Australian Government

Department of Climate Change, Energy, the Environment and Water

Trajectory For Low Energy Buildings

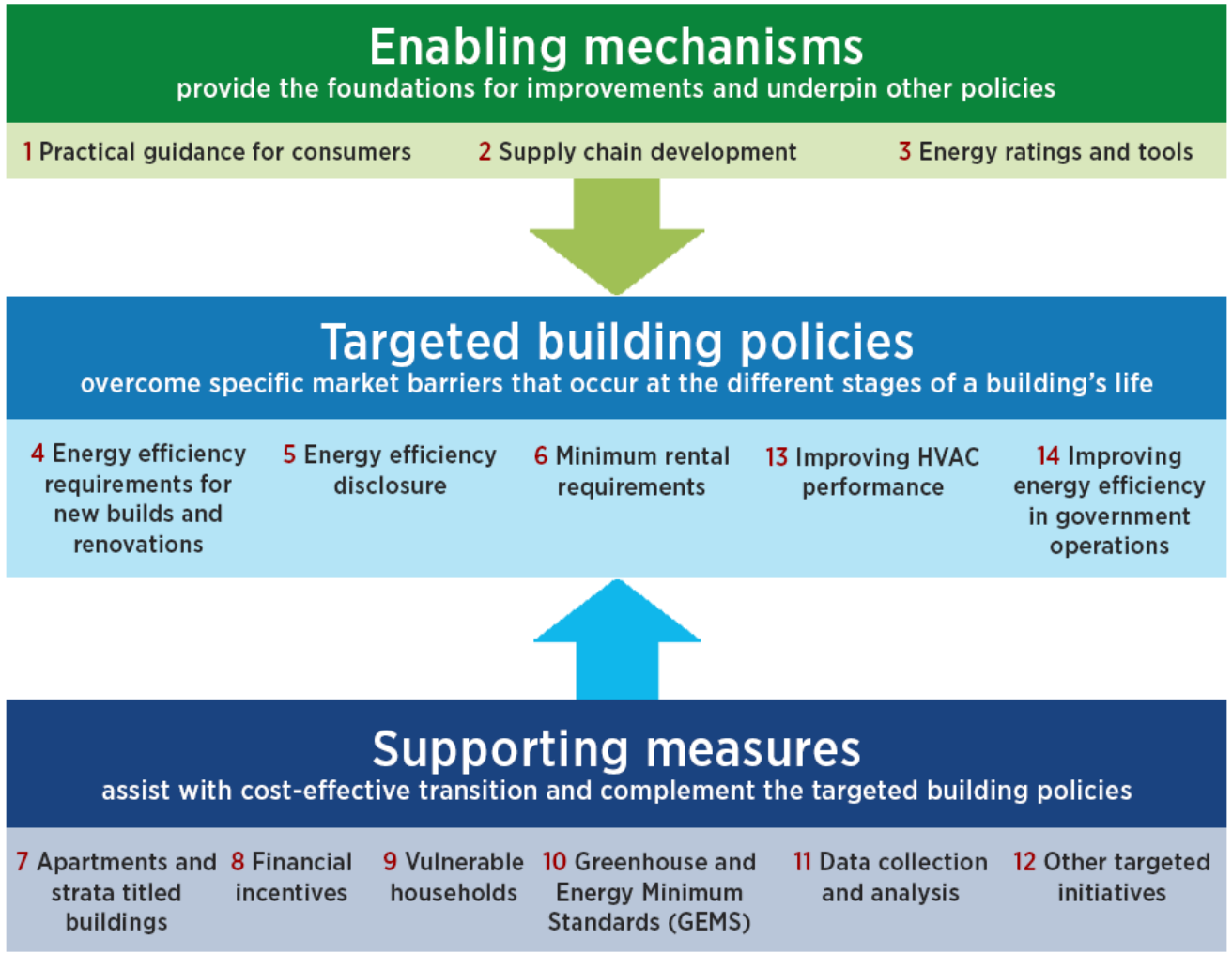
National Construction Code 2025 & 2028

DCCEEW on behalf of the Energy & Climate Change Ministerial Council

Acknowledgement of Country

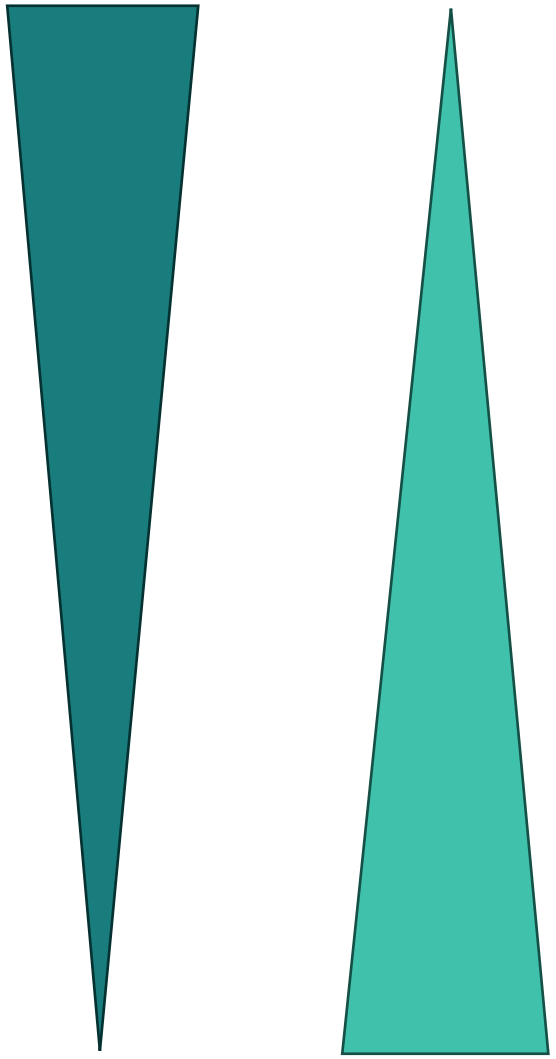
We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters, and culture. We pay our respects to Elders past and present.

2019 Trajectory for Low Energy Buildings



- 14 work streams delivering benefits in residential and commercial buildings
- Significant contributions from Commonwealth, states and territories
  - $1.7 billion in May 2023 Budget supported 2019 Trajectory
- *But:* current policies insufficient to achieve net zero emissions by 2050
- Trajectory update to review progress and need for further interventions

Working together through National Partnership



National Energy Transformation Partnership (NETP)
Broad energy transformation consideration

Cross-government strategy to transform Australia's energy system consistent with net zero emissions commitments

