EVERY BUILDING COUNTS

A practical plan for emissions reduction in the built environment

FOR LOCAL GOVERNMENTS

green building council australia

PROPERTY COUNCIL of Australia

Buildings account for over 50% of Australia's electricity use

...and almost a quarter of its emissions.

Source: Low Carbon Living CRC, Best Practice Policy and Regulation for Low Carbon Outcomes in the Built Environment, 2017

ENERGY EFFICIENCY MEASURES IN BUILDINGS COULD DELIVER:

$20 BILLION

in energy bill savings for businesses and households

OVER 50%

of the Australian Government's 2030 energy productivity target

OVER 25%

of Australia's 2030 emissions reduction target

WE ARE COMMITTED TO ACHIEVING DECARBONISATION BY MID-CENTURY IN ACCORDANCE WITH AUSTRALIA'S RESPONSIBILITIES UNDER THE PARIS AGREEMENT.

While Australia's leading property companies continue to top international sustainability benchmarks, the challenge remains to extend this progress across the sector more broadly.

The right policy settings can help our buildings achieve their full potential with consistency and efficacy. Targeted policies are needed for the sector as well as national consistency of processes and programs where possible.

Source: ASBEC Low Carbon, High Performance 2016

WE HAVE COMPLETED A COMPREHENSIVE REVIEW OF GLOBAL AND LOCAL POLICIES WITH A PROVEN RECORD OF EMISSIONS REDUCTION TO INFORM RECOMMENDATIONS WITH THE BEST VALUE FOR GOVERNMENTS AND INDUSTRY.

This work has resulted in a set of recommendations covering residential, commercial and public buildings that are ready for implementation by local governments.

This report is companion to two others tailored for Federal, and state and territory governments respectively and is the latest in a series of flagship publications showing how government and industry can work together to unlock a low carbon built environment.

THE TRANSITION TO A LOW EMISSIONS ECONOMY IS UNDERWAY AND GATHERING PACE ACROSS AUSTRALIA.

At the sub-national level, many local governments have chosen to join the international community supporting the Paris Agreement by setting their own goals and taking ambitious action. Together, their efforts are helping to drive down emissions and build resilience in the face of climate impacts.

Local government is an increasingly important driver of emissions abatement in the built environment. Through functions such as regulating the development process and influencing local attitudes and behaviours, councils have an opportunity to drive better outcomes in relation to our buildings and cities, whilst delivering long-term social, environmental and economic benefits.

The right policy settings can help accelerate these benefits, whilst reducing the cost of transitioning to a low emissions economy. This report has been developed to highlight the key opportunities, and help local governments take inspiration from best practices around Australia and around the world.

THIS REPORT WAS PRODUCED BY

PROJECT PARTNERS

green building council australia

PROPERTY COUNCIL of Australia

SPONSOR

LOW CARBON LIVING CRC

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STEERING GROUP PARTNERS

asbec AUSTRALIAN SUSTAINABLE BUILT ENVIRONMENT COUNCIL

energy efficiency COUNCIL

METHODOLOGY

We have completed a comprehensive review of global and local policies.

National

International

We have identified solutions for different building types across the built environment.

All buildings

Government

Commercial

Residential

We have identified the building lifecycle stage to which each recommendation can be applied.

All stages

Design

Construction

Commissioning

Sale/lease

Retrofit

Occupation

We assessed each policy according to the key criteria.

Impact

Emissions reduction opportunity

Ease of implementation

Lack of barriers or challenges for adoption

Cost effectiveness

Industry return on investment

POLICY THEMES

THEME 1

NET ZERO BUILDINGS PLAN

THEME 2

GOVERNMENT LEADERSHIP

THEME 3

INCENTIVISE HIGH PERFORMANCE

THEME 4

ROBUST RATING TOOLS FOR DIFFERENT BUILDING TYPES

THEME 5

TRANSFORM MARKETS FOR MATERIALS AND PRODUCTS

THIS IS AN INTERACTIVE PDF. CLICK THE BOXES TO GO TO EACH THEME.

