's important to identify and avoid unnecessary duplication, it's equally critical to recognise that each sector has unique characteristics and therefore requires tailored, complementary and strategically aligned policy settings. The goal should not be to consolidate for its own sake, but to ensure policies across sectors work in harmony to deliver emissions reductions efficiently and predictably. For example, in the electricity sector, market participants - including building owners - are increasingly operating on an expectation that grid decarbonisation will follow the Integrated System Plan (ISP) pathway. If government policy is not aligned with this trajectory, there will be a pressing need to provide greater certainty around the future supply of renewable energy, and clearer guidance on the role of industry and property owners in supporting grid resilience and decarbonisation. This includes creating a policy environment that supports participation in the energy market through on-site renewables, demand flexibility, or grid-interactive technologies. Rather than duplicating efforts, strategic alignment across sectors can help create the clarity and confidence needed for long-term investment and coordinated emissions reduction.

2. Speed up approvals for new energy infrastructure

1. Are planning and approvals processes for large energy infrastructure taking too long? If so, what causes the most delay?

The participant did not respond to this question.

2. How can planning and approvals processes be sped up without unduly compromising regulatory standards?

Prioritise wholistic improvements to planning systems Australia needs to grow well to boost individual prosperity and provide enough funding for government programs as our population ages. We strongly support prioritising the investment in new infrastructure projects that contribute to the expansion of housing supply and considering factors such as population growth, city planning and sustainability in the decision-making process. Energy infrastructure is certainly integral this objective. Equally, we agree that navigating high-friction planning systems adds significant cost and delays for all forms of development. At a national level, it is widely acknowledged that our national environmental law the Environment Protection and Biodiversity Conservation Act requires reform. We have welcomed the Australian government's commitment to improve outcomes for the environment and improve the efficiency and transparency of its administration, reducing time delays and providing certainty for project proponents – consistent with the findings and recommendations of the Samuel's Review. While initial consultation on the government's Nature Positive Plan took place in 2024 – it is not yet clear how reforming the EPBC Act will continue. We strongly support renewed efforts to ensure future reforms deliver certainty, reduce duplication at the state and local levels and enhance environmental outcomes. We have welcomed early signals and investment

commitments from governments to deliver a coordinated effort to improve the efficiency of national and state planning processes. We strongly recommend that examining the productivity gains through wholistic improvements to planning systems should be investigated - over and above discrete measures that only target large scale renewable energy developments. It is the experience of our members that most states fail to provide:

- a steady and competitive pipeline of greenfield and brownfield land
- efficient rezonings
- clear and dependable assessment pathways.

All developments, including large scale renewable energy infrastructure will benefit from reforms that address these barriers. The opportunity to unlock productivity through wholistic reform to planning systems must not be overlooked. We caution against any targeted measures that ultimately contributed to added complexity and possible further fragmentation in our planning systems. Include detailed consideration of distributed energy resources

To the extent the current terms of reference are focused on planning overlays for renewable energy, the Commission must consider the broader role of distributed energy resources, as a component of renewable energy infrastructure. In partnership with the Clean Energy Finance Corporation, the Property Council has released an industry guide 'Distributed energy in the property sector – today's opportunities.' This report finds that using a mix of existing technologies such as energy efficiency measures, rooftop solar PV, and other renewable energy sources, it is estimated that the Australian property sector can produce net zero emissions by 2050, generating \$20 billion in energy savings in the process. Commercial and Industrial properties have only begun to realise the opportunities for lower electricity costs and reduced emissions presented by today's solar PV costs combined with other, increasingly available and affordable technologies. In background analysis used to inform the development of the industry guide, we identified that for distributed generation to maximise its contribution to lowering emissions and providing network benefits a range of existing barriers must be removed. These barriers, particularly affecting large-scale distributed generation in the industrial and retail sectors, include:

- The costs, delays and uncertainty of the current grid connection processes create immediate barriers in the investigation of distributed energy projects
- Limited routes to market. Market access/export of power is generally limited to a negotiated agreement with the building owner's retailer as the sole permitted route to the retail market. Wholesale market participation by large-scale distributed generation exporting into the grid incurs high costs and low returns. Neither current route to market provides an attractive return on investment
- Regulatory models don't necessarily reward the roles of distributed energy in lowering delivered electricity costs. Other sources of income for the distributed generator are inadequate to justify the investment in distributed generation for export. Existing market and network support programs are small and limited in scope relative to the property sector's spatial representation
- Network and property sector planning processes are poorly aligned. There is minimal co-ordination of network and property/land development programs, meaning there is little communication and/or incentive for designing buildings and precincts that permanently reduce future electricity demand from the grid
- Impediments to the ability of non-network participants to provide network services reduces competition and potentially increases costs, with existing network providers often being the sole provider of these services in each state
- Commercial arrangements such as net vs gross leases and the "split incentive" problem. Net rental agreements, unlike gross rents, prevent the recovery of capital items such as solar PV as operating expenses. Rental tenants are the largest class of occupants in the commercial property sector, but limited tenure tenancies discourage investment. The Commission should ensure that investigating opportunities to increase renewable energy capacity in the grid and available to consumers is not

limited to large-scale projects. There are a wide range of policy levers across all levels of government which should be adjusted to facilitate increased uptake of behind-the-metre solutions.

