National Carbon Offset Standard

Carbon Neutral Program

Public Disclosure Summary

CITY OF SYDNEY 2030
Sydney 2030 Green Global Connected
city of villages

An Australian Government Initiative

2017-18

Contents

Declaration

To the best of my knowledge and having met the requirements of the National Carbon Offset Standard Carbon Neutral Program (NCOS CNP), the information provided in this report is true and correct.

	date 17/12/18.
Kim Woodbury Chief Operating Officer	

Type of carbon neutral certification: Organisation

Verification

Date of most recent external verification/audit: December 2018

Auditor: Pangolin Associates

Auditor assurance statement link: www.cityofsydney.nsw.gov.au/vision/towards-2030/sustainability/carbon-reduction/carbon-neutral/carbon-neutral-documents

1. Carbon neutral information

Introduction

In 2007 the City of Sydney Council resolved to become carbon neutral for its own properties and operations. Since 2008 the organisation has been measuring and reducing energy and greenhouse gas emissions, installing and using renewable energy, and purchasing carbon credits for emissions which cannot be avoided.

In November 2011, the City's carbon neutrality was officially recognised under the National Carbon Offset Standard NCOS) and this has been retained annually.

Our target is to reduce our 2006 emissions by 70 per cent by 2030 with an interim target of 44 per cent by 2021. We are serious about achieving ambitious targets in order to mitigate climate change impacts. Emissions avoidance and reduction is our highest priority, and the City has many programs underway.

This inventory has been prepared based on the National Carbon Offset Standard (NCOS). For emissions that cannot be avoided in the immediate term, the City purchases offsets recognised also by the National Carbon Offset Standard (NCOS). It pertains to greenhouse gas emissions released due to activities associated with City of Sydney Council operations in the period of 1-July 2017 to 30-June 2018. The gross emissions during this period were 39,653 tCO2e.

The City of Sydney Council

The City of Sydney is the local government authority responsible for the city centre and more than 30 suburbs. The City of Sydney's role is to provide services for our residents as well as for the daily influx of workers and visitors. On any given day, Sydney's population swells to more than a million people.

The core functions of the City are defined by the Local Government Act 1993[1], the City of Sydney Act 1988[2] and other legislation. A non-exhaustive overview of City of Sydney services and facilities include:

- Aquatic centres
- Community centres, services and facilities
- Domestic waste service
- Economic development
- Events and sponsorships
- Health and building inspections
- Infrastructure (roads, footways, drainage, street lighting)
- Parking services
- Parks and open space

[1] http://www.legislation.nsw.gov.au/#/view/act/1993/30
[2] http://www.legislation.nsw.gov.au/inforce/e7c1b3ab-b509-e447-af90-f93662ed3bbf/1988-48.pdf

- Strategic planning and development consent
- Sustainability

The City owns approximately 250 properties, many of which are tenanted. The City also owns over 8,500 street lights and there are a further 13,000 street lights owned by the electricity network provider but deemed to be within the City's financial control (pays for energy and maintenance).

The City's operations are mostly run out of a main administration building, multiple depots, parks, libraries, venues and community centres.

Organisational targets developed through Sustainable Sydney 2030 and the City's Environmental Action Plan include 44 per cent reduction of 2006 greenhouse gas emissions by 2021 and 70 per cent by 2030 with 50% renewable electricity.

Sustainable Sydney 2030 proposes a Green, Global and Connected city and has significantly increased the expectations and service delivery by the City of Sydney.

This report is about the processes and results of the City of Sydney being a carbon neutral organisation, and it does not refer to the Local Government Area (LGA).

Greenhouse gases

The City of Sydney greenhouse gas emissions inventory includes the gases covered by the UNFCCC/Kyoto Protocol including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorinated carbons (PFCs) and sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). However, there are no known sources of PFCs, SF_6 or NF_3 relevant to the City's operations.

The City includes greenhouse gas emissions from the ozone depleting R22 refrigerant within its inventory. This is an option accorded within the Greenhouse Gas Protocol *Required Greenhouse Gases in Inventories - Accounting and Reporting Standard Amendment* Feb 2013. Until R22 is phased out it will continue to be a source of greenhouse gas emissions and is therefore included.

