

CARBON NEUTRAL STRATEGY 2015-2025 PROGRESS UPDATE

June 2022

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1. OVERVIEW

1.1 Adelaide in a Global Context

The City of Adelaide (CoA) is committed to leading by example in addressing climate change. In 2015, the CoA together with State Government were showcased on the world stage for their joint decarbonisation agenda at landmark international climate negotiations in Paris. South Australia was the first Australian state to legislate greenhouse gas reduction targets and has led the nation in transformation of its electricity grid to wind and solar generation.

The carbon neutral aspiration sought take up of a once-in-a-generation opportunity to capitalise on the massive global changes to energy systems and position the city as a centre for innovation and early adopter of clean technologies.

The city can be proud of progress along a decarbonisation pathway, with a 21% decrease in community emissions from 2007 to 2020 and 52% reduction in CoA operational emissions from 2019 to 2021. These achievements place the City of Adelaide amongst leading capital cities nationally and worldwide. Highlights of focussed attention to decarbonisation include the collaboration between different levels of government, the progressive Sustainability Incentives Scheme, and the public and private commitment towards a shared agenda.

Since 2015, the global focus on greenhouse emissions has strengthened, with both technology and zero carbon approaches moving out of unique, early adopter markets and into widespread, mainstream and disruptive trends. Significant local milestones have included the new State Government's Climate Change Action Plan released in 2020 with targets for 2030 and 2050; the State reaching over 60% renewable electricity supply relative to our demand; and the rapid increase in electric vehicle models available in Australia. In the corporate sphere, prominent global and local companies like Microsoft, Netflix, Telstra, Coles and Woolworths have their own pledges towards net zero emissions.

The scientific consensus on climate change impacts has grown stronger, with the sixth Assessment Report by the Intergovernmental Panel on Climate Change released in late 2021. The Paris Agreement calls for action that limits global warming to well below 2 degrees Celsius, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. Achieving this temperature goal requires a pathway to zero by mid-century, and a halving of emissions by 2030.

This report speaks to the progress of implementation in year seven of a ten-year strategy, acknowledging the completion of the joint CoA and State Government *Carbon Neutral Adelaide Action Plan 2016-2021* and development of a new Action Plan is underway for 2022-2025. CoA remains committed to climate change, and our leadership requires continued bold action, for a 'steepening' of the community carbon emissions curve towards zero.

1.2 Strategic Context

The CoA Strategic Plan 2020-2024 states the overarching ambition to be *"One of the world's first carbon neutral cities by 2025, where sustainability is core"*. Action Item 4.6 in the Strategic Plan specifies the CoA will *"Implement the Carbon Neutral Strategy for the city and achieve carbon neutral certification for our operations"*.

The *Carbon Neutral Strategy 2015-2025* has three outcomes focussing on CoA community carbon emissions, the Council's own carbon emissions, and the leadership role CoA plays as a

capital city Council. Each of these outcomes has programs of work designed to meet the targets, priorities, and measures of success outlined in the Strategy.

Figures 1 and 2 illustrates the strategic context of the Carbon Neutral Strategy and related programs of work.