3. Should clean energy projects be treated differently to other projects for the purpose of environmental and other approvals? If so, how?

The participant did not respond to this question.

4. What can be done to build local community support for new energy infrastructure projects?

The participant did not respond to this question.

5. Please outline any evidence showing the productivity benefits of faster approvals for energy projects.

The participant did not respond to this question.

3. Encourage adaptation by addressing barriers to private investment

1. What are the barriers and enablers impacting decisions by owner-occupiers, landlords and developers about how housing is built and updated over time so that it is resilient to the effects of climate change?

Many of the medium- and long-term impacts of climate change are already locked-in due to anthropogenic increases of greenhouse gases in the atmosphere. At the same time, most of the housing stock that exists today will still be in use in 2050 . There are complex and diverse factors that will influence how and where housing is built and maintained. Some of these considerations are relevant to the climate resilience of homes, but it important to recognise those which are not. In a supply constrained environment, housing affordability is likely to be the primary consideration that owners and prospective homeowners will consider. In the context of development, a wide variety of barriers and enablers will be relevant – with differences likely to reflect local context in terms of planning and approvals, location-based data availability, local workforce capability and specific site conditions. For these reasons, we strongly recommend that separate consideration be given to embedding resilience in the development of new homes, and adaptation measures to improve the performance of existing homes.

Adaptation for existing buildings The electrification of homes and commercial buildings will require changing out millions of gas appliances and replacing them with cleaner, healthier and vastly more efficient electric equipment. During the initial phases of the transformation the upfront capital cost can impede take up. Linking appliance upgrades with efficiency improvements like insulation and shading contributes to an optimised whole-of-energy system and a built environment compatible with a low carbon economy. A national program for the retrofit of buildings will ensure that cleaner, healthier, more efficient and more comfortable buildings are available to all. The strategy needs to incorporate financial incentives but also focus on the technologies that will integrate with renewable electricity. Millions of heat pumps, energy storage systems, and EV chargers will require design, manufacture, distribution and installation, creating new jobs and developing new skills. Targeted incentive programs will be critical to ensure that this clean, 100 per cent renewable future is affordable for all, including renters and social and community housing occupants.

2. What information do people need to make decisions about where to live, how to build and how to upgrade their homes to appropriately factor in climate change?

The participant did not respond to this question.

3. What are the most cost-effective retrofitting options for improving the resilience of Australia's existing housing stock? What are their costs and benefits?

Buildings offer their occupants many things including protection from the external environment; spaces to live, work and build communities and are the location for many economic activities that are essential to productive and prosperous society. As our climate changes the built environment will play a critical role in protecting Australians from harshening environmental conditions. At the same time, the built environment is particularly vulnerable to many of the impacts of climate change, such as extreme weather events like bushfires, floods, cyclones, and temperature increases can result in structural damage, increased energy demand, and compromised occupant health and safety. Natural disasters constitute real threats to buildings in operation and the long-term effects of climate change are likely to increase the frequency of these events. Adapting our built environment to climate change is an investment in the long-term safety, health and wellbeing of our communities while also minimising economic damage from disasters and the associated recovery costs. Much work has already been done across the property sector to mitigate the impacts of buildings as a source of emissions that contribute to climate change. We expect trend will continue as our electricity grid decarbonises and more buildings electrify. We also note that there are several important synergies between mitigation and adaptation efforts in the built environment. For example, strategies, such as insulation of buildings can provide both mitigation and adaptation benefits. These dual-purpose measures help reduce energy consumption needed for heating and cooling (mitigation) while also providing thermal insulation (adaptation). Our priorities for ensuring the resilience of the built environment include the following: 1. Contribute to a clear long-term strategy for climate resilient buildings that can adapt to acute shocks and long-term stresses from climate change. In many respects, the built environment is not currently equipped to withstand future climate conditions potentially leading to heightened risks for buildings and occupants. Measures to address this should encompass best practice technical requirements for building construction to ensure occupant safety and preserve buildings (where appropriate and cost effective) in the face of a changing climate. We note that relevant policy interventions to enhance adaptation in the built environment will likely include a range of policy areas at different levels of government - building codes, planning, funding, and incentives etc. however, it would be useful for a nationally cohesive strategy (e.g. national adaptation policy) that contributes and responds to the adaptation opportunities specific to the built environment. At a federal level this would include the Built Environment Sector Plan under development and updates to the Trajectory for Low Energy Buildings . Additionally, there are a range of initiatives at the state and territory and local levels of government which should be considered. We note that in early 2024 the Australian Government consulted on an issues paper to inform the development of a National Adaptation Plan . During this consultation, it was noted the government planned to release a public comment draft in Q3 of 2024. A draft has not yet been made available for public comment. While we commend the Productivity Commission 's focus on improving the durability and resilience of homes – a national strategy must proactively plan for supporting communities to deal with the impacts of more frequent and more severe weather events - recognising it will not be possible to embed resilience in every home, or plan for every possible natural disaster. On that basis, governments