KEY RECOMMENDATIONS

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Set a long-term vision for net zero buildings

THEME 1

2

Consistent planning pathways that support innovation

3

Lead through government's own asset portfolio

4

Inform consumers on residential energy efficiency

THEME 2

5

Accelerate the transition to high performance buildings with planning incentives

6

Shift the mid-tier office building market to better performance

THEME 3

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Endorse and contribute to a single national rating for home energy performance

THEME 4

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1.1 Set a long-term vision for net zero buildings

THEME 2
GOVERNMENT LEADERSHIP

2.1 Consistent planning pathways that support innovation

2.2 Lead through government's own asset portfolio

2.3 Inform consumers on residential energy efficiency

2.4 Ensure decision making on infrastructure, community facilities and council assets align with emissions reduction targets and address climate risk

2.5 Support low income and vulnerable households and consumers with targeted assistance and tools

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3.1 Accelerate the transition to high performance buildings with planning incentives

3.2 Shift the mid-tier office building market to better performance

3.3 Accelerate the transition to high performance buildings with targeted financial incentives

3.4 Provide support for distinct market segments through sectoral leadership strategies

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4.1 Endorse and contribute to a single national rating for home energy performance

4.2 Drive the broader application of trusted, robust and credible building rating systems such as Green Star and NABERS in government projects

THEME 5
TRANSFORM MARKETS FOR MATERIALS AND PRODUCTS

5.1 Support Australian leadership in high performing building products

5.2 Support a nationally coordinated strategy to achieve net zero embodied carbon

THEME 1
NET ZERO BUILDINGS PLAN

NET ZERO BUILDINGS PLAN

1.1 Set a long-term vision for net zero buildings

RECOMMENDATION 1.1

A MUNICIPAL NET ZERO EMISSIONS PLAN

Set a long-term vision for net zero buildings

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

All stages

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Australia's support for the Paris Agreement means that we are committed to a just transition to a low emissions economy. To fulfil our obligation, Australia must reach net zero emissions by 2050. Buildings present some of the lowest cost emissions reduction opportunities, and the technology already exists today to achieve zero carbon buildings. Local governments have the opportunity to accelerate Australia's transition to a net zero built environment, by developing their own climate change agenda in line with Australia's international obligations and taking actions to avert or reduce the effects of climate change.

PATHWAY

Local governments should commit to a long-term target of net zero emissions by 2050 with staged interim, science-based targets that are aligned with Australia's obligations under the Paris Agreement. To achieve this target, local governments should establish their own municipal plans for net zero emissions buildings by 2050, including interim targets and a process for regular review. The plan should be implemented through the local government's existing functions and include a framework for coordinating with other levels of government and public reporting requirements.

NATIONAL

CITY OF MELBOURNE CLIMATE CHANGE MITIGATION STRATEGY

In 2018 City of Melbourne adopted its Climate Change Mitigation Strategy to 2050, providing a major commitment to reduce emissions, in line with the Paris Climate Change Agreement's 1.5 degree trajectory. With zero emissions buildings and precincts a key priority, the Strategy sets out a series of actions to deliver on this goal including demonstrating the innovative carbon positive design and operation of the City's own buildings and precincts, advocating for energy performance disclosure for a greater range of commercial and residential buildings, and facilitating and advocating for fuel switching from gas to electricity in buildings and precincts.

INTERNATIONAL

CITY OF VANCOUVER'S ZERO EMISSIONS BUILDING PLAN

In 2016 the City of Vancouver published its Zero Emissions Building Plan, establishing specific targets and actions for achieving zero emissions in all new buildings by 2030. The Plan sets out four strategies for its zero emissions new buildings target by 2030, grouped around: Limits, Leadership, Catalyse and Capacity building.

THEME 2
GOVERNMENT LEADERSHIP

GOVERNMENT LEADERSHIP

2.1 Consistent planning pathways that support innovation

2.2 Lead through government's own asset portfolio

2.3 Inform consumers on residential energy efficiency

2.4 Ensure decision making on infrastructure, community facilities and council assets align with emissions reduction targets and address climate risk

2.5 Support low income and vulnerable households and consumers with targeted assistance and tools

RECOMMENDATION 2.1

REDUCE EMISSIONS THROUGH PLANNING

Consistent planning pathways that support innovation

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

Design

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Land use planning policy and regulation is critical to delivering low emissions buildings, infrastructure and precincts in our cities and communities. However, there remains a significant opportunity to deliver emissions reduction through state planning instruments that align with a national trajectory towards zero carbon ready buildings.

While policies around sustainability and the built environment are broadly present in state and regional level strategic planning documents, they can be inconsistently implemented by local governments.

PATHWAY

Planning tools need to be streamlined with consistent and transparent outcomes across state and local boundaries to support industry buy-in.

Energy performance targets need to align with a national plan for net zero emissions buildings by 2050, supported by adequate post-development monitoring and enforcement.

State, territory and local governments should lead the development and implementation of consistent planning policies that facilitate and incentivise the delivery of net zero emissions buildings. These policies should be consistent with the delivery of net zero buildings through a national trajectory of upgrades to energy efficiency requirements in the National Construction Code. Focus should be given to developing accelerated pathways to recognise and reward innovative projects that lead by example.

Working collaboratively across government boundaries with industry and the community will support the delivery of this objective.