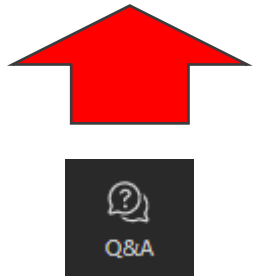
National Energy Productivity Plan (NEPP)
Demand focused

Cross-government strategy to create a high energy performance economy and deliver energy efficiency savings

Trajectory for Low Energy Buildings
Buildings focused

Cross-government strategy for low energy and net zero emissions commercial and residential buildings

Questions and Input



Ask your questions in the Teams Q&A

- You can 'like' your favourites

In particular think about:

- scope of work
- policy ideas to investigate
- barriers and issues to be addressed
- suggested prior work

Update to Trajectory for Low Energy Buildings

- 2019 Trajectory for Low Energy Buildings
  - Energy Ministers' goal: A national plan to achieve zero energy (and carbon) ready buildings
  - Context: National emissions reduction target of 26-28% by 2030

- 2024 Trajectory Update
  - Energy Ministers' goal: Low energy and net zero emissions building sector by 2050
  - Context: Net zero emissions by 2050; 43% emissions reduction by 2030

Objective and Scope

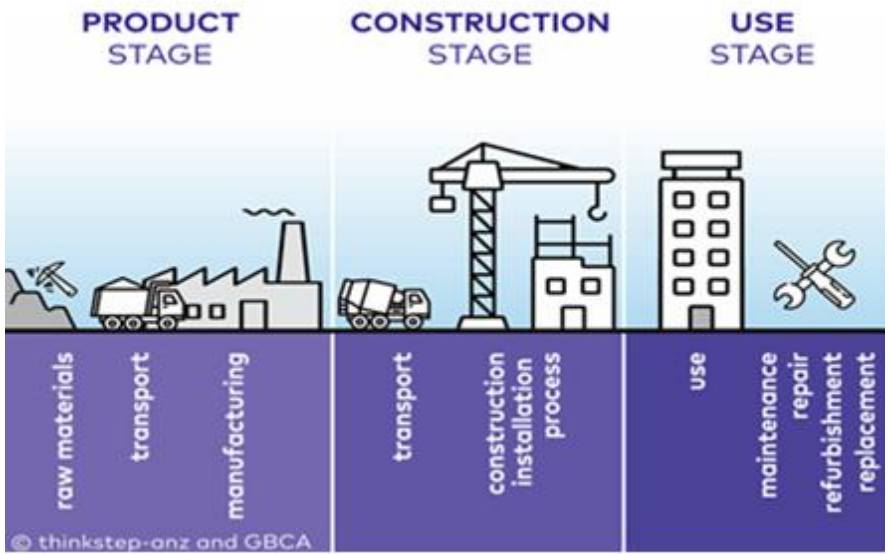
Objective:

- to deliver a low energy, net zero emission building sector by 2050

Giving regard to:

  - increased energy and climate resilience
  - an equitable transition to net zero emissions
  - an orderly workforce transition

Scope:



We will consult in 3 main phases

Sept 2023 – Jan 2024

- Consult on scope & policy ideas
- Possible policies
- Review existing measures
- Technical pathways assessment
- Modelling

Feb – July 2024

- Work up policy pathways
- Draft recommendations & measures
- Technical & policy consultation

Aug – Dec 2024

- Draft Trajectory
- Consult on draft
- Agreed Trajectory

Activities | Key outputs | Consultation

Feedback from NEPS consultation

In November 2022, stakeholders commented on a National Energy Performance Strategy (NEPS) consultation paper and joined a series of roundtables. Stakeholders:

- Saw health as a key driver for improving energy performance in buildings.
- Advocated for a shift in focus from new builds to existing buildings.
- Supported mandatory energy efficiency disclosure at the point of sale.
- Generally supported recent NCC updates, and stronger minimum standards (now and in future).
- Generally supported expanding existing commercial building programs.

135 submissions
to NEPS public consultation

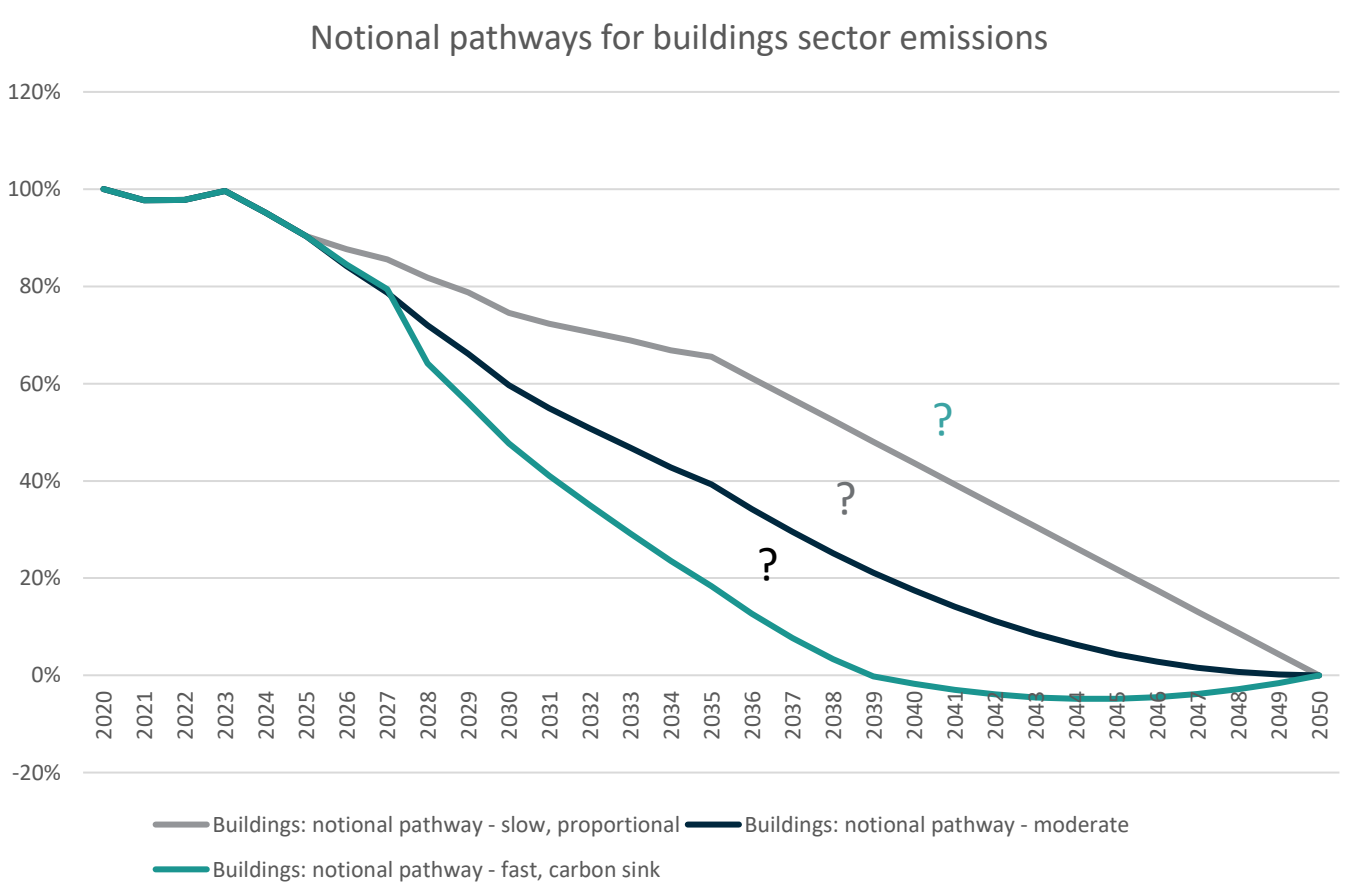
80%
from **organisations**

20%
from **individuals**

118
from **city** areas

17
from **regional** areas

Buildings: numerous possible pathways to net zero emissions (Notional only)



Emissions budgets: shared across sectors

Net zero by 2050, with progress by 2035 to provide space for hard-to-decarbonise sectors in Australia's emissions budget.

Reducing operational emissions in buildings (scope 1 and 2) - indicative only

Emissions source	Pathways		
	Substitute	**Decarbonise**	**Reduce usage**