must strategically plan for future responses to such events. Planning should be data-led to ensure that there is appropriate resourcing and systems to promote the safety of communities and ensure the efficient deployment of support, when the worst occurs. The use and occupation of all buildings – both residential and commercial – does not occur in isolation from networks of supporting infrastructure. To protect Australians from the worst impacts from climate change, durability of buildings is critical, but these measures must be supported by complementary systems that improve the overall resilience of communities. A detailed and strategic approach to improving Australia's climate resilience – including the critical physical climate risks posed by our changing climate – must be a priority for the Australian government. The issues outlined in the Productivity Commission paper will ideally be addressed within a National Adaptation Plan, with appropriate linkages into the Built Environment Sector Plan. While we understand both these policies are currently under development, we strongly recommend the Productivity Commission considers how these policies should work together to deliver safer, more resilient homes.

2. Reflect a data-led approach to enhance resilience of new buildings and minimise the need for adaptation into the future. Initially, a nationally agreed set of future climate scenario data would be required to determine structural and resilience requirements in new buildings. This dataset should also then be used to underpin a comprehensive framework of scheduled updates to regulation, targeted retrofits and land-use planning requirements. While we note the discussion paper references the nationally significant risks identified in the First Pass Risk Assessment, policy settings must reflect detailed climate data and modelling over the medium to long-term in a way that identifies and addresses current vulnerabilities and the likely impacts of climate change. We also recommend extending existing state and territory spatial mapping and hazard exposure modelling to support land use and infrastructure planning, design and investment.

3. Map a pathway for adaptation of existing building stock and incentivise private sector investment building upgrades. Like the approach to enhancing resilience of new buildings, adaptation efforts for existing buildings should be data-led to identify the nature and location of risks and inform the adaptation measures that will have the greatest level of impact at a local community level. At the national level, strategic priorities should seek to empower communities to implement change and complete building upgrades that will withstand our changing climate and adopt new technologies as our economy decarbonises. We have not been able to source government-led research which fully considers the issue of funding investment in adaptation. We see this as a critical gap the Productivity Commission should seek to fill in the course of this inquiry. The total cost of adaptation across Australia's built environment cannot be funded by governments alone, and policy conditions that incentivise and direct private sector investment into high impact building upgrades that deliver adaptation outcomes across all building types are required.

4. Establish a strategic and nationally coordinated approach to adaptation of the built environment that reflects a 'place-based' approach. All communities will experience climate change impacts into the future; however, some will experience greater risks or risks for which they are ill-prepared. Examples include communities facing significant and increasing bushfire risk, coastal areas subject to storm surge and riverine areas vulnerable to flooding. Responding to these risks will require all levels of government to consider whether, how and when action should be taken to protect communities, implement measures to adapt to climate change impacts, or consider relocation of communities from high-risk areas. There is currently no framework to manage climate change risks in existing communities that sees coordination of all levels of government and locally appropriate responses informed by the community. Such a framework is necessary and begins with understanding the

shocks and stresses experienced within Australian communities from the ground up, using consistent data standards to map different risks and then considering options for managing these risks. This needs to be done by all levels of government in partnership, considering the costs and benefits of each option and building a community consensus on preferred options. Resilience should be considered a quality of a place and so identifying and understanding the shocks and stresses present within a community is necessary to inform all efforts to build and embed resilience. This forms a baseline from which actions and interventions can be developed and can inform adaptation priorities.

5. Prioritise protection of vulnerable communities There is significant evidence that climate change disproportionately affects vulnerable populations, including low-income and remote communities. In the context of the built environment, in particular housing, vulnerable populations are at a higher risk of being left behind in the transition to net zero and adapting to the physical risks of climate change. We encourage the inquiry to consider opportunities for upgrades of existing building stock, with a focus on improvements to housing for low-income and vulnerable communities to enhance resilience to increasing heat and other climate-related hazards. This kind of targeted and direct intervention, coupled with other measures can also serve to send signals to the property sector about priority adaptation measures and upskill relevant trades and professionals to deliver relevant upgrades.

4. What role might minimum standards play in ensuring the resilience of Australia's housing stock?

The participant did not respond to this question.

5. The impacts of climate change are being factored into the regulation of where and how houses are built in different ways around Australia. What does leading practice look like? Where is there room for improvement? Are there lessons we can learn from other countries?

The participant did not respond to this question.

Cover sheet: Supporting document #1

06 June 2025

Property Council of Australia submission to the Productivity Commission's 5 productivity inquiries

Pillar 5 – Investing in cheaper, cleaner energy and the net zero transformation

5.1 Reduce the cost of meeting carbon targets

Q – What could be done to improve the cost-effectiveness and alignment of policies to reduce emissions across the industrial, electricity and transport sectors?

