Data provided for the
CDP Cities 2015 Report

www.cdp.net

City of Adelaide

Written by

CDP
DRIVING SUSTAINABLE ECONOMIES

Report analysis & information design for CDP by

AECOM

In partnership with

C40 CITIES
CLIMATE LEADERSHIP GROUP

Bloomberg Philanthropies

CDP, C40 and AECOM are proud to present results from our fifth consecutive year of climate change reporting for cities. It was an impressive year, with 308 cities reporting on their climate change data (six times more than the number that was reported in the survey's first year of 2011), making this the largest and most comprehensive survey of cities and climate change published to date by CDP. City governments from Helsinki to Canberra to La Paz participated, including over 90% of the membership of the C40 – a group of the world's largest cities dedicated to climate change leadership.

Approximately half of reporting cities measure city-wide emissions. Together, these cities account for 1.67 billion tonnes CO_2e, putting them on par with Japan and UK emissions combined. 60% of all reporting cities now have completed a climate change risk assessment. And cities reported over 3,000 individual actions designed to reduce emissions and adapt to a changing climate. CDP, C40 and AECOM salute the hard work and dedication of the world's city governments in measuring and reporting these important pieces of data. With this report, we provide city governments the information and insights that we hope will assist their work in tackling climate change.

This document contains the questionnaire data provided to CDP from Adelaide as part of its 2015 CDP submission.

To see all of the results for all participating cities, visit https://www.cdp.net/cities.

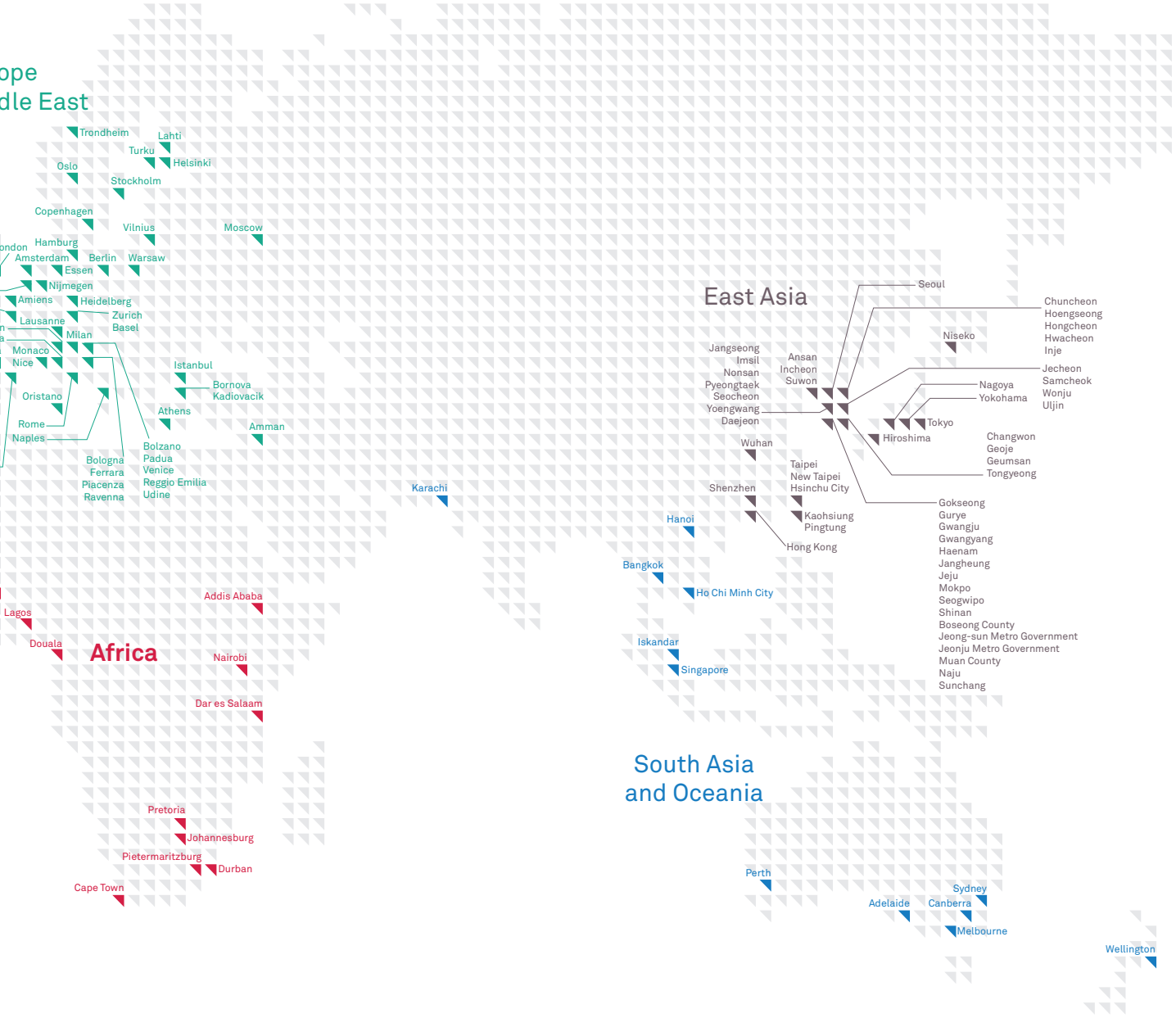
The graphics in this document are from the 2015 CDP Cities infographic.