Electricity *(Scope 2)*		Grid transformation Onsite renewables	Energy efficiency Demand flexibility
Natural gas & LPG	Renewable Electricity Hydrogen	Biomethane Synthetic methane	Energy efficiency
Wood	Renewable Electricity Hydrogen Biofuels		Energy efficiency
Diesel	Renewable Electricity Hydrogen	Biofuels / biodiesel	Energy efficiency

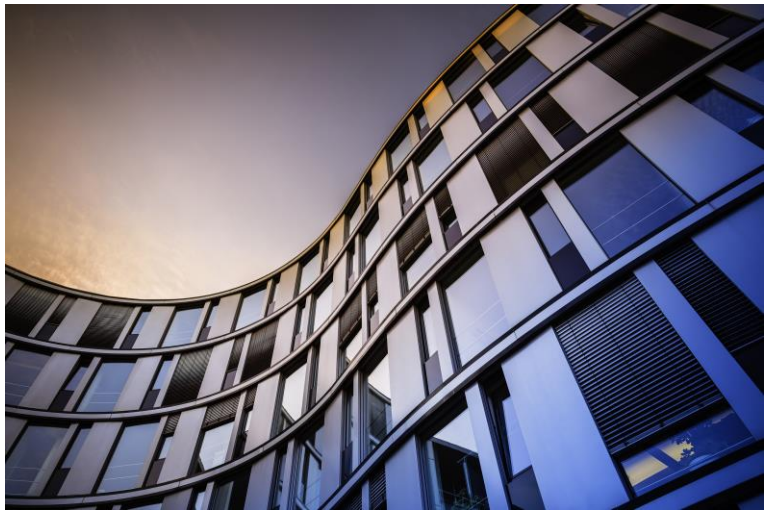
Reducing embodied emissions in buildings (scope 3) - indicative only

Supply chain stage	Pathways		
	Substitute	**Decarbonise**	**Reduce materials**
Building materials and appliances	Low emission products	Low emission technologies	Reduce waste Improve design Town planning
Construction machinery	Hydrogen Electrify	Biofuels	Prefabrication
End-of-life	Refrigerant gases		Recycle
Trajectory scope for embodied emissions	✓	✗	✓

Current policy levers (indicative summary)

Policy type	Emissions scope		
	Operational emissions – energy efficiency	**Operational emissions – electrification**	**Embodied emissions**
Information	NatHERS; NABERS Star ratings & disclosure YourHome		Climate Active Green Star BASIX
Incentives	White certificate schemes (some states & territories) CEFC finance	Upgrade funding (some states & territories)	
Regulation	NCC Appliance standards		
Government delivery	Net Zero public service Public housing upgrades	Net Zero public service	

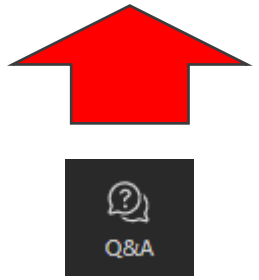
Next steps



- We will distribute a questionnaire seeking your views on:
  - scope of work – where to focus
  - policy ideas we should investigate
  - barriers and issues to be addressed
  - any suggested prior work

- Join the discussion again in early 2024 to:
  - test policy ideas
  - review technical work

Questions and Input



Q&A session on Buildings Trajectory

In particular think about:

- scope of work
- policy ideas to investigate
- barriers and issues to be addressed
- suggested prior work

National Construction Code (NCC) 2025 and 2028 discussion

Future directions

NCC 2025

- Work led by the Australian Building Codes Board (ABCB) is progressing to **improve energy performance provisions for Commercial Building** regulations under Section J.
- ABCB's triennial Code revision cycle includes updating energy efficiency provisions **in alignment with the Trajectory.**
- Next stage of improvements for commercial buildings will include **facilitation of on-site renewables and other emerging technologies** such as EV charging.
- Analysis has been supported by **specialist research consultancies** on behalf of all states and territories.
- Changes important for the Net Zero plan and emissions reduction targets.

NCC 2028 and Net Zero

- NCC 2028 will be a key element of the updated Trajectory
    - need to avoid constructing buildings that have to be retrofitted later.
- Primary focus will be on residential buildings.
- Will look to be consistent with commercial buildings where possible given they are different sectors with different engineering challenges.

NCC 2028 Potential scope

Scenarios for modelling for all new builds (houses and apartments) using a least cost option:

- Net Zero energy and emissions
- Near Net Zero energy and emissions

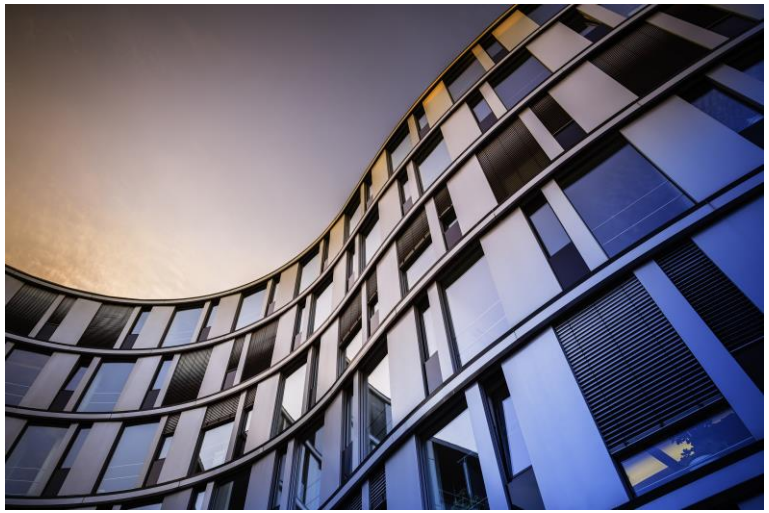
Each scenario would have two options:

- Option A – full electrification
- Option B – support electrification with a pathway for gas

NCC 2028 - considerations

- Thermal efficiency
  - Retain 7 star equivalent, build for future climate and extreme weather events
- Fixed appliances
  - Whole of Home score 100 for houses, near 100 for apartments, batteries & EVs
- Grid impact and optimisation
- Embodied emissions
  - Voluntary tools & methodology?

Next steps



- We will distribute a questionnaire seeking your views on:
  - scope of work and considerations
  - barriers and issues to be addressed

Questions and Input

Q&A session on NCC

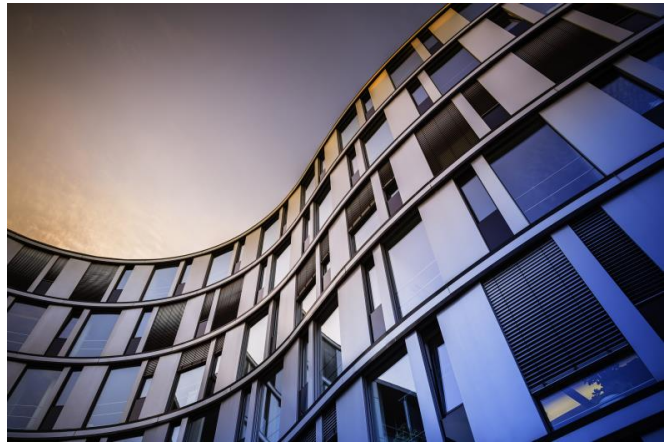
In particular think about:

- scope of work
- barriers and issues to be addressed
- suggested prior work

Next steps

- We will distribute a questionnaire seeking your views on:
  - scope of work and considerations
  - barriers and issues to be addressed

- If we don’t have your details – please email us so you don’t miss out:
  - EnergyEfficiencySecretariat@dcceew.gov.au



Thank you and keep in touch

If you received the invite from a colleague
and would like to get direct updates in future - email:

E: EnergyEfficiencySecretariat@dcceew.gov.au