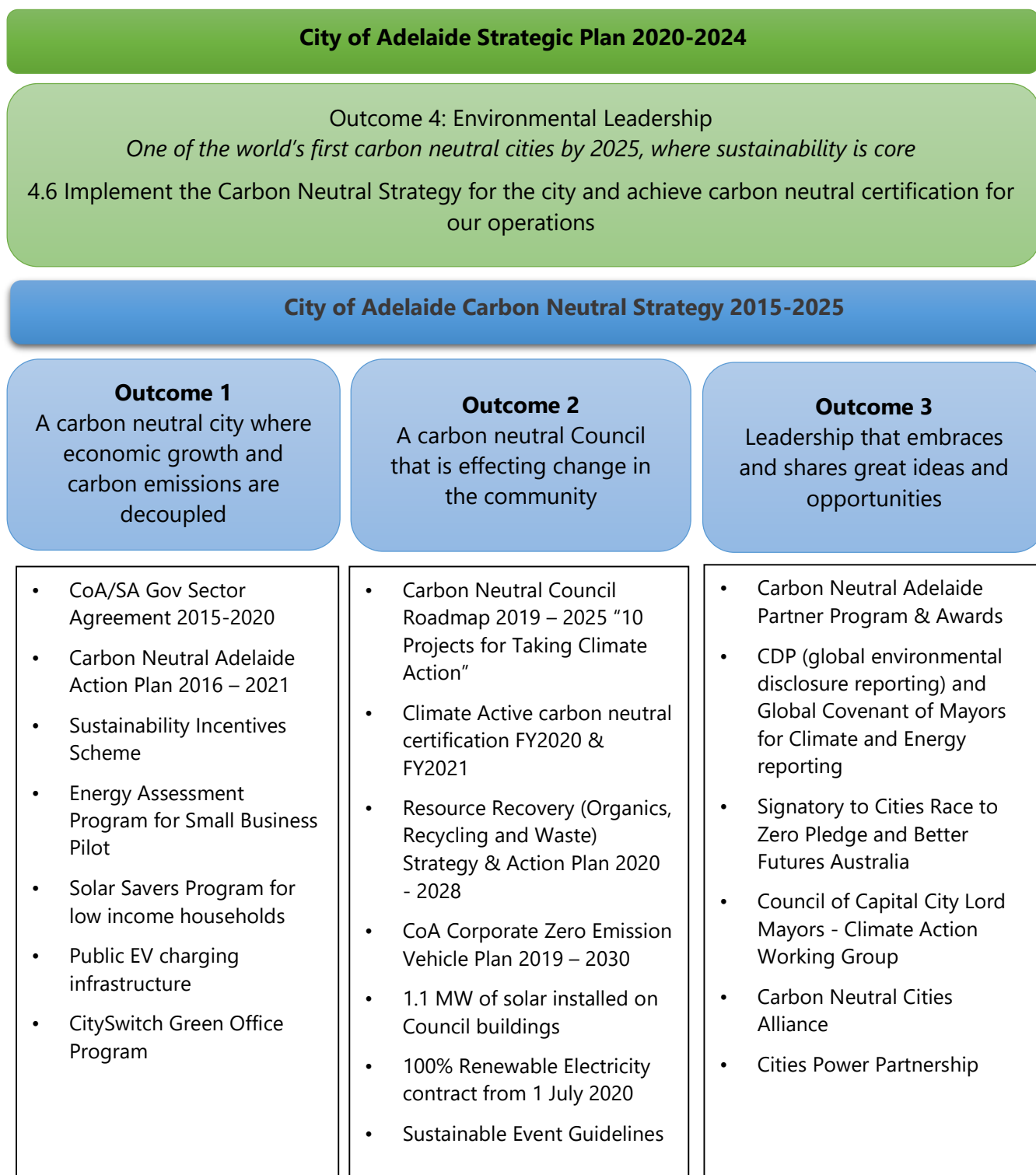


Figure 1: Strategic context of the City of Adelaide's climate mitigation plans and initiatives

Climate Change Risk
Adaptation Action
Plan 2021-2026

Resilient East
Action Plan 2020 -
2024

Urban greening
initiatives

Water Sensitive
City Action Plan
2021 - 2025

Figure 2: City of Adelaide's climate risk mitigation and adaptation plans and initiatives

2. STATUS UPDATE

2.1 Outcome 1: A carbon neutral city where economic growth and carbon emissions are decoupled.

Description

Outcome 1 of the Carbon Neutral Strategy relates to the carbon emissions of the entire CoA community, including its residents, businesses, workers, and visitors. The Outcome seeks to reduce emissions while supporting economic growth and the development of low carbon industry and lifestyles.

City-wide emissions have been decreasing, while the city's gross regional product and residential population has been growing (refer to Figure 3).

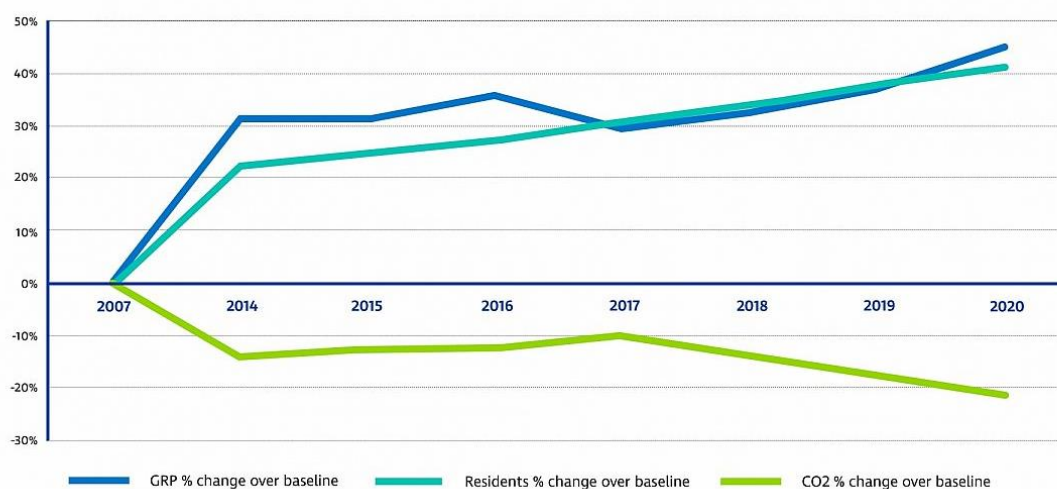


Figure 3: Community emissions compared to city growth indicators

Outcome 1 Progress against Targets

Community emissions declined by 21% between FY2007 and FY2020.

Progress against the community emissions related targets are provided below.