NATIONAL

SYDNEY'S PLANNING PATHWAY TO NET ZERO BUILDINGS

The City of Sydney is enabling coordination between industry, state and territory, and local governments in New South Wales to explore how to achieve low-carbon, high-efficiency buildings and precincts to contribute to the NSW target of net zero emissions by 2050 and reduce climate change impacts. The Greater Sydney Commission's most recent planning document, the *Greater Sydney Region Plan – A Metropolis of Three Cities*, identifies building efficiency as one of the most importance pathways towards net zero emissions in Greater Sydney. All district plans contain a priority to reduce carbon emissions and manage energy, water and waste efficiently.

Through this collaboration, the City of Sydney will help lead the development of a planning pathway to net zero energy multi-unit residential, office, hotel and mixed-used development.

INTERNATIONAL

CITY OF TORONTO'S ZERO EMISSIONS BUILDING FRAMEWORK

The City of Toronto's Zero Emissions Building Framework requires all new construction to achieve superior environmental performance through site plan review, via four performance tiers that become mandatory over time until 2030. The establishment of this pathway to near-zero emissions building construction not only helps the City to meet its 2050 GHG reduction goals, but provides the building industry with a clear and transparent picture of future requirements.

RECOMMENDATION 2.2

HIGH PERFORMING GOVERNMENT BUILDINGS

Lead through government's own asset portfolio

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

All stages

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Council buildings are well positioned to deliver emissions reductions with greater leadership. Healthier, more efficient and better performing buildings would not only support councils' own emissions reduction and climate change targets, but also deliver better value for money to rate payers. Strengthening sustainability targets for councils' own projects presents an opportunity for leadership in the transition towards net zero buildings, as well as a longer term vision to support business certainty and confidence.

PATHWAY

Local government should commit to a trajectory of performance benchmarks over time for its own buildings, which could include strong minimum standards for new buildings, onsite energy efficiency, onsite renewable energy, offsite renewable energy and offsets. The benefits of NABERS energy ratings could be augmented with a holistic building rating such as Green Star, and mechanisms to improve adoption, commissioning, data gathering and reporting should be introduced or enhanced.

NATIONAL

WOLLONGONG CITY COUNCIL ADMINISTRATION BUILDING

Wollongong City Council's Administration Building achieved Australia's first 5 star Green Star – Performance rating representing 'Australian Excellence' in 2015. The building has continued to improve its operational efficiency lowering electricity consumption below 2007-08 levels and saving an estimated $250,000 a year on electricity, as well as $30,000 a year on water. These improvements, along with other sustainable measures secured the project a 6 Star Green Star – Performance rating, representing 'World Leadership'.

INTERNATIONAL

CITY OF PARIS' MUNICIPAL BUILDING TARGETS

Led by its new Climate Plan, the City of Paris is pursuing a number of outcomes for its municipal buildings. This includes the requirement that all municipal buildings will be net zero carbon in operation by 2030, a target of 40 per cent reduction in energy consumption across the entire municipal building stock by 2030, and a requirement from 2020 that all new construction projects for municipal buildings larger than 5,000 sqm need to be energy passive or energy positive.

RECOMMENDATION 2.3

ENERGY EFFICIENCY INFORMATION & AWARENESS

Inform consumers on residential energy efficiency

BUILDING TYPE:

Residential

LIFECYCLE STAGE:

All stages

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Knowledge limitations can lead to market failures when consumers are not able to make informed choices about the energy efficiency of their homes, and there is growing research showing that consumers are confused by the plethora of sustainability jargon and what they promise to deliver. Consumers find it difficult to choose from the diversity and complexity of technology options and recommended behaviours, and tend to seek decision-making shortcuts that may include withdrawal or deferring to government to 'solve the problem'.

PATHWAY

Working with other governments, industry and academia, local governments should drive awareness and behaviour change around sustainable housing, by providing information and social support to home buyers and renovators at key moments of their decision making. This information, which could include details of available financial incentives (see Recommendation 3.3) must consider timing and context to ensure effectiveness. Councils should consider the use of programming in mainstream broadcast media, social media and commercial product placement, to accelerate the adoption of high performance homes and support early adopters to enter the market at scale.

NATIONAL

DAREBIN AND BANYULE COUNCILS' SUSTAINABLE HOMES AND COMMUNITIES PROGRAM

The Sustainable Homes and Communities Program is a key environmental education partnership between Darebin and Banyule Councils in Victoria. The program has broad reach, with workshops, direct programs with diverse communities, community leaders programs, sustainability awards and resources to engage the wider community. It has been effective in reducing household energy and water use, minimising waste, and increasing the use of sustainable transport.