We strongly recommend the Productivity Commission consider the built environment as a discrete sector in the context of this review.

Buildings present significant opportunities for low-cost abatement leveraging existing technology ready for deployment. There are a variety of interdependencies between the buildings sector and emissions reduction across the industrial, electricity and transportation sectors which must not be overlooked.

In the context of the electricity sector, buildings are energy nodes, drawing on, and supplying energy through an increasingly complex network of distributed nodes. Increasingly, buildings fitted with solar PV contribute to the supply of electricity, enable storage of energy in thermal or battery systems and will become intermediaries to supplying energy to electric vehicles.

Buildings are essential infrastructure, providing safety and comfort in homes while providing productive environments for Australian workers in offices, shops and logistic buildings. Managing energy performance of buildings supports the broader economy to meet societal needs at the lowest overall financial and environmental cost.

The interdependencies between the built environment, energy system and the transport sector will only increase into the future as we try and create an energy system fit for the 21st century.

The importance of strategic policy coordination between these sectors in the context of maximising productivity cannot be overstated. Supply and demand side policy interventions are two sides of the same coin, and we encourage the Productivity Commission to make it clear the points at which buildings contribute to decarbonising energy supply.

We fully support decarbonisation of Australia's energy grid and that we estimate that implementing a comprehensive suite of energy efficiency policy measures could deliver \$20 billion in financial

savings by 2030, and 64MT of avoided CO₂e emissions by 2050.¹ Further, electrifying the built environment could deliver 199MT avoided CO₂e emissions and \$49 billion in energy savings by 2050 compared to business as usual.²

We produced a comprehensive suite of policy recommendations to unlock this abatement in our report 'Every Building Counts.'³

Q – Are there gaps in the emissions-reduction policies in the industrial, electricity and transport sectors which should be addressed?

Gaps – Electricity

Demand-side participation is key to an energy system that acts holistically, reduces costs, empowers participants and can reduce emissions as fast as possible.

Our failure to fully harness the power of demand-side participation needlessly locks us in higher future energy costs and emissions, while failing to serve the interests of the whole community.

Our energy systems were designed in a different time, for a different set of circumstances.

When Australia's energy governance arrangements were conceived in the 1990s, circumstances and priorities were different. Against the backdrop of a liberalising economy and the adoption of national competition frameworks, energy systems moved from being largely under the control of state and territory governments into a nominally competitive marketplace that would apply private sector efficiencies and discipline to energy supply.

While there have been challenges in achieving that vision even under business-as-usual circumstances, these arrangements never contemplated the vast, rapid revolution that the energy system must now undergo. This means that we are left with a 20th century framework to solve a 21st century problem – and reform to energy system governance simply hasn't kept pace with the rapidly evolving needs of the energy system transition.

There are five specific barriers to improving demand side involvement:

1. Mis-prioritisation: Energy system frameworks don't set out to achieve what matters.
2. Unaccountability: The demand side of the energy system isn't anyone's job.
3. Invisibility: The demand side of the energy system is ignored in system planning.
4. Inaudibility: Energy users (the demand side) are poorly represented in policy making.
5. Misunderstanding: Energy governance misconceives demand side participation.

Our systems of energy governance are not fit for purpose to guide a rapid transition to zero emissions energy at least cost, while promoting equity and prosperity.

The best way to deliver consumers' energy needs for warm and affordable homes is through an integrated mix of demand-side and supply-side measures. However, the legal framework for national energy market laws do not currently drive visibility, consideration or development of demand-side measures in energy markets. They primarily consider energy supply, with energy demand considered from a consumer protection perspective. Several areas of the national energy legal framework require reform to better facilitate demand-side participation.

¹ ASBEC, Low Carbon, High Performance, May 2016

² ASBEC, Unlocking the Pathway: Why Electrification is the Key to Net Zero Buildings, December 2022

³ PCA & GBCA, 'Every Building Counts,' 2023.

The European Union has adopted the principle of 'energy efficiency first' to ensure that energy efficiency is elevated when policies and investments in energy are being considered. To embed this principle in Australia, a suite of reforms should be implemented:

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Every new building equipped with gas is one more building to retrofit at a significant cost in the future. At the same time, around 80 per cent of the buildings that exist today will still be in use in 2050 creating an urgent need for strategic investment to improve the climate resilience and deliver emissions reduction of current building stock. Electrification of our built environment is critically important. ASBEC's 'Unlocking the Pathway' report shows that 100 per cent electrification with renewable electricity is the lowest cost, fastest emissions reduction pathway for Australia's built environment. However, it is not a zero-cost option.

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- Introduce a national plan to phase out fossil gas in existing buildings and appliances
- Create a strategy for quality retrofits for existing residential and commercial buildings that prioritises low-income and vulnerable households
- 2.4 Urgently grow skills and market readiness for electrification
- Grow the market for strategic electric technologies by removing obstacles to importation and supporting local manufacturing
- Improve the business case for electrifying buildings with targeted incentives.