In 2021, CoA undertook a detailed analysis of the community's emissions and trajectories to both 2030 and 2050. The study modelled several pathways to achieve zero emissions by 2050. It suggested that under "business as usual" activities (ie all current state, local and commonwealth policies in place), the CoA community could achieve a 41% reduction in emissions by 2025 compared to 2007 levels.

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Although this is a world-leading result, the model showed that 'business as usual' will not deliver carbon neutrality by 2025. The study did, however, identify pathways for CoA to capitalise on our strong start and continue our leadership in taking climate action.





A detailed analysis of the community's emissions and trajectories to 2030 and 2050 is provided in Appendix A.

Target	2022 Status
The City of Adelaide [community] has zero net carbon emissions by 2025	In FY2020 community emissions were 986,160 tCO ₂ e, compared to FY2016 community emissions of 1,100,431 tCO ₂ e and FY2007 of 1,252,913 tCO ₂ e.
The City of Adelaide [community] has reduced its carbon emissions by 35% from FY2007-FY2020	Community emissions reduced by 21% between FY2007-FY2020.

 Achieved  Progress made

Outcome 1 Progress against Measures of Success

The Carbon Neutral Strategy 2015-2025 includes measures of success and the current status is listed below for Outcome 1.

Measures	2022 Status
The City of Adelaide [community] is accredited carbon neutral by 2025 or earlier	 No accredited scheme currently exists to provide authentic carbon neutral certification for community-wide emissions. The emissions analysis model shows that "business as usual" will not deliver carbon neutrality in 2025. To achieve carbon neutrality by 2025 substantial investment in carbon credits, to 'offset' the remaining community's emissions would be needed (estimated to be approximately 733,000 tCO ₂ e by 2025).
A Carbon Neutral Adelaide framework is established by 2016	 The Sector Agreement pursuant to the Climate Change and Greenhouse Emissions Reduction Act 2007 was in place from November 2015 to November 2020.
A Carbon Neutral Adelaide action plan with costed pathways to achieving carbon neutrality and targets is completed by 2016	 The Carbon Neutral Adelaide Action Plan 2016-2021 included 104 actions, shared jointly between CoA and the State Government. A final report has been prepared in collaboration with the State Government and will be jointly released.
The City of Adelaide's community greenhouse gas inventory is completed in accordance with international protocols	 The CoA community greenhouse gas inventory is prepared in accordance with the Global Protocol for Community Scale Greenhouse Gas Emissions inventories every two years.

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Indicators are developed to measure the city's transition to a low carbon economy	The community inventory measures this transition. The indicator of community greenhouse gas emissions is included in the CoA Strategic Plan 2020-2024 against Outcome 4 "Environmental Leadership".
Green coverage in existing built-up areas is increased by 100,000 square metres by 2020	Progress has been made on increasing green coverage in built-up areas since 2015 with over 1,450 trees planted in built up areas of the city by mid-2021 and a focus on greening in hotspots in the west of the city. The baseline of 1,241,777 square metres of green coverage in built up areas of the city was set in 2015 with an increase of 26,666 square metres reported by September 2018. Updated data on green coverage is not available. In 2017, Council set a target to increase canopy cover in the CBD and North Adelaide to 25% and 40% respectively by 2040 (based on 2017 levels of 14.3% and 28.2%).

 Achieved  Progress made

Other Key Achievements against Council Priorities in the Strategy

1. Partner with the Government of South Australia to pursue the shared aspiration for Adelaide to be the world's first carbon neutral city, through a Carbon Neutral Adelaide Framework and Sector Agreement.

- In 2015, the CoA and the State Government launched the Carbon Neutral Adelaide initiative, announcing a shared ambition to be the world's first carbon neutral city.

2. Develop jointly with the Government of South Australia and the community a Carbon Neutral Adelaide Action Plan that identifies priorities and costed pathways to achieving carbon neutrality.

- The final status report of the Carbon Neutral Adelaide Action Plan 2016 – 2021 indicates that 82 actions had been delivered or are now incorporated to standard practice, 16 actions had been superseded by other initiatives that will achieve similar outcomes, and only 6 actions will not be delivered as they are no longer considered feasible or are not progressing due to changes in State Government priorities.

3. Build broad community commitment to achieving carbon neutrality.

- An overarching brand was created to provide a united focus for action, in parallel with the Carbon Neutral Adelaide initiative. An email subscriber list and monthly email news has been maintained throughout the period.
- Community education was provided using the "Living Smart" framework. Multiple practical sessions across sustainable living topics have been offered to the community between 2017 and 2020.
- Carbon neutral messaging has been featured across a range of channels including social media, business forums and community events.

4. Facilitate a substantial increase in the uptake of renewable energy and energy storage.

- The Sustainability Incentives Scheme has been an outstanding success, leveraging \$1.4 million of rebates to support homes and businesses adopt sustainable technologies including roof-top solar panels, energy storage systems, LED lighting retrofits, energy monitoring and electric vehicle chargers (plus more). More than 670 projects have been deployed with a total value of \$11.5 million resulting in abatement of over 4,000 tonnes of carbon.
- 130 solar photovoltaic (PV) systems were installed on Housing Trust properties in the Adelaide CBD by the State Government and 40 solar PV systems were installed on low income and rental properties via the City of Adelaide's Solar Savers scheme.