INTERNATIONAL

JAPAN'S SETSUDEN CAMPAIGN

The Japanese Government ran a 'Setsuden' (saving electricity) campaign following the 2011 tsunami which saw the closure of generators that had provided 30 per cent of the country's electricity capacity in 2010. The campaign encouraged households to voluntarily reduce their energy demand and set businesses targets to reduce their energy use. Whilst the campaign wasn't intended as a long-term measure, it was hugely successful, reducing peak electricity demand in the Tokyo region by 19 per cent.

RECOMMENDATION 2.4

BEST PRACTICE PROCUREMENT

Ensure decision making on infrastructure, community facilities and council assets align with emissions reduction targets and address climate risk

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

All stages

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Government investment in infrastructure represents an opportunity to maximise resilience and climate change outcomes for the community. Currently, methodologies for business case development are inconsistently applied, often based on limited evidence, out of date information and poor quality data. To enhance government capability around project management and delivery, national guidelines should be developed to provide a shared understanding of best practice procurement. This would ensure value for money for the taxpayer through consideration of the project's whole-of-life costs and broader sustainability features, such as energy, water and waste efficiency, resilience, and integration with public and active transport networks.

PATHWAY

Local governments should embed project evaluation and benefits realisation within decision making for infrastructure projects, as a condition of funding and as a component of project scoping. Social, economic and environmental objectives should be systematically, and consistently embedded into strategic procurement practice. In collaboration with other levels of government and Infrastructure Australia, local governments should support and adopt a nationally consistent approach to business case development for social and transport infrastructure.

NATIONAL

KNOX CITY COUNCIL SUSTAINABLE BUILDINGS & INFRASTRUCTURE POLICY

In 2019, Knox City Council adopted a Sustainable Buildings & Infrastructure Policy, the purpose of which was to provide a consistent approach for the inclusion of Economic and Environmentally Sustainable Development principles into Council projects. The policy includes EESD principles into all Council buildings and infrastructure projects (and all substantial renovations and renewals) valued at $150,000 or above, and guides the design and construction of buildings and infrastructure towards more sustainable outcomes.

INTERNATIONAL

SMART OSLO STRATEGY

The City of Oslo's Smart Oslo Strategy includes zero emission construction sites to support the City's target to reduce carbon emissions by 95 per cent from a 1995 baseline and become completely fossil fuel free. The City is implementing standardised procurement criteria across different city agencies in charge of construction. Sites currently use biodiesel or electric machinery and are almost fossil fuel-free already.

RECOMMENDATION 2.5

TARGETED SUPPORT FOR VULNERABLE CONSUMERS

Support low income and vulnerable households and consumers with targeted assistance and tools

BUILDING TYPE:

Residential

LIFECYCLE STAGE:

Occupation

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

More and more, consumers need to engage with the energy retail market if they want to reduce their energy bills. While many benefits can flow to informed consumers, those who are more at risk of energy stress, such as low-income or disadvantaged consumers need tailored, ongoing support to engage with their energy use. This is due to barriers that may be related to a lack of capital, language and literacy challenges, split incentives or geography. Better informing and educating consumers about their bills, energy usage and the energy market can help to overcome these barriers.

PATHWAY

Local governments should provide user-friendly information and tools to educate consumers of the long-term benefits of energy efficiency and to encourage improved energy choices. They should also provide ongoing assistance programs to inform and enable disadvantaged households to engage with the energy market. Where possible, these programs should strengthen relationships between disadvantaged households, support services, advocates and energy retailers.

NATIONAL

SECCA ENERGY EFFICIENCY UPGRADES

In Victoria, the South East Councils Climate Change Alliance delivered an energy-efficiency upgrade program to 320 low-income, mainly older households in the southeast of Melbourne. Greater cost savings were achieved by households that received both retrofits and behaviour change advice, rather than retrofits alone.

INTERNATIONAL

HOME ENERGY SCOTLAND

Home Energy Scotland are a network of local advice centres across Scotland with a mission to help residents create warmer homes and reduce energy bills. The program is funded by the Scottish Government and managed by the Energy Saving Trust, and provides a number of services and tools providing free, impartial advice on energy saving, keeping warm at home, renewable energy, greener travel and reducing waste.

THEME 3
INCENTIVISE HIGH PERFORMANCE

INCENTIVISE HIGH PERFORMANCE

3.1 Accelerate the transition to high performance buildings with planning incentives

3.2 Shift the mid-tier office building market to better performance

3.3 Accelerate the transition to high performance buildings with targeted financial incentives

3.4 Provide support for distinct market segments through sectoral leadership strategies

3.5 Drive deep retrofits for existing homes

RECOMMENDATION 3.1

PLANNING INCENTIVES

Accelerate the transition to high performance buildings with planning incentives

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

Design

Construction

Retrofit

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

The provision of planning incentives to homebuyers and builders that commit to best practice is an important mechanism that has largely been overlooked in the national policy mix. Planning incentives such as density bonuses and green door policies would support the accelerated deployment of high performing new buildings by targeting one of the highest priorities for building developers – the cost and time invested and the uncertainty of planning processes.