We note that several jurisdictions have made strides towards these objectives at a state and territory level – for example in the ACT and Victoria, and local level e.g. City of Sydney and Melbourne City Council but more is needed across states and the federal levels of government to ensure these gains can be achieved in all regions.

Gaps – Transport & Industry

We commend to the Productivity Commission ‘Reshaping Infrastructure for a net zero emissions future’ from the Australian Sustainable Built Environment Council (ASBEC) which highlighted that infrastructure influences 70 per cent of Australia’s annual greenhouse gas emissions via:

- Embodied emissions: the material used in construction, as well as those from the construction process itself
- Operating emissions: the ongoing operation of infrastructure assets
- Enabled emissions: the activities enabled by infrastructure assets and use by end-users throughout an asset’s life.

The nature and scale of infrastructure projects, and the significant strategic investment decisions they demand from governments, create an important opportunity for government to send clear market signals on critical issues including product selection, construction processes and environmental impact management.

We already know how to reduce operational carbon in the built environment; however, we are yet to develop most of the solutions to cut down on embodied carbon. The built environment sector can do more, now, to tackle emissions under our control (design choices, procurement practices, construction methods) and consistently signal to our supply chain that carbon reduction is both necessary and urgent. ASBEC’s report ‘Our upfront opportunity: Australia’s policy roadmap to reduce upfront embodied carbon in the built environment’⁴ recommends using a decarbonisation hierarchy to prioritise actions by considering emissions at every stage – and generally the greatest emissions reduction opportunities can be realised at planning stage.

The report outlines key recommendations for government and industry to start right now and continue the momentum over the next decade:

1. Update the Trajectory for Low Energy Buildings policy to include upfront embodied carbon measurement and reporting, and a staged approach to mandating minimum standards. Develop an aligned, nationally consistent policy approach for the infrastructure sector.

⁴ ASBEC, 2025, Our upfront opportunity: Australia’s policy roadmap to reduce upfront embodied carbon in the built environment’ <<https://www.asbec.asn.au/research-items/our-upfront-opportunity-australias-policy-roadmap-to-reduce-upfront-embodied-carbon-in-the-built-environment/>>

2. Increase and continue investment in aligned national framework and tools to baseline, measure, benchmark, disclose, and reduce embodied carbon through a unified methodology and common database. These need to be consistent across commercial property, residential and infrastructure.
3. Support Australian manufacturers and provide market drivers to:
 - Reduce the embodied carbon of their materials and products via support for technology transitions and low-emissions manufacturing practices.
 - Understand and disclose the embodied carbon of their materials and products through trusted and verified processes such as Environmental Product Declarations (EPDs).
4. Prioritise a re-use, repurpose, or “retrofit-first” approach through brownfield development projects, infrastructure renewals, and major retrofits of existing structures. This includes reforming and aligning planning policies and development strategies.
5. Demonstrate leadership by updating government funding, tender and procurement requirements or processes to include embodied carbon minimum standards, and transition towards fossil-fuel free transport and construction processes.
6. Build capability, awareness and skills by developing aligned training and education materials, and professional development, across the construction sector and its value chain, including practical guidance for reducing embodied carbon and achieving more with fewer resources.
7. Resource the inclusion of a minimum standard for upfront carbon for all new commercial buildings in NCC 2028 using NABERS methodology, with increases to minimum standards over time. Start collecting aligned data on residential buildings and consider a simplified calculator to assist residential design decisions.

Implement policies that secure a level playing field for Australian manufacturers of building and construction products, underpinned by consistent and comparable emissions data in line with international standards, and incentivise low carbon products made or re-made, in Australia

Infrastructure Australia’s Embodied Carbon Projections for Infrastructure and Buildings report finds that over the five years to 2026–27, construction activity will produce between 37 and 64 Mt of CO₂e in upfront embodied carbon each year; a total of 247 Mt of CO₂e over the period. Findings also show it is possible to achieve a 23 per cent reduction in these emissions by switching to cleaner, market-ready building materials and technologies. Infrastructure Australia’s report also provides a series of insights and recommendations to the Australian Government on lowering embodied carbon across the built environment:

- Providing education and training for professionals, trades and consumers, which focus on addressing carbon literacy, specification of low carbon products, and construction techniques with low carbon materials
- Developing a nationally standardised embodied carbon measurement system to allow for consistent methods to collect, measure and assess data on embodied carbon
- Developing a common national approach to drive sustained market demand for low carbon products and solutions through project guidance and fiscal incentives
- Developing new methods for project delivery, which share risks and rewards for low carbon project outcomes
- Driving greater national alignment on low carbon expectations through performance-based standards and specifications.

Some of the biggest leaps in decarbonising our supply chains will occur when demand for low-embodied carbon materials and products is generated at scale via infrastructure projects and coordinated infrastructure policy.

Property Council commends the recent decision taken by Australian, state and territory transport and infrastructure Ministers to approve national adoption of the Embodied Carbon Measurement for Infrastructure: Technical Guidance. The policy and guidance, developed by Infrastructure NSW in collaboration with NSW Government agencies and industry, is an excellent example of coordinating government and industry efforts towards a common goal.

