



CARBON NEUTRAL STRATEGY **2015–2025** ADELAIDE, SOUTH AUSTRALIA



“ WE LEAD BY EXAMPLE. THAT IS WHY WE ARE COMMITTED TO OUR OWN OPERATIONS BEING CARBON NEUTRAL BY 2020. TOGETHER, WE CAN CREATE A BRIGHT FUTURE FOR THE CITY OF ADELAIDE. ”



LORD MAYOR'S MESSAGE



Adelaide is a City of Firsts. We have a long history of innovation and leadership, and our approach to climate change is no different.

Adelaide City Council and the Government of South Australia are proud of their intention to make Adelaide the world's first carbon neutral City. We have signed parallel international agreements on climate change – the Compact of Mayors and the Compact of States and Regions – and we have also entered into a Sector Agreement to formalise our work together.

This collaborative approach is just one example of our leadership in addressing climate change. The list of 'firsts' for our city and State is long. We were the first Australian state to legislate specific greenhouse gas reduction targets, and we lead the nation in the recent uptake of renewable energy.

At Council, we introduced Tindo, the world's first solar electric bus, in 2007; and more recently we introduced Australia's first Sustainable Incentives Scheme for the installation of energy storage paired with solar photovoltaics.

Adelaide is extremely well-placed to pursue bold carbon targets. Since 2007, the city's carbon emissions have declined by 20% and we've achieved this outcome while growing the city's economy and population. We've driven this change through clever policy, bold and early adoption of technologies, incentives and partnerships.

I am passionate about local government's role in addressing climate change and embracing the transition to a low carbon economy to attract investment, drive innovation and create jobs. We are perfectly positioned to engage with the public and stimulate local action, and this Carbon Neutral Strategy commits Council to taking on that role.

As the world moves towards a low-carbon future, we have a once-in-a-generation opportunity to capitalise on these massive global changes to our energy systems and position ourselves as a centre for innovation and early adoption of clean technologies. There will be huge business benefits available from the reputation that goes with being a progressive, low-carbon city.

At Adelaide City Council, we lead by example. That is why we are committed to our own operations being carbon neutral by 2020. Together, we can create a bright future for the City of Adelaide. Please join us.

A handwritten signature in black ink, appearing to read 'Martin Haese'. The signature is fluid and cursive, with a large, stylized 'M' at the beginning.

Martin Haese
LORD MAYOR
City of Adelaide

CLIMATE CHANGE AND WHAT IT MEANS FOR ADELAIDE

Changes to the global climate are now considered unequivocal and scientists have stated that it is now clear that there is a human influence on the climate system¹. Our climate is changing as concentrations of greenhouse gases in the atmosphere increase due to human activity, notably the combustion of fossil fuels for energy and transport, land clearance and changes in land use.

Since the 1950s, many of the observed changes are unprecedented over decades to millennia¹. The 10 warmest years in the instrumental record, with the exception of 1998, have now occurred since 2000², and the earth has not had a below average temperature year since 1976³.

Projected climate changes

- Increased frequency and intensity of heat waves
- Increase in average temperatures
- Lower average rainfall and significant decreases in spring rainfall
- Increase in intensity of rainfall events.

Potential region impacts

- Health impacts of heat waves, particularly for vulnerable community members
- Impacts of heat waves on liveability and accessibility
- Impacts of heat waves on the economy and businesses, particularly sectors such as retail and hospitality
- Reduced water availability and increasing heat resulting in increased stress and resources required for maintaining open space, public realm and vegetation.

1. Intergovernmental Panel on Climate Change, 2014. 2. North American Scientific Agency (NASA). 3. <http://earthobservatory.nasa.gov/IOTD/view.php?id=85083> based upon the 1951–1980 average annual temperature.



A nighttime photograph of a city street, likely Adelaide, showing a wide road with a crosswalk, streetlights, and buildings in the background. The text is overlaid on the top left of the image.

**// TO AVOID DANGEROUS
CLIMATE CHANGE,
THE INTERNATIONAL
COMMUNITY HAS AGREED
TO A GOAL OF REDUCING
GLOBAL WARMING TO LESS
THAN 2 DEGREES CELSIUS //**

CLIMATE CHANGE MITIGATION

Global action on climate action is now widespread on two fronts: reducing emissions to limit future climate change (mitigation), and changing the way our environments, societies and assets are managed and shaped in response to the impacts of climate change (adaptation).