PATHWAY

Working with state and territory governments, local governments should develop and embed planning incentives that encourage industry towards better sustainability practice and reduced emissions. Priority should be placed on:

- Incentives such as floors space concessions for high performing buildings that meet a specified benchmark of performance through NABERS Commitment Agreements or Green Star.
- Green door policies, which would provide expedited or prioritised review and approval of development applications associated with more sustainable and higher performing buildings.
- Density bonuses, which offer developers an increase in the permitted density of residential projects in exchange for more sustainable and higher performing buildings. These should be considered in the context of urban greening requirements.

NATIONAL

CITY OF BRISBANE'S CLEAN GREEN SUSTAINABLE ACTION PLAN

In 2017 the City of Brisbane launched its *Clean, Green, Sustainable 2017-2031* action plan, which included a number of priority actions to use the City Plan to support development in embracing high-quality, sub-tropical design across Brisbane. One of these priority actions was the introduction of a 5 per cent density bonus for five and six star Green Star rated buildings in high-density areas.

INTERNATIONAL

CHICAGO'S GREEN PERMIT PROGRAM

Chicago's Green Permit Program reduces the planning application process for developers and owners who build to sustainability benchmarks to less than 30 business days, and in some cases, less than 15 days. The length is determined by the number of sustainability elements in the project, LEED certification level, and the project complexity.

RECOMMENDATION 3.2

OFFICE BUILDING RETROFITS

Shift the mid-tier office building market to better performance

BUILDING TYPE:

Commercial

LIFECYCLE STAGE:

Retrofit

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Mid-tier buildings – those classed as non-A Grade or non-Premium Grade – account for around 80 per cent of Australia's office buildings and 50 per cent of floor space. These buildings lag significantly behind others in implementing energy efficiency upgrades and retrofits, for reasons such as lack of awareness, difficulty in accessing capital and information, lack of networking among owners and tenants, split incentives, lack of skills and expertise amongst industry professionals. Given the size of the sector, mid-tier buildings present one of the largest untapped policy opportunities for governments, and research has shown that the savings potential in mid-tier office buildings is significant and feasible.

PATHWAY

Working with state and territory governments, local governments should accelerate energy efficiency for mid-tier buildings, focusing on information, incentives and research whilst building on initiatives in place through existing industry and government collaboration. These include establishing targeted financing support to encourage building upgrades such as bulk buy programs, facilitating the uptake of environmental upgrade finance and investing in research to further quantify and understand the mid-tier sector. Additional funding and support for government or industry initiatives which address endemic challenges faced by the sector, such as City Switch and the Better Buildings Partnership should also be prioritised.

NATIONAL

ENVIRONMENTAL UPGRADE FINANCE

Environmental Upgrade Finance is a council-based financing mechanism enabling building owners to better access finance for environmental upgrades to existing non-residential buildings. Currently available in three states (South Australia, New South Wales, Victoria), EUF can be used to support a broad range of works including solar, waste and water upgrades, as well as building retrofits and upgrades.

RECOMMENDATION 3.3

FINANCIAL INCENTIVES

Accelerate the transition to high performance buildings with financial incentives

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

Design

Occupation

Retrofit

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Notwithstanding the progress made by market leaders, energy efficiency investment for most stakeholders in the built environment remains a low priority, due to barriers such as the perceived difficulty of energy upgrades, high upfront costs and long payback periods. Financial incentives can drive accelerated uptake of energy efficiency and distributed technologies in new and existing buildings, by helping to reduce the gap between energy efficiency outlays and returns, and motivating action by building owners and tenants.

PATHWAY

Local governments should develop and embed financial incentives that encourage the built environment towards better sustainability practice and reduced emissions. Priority should be placed on:

- Rates and charges relief for buildings that satisfy a higher sustainability performance standard.
- Rebates that can help reduce the upfront expenses of installing energy and water saving measures in the home.
- Providing (or advocating for the establishment of) environmental upgrade finance to support commercial building upgrades.
- The bulk-buy or facilitated roll-out of common technologies or systems that may apply across a range of businesses.

NATIONAL

CITY OF ADELAIDE'S SUSTAINABILITY INCENTIVES SCHEME

The City of Adelaide's Sustainability Incentives Scheme provide a range of rebates that build on the City's commitments in supporting community investment in sustainable building upgrades. Rebates are available for Carbon Neutral Certification and for the achievement of voluntary performance ratings under Green Star and NABERS.