Adelaide in context

Number of cities responding per year

48	73	110	207	308
2011	2012	2013	2014	2015
☐	☐	☐	☐	☑

Adelaide participation

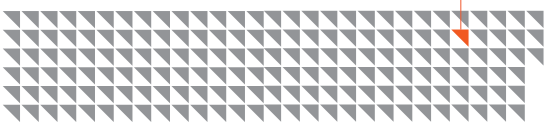


Total population of cities responding in 2015

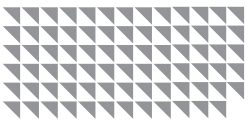
446,186,833

Adelaide (city proper)
22,690
people

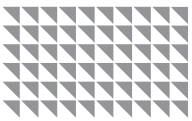
Where Adelaide fits



171 small
<600k population



77 medium
600k-1.6m population



60 large
1.6m+ population

Year reported

2015

Area

16

km²

Population

22,690

Adelaide in focus

Inventory method

Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC)

144 cities reporting emissions in 2015

0 **Introduction**

The City of Adelaide includes the suburbs of Adelaide and North Adelaide in the state of South Australia. The City encompasses a total land area of approximately 16 square kilometres and includes the 760 hectares of the Adelaide Park Lands which are included on the National Heritage List.

Adelaide is the capital of South Australia and is a mixed use area, with residential, commercial, institutional, cultural and entertainment land uses, and substantial public open space.

The climate of Adelaide is temperate due to its coastal location and it has mild wet winters and hot dry summers.

Introduction

The City of Adelaide generates around one fifth of South Australia's Gross State Product. In 2011, the City's three largest industries in terms of proportional value to the economy were; Finance and Insurance (29.4%), Property and Business Services (18.5%) and Government and Defence (16.6%).

The residential population of the City of Adelaide was 22,690 in 2014 and it has a higher proportion of households in the medium to high income category compared to South Australia. A significant number of workers travel into the City of Adelaide to work. On an average weekday, the population grows to 230,000 as people travel to the city to work, study or shop.

In the last decade, population growth in South Australia has been driven by overseas migration and this is set to continue. City households will continue to be dominated by lone person households, with an ongoing low proportion of families with children. The future urban form of Greater Adelaide will be more compact with much of the envisaged new housing and jobs located in the City and existing urban areas on transport corridors.

1.1 **Governance**

Adelaide's process for managing progress and responsibility for climate action:

Emissions Reductions

Adelaide City Council has been actively and continuously engaged in climate change mitigation and adaptation since 1996. It has consistently demonstrated leadership in delivering real and lasting reductions in carbon emissions. Adelaide City Council's Strategic Plan (2012-2016) has a vision of Adelaide being one City and many great places. It contains six key outcomes for the City. One of these is an environmentally sustainable city, which includes a city that reduces carbon emissions, conserves water, energy and natural resources, minimises waste and prepares for the impacts of climate change.

Governance

Council's Program Manager, City Sustainability and Park Lands, is responsible for progressing this outcome. The strategic plan is reviewed every four years and Adelaide City Council's Annual Report includes progress against the environmentally sustainable city outcome.

Adelaide is leading by example and remains committed to its own operations being carbon neutral by 2020.

In 2008, Adelaide City Council established a Climate Change Action Initiatives Fund (the fund) to finance carbon reduction and climate change adaptation projects. The fund is allocated 1% of Council's annual rates income and in 2014/15 more than AUD 900,000 was provided to the fund.

Adelaide City Council's Energy Management Action Plan (2011-2015) is positioning the Council and the community to reduce energy use and carbon emissions.

This Plan contains energy and emission reduction targets for the Council. Strategies to achieve these targets focus improving energy efficiency, the installation of renewable energy, purchasing of renewable electricity (GreenPower™) and accredited carbon offsets.

The Plan recognises the Council's ability to influence emissions in the community (residential and business) through community education, the provision of financial incentives, development approval processes, business assistance programs and through advocacy.

The fund supports implementation of Energy Management Action Plan priority projects that reduce energy use and carbon emissions in the corporation and community. These projects including energy efficient lighting and controls, heating, cooling and boiler upgrades in council facilities, installation of energy management systems, LED public lighting, solar photovoltaic panels on Council facilities, purchase of carbon offsets and the provision of financial incentives for the installation of water and energy conservation devices in the community.

Adelaide City Council prepares a publicly available annual inventory of Council carbon emissions. The Council also prepares a biennial community emissions inventory using the Global Protocol for Community Scale Greenhouse Gas Emissions Inventories.

Large reductions in emissions have been achieved within the Council's operations, with a 57% reduction in total emissions from 1994 to 2014 without carbon offset purchases. Over the last 5 years, a 15.5% reduction in energy use has saved the Council AUD 800,000 in avoided energy costs.

Most recently, the 2013 City of Adelaide Community Carbon Emissions Inventory found that Adelaide's carbon emissions reduced by 20% from 2007 to 2013. During this period, the City's residential population grew by 27%, office floor area grew by 16% and economy grew by 28%.

Building upon this success, the Council has recently endorsed a Carbon Neutral Strategy 2015 – 2025 that outlines the Council's policy for climate change

mitigation. It includes the Council's shared aspiration with the Government of South Australia for Adelaide to be the world's first carbon neutral city.

The Strategy establishes ambitious targets for the City to be a carbon neutral city by 2025 and Council operations to be carbon neutral by 2020. Identification and analysis of detailed abatement measures is currently underway and a Carbon Neutral Action Plan will be finalised in 2016.

Adelaide City Council and the Government of South Australia have signed parallel international agreements on climate change – the Compact of Mayors and the Compact of States and Regions – and have also entered into a Carbon Neutral Adelaide Sector Agreement under South Australian climate change legislation to formalise their partnership in working towards carbon neutrality.

Adaptation

Adelaide has committed to adapting to climate change.

Adelaide City Council has a Climate Change Adaptation Action Plan (2013 – 2015) which defines strategies and actions for climate risks, allocates responsibility within Council for the actions, and establishes processes for building implementation into the Council's Risk Management Framework and annual Business Plan and Budget process.