To avoid dangerous climate change, the international community has agreed to a goal of reducing global warming to less than two degrees Celsius. This will require very deep cuts in greenhouse gas emissions and will involve fundamental shifts for the fossil fuel-reliant energy and transportation systems. This 'decarbonisation' presents enormous challenges and, consequently, enormous opportunities for those that engage early.

This Strategy addresses Council's policy for climate change mitigation. Council commits to leading by example in addressing climate change, and to working with the State Government and the community to ensure that Adelaide continues to build its reputation for decisive action to make deep cuts in carbon emissions.

ADELAIDE AS A LEADING CITY

Carbon emissions from the City of Adelaide community declined by 20% between 2007 and 2013 (Figure 1).

This reduction occurred over a period when economic growth was significant (Figure 2).

This is a highly noteworthy example of the decoupling of economic growth from carbon emissions, demonstrating that deep cuts to emissions can be made without forgoing economic growth. Adelaide has the opportunity to showcase this achievement to the Australian and international community, and to build on the results.

Analysis indicates that the 20% reduction in carbon emissions could largely be attributed to decarbonisation or 'greening' of the city's electricity supply due to large scale wind projects and widespread roof top solar photovoltaic; and significant energy efficiency improvements in new and existing commercial buildings.

Most of the carbon emissions from the city are from mains electricity and transport (Figure 3). The built environment and transport sectors will be very important in efforts to achieve deep cuts in city emissions.