INTERNATIONAL

US ENERGY POLICY ACT 2005

The US Energy Policy ACT 2005 established a number of tax incentives to drive energy efficiency improvements for both commercial and residential buildings, including:

- Tax credits to builders of residential buildings who build to a high benchmark code the Energy Star rating system.
- Tax credits for home owners who upgrade their building envelope through purchase and installation of insulation, window and roofing materials.

RECOMMENDATION 3.4

SECTORAL LEADERSHIP

Provide support for distinct market segments through sectoral leadership strategies

BUILDING TYPE:

Commercial

LIFECYCLE STAGE:

All stages

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

The breadth and diversity of the built environment is a major challenge for policy development. Targeted approaches for particular market segments can be a way to overcome this challenge, and the Government should explore collaborative approaches in particular sectors to build on successes and consolidate learnings. Industrial, health and retail are among the sectors where a body of leading organisations with substantial market presence exists, and governments can play a role in coordinating industry-led groups to accelerate action in these sectors, build on successes and consolidate learnings.

PATHWAY

Local governments should actively support the creation of leadership groups in the industrial, health and retail sectors to drive innovation, demonstrate opportunities, connect stakeholders, generate awareness of best practice and develop industry skills and capability.

NATIONAL

SUSTAINABLE DESTINATION PARTNERSHIP

The City of Sydney's Sustainable Destination Partnership is a collaboration of hotels, backpacker hostels, serviced apartments, cultural institutions, entertainment venues, and industry working together to improve environmental performance and build Sydney's reputation as a leading sustainable destination. The Partnership aims to improve the energy, water and waste efficiency of buildings in the local area, increase the uptake of renewable energy and engage with regulators on major environmental policy and regulatory issues.

INTERNATIONAL

UK BETTER BUILDINGS PARTNERSHIP

The UK Better Buildings Partnership is a collaboration of the UK's leading commercial property owners who are working together to improve the sustainability of existing commercial building stock. The Partnership collaborates to find tools and solutions to overcome specific challenges faced by commercial property owners in improving the sustainability of their building stock.

RECOMMENDATION 3.5

RETROFITS FOR EXISTING HOMES

Drive deep retrofits for existing homes

BUILDING TYPE:

Residential

LIFECYCLE STAGE:

Retrofit

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

The next update of the National Construction Code - to be implemented in 2022 – is an opportunity to set higher standards for new homes. However, a challenge remains to improve the energy efficiency of our existing housing stock, which includes the 9.5 million homes which were built before minimum efficiency standards were introduced for residential buildings in 2005. Many local governments currently offer programs to drive the uptake of energy saving appliances and technologies, but these programs have not been as effective at incentivising 'deep' retrofits that are required in existing housing stock.

PATHWAY

Working with state and territory governments, local governments should research and trial programs that would provide deep retrofits to existing homes at scale. Priority should also be given to low-performing assets in the social and community housing sector, which could act as the launching market for these solutions with a view to later scale to the private home-owner market.

NATIONAL

VICTORIAN HEALTHY HOMES PROGRAM

'The Victorian Healthy Homes Program is a Victorian Government home energy efficiency program, managed by Sustainability Victoria. It provides free home energy upgrades to up to 1000 Victorians who live with complex healthcare needs, and have low incomes, in Melbourne's western suburbs and the Goulburn Valley. The program aims to improve indoor winter temperatures and reduce household energy bills. Recruitment began in 2018, and potential participants may be contacted by their local council or community health provider and referred to the program.

INTERNATIONAL

THE NETHERLANDS' ENERGIESPRONG PROGRAM

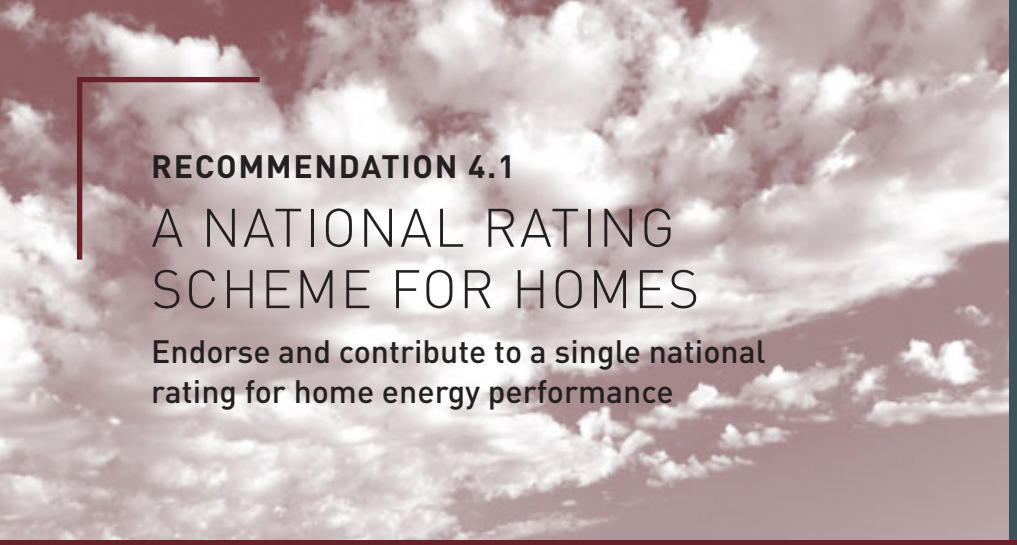
The Dutch Energiesprong ("Energy Leap") program is a whole-house refurbishment and funding approach that seeks to achieve affordable zero energy building retrofits. The initiative involves wrapping houses with insulated panel facades, installing insulated roofs with high efficiency solar panels in addition to heat pumps, hot water storage tanks and ventilation units, over the course of 10 days. The program is now present in 4 countries - Netherlands, France, Germany and the UK has recently been adopted in the US.