5. Pursue decarbonisation of the transport system.

- A public network of 40 fast chargers for electric vehicles was installed in the city. The amount of electricity delivered to vehicles via public charging stations has approximately doubled each year from FY2019 to FY2021.
- Twelve electric vehicle charging stations were installed at private dwellings or businesses with support through Sustainability Incentives Scheme rebates.
- The North-South Bikeway on Frome Street was opened between Carrington Street and Rundle Street in August 2018.

6. Increase city greening through street trees, gardens, plantings, green walls and green or cool roofs.

- CoA was the first SA Council to adopt a corporate Climate Change Risk Adaptation Action Plan to reduce our corporate risks that are a result of climate change. The Climate Change Risk Adaptation Action Plan has 95 actions for implementation over 5 years covering corporate responsibilities for facilities and their services, Rundle Mall business continuity, infrastructure longevity, green spaces, staff workforce safety, events, building development and homelessness support.
- The Water Sensitive City Action Plan was endorsed in 2021, with a key priority being Water for Greening, recognising the vital role fit-for-purpose water resources has in supporting urban greening in a drier climate.

2.2 Outcome 2: A carbon neutral Council that is effecting change in the community.

Description

Outcome 2 focuses on CoA's operational emissions to ensure Council's contribution to climate change is minimised, while also leading by example to the community. By pursuing certification through the national carbon neutral certification scheme, Climate Active, CoA has joined a group of influential organisations who are taking responsibility for their carbon footprint.

Outcome 2 Progress Against Targets

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The carbon emissions footprint for the CoA operations is approximately 1/100th of the CoA community's emissions. Progress against the CoA operations emissions related targets are provided below.

Target	2022 Status
Adelaide City Council has zero net carbon emissions from its operations by 2020.	The CoA was certified carbon neutral in FY2020 and FY2021 and continues to undertake a corporate emissions inventory for CoA operation related activities.

 Achieved  Progress made

Outcome 2 Progress against Measures of Success

The *Carbon Neutral Strategy 2015-2025* includes measures of success and the current status is listed below for Outcome 2.

Measure	2022 Status
Council has zero net carbon emissions by 2020, accredited by the National Carbon Offset Standard	Achieved 2020 target, via certification with Commonwealth Climate Active program (formerly National Carbon Offset Standard) for FY2020 and again for FY2021.
A Carbon Neutral Council action plan with costed pathways to achieving carbon neutrality and targets is completed by 2016	Achieved in 2018. The Carbon Neutral Roadmap and Implementation Plan was accompanied by a comprehensive communications effort that highlighted the cross-Council efforts. In FY2020 corporate operational emissions were 11,765 tCO ₂ e, compared to FY 2020 total of 24,610 tCO ₂ -e and FY2019 of 27,675 tCO ₂ -e. In FY2021, a 52% reduction in direct carbon emission was achieved by purchasing renewable electricity.
The Adelaide City Council's annual corporate greenhouse gas inventory is completed in accordance with relevant protocols	The corporate carbon inventory has been audited by Climate Active to qualify for certification.
Council's carbon neutral programs and actions are endorsed by our community and peers	This measure is evidenced through recognition such as the Cities Power Partnership Community Engagement Achievement Award in 2021.

 Achieved  Progress made

Other Key Achievements against Council Priorities in the Strategy

1. Prepare and implement a Carbon Neutral Council action plan to achieve carbon neutrality by 2020

- The main program of work to achieve carbon neutrality is the Carbon Neutral Council Roadmap 2019-2025, which focuses on 10 key projects to reduce emissions. Project areas include:
 1. Utility management
 2. Improving buildings
 3. LED streetlights
 4. Sustainable procurement
 5. Sustainable events
 6. Waste and recycling at work
 7. Solar power on buildings
 8. 100% renewable electricity
 9. Zero emission transport
 10. Carbon neutral certification
- One of the most significant activities for reducing the CoA operational carbon footprint was the transition to a 100% renewable electricity contract from 1 July 2020, ensuring that most of the Council's electricity use in FY2021 did not generate any carbon emissions. The 9.5 year electricity contract includes sourcing of renewable electricity from solar farms in Streaky Bay and Coonalpyn, contributing jobs for the South Australian economy. City of Adelaide was the first Council in South Australia to sign a renewable electricity power purchase agreement, and this single action effectively halved the Council's corporate operational emissions.
- Alongside these progressive emission reductions, the CoA has also continually improved the tracking of its carbon emissions through a greenhouse gas inventory. From FY2020 the Council's emissions have been certified carbon neutral through Climate Active, which includes purchasing certified carbon emissions reduction units to account for the remaining emissions.
- There is now a total of 50 low emissions vehicles in the fleet, including 10 new fully electric plug-in Hyundai Ioniq passenger cars, making up 26% of the Council fleet.