Q – Are there any duplicative emissions-reduction policies in the industrial, electricity and transport sectors which could be streamlined?

While it's important to identify and avoid unnecessary duplication, it's equally critical to recognise that each sector has unique characteristics and therefore requires tailored, complementary and strategically aligned policy settings. The goal should not be to consolidate for its own sake, but to ensure policies across sectors work in harmony to deliver emissions reductions efficiently and predictably.

For example, in the electricity sector, market participants – including building owners – are increasingly operating on an expectation that grid decarbonisation will follow the Integrated System Plan (ISP) pathway. If government policy is not aligned with this trajectory, there will be a pressing need to provide greater certainty around the future supply of renewable energy, and clearer guidance on the role of industry and property owners in supporting grid resilience and decarbonisation.

This includes creating a policy environment that supports participation in the energy market through on-site renewables, demand flexibility, or grid-interactive technologies. Rather than duplicating efforts, strategic alignment across sectors can help create the clarity and confidence needed for long-term investment and coordinated emissions reduction.

5.2 Speed up approvals for new energy infrastructure

- Q – Are planning and approvals processes for large energy infrastructure taking too long? If so, what causes the most delay?**
- Q – How can planning and approvals processes be sped up without unduly compromising regulatory standards?**
- Q – Should clean energy projects be treated differently to other projects for the purpose of environmental and other approvals? If so, how?**
- Q – What can be done to build local community support for new energy infrastructure projects?**
- Q – Please outline any evidence showing the productivity benefits of faster approvals for energy projects.**

Prioritise wholistic improvements to planning systems

Australia needs to grow well to boost individual prosperity and provide enough funding for government programs as our population ages. We strongly support prioritising the investment in new infrastructure projects that contribute to the expansion of housing supply and considering

factors such as population growth, city planning and sustainability in the decision-making process. Energy infrastructure is certainly integral this objective. Equally, we agree that navigating high-friction planning systems adds significant cost and delays for all forms of development.

At a national level, it is widely acknowledged that our national environmental law the Environment Protection and Biodiversity Conservation Act requires reform. We have welcomed the Australian government's commitment to improve outcomes for the environment and improve the efficiency and transparency of its administration, reducing time delays and providing certainty for project proponents – consistent with the findings and recommendations of the Samuel's Review. While initial consultation on the government's Nature Positive Plan took place in 2024 – it is not yet clear how reforming the EPBC Act will continue. We strongly support renewed efforts to ensure future reforms deliver certainty, reduce duplication at the state and local levels and enhance environmental outcomes.

We have welcomed early signals and investment commitments from governments to deliver a coordinated effort to improve the efficiency of national and state planning processes. We strongly recommend that examining the productivity gains through wholistic improvements to planning systems should be investigated – over and above discrete measures that only target large scale renewable energy developments.

It is the experience of our members that most states fail to provide:

- a steady and competitive pipeline of greenfield and brownfield land
- efficient rezonings
- clear and dependable assessment pathways.

All developments, including large scale renewable energy infrastructure will benefit from reforms that address these barriers.

The opportunity to unlock productivity through wholistic reform to planning systems must not be overlooked. We caution against any targeted measures that ultimately contributed to added complexity and possible further fragmentation in our planning systems.

Include detailed consideration of distributed energy resources

To the extent the current terms of reference are focused on planning overlays for renewable energy, the Commission must consider the broader role of distributed energy resources, as a component of renewable energy infrastructure.

In partnership with the Clean Energy Finance Corporation, the Property Council has released an industry guide 'Distributed energy in the property sector – today's opportunities.' This report finds that using a mix of existing technologies such as energy efficiency measures, rooftop solar PV, and other renewable energy sources, it is estimated that the Australian property sector can produce net zero emissions by 2050, generating \$20 billion in energy savings in the process.

Commercial and Industrial properties have only begun to realise the opportunities for lower electricity costs and reduced emissions presented by today's solar PV costs combined with other, increasingly available and affordable technologies. In background analysis used to inform the development of the industry guide, we identified that for distributed generation to maximise its contribution to lowering emissions and providing network benefits a range of existing barriers must

be removed. These barriers, particularly affecting large-scale distributed generation in the industrial and retail sectors, include:

- The costs, delays and uncertainty of the current grid connection processes create immediate barriers in the investigation of distributed energy projects
- Limited routes to market. Market access/export of power is generally limited to a negotiated agreement with the building owner's retailer as the sole permitted route to the retail market. Wholesale market participation by large-scale distributed generation exporting into the grid incurs high costs and low returns. Neither current route to market provides an attractive return on investment
- Regulatory models don't necessarily reward the roles of distributed energy in lowering delivered electricity costs. Other sources of income for the distributed generator are inadequate to justify the investment in distributed generation for export. Existing market and network support programs are small and limited in scope relative to the property sector's spatial representation
- Network and property sector planning processes are poorly aligned. There is minimal co-ordination of network and property/land development programs, meaning there is little communication and/or incentive for designing buildings and precincts that permanently reduce future electricity demand from the grid
- Impediments to the ability of non-network participants to provide network services reduces competition and potentially increases costs, with existing network providers often being the sole provider of these services in each state
- Commercial arrangements such as net vs gross leases and the "split incentive" problem. Net rental agreements, unlike gross rents, prevent the recovery of capital items such as solar PV as operating expenses. Rental tenants are the largest class of occupants in the commercial property sector, but limited tenure tenancies discourage investment.