THEME 4
ROBUST RATING TOOLS FOR DIFFERENT BUILDING TYPES

ROBUST RATING TOOLS FOR DIFFERENT BUILDING TYPES

4.1 Endorse and contribute to a single national rating for home energy performance

4.2 Drive the broader application of trusted, robust and credible building rating systems such as Green Star and NABERS in government projects



RECOMMENDATION 4.1

A NATIONAL RATING SCHEME FOR HOMES

Endorse and contribute to a single national rating for home energy performance

BUILDING TYPE: Residential

LIFECYCLE STAGE: Occupation

IMPACT: ☑ ☑ ☑

EASE: ☑ ☑ ☐

COST EFFECTIVENESS: ☑ ☑ ☐

CURRENTLY

Australian homeowners and renters value sustainability, but lack a credible and widely accepted benchmark to easily assess the sustainability of homes. A single rating scheme consistently applied across the country can elevate sustainability considerations in their decision making, by providing greater transparency and consistency for buyers and tenants. By making it easier to compare the efficiency of homes, a rating scheme would create an incentive for building upgrades, whilst providing added consumer protection for buyers and tenants.

PATHWAY

Working with the Federal Government, and state and territory governments, local governments should support and contribute to the development of a single, coherent national rating scheme to facilitate disclosure of performance in residential buildings, that includes:

- Providing benchmarks for market comparison of best practice sustainability performance;
- A best practice governance model based on NABERS that brings the Commonwealth, state and territory governments together to collectively manage benchmarks for new homes;

NATIONAL

NATIONAL ENERGY PRODUCTIVITY PLAN MEASURE 5

Through Measure 5 of the National Energy Productivity Plan, all Australian Governments are working collaboratively to improve residential building energy ratings and disclosure. Though not including work to develop a single national rating, this program is considering different tools to improve information on residential buildings.

INTERNATIONAL

NEW ZEALAND'S HOMESTAR RATING TOOL

In New Zealand, Homestar is a comprehensive, independent rating tool managed by the Green Building Council of New Zealand that measures and rates the performance of homes. It awards points across the categories of energy, health and comfort, water, waste, materials, site, home management and an optional innovation category. Houses, apartments or multi-unit residential developments are rated on a 1-10 scale. There are two stages for a Homestar rating: the design phase which rates the development's full and final plans and the built phase which occurs after a home is constructed, and certifies that the features in the design rating have been fully implemented.

RECOMMENDATION 4.2

SUSTAINABLE BUILDING RATING SYSTEMS

Drive the broader application of trusted, robust and credible building rating systems such as Green Star and NABERS in government projects

BUILDING TYPE:

Residential

LIFECYCLE STAGE:

All stages

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Voluntary rating and benchmarking systems such as Green Star and NABERS have long been embraced by the private sector to establish design parameters for and verify performance of high-quality buildings. However, their adoption by the public sector has been uneven. By leveraging these tools through procurement, local governments can integrate requirements that will help lower emissions, drive broader transformation across the supply chain and improve community facilities.

PATHWAY

Local governments should use robust building rating systems such as Green Star and NABERS to drive sustainable outcomes in public projects. These rating systems should be adopted at the city level through procurement of municipal buildings, capital works and urban regeneration projects. Government should also collaborate with stakeholders to encourage adoption of these rating systems.

NATIONAL

CITYSWITCH

CitySwitch is a national program supporting office tenants to improve energy and waste efficiency, with access to free resources, advice and events. The program serves to educate and facilitate links to programs, information sources and industry bodies as well as signpost incentives and celebrate achievements. CitySwitch uses the NABERS formal assessment and reporting process to help tenancies reduce carbon emissions, improve office energy efficiency and save money.