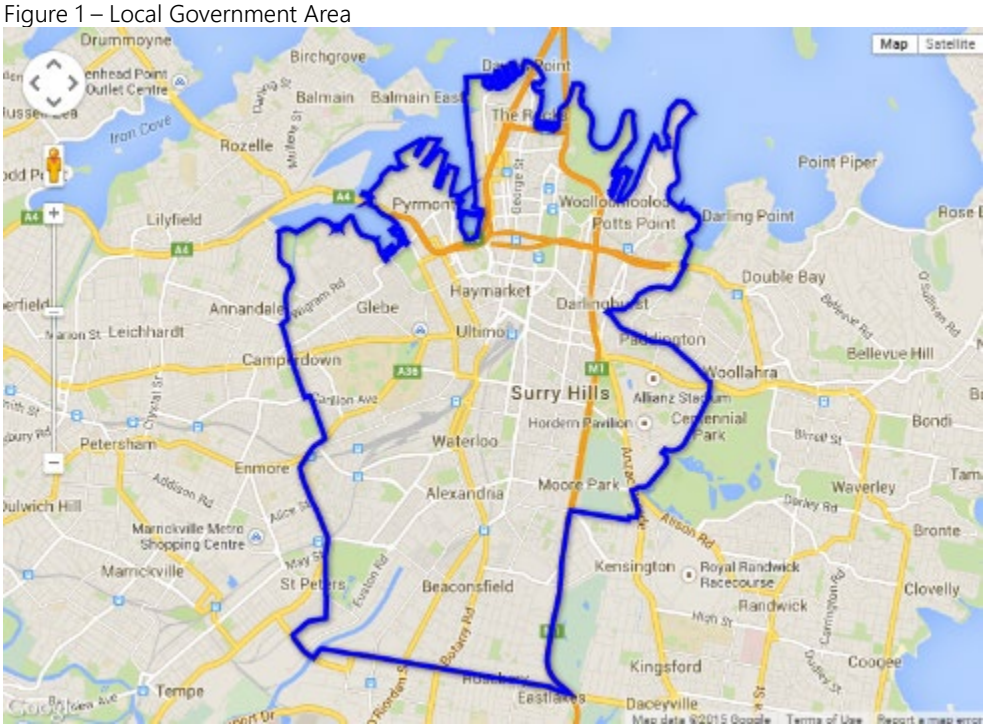
Emission sources within certification boundary

Our emissions boundary is based on the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and includes all Scope-1 and Scope-2 emissions, as well as a range of Scope-3.

Geographic boundary

The City of Sydney local government area (LGA) covers 26.15 square kilometres of inner Sydney from Sydney Harbour at Rushcutters Bay to Glebe and Annandale in the west, Sydney Park and Rosebery in the south, and Centennial Park and Paddington in the east. This inventory pertains to providing local government services to constituents within the geographical area shown in Figure 1.

Figure 1 – Local Government Area

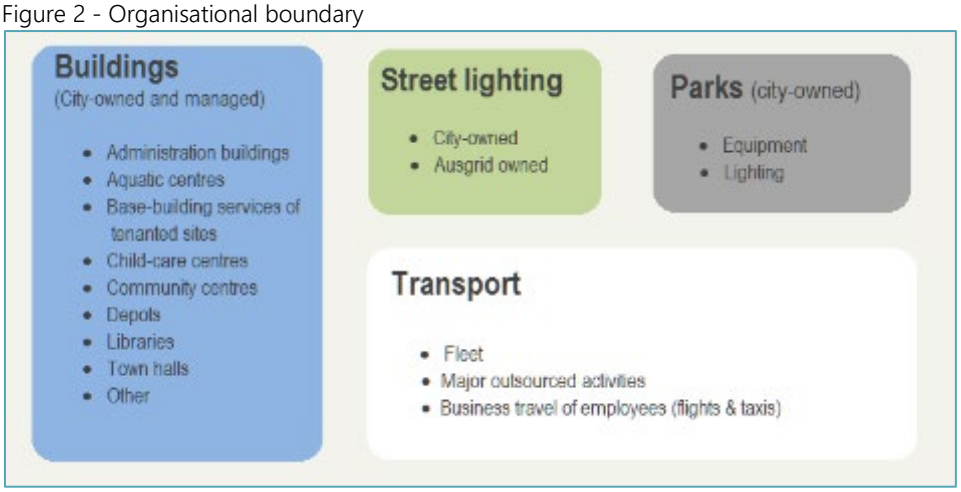


Organisational boundary

The City of Sydney organisational boundary includes emissions sources where the City is considered to have operational control, as defined by the *National Greenhouse and Energy Reporting Act* 2008[3] and the *Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard guidance*, chapters 3 and 4[4], for emissions resulting in the delivery of services where the City has capacity to implement environmental policies.