Community Carbon Emissions

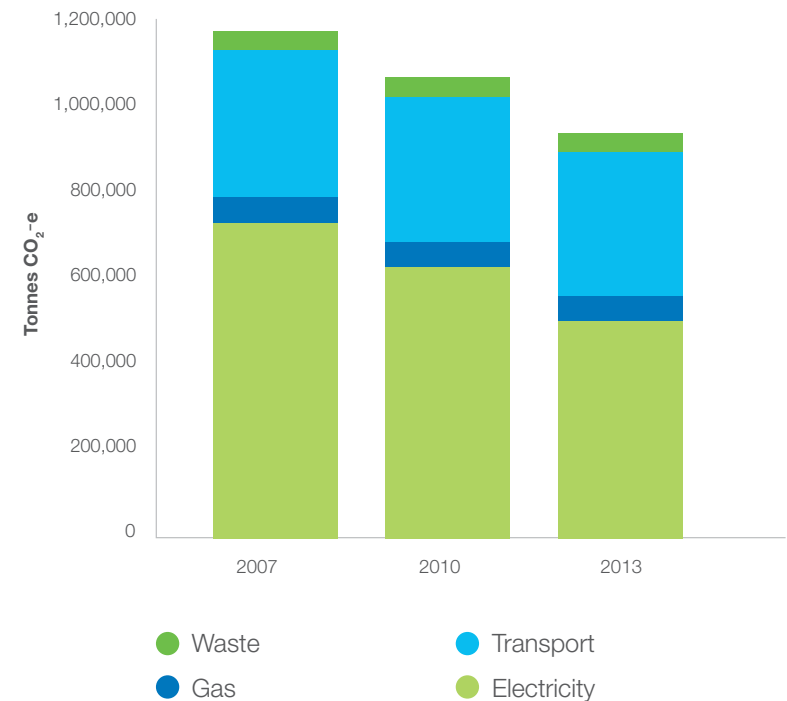


Figure 1: Total City of Adelaide Community Carbon Emissions 2007, 2010 and 2013

**Community Carbon Emissions
and Gross Regional Product**

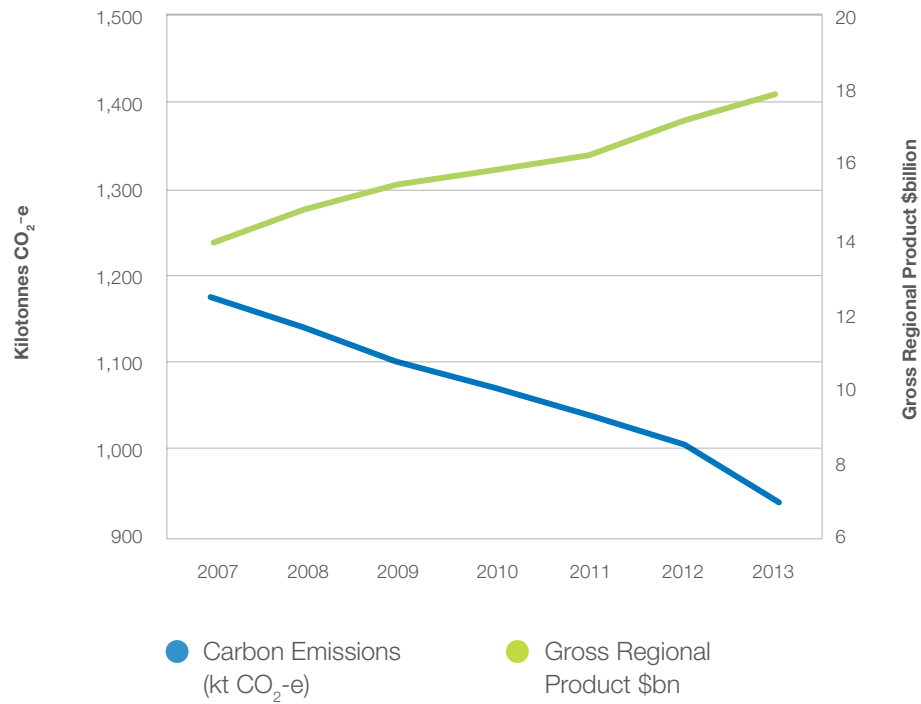


Figure 2: 2007 to 2013 City of Adelaide Community Carbon Emissions and Gross Regional Product

Community Carbon Emissions by sector

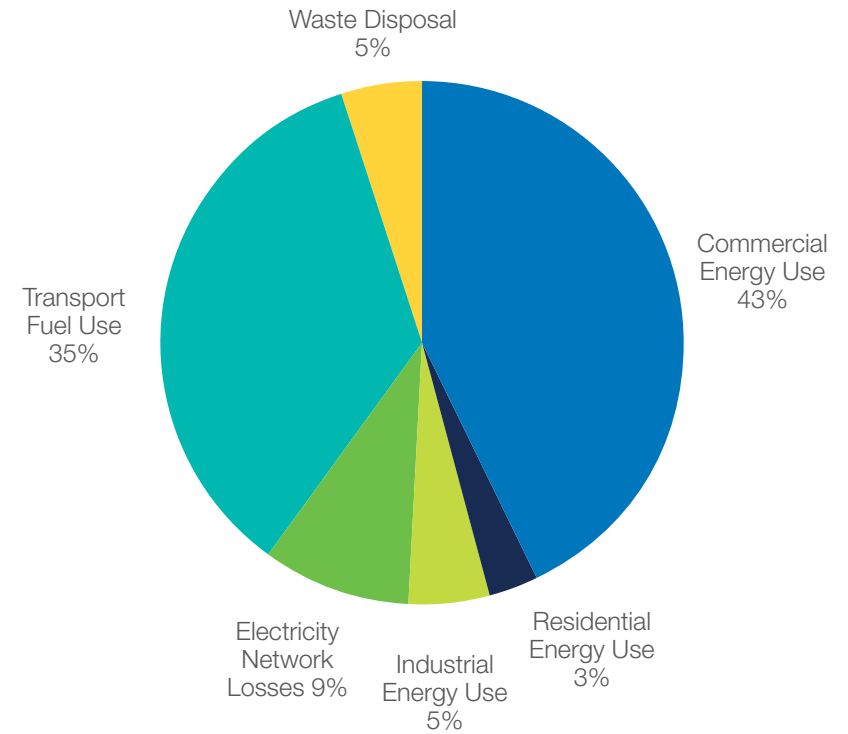


Figure 3: Breakdown of 2012-13 City of Adelaide Community Carbon Emissions by sector

WORLD'S FIRST CARBON NEUTRAL CITY

Council shares with the Government of South Australia an aspiration for Adelaide to be the world's first carbon neutral city. We are working closely with the Government towards this goal.

This close collaboration between two tiers of government is significant. It has been formalised through two mechanisms:

- the joint signing of the Compact of Mayors by Council and the Compact of States and Regions by the Premier, the first such pairing in Australia of these two important international networks
- the undertaking to enter into a Sector Agreement under the *Climate Change and Greenhouse Emissions Reduction Act 2007*.