INTERNATIONAL

CITY OF SAN JOSE'S GREEN BUILDING POLICY

The City of San Jose's Municipal Green Building Policy includes a requirement to build to a minimum of 'Silver' under the Leadership in Energy and Environmental Design (LEED) green building rating system. The City also requires a 15 per cent improvement in energy efficiency every five years in municipal buildings.

THEME 5
TRANSFORM MARKETS FOR MATERIALS AND PRODUCTS

TRANSFORM MARKETS FOR MATERIALS AND PRODUCTS

5.1 Support Australian leadership in high performance building products

5.2 Support a nationally coordinated strategy to achieve net zero embodied carbon

RECOMMENDATION 5.1

HIGH PERFORMING PRODUCTS

Support Australian leadership in high performance building products

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

Design

Construction

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Materials and products selection contributes greatly to a building's overall emissions impact, including its operational emissions. Government support can draw new products, practices and services into the market faster at scale, through positive financial incentives combined with engagement, information, tools and assistance. Local governments should work together with industry to drive the uptake of high performing products that reduce operational emissions by helping consumers make informed choices, facilitating product innovation and technology improvements.

PATHWAY

Working with industry and other levels of government, local governments through their own procurement strategies should support the early adoption of advanced materials and best practice technologies, such as high performance glazing and heat recovery ventilation systems. These initiatives should directly compliment Australia's national energy efficiency and emissions research and innovation agenda.

NATIONAL

TASMANIA'S ENERGY EFFICIENCY LOANS SCHEME

The Tasmanian Government's Energy Efficiency Loans Scheme offered zero interest financing for up to 36 months on a range of energy efficiency products from $500 up to $10,000. The scheme supported a range of technologies, including but not limited to solar panels, double/triple glazing, energy efficient fridges, freezers and washing machines, and could be used to partially fund purchases that exceeded $10,000, such as small business building upgrades.

INTERNATIONAL

US HIGH INSULATING WINDOWS VOLUME PURCHASE PROGRAM

The US Department of Energy's High Insulating Windows Volume Purchase Program was set up in 2009 with the primary goal of reducing the average incremental costs of high performing windows and raising public awareness of their value. The program included developing specifications for approved high performance windows, undertaking a tender process and entering into an agreement with manufacturers meeting these specifications, developing a website from which customers could access and purchase these products, tracking sales of products and providing an additional information campaign to raise awareness of the benefits of high performing windows.

RECOMMENDATION 5.2

NET ZERO EMBODIED CARBON STRATEGY

Support a nationally coordinated strategy to achieve net zero embodied carbon

BUILDING TYPE:

All buildings

LIFECYCLE STAGE:

All stages

IMPACT:

EASE:

COST EFFECTIVENESS:

CURRENTLY

Research shows that embodied carbon will be responsible for half of the entire carbon footprint of new construction between now and 2050. As operational carbon in buildings is reduced, embodied carbon will also grow as a proportion of a building's total emissions. Addressing this requires a new response that sees action taken across the value chain. Local governments can support a national approach to driving down embodied carbon by facilitating collaboration and stimulating market demand.

PATHWAY

Working with other levels of government and industry, local governments should support the implementation of a national strategy to achieve net zero embodied carbon. Key actions include:

- Defining a clear strategy and policy pathway for governments, that includes baselines at jurisdiction level, timeline of climate objectives with targets for the built environment sector, embodied carbon disclosure requirement for large public projects, policy incentives and legislation to require and support embodied carbon reductions and consideration of the greatest embodied carbon reduction opportunities at different levels of government;
- Developing joint commitments and sharing knowledge through intergovernmental networks, organisations, partnerships and stakeholder forums; and
- Supporting industrial research and development.

NATIONAL

CARBON OFFSET STANDARD FOR BUILDINGS

In October 2017, the Federal Government launched a National Carbon Offset Standard for Buildings. The Standard was developed in close collaboration with sector stakeholders, and provides best practice guidance on how to measure, reduce, offset, report and audit emissions from building operations. It uses well established rating programmes such as Green Star and NABERS as pathways to demonstrate compliance and sets rigorous requirements for achieving carbon neutrality by reducing energy demand in buildings, procuring renewable energy and purchasing carbon credits to offset any remaining emissions.

INTERNATIONAL

CITY OF OSLO 2030 STRATEGY

By 2030, the City of Oslo intends to reduce carbon emissions by 95 per cent from the 1990 baseline and become completely fossil fuel-free. This includes zero emissions construction sites, which are one focus of the city's Smart Oslo Strategy. The City is working towards reducing its greenhouse gas emissions in dialogue with construction contractors with the goal of defining a zero emissions standard for tender specifications for public projects. A quantitative embodied carbon target is being investigated.

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green building council australia

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