2. Reduce emissions associated with resource use and maximise recycling.

- The new CoA internal resource recovery system was implemented at all sites in January and February 2022, providing 8 streams of resource recovery, including container recycling, green organics, 10-cent deposits, landfill, paper and cardboard, e-waste and batteries.

2.3 Outcome 3: Leadership that embraces and shares great ideas and opportunities.

Description

Outcome 3 builds on CoA's leadership by establishing partnerships and supporting business and the community to play their part to reduce emissions through low carbon innovation and collaboration.

Outcome 3 Progress against Targets

Progress against the leadership and partnership targets are provided below.

Target	2022 Status
Establishment of a Carbon Neutral Adelaide partnership framework by 2016	Achieved in 2017. The Carbon Neutral Adelaide Partners Program now includes more than 200 organisations, actively pursuing low carbon solutions.
One million square metres of city floor space is committed to the Carbon Neutral Adelaide partnership framework by 2020	Unmeasured. This measure is no longer relevant because the partnership is not focused on monitoring emissions relative to floorspace.

 Achieved  Progress made

Outcome 3 Progress against Measures of Success

The *Carbon Neutral Strategy 2015-2025* includes measures of success and the current status is listed below for Outcome 3.

Measure	2022 Status
Adelaide is a local, national and global leader in taking climate change action and capitalising on the economic opportunities of a low carbon economy.	<p>Demonstrated by:</p> <ul style="list-style-type: none"> reporting to CDP Cities (formerly Carbon Disclosure Project) since 2015 and consistent world leading scoring of A or A- participation in the Global Covenant of Mayors for Climate and Energy, ICLEI and the Carbon Neutral Cities Alliance demonstrating world leading initiatives and progress commitment to the Australian Cities Power Partnership, United Nations Race to Zero and Better Futures Australia declaration showcase of low carbon innovation and technologies through the Carbon Neutral Adelaide Awards held 2017, 2019 and 2021 support for community and business actions and emerging technologies through the Sustainability Incentive Scheme.
Adelaide is a showcase city for world leading practices, technologies and services that grow the green economy and reduce carbon emissions.	
Our partners' carbon emissions reduction programs and actions are endorsed by our community and their peers.	
Council publicly discloses through the Carbon Disclosure Project greenhouse gas inventories for its operations and for the city community.	
Compliance with the Compact of Mayors is maintained (now the Global Covenant of Mayors for Climate and Energy)	

 Achieved  Progress made

Other Key Achievements against Council Priorities in the Strategy

1. Create and foster opportunities for partnership and business to grow and prosper from the low carbon economy.

- Built low carbon economy knowledge and networks across businesses through the Carbon Neutral Adelaide Partners leadership group.

2. Create a supportive environment for early adoption of great ideas and technologies.

- Showcased low carbon sector leadership through the Carbon Neutral Adelaide Awards in 2017, 2019, and 2021.
- Membership of the Council of Capital City Lord Mayors, with climate action being one of six priorities.

3. Facilitate knowledge sharing and network development to enhance community awareness and adoption of opportunities and outcomes.

- Provided upskilling for community members and businesses, through a series of forums on leading edge topics and approaches including low carbon business, shared solar, carbon markets and energy efficiency in business.
- Identified climate risk and mitigation measures through a series of workshops with Council staff.
- Piloted cool road products and shared results through professional networks and media, and CoA infrastructure team will be using a modified version of the best performing product,
- A cool roof trials to demonstrate the effects of coating choices in reducing surface temperatures is underway for two buildings in Park 22.

4. Provide financial and non-financial incentives for excellence and celebrate all areas of community leadership.

- Won the Cities Power Partnership Community Engagement Achievement Award 2021 for the Sustainability Incentives Scheme, which provided over \$1.4 million in support for sustainable technologies in the last five years.
- Signed the Cities Race to Zero Pledge and Better Futures Australia declaration prior to COP26 in 2021.

5. Identify and promote new business and investment opportunities arising from the city advancing its carbon neutral reputation.

- Communications and engagement have highlighted trends in business for sustainable buildings, electric vehicles, energy efficiency and circular economy through events, articles and awards.

3. NEXT STEPS

The proposed steps to continue Adelaide's leading role in a low carbon future are:

1. Confirming actions and projects for 2022 – 2025 that continue to accelerate carbon emissions reduction in the community.
2. Reviewing and proposing new carbon targets that align with the science-based 'fair share' targets required to avoid catastrophic climate change.
3. Developing a new climate action strategy beyond 2025 that sets the agenda for emissions reductions in line with global targets for 2030.
4. Implementing supporting strategies and action plans including the Climate Change Risk Adaptation Action Plan

APPENDIX A: EMISSION REDUCTION ANALYSIS SUMMARY

Overview

The CoA engaged Point Advisory in 2021 to undertake extensive emissions analysis, including four trajectories to 2030 and 2050, and identify key opportunities to make a step change beyond 'carbon neutral' and strive for a science-based target, towards zero emissions.