For the City of Sydney, this means services required under the *Local Government Act* 1993 and Sustainable Sydney 2030 and includes core business, statutory responsibilities, service provision, Council facilities, services and other assets as depicted in Figure 2.

Figure 2 - Organisational boundary



[3] http://www.environment.gov.au/climate-change/greenhouse-gas-measurement/nger
[4] http://www.ghgprotocol.org/standards/corporate-standard

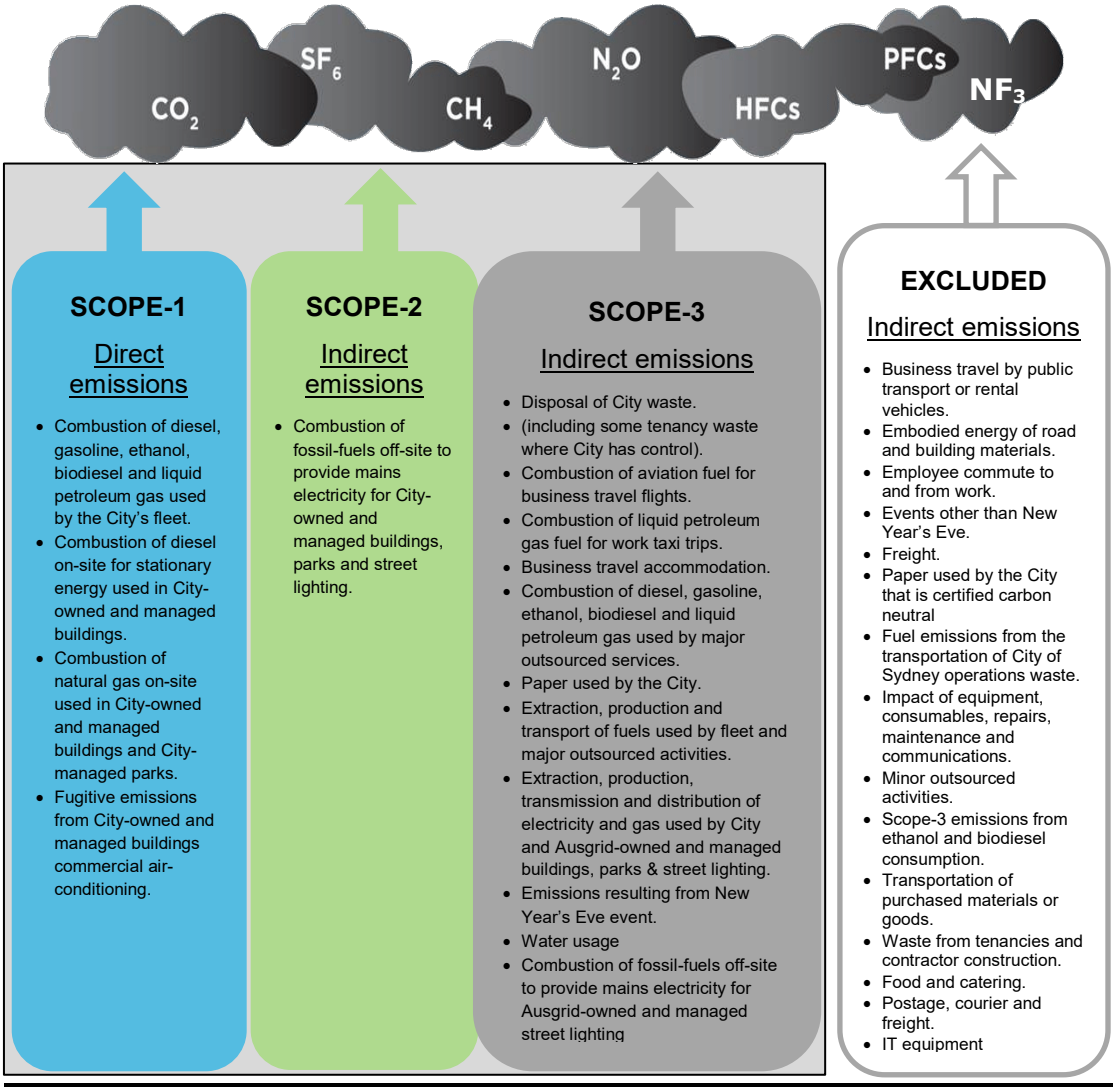
Operational boundary

Operational control is the predominant control approach as described above. In accordance with the *National Greenhouse and Energy Reporting Act* 2008, Section 11, the City includes all Scope-1 and Scope-2 emissions based on aggregated data for facilities and core activities. In addition, there are a range of Scope-3 emissions sources. Figure 3 shows all emissions that have been included or excluded.