The Climate Change Adaptation Action Plan (2013-2015) has the resolution of the Council and the Council has endorsed the decision to participate in the Resilient East Project.

Adelaide has a plan that addresses climate change adaptation:

The Adelaide City Council Climate Change Adaptation Action Plan (2013-2015) has been developed to ensure that the Council manages climate change impacts and risks. Adaptation planning will be incorporated into existing council decision making and planning frameworks.

Adelaide anticipates that national and/or regional climate change activities will have impacts on Adelaide's own climate change activities.

The Council is currently collaborating with seven eastern metropolitan Adelaide councils and has undertaken an integrated vulnerability assessment and is currently preparing an Adaptation Plan for the region (the Resilient East Project).

Australia has a three level system of government and is based on the British Westminster system. It has one federal government, six state and two territory governments and over 560 local councils. Councils largely operate autonomously within the framework of state government legislation and are primarily accountable to their local communities.

Climate change activities within Adelaide City Council are influenced by climate change policy-related actions by the South Australian and Australian governments.

Adelaide incorporates sustainability goals and targets into the master planning for the city.

The goal of Resilient East is to improve the resilience of our communities, assets and infrastructure, local economies and natural environment so they can cope with the inevitable impacts and challenges of climate change.

The Adelaide City Council Development Plan (2015) supports sustainability goals in a number of ways.

It requires development to be compatible with the long-term sustainability of the environment, minimisation of the consumption of non-renewable resources and utilisation of alternative energy generation systems. It requires the principles of sustainable design and construction to reduce energy consumption and limit carbon emissions for new office development, office additions and refurbishments. Roof design is required to support sustainable functions such as rainwater tanks, photovoltaic installations and green roofs.

The development plan also encourages use of sustainable travel and requires that any development aligns with active and sustainable transport modes, such as public transport, cycling and walking.

For example, the Australian government introduced a Mandatory Renewable Energy Target in 2001 as the main policy tool for the establishment of renewable energy generation in Australia. This has seen a number of large wind farms established in South Australia which has reduced the carbon intensity of the electricity supply from 0.86 tonnes CO2-e/MWh in 2005 to 0.58 CO2-e/MWh in 2013 and

contributed to major reductions in carbon emissions at the Council and community level.

The South Australian Government (the Government) has also been instrumental in supporting the rapid uptake of renewables by ensuring a supportive regulatory framework was in place including solar feed-in tariffs and removing the requirement for development approval for small scale solar photovoltaic (solar PV) installations.

Working with Adelaide City Council and the Local Government Association of South Australia, the Government has recently secured changes to the South Australian Local Government Act to enable the establishment of a Building Upgrade Finance mechanism in South Australia. Similar to Property Assessed Clean Energy (PACE) in America and based upon Environmental Upgrade Finance offered by the City of Melbourne, it is now likely that City of Adelaide property owners will gain improved access to new sources of finance for sustainability upgrades.

The South Australian Government has provided a State Adaptation Framework to guide the development of regional integrated vulnerability assessments (IVA) and climate change adaptation plans. Adelaide City Council is currently collaborating with other eastern region councils in the IVA process.

Adelaide City Council has further supported renewable energy generation through leading by example with solar PV installations on council buildings, providing financial incentives for renewable energy installations within the City community, community education and awareness, government partnerships, advocacy and local planning support.

Adelaide City Council has partnered with cities including Sydney, Melbourne and Perth to deliver the CitySwitch Green Office Program. Nationally the Program supports tenants with more than 3,000,000m^2 of office floor area to reduce their energy use, waste to landfill and carbon emissions.

Adelaide has a climate change action plan for reducing GHG emissions.

Adelaide City Council Energy Management Action Plan (2011-2015)

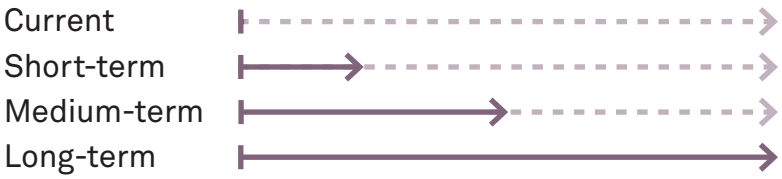
2.1 **Physical risks**

Current and/or anticipated effects of climate change present significant physical risks to Adelaide:

Seriousness

Less Serious ! ! ! Serious ! ! ! Extremely Serious ! ! !

Timescale



Risks & Adaptation

More hot days

Risk: !!! Timescale: ----------→

Impacts: Council Prosperity - decline in liveability and comfort in the City resulting in a decline in residential and visitor activity; Transport Planning - reduction in pedestrian and cycling as modes of transport and subsequent increase in demand for private transportation; Development and Energy Planning – increased energy demand and peak demand from air-conditioning. Greater need for energy-efficient buildings, development that reduces the heat island effect, shading and vegetated environments; Environmental Management – increased stress on vegetation and need for increased maintenance and higher water consumption; Health and Wellbeing - increased risk of limb drop from stressed trees and a reduction in physical exercise and organised sporting activities.

More intense heat waves

Risk: !!! Timescale: ----------→

Impacts: as per More hot days/Hotter summers. Health and Wellbeing – vulnerable people in the community are more exposed to adverse health outcomes (the elderly, those with a chronic illness or disability, homeless people and those on low incomes).

More intense rainfall

Risk: !!! Timescale: ----------→

Impacts: Development Planning and Emergency Management – risk to property damage and disruption to services from flooding.

Reduced average annual rainfall

Risk: !!! Timescale: ----------→

Impacts: Development Planning – drying of land, ground movements and changes to the integrity of structures, affecting buildings and underground services such as pipes. Environmental Management – increased stress on vegetation and need for increased maintenance and higher water consumption, including for sports fields to ensure usability.