Table 1 compares the different trajectories developed in the emissions analysis, against a FY2016 baseline, for ambition towards a true 'zero'. Meeting the Paris Agreement on climate change requires a pathway to zero by mid-century, and a halving by 2030.

Emissions reduction trajectories on FY2016 baseline	2025	2030	2050	Zero emissions by 2050	In line with Paris Agreement?
"Business as usual" (all current government programs)	-33%	-44%	-68%	No (requires offsets)	No
Accelerated abatement opportunities identified in analysis (see below)	-39%	-56%	-85%	No (requires offsets)	No
Science based "fair share" target	-31%	-48%	-100%	Achieved	Yes

Table 1: Emissions reduction trajectories compared

What are science-based targets?

Science-based targets provide a clearly defined pathway to reduce greenhouse gas (GHG) emissions, helping prevent the worst impacts of climate change and future-proof business growth.

Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

Other Australian jurisdictions

In the last five years:

- Australia has committed to net zero target for 2050.
- South Australia has committed to a 50% reduction by 2030 and net zero by 2050 on a 2015 baseline.
- City of Sydney has a plan to reach 70% reduction in emissions by end June 2025, from 2006 baseline and net zero by 2035.
- City of Melbourne has a climate strategy to reach 29% reduction by 2030 compared to 2015 baseline and net zero by 2050.

Emissions Profile

The community emissions in the City of Adelaide primarily come from:

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- stationary energy: building electricity and natural gas;
- transport: private, public and commercial;
- refrigerants: commercial and domestic air-conditioning and refrigerators; and
- waste disposal: municipal, commercial, and wastewater