The City has chosen to include other emissions sources which are within its financial control (e.g. fuel emissions from major contractors).

The definitions for Scope-1, Scope-2 and Scope-3 emissions have been interpreted from the National Carbon Offset Standard (NCOS) Version 3, November 2017 and the *Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard guidance*, chapters 3 and 4[5].

Figure 3: Diagram of the certification boundary



The City of Sydney includes many Scope 3 emissions sources within its inventory. Some Scope 3

[5] http://www.ghgprotocol.org/standards/corporate-standard

emissions sources have been excluded for reasons in accordance with Section 4.2.3 of the National Carbon Offset Standard, including:

- Emissions likely to be negligible (relative to other Scope 3 emissions);
- If determining emissions is not currently possible given available technology;
- If determining emissions will be very costly relative to their likely significance;
- If there is insufficient data.

Scope-3 emissions for postage/ courier services and food/ beverage services have been excluded from inventory reporting. Data for these items is insufficient for accurate reporting purposes, and based on the information that is available, it is estimated with confidence that these items represent less than 1% of total emissions.

Scope-3 emissions for employee commute have also been excluded from inventory reporting. Because it is beyond the City's control to influence these emission sources, emissions from employee commute have not been included in the City's inventory. These emissions have been estimated to comprise approximately 6% of the City's total inventory.

It is not considered that the Scope-3 exclusions compromise the overall integrity of the reported inventory. The City of Sydney has publicly tested its emissions reduction targets and carbon neutral assertions within the media, local and international events and programs such as the *C40 Cities Climate Leadership Group* and the *CDP Cities Carbon Disclosure Project*. Review of other local and international Governments at varying stages of carbon neutrality has not identified any material emissions sources which are not reported by the City of Sydney.

Contractors fuel usage

Emissions from Contractors Fuel usage have been included within the City's inventory as Scope-3 emissions since 2006. Contractor emissions are outside of the City's operational control however are included on the basis that they are providing core local government services that would otherwise need to be provided by the City. These emissions have been calculated using Scope-1 + Scope-3 emissions factors based on the amount and type of fuel used by contractors. However they are reported as Scope-3 emissions within the City's inventory as they have been produced by third-parties and there are data quality uncertainties.

While the NGER Legislation[6] requires contractors to provide activity data to relevant reporting entities, the Legislation does not discuss the contractor's responsibility for data accuracy. City of Sydney has always formally and clearly requested the required data from its contractors in a suitable manner. However, it is difficult for City of Sydney to ensure the quality of this data.

[6] Source: NGER Legislation and Contractors/Subcontractors (http://environmentalaccounting.org.au/wp-content/uploads/2013/10/NGER-Contractors-Reporting-Paper.pdf)

2. Emissions reduction measures

Part A. Emissions over time

Figures 4 and 5 and Tables 1 and 2 show year-on-year changes to the City's greenhouse gas emissions by scope and by major business unit since 2005/06 - the year against which the City's greenhouse gas reduction target was established through Sustainable Sydney 2030.

In previous NCOS reports a 2010/11 base year was used. From 2013/14 report, the 2005/06 base year has been used for consistency with Sustainable Sydney 2030, City of Sydney Master Plans, sustainability programs, the bi-annual Green Report, Corporate Plan reporting and other communications channels.

The 2005/06 base year emissions inventory received independent assurance to the same level as required for certification under the National Carbon Offset Standard, to a reasonable level for Scope 1 and 2 emissions, and to a limited level for Scope 3 emissions.

There have been no material changes to the emissions boundary since 2005/06. Business travel accommodation and water, which were not included in the baseline reporting year sum up to less than 0.3% of the whole inventory.

The base year inventory will be re-calculated when changes to emissions factors, improved methodologies or data sources, boundaries, or other causes are deemed to result in a significance threshold change to total emissions of five per cent or greater. The base year inventory will not be recalculated for organic growth or decline in assets or services that are owned or controlled by the Council.