Council is working closely with the Government of South Australia on mapping pathways to carbon neutrality, and will develop an action plan that will set priority strategies and actions.

In this Strategy, Council establishes an aspiration for Adelaide to be the world's first carbon neutral city, and sets a target of 2025 for achieving carbon neutrality. Given the aspiration to be 'world's first', the actual year in which carbon neutrality is achieved may be earlier than 2025, however this year reflects the substantial structural changes required to realise deep emission cuts in our transport and built environment sectors.

**“ANNUAL ENERGY EFFICIENCY
COST SAVINGS TO COUNCIL
AMOUNT TO \$800,000”**





COUNCIL IS LEADING BY EXAMPLE

Council has a long and successful history of reducing carbon emissions from our own operations, and we have a long-standing target to have carbon neutral operations by 2020 (first adopted in 2008).

We reduced our carbon emissions by 60% between 1994 and 2009–10.

After reaching this target, in 2011 we adopted the Energy Management Action Plan 2011–2015, which established a central strategy to maintain emissions to no greater than the new low baseline and targets. It targets deep cuts in energy use to maximise long term carbon reduction from Council operations.

In October 2015, we publicly reported that we had met the strategic targets set in 2011:

- Energy use reduced by 15.5% between 2009–10 and 2014–15, which met the target of a 15% reduction.
- Carbon emissions were 14,000 tonnes CO₂-e in 2014–15, which met the target of no net increase in carbon emissions from 2009–10.
- We purchased only 3.6% of our electricity as accredited GreenPower in 2014–15 while still meeting our carbon target, which met the target of purchasing no greater than 35% of total electricity used by 2014.

These achievements delivered an annual cost saving to Council of \$800,000 in avoided energy costs based on 2014–15 prices.

Council is now well positioned to move into the final phase of preparing for zero net carbon emissions from its operations by 2020.



Retro fitting cutting-edge LEDs into chandeliers at Adelaide Town Hall has proven that heritage requirements can be met alongside ambitious emission cuts.

STRATEGIC CONTEXT

City of Adelaide 2016–2020 Strategic Plan

Council's 2016-2020 Strategic Plan sets the vision for the City of Adelaide as a welcoming and dynamic city full of rich and diverse experiences.

The Strategic Plan articulates an agenda of sustainable growth, underpinned by four key themes:

- Smart
- Green
- Liveable
- Creative

Strategic Plan - Green theme

The Green theme in the Strategic Plan aims for Adelaide to be 'One of the world's first carbon neutral cities and an international leader in environmental change'.

The Green theme includes the following target:

- City carbon emissions will be reduced by 35% from the 2006–07 baseline by 2020.

One of actions under this theme providing a strategic setting for pursuing carbon neutrality, includes:

- Partner with the State Government to implement a Carbon Neutral Adelaide Partnership Framework to pursue the shared aspiration for Adelaide to be the world's first carbon neutral city.

Strategic Plan - Smart theme

The Smart theme in the Strategic Plan aims for Adelaide to be 'A smart city with a globally connected and opportunity rich economy'.

The Smart theme details Council's approach to growing the City's economy in a rapidly changing environment, and capitalising on the economic opportunities from the low carbon economy is a key part of this.

There are many actions under the Smart theme that provide a strategic setting for pursuing carbon neutrality, including:

- Supporting development of the clean technology sector through a range of programs, services, initiatives and data.

Resilient East: Regional Climate Change Adaptation Plan

Council's adaptation policy is addressed in Resilient East: Regional Climate Change Adaptation Plan.

This regional adaptation plan was prepared in conjunction with eastern metropolitan Adelaide councils, and provides the mechanism for a coordinated and collaborative response to the challenges and opportunities presented by a changing climate.

**“ ADDRESSING
TRANSPORT-RELATED
CARBON EMISSIONS
WILL BE CRITICAL TO
DEEP CUTS IN CITY
EMISSIONS ”**



OUR ASPIRATION

The City of Adelaide is the world's first carbon neutral city.

Having successfully decoupled economic and population growth from carbon emissions, we show the world what is possible.

Our sustainable way of life, agile business practices and commitment to lasting change leads the world, supports growth, attracts investment, fosters innovation and enriches the Adelaide experience.