Compounding factors may worsen the physical effects of climate change in Adelaide.

The Urban Heat Island effect will exacerbate the impact of heatwaves.

The effects of climate change could threaten the ability of businesses to operate successfully in Adelaide.

Through the decline in liveability and comfort in the City leading to a decline in residential and visitor activity; risk to property damage and disruption to services from flooding.

A climate change risk or vulnerability assessment has been undertaken for the Adelaide area.

Resilient East Climate Projections Report

Adelaide used the Local Government Association of South Australia Climate Adaptation Planning Guide as the primary methodology.

2.2 **Climate Hazards**

Adelaide currently experiences the following climate hazards:

Extreme hot weather

Heat wave

Flash/surface flood

Drought

Adelaide expects the following hazards to affect the city in the future:

Heat wave

Extreme hot weather

Drought

Flash / surface flood

2.3 **Adaptation**

Actions Adelaide is taking to reduce risks to infrastructure, citizens, and businesses from climate changes include the following:

More hot days

Hazard: Extreme temperature

Heat mapping and thermal imaging:

An Urban Heat Island study of Adelaide has been prepared, which included heat (thermal) mapping and Albedo.

More intense heat waves

Hazard: Extreme temperature

Tree planting and/or creation of green space:

We have developed Green Infrastructure Guidelines, recognising the importance of shading and cooling infrastructure.

More intense rainfall

Hazard: Flood

Flood mapping:

We check local flood management and map one in one hundred year flood events against development proposals and Council projects. We are also involved in flood planning, for example, developing the Brownhill and Keswick Creek and Eastern Region Stormwater management plans.

Reduced average annual rainfall

Hazard: Water scarcity

Diversification of water supply:

Adelaide City Council signed up as a project partner to the Glenelg to Adelaide pipeline project, to agree to use recycled water for irrigation in the city park lands.

2.4 **Social risks**

Adelaide faces social risks as a result of climate change.

Fluctuating socio-economic conditions

Timescale: 

Decline in liveability and comfort in the City due to warmer temperatures and more intense and frequent heatwaves resulting in a decline in residential and visitor activity.

Increased incidence and prevalence of disease

Timescale: 

Mosquito-borne disease (e.g. Ross River virus) due to warmer temperatures and an extension of the mosquito season. Illness may also be increased through heat induced algal blooms in water bodies, increased vermin, faster food spoilage and people buying less fresh produce.

Cities are at risk from climate change

Increased demand for public services (including health)

Increased hospital admissions and emergency services relating to renal and mental health conditions due to extreme heat and heatwave events. Increased demand for open green spaces and shading to help cool the City. Increased demand for lighting of outdoor recreational areas to facilitate night-time use and air-conditioned community buildings to support indoor physical activity and community participation and connection.

Increased risk to already vulnerable populations

Impact of heatwaves on the elderly, those with a chronic illness or disability, homeless people (unable to shelter) and those on low incomes (unable to afford air-conditioning).

Increased conflict and/or crime

Reduced access to outdoor physical activities and social interaction which could negatively impact on mental health and increase conflict.

Increased resource demand

Increased demand for air-conditioning and electricity.

Population displacement

Timescale: 

Possible decline in residential population due to decreased liveability and comfort in the City.

3.1 **Opportunities**

Climate change action presents economic opportunities for Adelaide.

Opportunities

Adelaide is positioning itself to take advantage of opportunities from taking climate change action.

Development of new business industries (e.g. clean tech)

As the commercial centre of South Australia, the city is benefiting directly and indirectly from the growth in the energy efficiency and renewable energy business in the state.

Improved efficiency of operations

In attempting to reduce energy costs and carbon emissions from Council operations, Adelaide City Council has undertaken energy use audits, set energy use reduction targets and implemented measures to reduce energy use from Council buildings, community facilities and public lighting.

Reduction measures include LED lighting retrofits, installing lighting controls, upgrading chillers, air-conditioning upgrades and fine-tuning the building management system. In the community, the commercial sector is the largest energy user.

The Council was an early leader in promoting widespread adoption of sustainable design and construction in the building sector, through becoming an inaugural member of the Green Building Council of Australia in 2003. The Council has been a strong advocate for the economic opportunities arising from energy efficiency in buildings.

Since 2008, the Council has partnered with the cities of Sydney, Melbourne and Perth to deliver the CitySwitch Green Office Program which is a national voluntary office energy efficiency improvement program. The Council delivers ongoing support to signatories, recognises achievements through an annual awards event and provides financial rebates to participants that undertake accredited energy audits.

Adelaide is hoping to attract private sector involvement for the following climate-related projects:

The commercial building sector currently participates in the CitySwitch Green Office Program.

Working with Adelaide City Council and the Local Government Association of South Australia, the Government has recently secured changes to the South Australian Local Government Act to enable the establishment of a Building Upgrade Finance mechanism in South Australia. Similar to Property Assessed Clean Energy (PACE) in America and based upon Environmental Upgrade Finance offered by the City of Melbourne, it is now likely that City of Adelaide property owners will gain improved access to new sources of finance for sustainability upgrades.

96 CITIES

or 1/3 of cities that reported are taking action to de-carbonize their energy supply.

86%

of these cities see an ECONOMIC OPPORTUNITY in climate change.

The Building Upgrade Finance mechanism will enable loans to be tied to the property rather than a property owner and loan repayments will be collected via a local government charge that is levied on the property and passed on to the financier. Adelaide City Council will be part of this mechanism.

To reduce carbon emissions from the City community and conserve energy, water and natural resources, Adelaide City Council provides reimbursements for the installation of water and energy devices. The Sustainable City Incentives Scheme is available to all building owners and tenants including businesses, residents, schools, community and sporting organisations in the City of Adelaide.