The Commission should ensure that investigating opportunities to increase renewable energy capacity in the grid and available to consumers is not limited to large-scale projects. There are a wide range of policy levers across all levels of government which should be adjusted to facilitate increased uptake of behind-the-metre solutions.

5.3 Encourage adaptation by addressing barriers to private investment

Q - What are the barriers and enablers impacting decisions by owner-occupiers, landlords and developers about how housing is built and updated over time so that it is resilient to the effects of climate change?

Many of the medium- and long-term impacts of climate change are already locked-in due to anthropogenic increases of greenhouse gases in the atmosphere. At the same time, most of the housing stock that exists today will still be in use in 2050.

There are complex and diverse factors that will influence how and where housing is built and maintained. Some of these considerations are relevant to the climate resilience of homes, but it is important to recognise those which are not. In a supply constrained environment, housing affordability is likely to be the primary consideration that owners and prospective homeowners will consider. In the context of development, a wide variety of barriers and enablers will be relevant – with differences likely to reflect local context in terms of planning and approvals, location-based data availability, local workforce capability and specific site conditions.

For these reasons, we strongly recommend that separate consideration be given to embedding resilience in the development of new homes, and adaptation measures to improve the performance of existing homes.

Adaptation for existing buildings

The electrification of homes and commercial buildings will require changing out millions of gas appliances and replacing them with cleaner, healthier and vastly more efficient electric equipment. During the initial phases of the transformation the upfront capital cost can impede take up. Linking appliance upgrades with efficiency improvements like insulation and shading contributes to an optimised whole-of-energy system and a built environment compatible with a low carbon economy.

A national program for the retrofit of buildings will ensure that cleaner, healthier, more efficient and more comfortable buildings are available to all. The strategy needs to incorporate financial incentives but also focus on the technologies that will integrate with renewable electricity. Millions of heat pumps, energy storage systems, and EV chargers will require design, manufacture, distribution and installation, creating new jobs and developing new skills.

Targeted incentive programs will be critical to ensure that this clean, 100 per cent renewable future is affordable for all, including renters and social and community housing occupants.

Q - What information do people need to make decisions about where to live, how to build and how to upgrade their homes to appropriately factor in climate change?

Q - What are the most cost-effective retrofitting options for improving the resilience of Australia's existing housing stock? What are their costs and benefits?

Q - What role might minimum standards play in ensuring the resilience of Australia's housing stock?

Q - The impacts of climate change are being factored into the regulation of where and how houses are built in different ways around Australia. What does leading practice look like? Where is there room for improvement? Are there lessons we can learn from other countries?

Buildings offer their occupants many things including protection from the external environment; spaces to live, work and build communities and are the location for many economic activities that are essential to productive and prosperous society. As our climate changes the built environment will play a critical role in protecting Australians from harshening environmental conditions.

At the same time, the built environment is particularly vulnerable to many of the impacts of climate change, such as extreme weather events like bushfires, floods, cyclones, and temperature increases can result in structural damage, increased energy demand, and compromised occupant health and safety. Natural disasters constitute real threats to buildings in operation and the long-term effects of climate change are likely to increase the frequency of these events.

Adapting our built environment to climate change is an investment in the long-term safety, health and wellbeing of our communities while also minimising economic damage from disasters and the associated recovery costs.

Much work has already been done across the property sector to mitigate the impacts of buildings as a source of emissions that contribute to climate change. We expect trend will continue as our electricity grid decarbonises and more buildings electrify. We also note that there are several

important synergies between mitigation and adaptation efforts in the built environment. For example, strategies, such as insulation of buildings can provide both mitigation and adaptation benefits. These dual-purpose measures help reduce energy consumption needed for heating and cooling (mitigation) while also providing thermal insulation (adaptation).

Our priorities for ensuring the resilience of the built environment include the following:

1. Contribute to a clear long-term strategy for climate resilient buildings that can adapt to acute shocks and long-term stresses from climate change.

In many respects, the built environment is not currently equipped to withstand future climate conditions potentially leading to heightened risks for buildings and occupants. Measures to address this should encompass best practice technical requirements for building construction to ensure occupant safety and preserve buildings (where appropriate and cost effective) in the face of a changing climate.

We note that relevant policy interventions to enhance adaptation in the built environment will likely include a range of policy areas at different levels of government – building codes, planning, funding, and incentives etc. however, it would be useful for a nationally cohesive strategy (e.g. national adaptation policy) that contributes and responds to the adaptation opportunities specific to the built environment. At a federal level this would include the Built Environment Sector Plan under development and updates to the Trajectory for Low Energy Buildings. Additionally, there are a range of initiatives at the state and territory and local levels of government which should be considered.