OUR ROLE

We lead when:

- we wish to set an example
- we would like others to follow
- the benefits of action need to be demonstrated or measured
- great ideas and opportunities are identified and embraced
- change must occur for success, safety or community well-being, and
- we could catalyse change.

We partner to:

- catalyse community-led action on climate change
- bring forward or attract investment
- mitigate risks and equitably distribute costs
- share or acquire knowledge
- reduce the cost of action, and
- maximise benefits.

We influence to:

- encourage early adoption of ideas or technology
- support leadership and effect change
- attract investment
- maximise community and State benefits
- share knowledge, and
- protect our community from the impacts of climate change.

OUTCOME 1

A carbon neutral city where economic growth and carbon emissions are decoupled.

Targets

1. The City of Adelaide has zero net carbon emissions by 2025.
2. The City of Adelaide has reduced its carbon emissions by 35% by 2020 (from the 2006–07 baseline year).

Council Priorities

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.
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.
3. Build broad community commitment to achieving carbon neutrality.
4. Facilitate a substantial increase in the uptake of renewable energy and energy storage.
5. Pursue decarbonisation of the transport system.
6. Increase city greening through street trees, gardens, plantings, green walls and green or cool roofs.

Measures of Success

1. The City of Adelaide is accredited carbon neutral by 2025 or earlier.
2. A Carbon Neutral Adelaide framework is established by 2016.
3. A Carbon Neutral Adelaide action plan with costed pathways to achieving carbon neutrality and targets is completed by 2016.
4. The City of Adelaide's community greenhouse gas inventory is completed in accordance with international protocols.
5. Indicators are developed to measure the city's transition to a low carbon economy.
6. Green coverage in the existing built-up areas is increased by 100,000 squares metres by 2020.



OUTCOME 2

A carbon neutral Council that is effecting change in the community.

Targets

1. Adelaide City Council has zero net carbon emissions from its operations by 2020.

Council Priorities

1. Prepare and implement a Carbon Neutral Council action plan to achieve carbon neutrality by 2020, including measures in the areas of;
 - buildings and facilities
 - public lighting
 - fleet vehicles and plant
 - procurement
 - renewable energy and energy storage, and
 - carbon offsets.
2. Reduce emissions associated with resource use and maximise recycling.

Measures of Success

1. Council has zero net carbon emissions by 2020, accredited by the National Carbon Offset Standard.
2. A Carbon Neutral Council action plan with costed pathways to achieving carbon neutrality and targets is completed by 2016.
3. The Adelaide City Council's annual corporate greenhouse gas inventory is completed in accordance with relevant protocols.
4. Council's carbon neutral programs and actions are endorsed by our community and peers.

Broad-scale investment in solar photovoltaics and storage is supported under the Strategy (as seen here with the 50 kW solar photovoltaic system on Council's Central Bus Station roof)



OUTCOME 3

Leadership that embraces and shares great ideas and opportunities.

Targets

1. Establishment of a Carbon Neutral Adelaide partnership framework by 2016.
2. One million square metres of city floor space is committed to the Carbon Neutral Adelaide partnership framework by 2020.

Council Priorities

1. Create and foster opportunities for partnerships and businesses to grow and prosper from the low carbon economy.
2. Create a supportive environment for early adoption of great ideas and technologies.
3. Facilitate knowledge sharing and network development to enhance community awareness and adoption of opportunities and outcomes.
4. Provide financial and non-financial incentives for excellence and celebrate all areas of community leadership.
5. Identify and promote new business and investment opportunities arising from the city advancing its carbon neutral reputation.

Measures of Success

1. Adelaide is a local, national and global leader in taking climate change action and capitalising on the economic opportunities of a low carbon economy.
2. Adelaide is a showcase city for world leading practices, technologies and services that grow the green economy and reduce carbon emissions.
3. Our partners' carbon emissions reduction programs and actions are endorsed by our community and their peers.
4. Council publicly discloses through the Carbon Disclosure Project greenhouse gas inventories for its operations and for the city community.
5. Compliance with the Compact of Mayors is maintained.

Marjon Martin, city resident is the first recipient of an energy storage incentive from Council's Sustainable City Incentives Scheme





Endangered plants

More than 30% of native South Australian plants are at risk of extinction.

The threatened plants you see here were grown from seeds collected by the Botanic Gardens of Adelaide.



Images sourced from:

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