The Sustainable City Incentives Scheme will provide up to:

- AUD 5,000 for installing solar PV
- AUD 5,000 for installing energy storage
- AUD 500 per electric vehicle charging controller
- AUD 5,000 for apartment building energy efficiency upgrades
- AUD 1,000 for changing out quartz halogen downlights to LED downlights
- AUD 120 for installing an energy monitoring system
- AUD 1,000 to for solar hot water system
- AUD 500 for rain water tanks or AUD 3,000 for communal use rain water tanks in apartment buildings

4.1 **Date and boundary**

Adelaide is reporting a GHG measurement inventory for a period of one year.

Mon 01 Jul 2013 - Mon 30 Jun 2014

Boundary typology used for Adelaide's GHG emissions inventory:

Departments, entities or companies over which operational control is exercised

Emissions – Local Government

4.2 **GHG emissions data**

Primary protocol, standard, or methodology used to calculate GHG emissions.

Climate change activities within Adelaide City Council are influenced by climate change policy-related actions by the South Australian and Australian governments.

For example, the Australian government introduced a Mandatory Renewable Energy Target in 2001 as the main policy tool for the establishment of renewable energy generation in Australia. This has seen a number of large wind farms established in South Australia which has reduced the carbon intensity of the electricity supply from 0.86 tonnes CO2-e/MWh in 2005 to 0.58 CO2-e/MWh in 2013 and contributed to major reductions in carbon emissions at the Council and community level.

The following major sources of emissions are included in the municipal GHG emissions inventory:

Buildings, municipal vehicle fleet, street lighting and traffic signals.

Gases included in emissions inventory:

CO_2
CH_4
N_2O

Total (Scope 1 + 2) emissions for Adelaide:

16,804

Metric tonnes CO_2e

Breakdown of Adelaide's GHG emissions by scope:

Scopes are a common categorisation method. Scope 1: All direct GHG emissions (with the exception of direct CO_2 emissions from biogenic sources). Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.

Total Scope 1 activity

3,525

Metric tonnes CO_2e

Total Scope 2 activity

13,279

Metric tonnes CO_2e

Total amount of fuel (direct/Scope 1 emissions) consumed in Adelaide during the reporting year:

Buildings –Natural Gas

42,419,205MJ

Municipal vehicle fleet – Diesel / Gas oil

299,000L

Municipal vehicle fleet – Motor gasoline (petrol)

221,000L

Municipal vehicle fleet – Liquefied Petroleum Gas (LPG)

8,000L

Electricity, heat, steam, and cooling (indirect/Scope 2 emissions) consumed by Adelaide during the reporting year:

Buildings

14,710,638kWh

Street lighting and traffic signals

6,038,044kWh

Adelaide does not yet measure Scope 3 emissions; work is currently underway.

Work is currently underway in Adelaide to identify relevant Scope 3 emissions sources and measure emissions in line with national and international standards and protocols.

Adelaide's emissions decreased.

An 8% reduction in emissions has been achieved through a reduction in electricity use (through energy efficiency) and a slightly lower greenhouse gas intensity of the state electricity grid.

4.3 **External verification**

Adelaide's emissions have been externally verified.

2007, 2010 and 2013 inventories have been updated following verification and audit process.


OFFICES TO LET

5.1 **Date and boundary**

Adelaide is reporting a GHG measurement inventory for a period of one year.

Sun 01 Jul 2012 - Sun 30 Jun 2013

Boundary typology used for Adelaide's GHG emissions inventory:

Administrative boundary of a local government.

Emissions – Community

5.2 **GHG emissions data**

Adelaide has used the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC), (WRI, C40 and ICLEI).

Gases included in emissions inventory:

CO_2
CH_4
N_2O

Total (Scope 1 + 2) emissions for Adelaide:

486,542

Metric tonnes CO_2e

Breakdown of Adelaide's GHG emissions by scope:

Scopes are a common categorisation method. Scope 1: All direct GHG emissions (with the exception of direct CO_2 emissions from biogenic sources). Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.

Total Scope 1 activity

63,725

Metric tonnes CO_2e

Total Scope 2 activity

422,817

Metric tonnes CO_2e

Breakdown of these emissions by end user, economic sector, IPCC sector, GHG or any other classification system used:

End user: buildings, water, waste, transport. Economic sector: residential, commercial, industrial, institutional. IPCC sector: stationary combustion, mobile combustion, industrial processes, waste. Greenhouse gas: CO_2, CH_4, N_2O etc.

Stationary Energy: energy use – Scope 1 (I.X.2)

59,692

Metric tonnes CO_2e

Stationary Energy: energy use – Scope 2 (I.X.1)

420,160

Metric tonnes CO_2e

Stationary Energy: energy use – Scope 3 (I.X.3)

83,926

Metric tonnes CO_2e

Transportation – Scope 1 (II.X.1)

4,000

Metric tonnes CO_2e

Transportation – Scope 2 (II.X.2)

2,657

Metric tonnes CO_2e

Transportation – Scope 3 (II.X.3)

325,610

Metric tonnes CO_2e

Waste: waste generated within the city boundary – Scope 1 (III.X.1)

32

Metric tonnes CO_2e

Waste: waste generated within the city boundary – Scope 3 (III.X.3)

43,711

Metric tonnes CO_2e

TOTAL BASIC emissions

530,253

Metric tonnes CO_2e

TOTAL BASIC and BASIC+ emissions

939,788

Metric tonnes CO_2e

Adelaide's emissions have decreased.

A reduction in the greenhouse gas intensity of the state electricity grid due to large scale wind farms and widespread uptake of solar PV and a reduction in electricity consumption due to energy efficiency upgrades in existing buildings and the construction of high performance green buildings that have been rated using the National Australian Built Environment Rating System (NABERS) and the Green Building Council of Australia's GreenStar rating system.