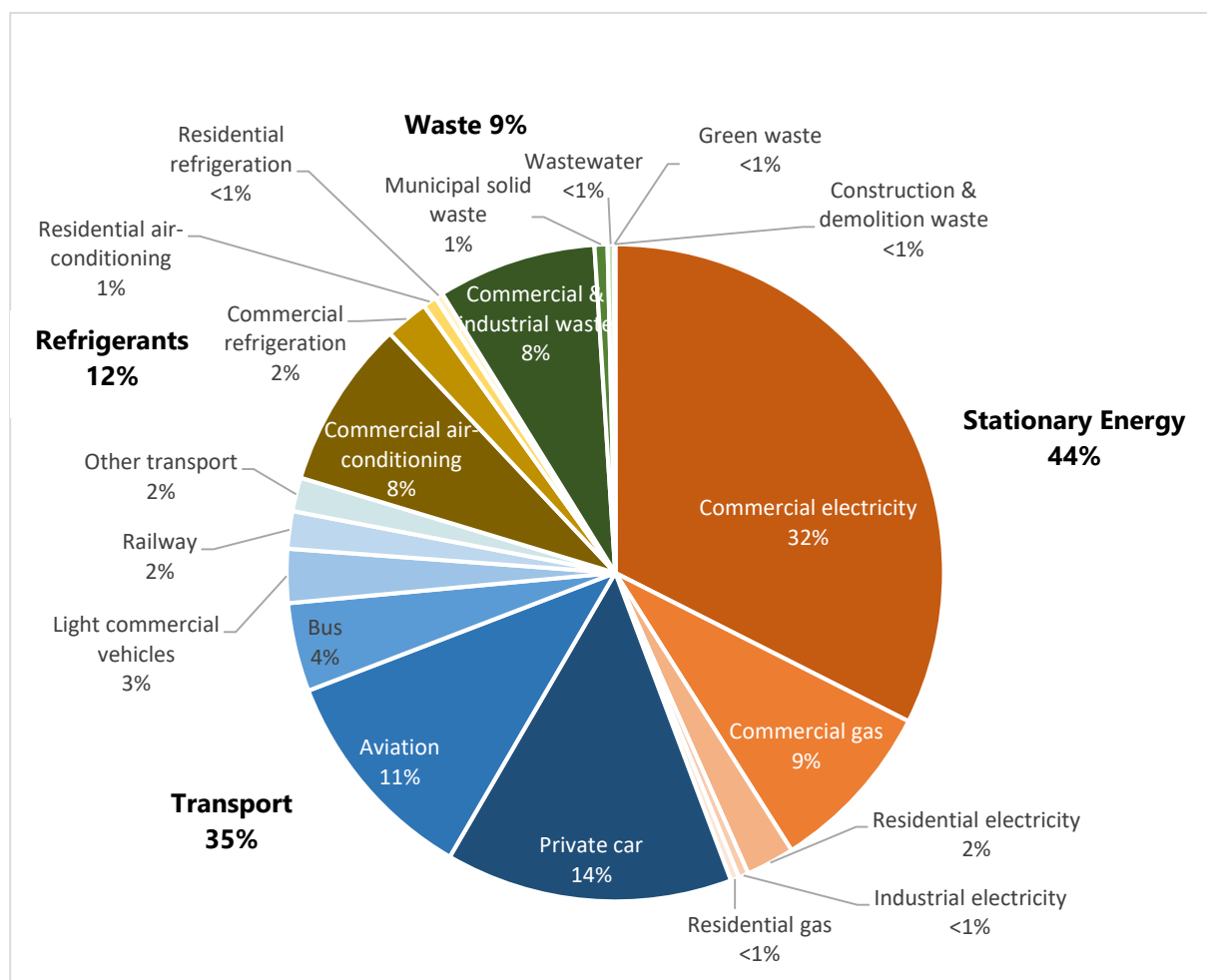


Figure 4: Emissions profile of the City of Adelaide Community, FY2020

Baseline

An emissions baseline is the year selected to measure reduction targets against. The Carbon Neutral Adelaide Strategy used a FY2007 baseline. This modelling uses a FY2016 baseline, and the percentages are expressed relative to that year.

Possible Future Trajectories for Adelaide

To support the target of achieving net zero carbon emissions for our community in our *Carbon Neutral Strategy 2015-2025*, Point Advisory modelled two emissions trajectories.

Trajectories are a way that modellers can investigate several possible futures. They assist in selecting actions based on the impact they could potentially have, in this case, for the future emissions of the city.

Figure 6 below shows two trajectories for emissions over the key period needed to tackle climate change, globally.

- **“External drivers” (light blue line).** This includes population and business growth, decarbonisation of the electricity grid, and technological improvements. It represents the trajectory for Adelaide that is essentially “do nothing”.
- **“Total Business as Usual (BAU)” (dotted black line).** This includes external drivers plus existing government policies, programs and targets, including the State Government Climate Action Plan 2021-2025.

The coloured segments represent the anticipated changes in the electricity and transport systems. Key points are:

- The red segment (electricity) shows the emissions from the electricity grid reducing further to 2030, and close to net zero by 2050.
- The dark blue segment (on-road private transport) reflects electric vehicle fleet increasing to 75% by 2050, significantly reducing emissions from private transport.
- Other external drivers include increasing gas connections and increases to the number of PV systems on rooftops.

Figure 7 below presents two additional trajectories:

- **“Accelerated Abatement Opportunities” (dark green line)** – this line represents an emissions trajectory if significant projects, as identified in an opportunity analysis by Point Advisory in 2021 are implemented. This pathway would result in nearly 160,000 tonnes of emissions **remaining by 2050**, that would require new technological solutions, or offsetting, to achieve net-zero emissions.
- **“Science based target” (red dotted line)** – this line represents the pathway required to meet a true ‘zero emissions’ city by 2050.

For the purpose of modelling, a total of 17 opportunities were included in the **Accelerated Abatement Opportunities trajectory** (represented by the green line in Figure 7) based on their carbon abatement potential, technical feasibility and the potential role of the CoA either as a provider, regulator, or advocate. Of the 17 modelled opportunities, CoA would have direct control over some, for example creating cycleway infrastructure, but limited or no control over others, for example train electrification.

From the list of 17 opportunities, five key opportunities were used as prompts in climate action planning engagement with staff, community and stakeholders between February and April 2022, due to their strategic alignment, cost implications and carbon abatement potential. The five key opportunities highlighted during engagement were:

- Electrify existing and new buildings
- Accelerate the uptake of electric vehicles
- Renewables group-buy for business
- Increased uptake of active transport
- Shared solar for multi-tenanted buildings.

