Canberra’s Climate Strategy to Net Zero Emissions

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Canberra, Australia’s National Capital
CANBERRA’S CLIMATE IS ALREADY CHANGING, AND IN FUTURE THE ACT CAN EXPECT MORE EXTREME

HEATWAVES will become hotter, more frequent and last longer.

DROUGHTS will increase in severity and frequency as temperatures continue to rise and reliability of rainfall decreases.

MORE INTENSE STORMS will result in flash flooding as well as wind, hail and rain damage to homes, trees and infrastructure.

DANGEROUS BUSHFIRE weather is increasing due to hotter and drier conditions.

Even with our efforts to reduce emissions, a certain amount of warming is already ‘locked in’. We are committed to working with the community to ensure Canberra is able to adapt to climate change and remain a great place to live.
Observed impacts – 2003 fires
International and subnational commitments
Where are we now? - Mitigation

Legislated targets informed by IPCC are being met:

– Target of 40% emissions reductions on 1990 levels by 2020
– 100% renewable electricity by 2020
– Energy efficiency and community focussed actions; and
– In accordance with the Paris Agreement net zero emissions by 2050 at the latest.
100% Renewable Electricity

4 solar farms in ACT
Royalla Solar Farm – 20 MW
Mugga Lane Solar Farm – 13 MW
Majura Road Solar Farm – 2.3 MW
Williamsdale Solar Farm – 7 MW
LOCATION OF CANBERRA’S WIND AND SOLAR FARMS WITHIN THE NATIONAL ELECTRICITY MARKET

COONOOER BRIDGE WIND FARM

HORNSDALE WIND FARM

BRISBANE

SAPPHIRE WIND FARM

SYDNEY

CROOKWELL 2 WIND FARM

IN CANBERRA

MUGGA LANE SOLAR FARM
WILLIAMSDALE SOLAR FARM
ROYALLA SOLAR FARM

ASSET MANAGEMENT,
RESEARCH, EDUCATION,
TRADES TRAINING,
CORPORATE SERVICES
ACT Emissions Profile - 2020

Actual emissions 2016-17

40% below 1990 levels

2020 emissions

- Land use: 0%
- Energy: 22%
- Transport: 61%
- Waste: 7%
- Industry: 10%
ACT Emissions – Business as Usual to 2050

Reference (BAU) - medium emissions scenario.
Emissions Pathway to Neutrality – an example

Reductions in transport (green)

Reductions in natural gas (dark blue)

Reductions in waste (purple)

Net emissions (black line)

Remaining emissions
Where to from here?

- Net zero emissions by 2050 (2045) *at the latest* is a target that requires early and sustained action

- Behaviour change with effective partnerships with the community is key to success

- Collaboration and innovation is key to our continued success
‘Net Zero Emissions’ Discussion Paper

- Emission reductions and climate adaptation
- Sectoral approach
  - Transport
  - Gas (for stationary heating)
  - Waste
  - Land use
Proposed New Targets – 5 year Action Plans

Figure 2: Pathway to net zero emissions showing potential interim targets and climate action plans to 2050 at the latest.
Transport
Zero Emissions Vehicle Action Plan

Sets out the next step towards net zero emissions:

1. ZEV charge points required in all new multi-unit and mixed use developments
2. Facilitating the installation of charging infrastructure in the ACT and along major travel routes
3. 20% off vehicle registration and zero stamp duty
4. Encouraged use of electric bikes and active travel
5. Transit lane access for ZEVs until 2023
6. All Government leased passenger vehicles to be ZEVs by 2020/21

The ACT Government continues to lead Australia in the inevitable transition to electric transport
New Challenges – Improving our built form

- Embedded renewables and storage
- Passive designs – higher building code standards
- Living infrastructure (inc. green roofs and green walls)
- Energy efficiency
- All solar households
New Challenges - Land use

*Compact city = supports emissions reductions*

- *But urban intensification can make Urban Heat Island worse*

February 2015
35 degree day in Tuggeranong
Economic Modelling for our pathway

• Testing the pathway to net zero emissions for its economic impacts – this report to 2030.
Findings

- The 65% emissions reduction target can be met by:
  - $264
  - $46
  - $0
  - $13
  - $33
  - $38
  - $95
  - $190
  - $351
  - $1,242

65% task: $31.95 per tonne
Co-benefits costed

Climate mitigation measures
- Accelerated replacement of gas space heaters
- Replacement of gas water heaters
- Improvements to building energy efficiency
- Increase uptake of electric vehicles (EVs)
- Increase uptake of public/active transport
- Carbon sequestration through land use change
- Maintain 100% renewable energy supply

Climate adaptation measures
- Heat stress prevention
- Storm protection

Benefits (climate adaptation benefits, co-benefits)
- More efficient electricity system
- Improved air quality
- Decline in public health expenditure
- Effective increase in labour supply
- Reduced insurance costs
- More efficient water use
Next Steps

• Canberra is a national (and International) leader in climate change and renewable energy policy

• Collaboration and innovation is key to our continued success

• Finding lasting solutions will depend on behaviour change

• Establishing networks, locally and globally will support sharing of experience
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