5.3 **External verification**

Adelaide's emissions have been externally verified.


Belgian Beer CAFE
STELLA ARTOIS

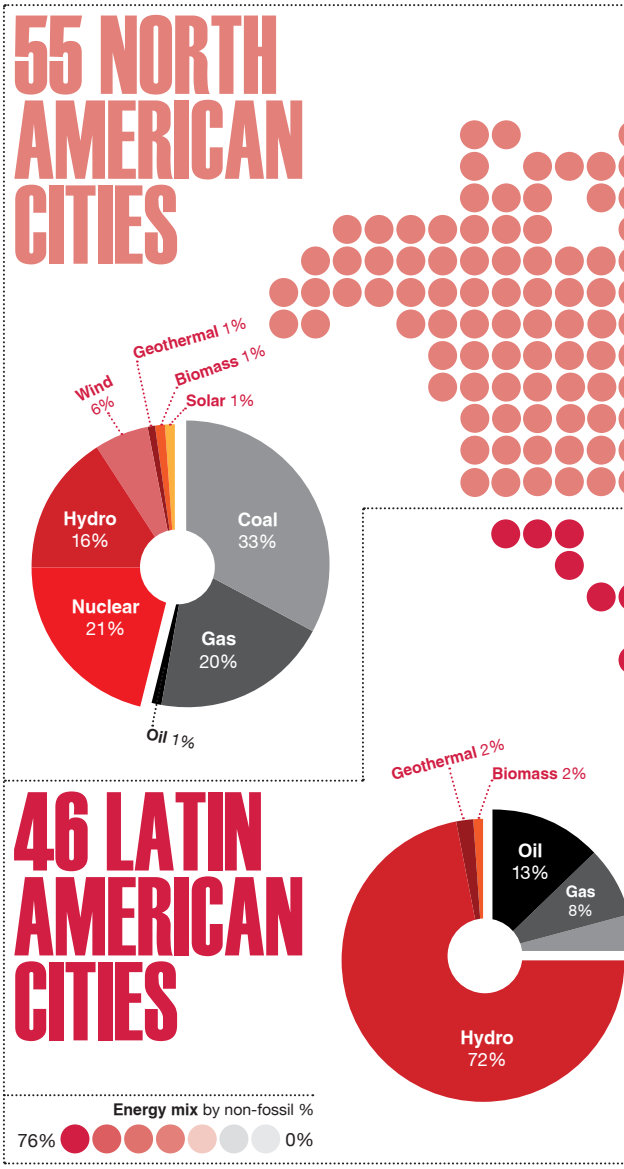
CAN CITIES QUIT FOSSIL FUELS?

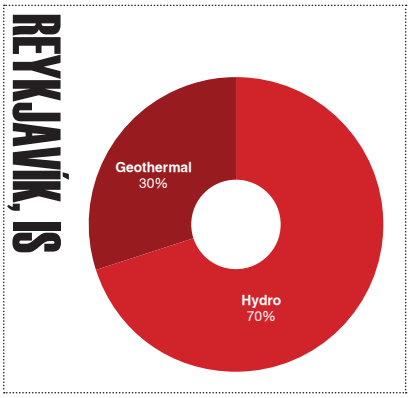
162 CITIES REPORTED THEIR ENERGY MIX,

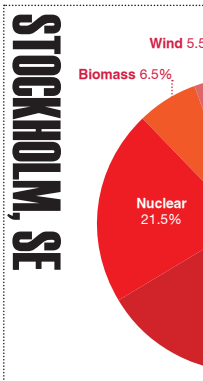
revealing a diversity of responses, for cities large and small across all regions.

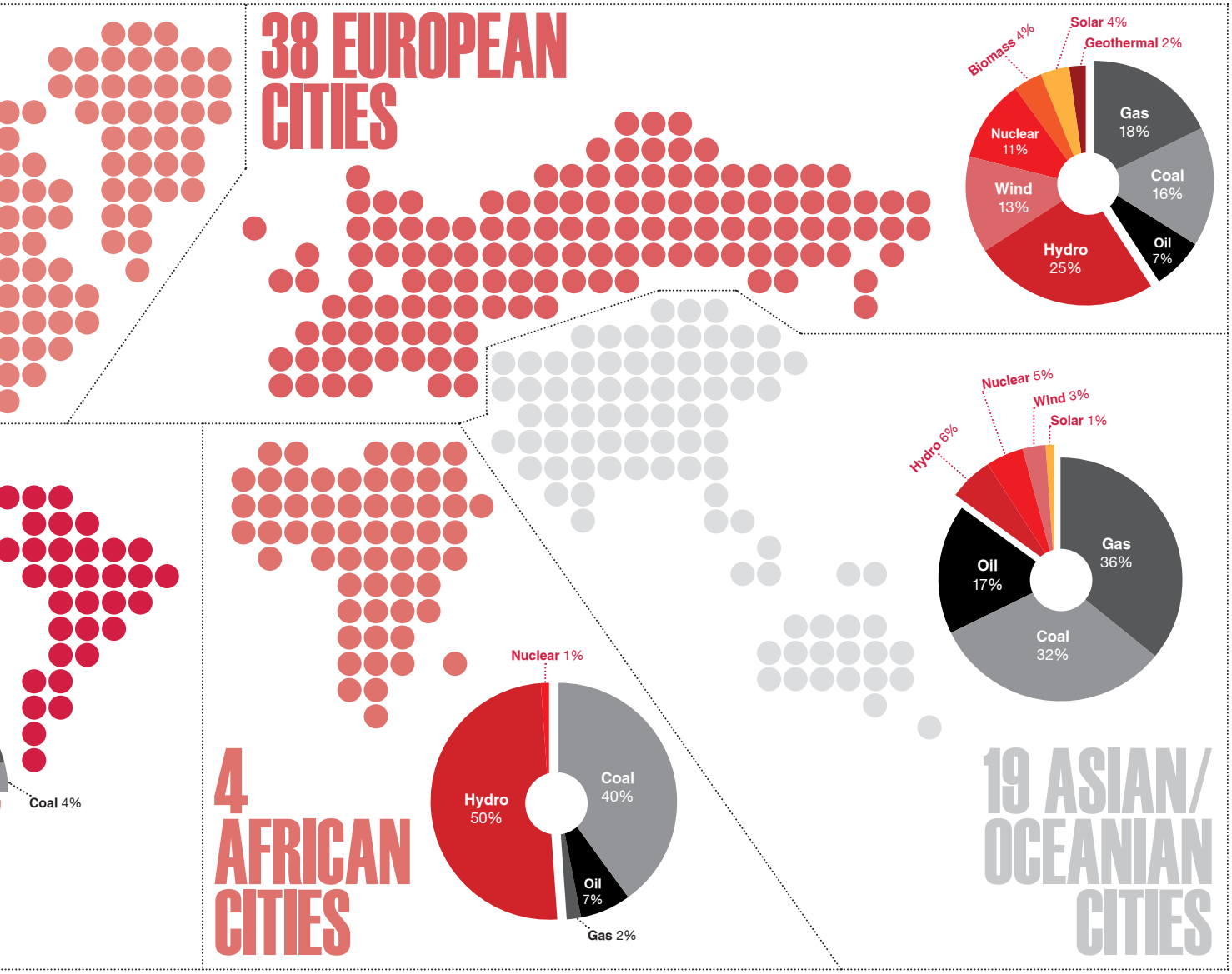
THE RESULTS ARE DIVERSE.