We note that in early 2024 the Australian Government consulted on an issues paper to inform the development of a National Adaptation Plan. During this consultation, it was noted the government planned to release a public comment draft in Q3 of 2024.⁵ A draft has not yet been made available for public comment.

While we commend the Productivity Commission's focus on improving the durability and resilience of homes – a national strategy must proactively plan for supporting communities to deal with the impacts of more frequent and more severe weather events – recognising it will not be possible to embed resilience in every home, or plan for every possible natural disaster. On that basis, governments must strategically plan for future responses to such events. Planning should be data-led to ensure that there is appropriate resourcing and systems to promote the safety of communities and ensure the efficient deployment of support, when the worst occurs. The use and occupation of all buildings – both residential and commercial – does not occur in isolation from networks of supporting infrastructure. To protect Australians from the worst impacts from climate change, durability of buildings is critical, but these measures must be supported by complementary systems that improve the overall resilience of communities.

A detailed and strategic approach to improving Australia's climate resilience – including the critical physical climate risks posed by our changing climate – must be a priority for the Australian government. The issues outlined in the Productivity Commission paper will ideally

⁵ DCCEEW, National Adaptation Plan, Public Webinar – Slide 13, <<https://consult.dcceew.gov.au/climate-adaptation-in-australia-national-adaptation-plan-issues-paper>>

be addressed within a National Adaptation Plan, with appropriate linkages into the Built Environment Sector Plan. While we understand both these policies are currently under development, we strongly recommend the Productivity Commission considers how these policies should work together to deliver safer, more resilient homes.

2. Reflect a data-led approach to enhance resilience of new buildings and minimise the need for adaptation into the future.

Initially, a nationally agreed set of future climate scenario data would be required to determine structural and resilience requirements in new buildings. This dataset should also then be used to underpin a comprehensive framework of scheduled updates to regulation, targeted retrofits and land-use planning requirements. While we note the discussion paper references the nationally significant risks identified in the First Pass Risk Assessment, policy settings must reflect detailed climate data and modelling over the medium to long-term in a way that identifies and addresses current vulnerabilities and the likely impacts of climate change.

We also recommend extending existing state and territory spatial mapping and hazard exposure modelling to support land use and infrastructure planning, design and investment.

3. Map a pathway for adaptation of existing building stock and incentivise private sector investment building upgrades.

Like the approach to enhancing resilience of new buildings, adaptation efforts for existing buildings should be data-led to identify the nature and location of risks and inform the adaptation measures that will have the greatest level of impact at a local community level. At the national level, strategic priorities should seek to empower communities to implement change and complete building upgrades that will withstand our changing climate and adopt new technologies as our economy decarbonises.

We have not been able to source government-led research which fully considers the issue of funding investment in adaptation. We see this as a critical gap the Productivity Commission should seek to fill in the course of this inquiry. The total cost of adaptation across Australia's built environment cannot be funded by governments alone, and policy conditions that incentivise and direct private sector investment into high impact building upgrades that deliver adaptation outcomes across all building types are required.

4. Establish a strategic and nationally coordinated approach to adaptation of the built environment that reflects a 'place-based' approach.

All communities will experience climate change impacts into the future; however, some will experience greater risks or risks for which they are ill-prepared. Examples include communities facing significant and increasing bushfire risk, coastal areas subject to storm surge and riverine areas vulnerable to flooding. Responding to these risks will require all levels of government to consider whether, how and when action should be taken to protect communities, implement measures to adapt to climate change impacts, or consider relocation of communities from high-risk areas.

There is currently no framework to manage climate change risks in existing communities that sees coordination of all levels of government and locally appropriate responses informed by the community. Such a framework is necessary and begins with understanding the shocks and stresses experienced within Australian communities from the ground up, using consistent data standards to map different risks and then considering options for managing these risks. This needs to be done by all levels of government in partnership, considering the costs and benefits of each option and building a community consensus on preferred options.

Resilience should be considered a quality of a place and so identifying and understanding the shocks and stresses present within a community is necessary to inform all efforts to build and embed resilience. This forms a baseline from which actions and interventions can be developed and can inform adaptation priorities.

5. Prioritise protection of vulnerable communities

There is significant evidence that climate change disproportionately affects vulnerable populations, including low-income and remote communities. In the context of the built environment, in particular housing, vulnerable populations are at a higher risk of being left behind in the transition to net zero and adapting to the physical risks of climate change. We encourage the inquiry to consider opportunities for upgrades of existing building stock, with a focus on improvements to housing for low-income and vulnerable communities to enhance resilience to increasing heat and other climate-related hazards.

This kind of targeted and direct intervention, coupled with other measures can also serve to send signals to the property sector about priority adaptation measures and upskill relevant trades and professionals to deliver relevant upgrades.