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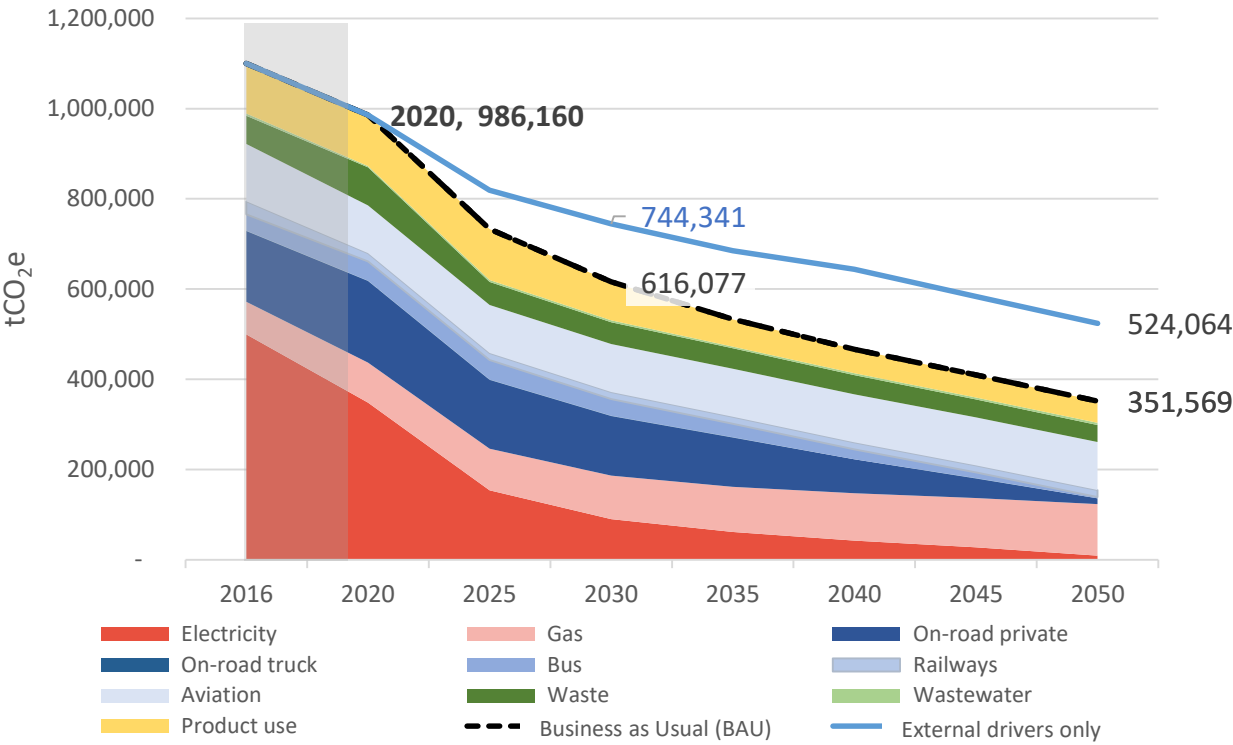


Figure 6: Business-as-usual community emissions trajectories to 2050, from Point Advisory Research

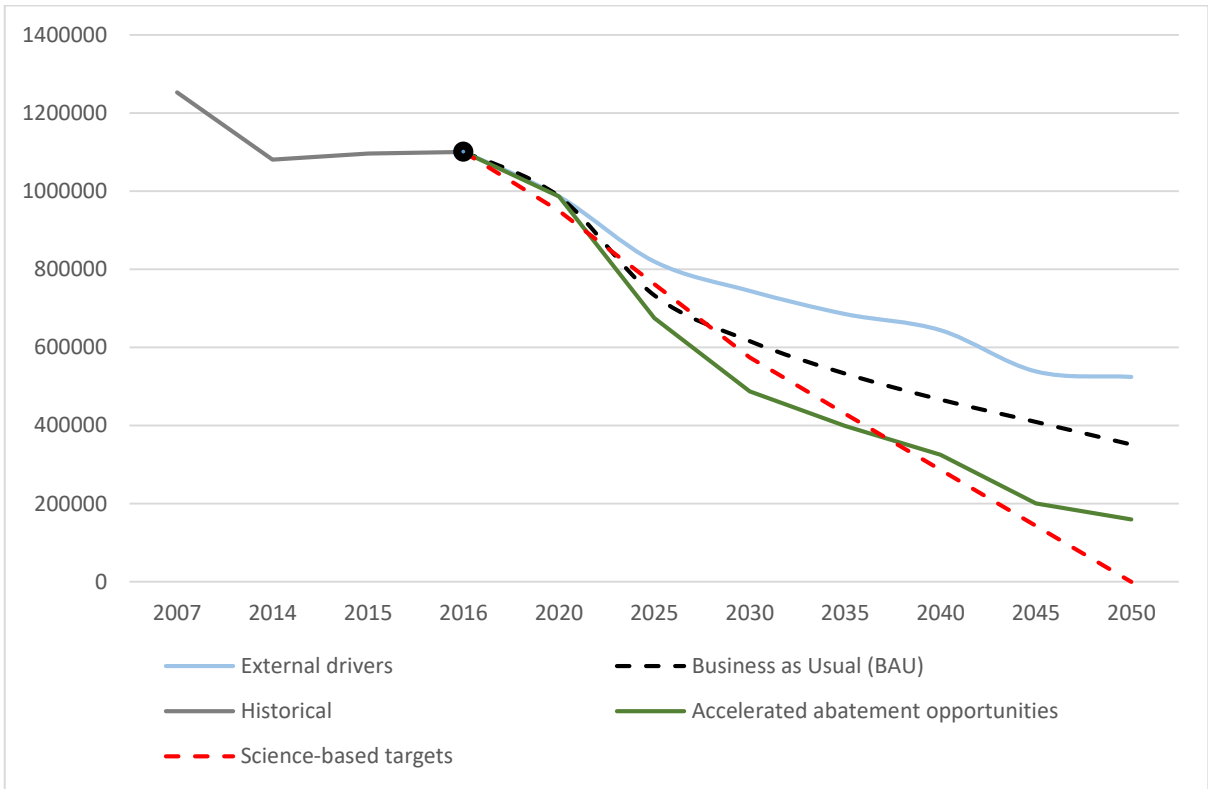


Figure 7: Enhanced emission reductions trajectories to 2050