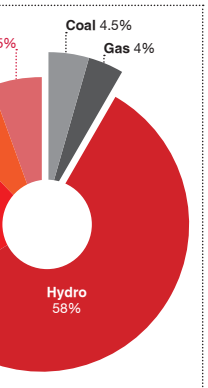
REVEALING MIXES FROM 100% NON-FOSSIL TO 100% CONTINUED RELIANCE ON FOSSIL AND MANY COMBINATIONS THEREOF.

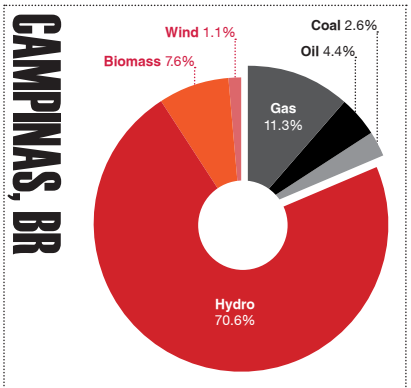


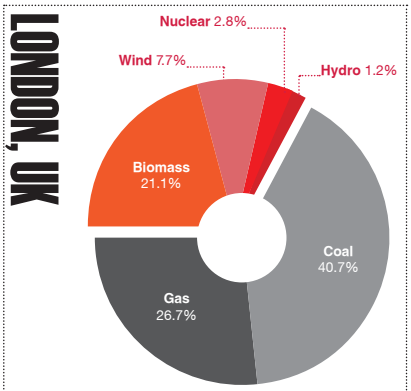


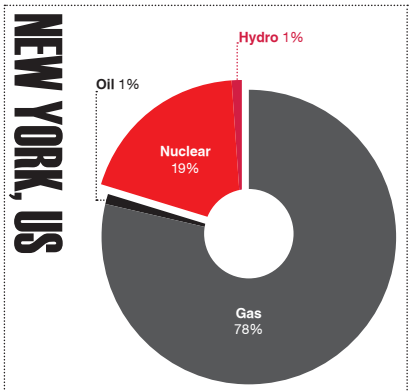



38 EUROPEAN CITIES
Biomass 4%
Solar 4%
Geothermal 2%
Gas 18%
Coal 16%
Oil 7%
Hydro 25%
Wind 13%
Nuclear 11%
Nuclear 5%
Wind 3%
Solar 1%
Hydro 6%
Gas 36%
Coal 32%
Oil 17%
Coal 4%
4 AFRICAN CITIES
Nuclear 1%
Coal 40%
Hydro 50%
Oil 7%
Gas 2%
19 ASIAN/ OCEANIAN CITIES


Coal 4.5%
Gas 4%
Hydro 58%


CAMPINAS, BR
Wind 1.1%
Coal 2.6%
Biomass 7.6%
Oil 4.4%
Gas 11.3%
Hydro 70.6%


LONDON, UK
Nuclear 2.8%
Wind 7.7%
Hydro 1.2%
Biomass 21.1%
Coal 40.7%
Gas 26.7%


NEW YORK, US
Hydro 1%
Oil 1%
Nuclear 19%
Gas 78%

Strategy

6.1 **Local government operations – GHG emissions reduction**

Adelaide has a GHG emissions reduction target in place for local government operations.

Adelaide's local government operations GHG emissions reduction target: zero net stationary energy, transport and waste emissions by 2020.

Percentage reduction target per source

100%

Target date

2020

Activities undertaken to reduce Adelaide's emissions in its government operations:

Buildings

Building codes and standards

This is part of the strategy to reduce energy use by 15% and carbon emissions by 30% from buildings by 2015. Develop sustainability minimum standards and guidelines for all major strategic projects and assets managed by the Council.

Buildings

Energy efficiency / retrofit measures

This is part of the strategy to reduce energy use by 15% and carbon emissions by 30% from buildings by 2015. Implement lighting upgrades to selected public multi-storey carparks. Undertake energy audits, implement sub-metering and implement energy efficiency retrofits in council administration buildings, council owned buildings and aquatic centre.

Buildings

Building performance rating and reporting

This is part of the strategy to reduce energy use by 15% and carbon emissions by 30% from buildings by 2015. Develop an asset sustainability rating system to assist in planning capital works projects for council owned buildings.

Buildings

On-site renewable energy generation

This is part of the strategy to reduce energy use by 15% and carbon emissions by 30% from buildings by 2015. Install localised energy generation infrastructure in council buildings and facilities.

Outdoor Lighting

LED / CFL / other luminaire technologies

This is part of the strategy to reduce energy use by 20% and carbon emissions by 20% from public lighting and traffic signals by 2015. Replace all public lights owned by council with energy efficient LED lights. Continue to review potential for reducing energy use from implementing dimming and controls.

JUST A LITTLE CHANGE WILL GO FAR.

43 cities reported that they want private sector support to deliver community renewable projects. CDP data indicates that less than half of these projects are located in the global south.

$57 TRILLION

will be invested in infrastructure through 2030. That means that less than 0.01% of this sum, or just

$1 OF EVERY $8K

spent is required to support delivery of renewable goals for all the CDP cities that report a target. At just over $7 billion in total, this is still a large price tag and represents a considerable challenge for cities, but with global focus it can be achieved.

6.2 **Community – GHG emissions reduction**

Adelaide has a GHG emissions reduction target in place for its community.

Activities currently being undertaken to reduce emissions city-wide:

Energy Supply

Low or zero carbon energy supply generation

Investigate the feasibility of developing an Energy Master Plan for the City incorporating options for a secure, low-carbon energy supply and a smart electricity grid.

Private Transport

Infrastructure for non-motorized transport

The Council encourages increased cycling in and to the city through providing increased bikeways.

Buildings

Improve the efficiency of long-haul transport

The Council's collection contractor utilises the collection truck's full load capacity before travelling to the disposal or processing facility which is outside of the Council.

The City is divided into collection days which clusters waste collection sites together so that the collection truck is not traversing across the City on it collection runs.

Waste

Recyclables and organics separation from other waste

The Council provides a 3-bin kerbside collection service for general waste, comingled recycling and organics (garden and food waste).

Waste

Recycling or composting collections and/or facilities

The Council provides a kerbside organics collection for residents to dispose of garden and food organic waste which is disposed of to a commercial composter.

The Council also owns and operates a garden organic disposal facility where the public (open to non-residents) can drop off garden waste which is processed for mulch at the facility and sold commercially.

Waste

Waste prevention policies and programs

The Council is committed to minimising waste disposal to landfill by encouraging waste avoidance and maximising resources recovery for recycling. On 22 July 2014, the Council endorsed a new Waste and Recycling Services Policy to support the development of an Environmentally Sustainable and Vibrant City.

Enhanced recycling services will be provided to high density apartment buildings including organics and food waste recycling for composting. Residents will be supported with in home recycling containers, signage in bin rooms and engagement programs.

Waste

Energy efficiency/ retrofit measures

Foster a network of City office tenants committed to improving energy efficiency and reducing carbon emissions, including the CitySwitch Green Office program.

Jointly pursue the implementation of the Building Upgrade Finance mechanism with state government (discussed above).

Provide direct advice to small businesses on how to reduce energy use and develop energy management initiatives (articulate the business case for energy efficiency).

Increase the range of rebates available and expand the Sustainable City Incentives Scheme to include businesses.

6.3 **Planning**

The city-wide energy mix for Adelaide's electricity:

Gas
45%

Wind
31%

Coal
17%

Solar
6%

Adelaide has a city wide renewable energy target.

2025
Target date

3,000
MW (total capacity)

50%
Of total electricity from renewable sources

The state has a renewable energy target of 50% of electricity generation from renewables by 2025. In 2013/14, 37% of South Australia's power generation came from wind and solar photovoltaics and according to modelling by the Australian Energy Market Operator, is forecast to reach 50% by 2015/16. Types of energy projected: wind 1,500MW, PV 1,500MW.

6.4 **Water**

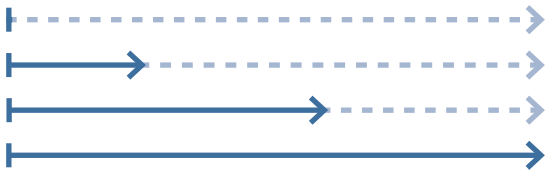
Adelaide foresees substantive risks to its water supply in the short or long term.

Seriousness

Less Serious ! ! ! Serious ! ! ! Extremely Serious ! ! !

Timescale

Current
Short-term
Medium-term
Long-term



Risks to Adelaide's water supply as well as timescale:

Increased water stress or scarcity

Risk: ! ! ! **Timescale:**

More frequent and intense droughts expected which will reduce the reliability of water supplies; dry the land impacting structures and underground services; vegetation stress and the need for increased irrigation and maintenance.

Flooding

Risk: ! ! ! **Timescale:**

The expected increase in extreme rainfall events has the potential to overwhelm existing storm water infrastructure and cause property damage and service disruption.

Higher water prices

Risk: ! ! ! **Timescale:**

The need to supplement water supplies from desalination may increase water prices.

Actions (on the supply and demand side) that Adelaide is taking to reduce risks to its water supply:

Increased water stress or scarcity

Use of non-potable water outside

Use of recycled water provided by the Glenelg to Adelaide Park Lands pipeline for irrigation of the Adelaide Park Lands has reduced the Council's potable water use by 60%.

Flooding

Stormwater management (natural or man-made infrastructure)

Higher water prices

Conservation incentives

Provide financial incentives in the community for rainwater tank installation.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