There is always statistical uncertainty associated with GHG source data, resulting from natural variations or human errors in the measurement process, and fluctuations in data measurement methods or equipment. An estimate of the data uncertainty for the City of Sydney has been carried out in accordance with the National Greenhouse and Energy Reporting (Measurement) Determination 2008 and the GHG Protocol. The statistical uncertainty associated with emission data collected and analysed for the City of Sydney for the 2017-18 reporting period is 5.07%.

Total greenhouse gas emissions have reduced by 25 per cent since 2006. The percentage reductions are greater for some specific sectors, for example greenhouse gas emissions from our buildings are more than 30 per cent below 2006 levels.

Annual progress toward the City's interim 2021 target and the target for 2030 to reduce greenhouse gas emissions by 70 per cent are shown in the following tables and charts.

Table 1 – Annual emissions by scope

Tonnes C02e	2005/06 BASELINE	Year-1 2009/10	Year-2 2010/11	Year-3 2011/12	Year-4 2012/13	Year-5 2013/14	Year-6 2014/15	Year 7 2015/16	Year 8 2016/17	Year 9 2017/18
Scope-1	4,053	4,744	4,449	4,649	4,174	4,539	4,626	4,736	6,515	6,933
Scope-2	37,760	35,073	33,821	31,835	29,633	28,109	27,812	26,111	25,208	25,375
Scope-3	11,159	10,213	10,066	10,217	10,137	8,121	7,766	8,719	7,877	7,345
TOTAL	**52,972**	**50,030**	**48,336**	**46,701**	**43,945**	**40,769**	**40,204**	**39,566**	**39,600**	**39,653**

Figure 4 – Annual emissions by scope

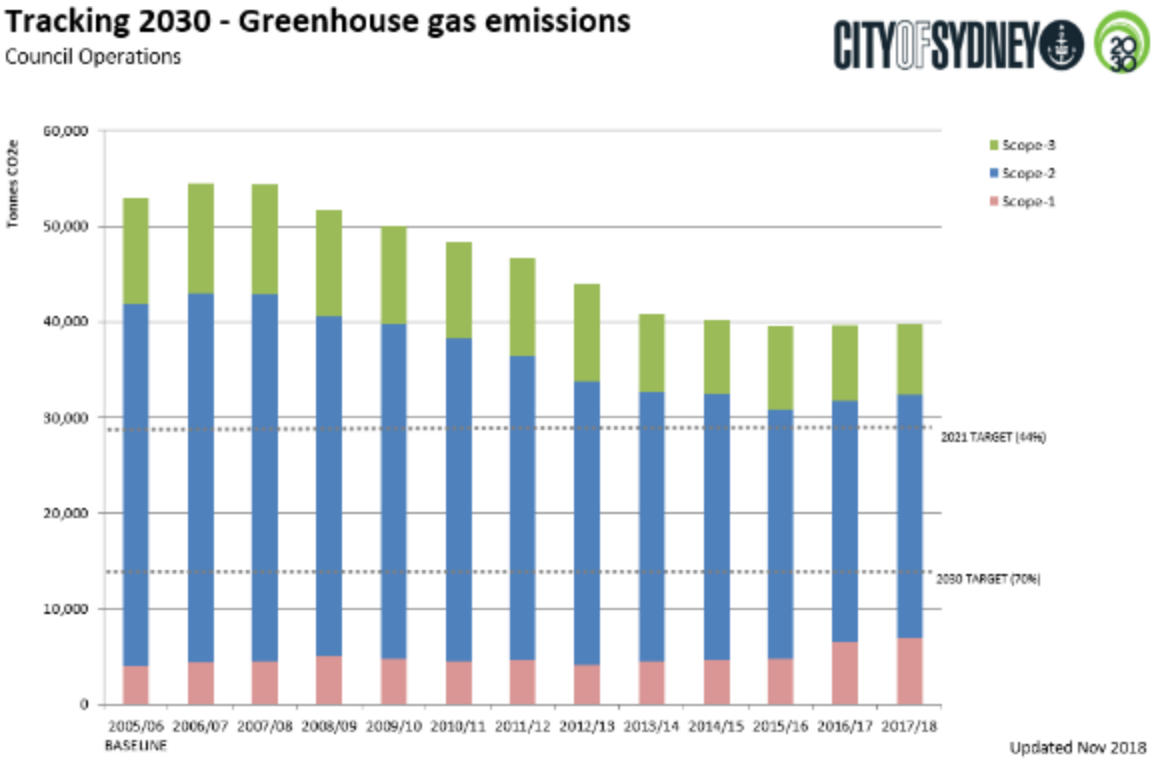
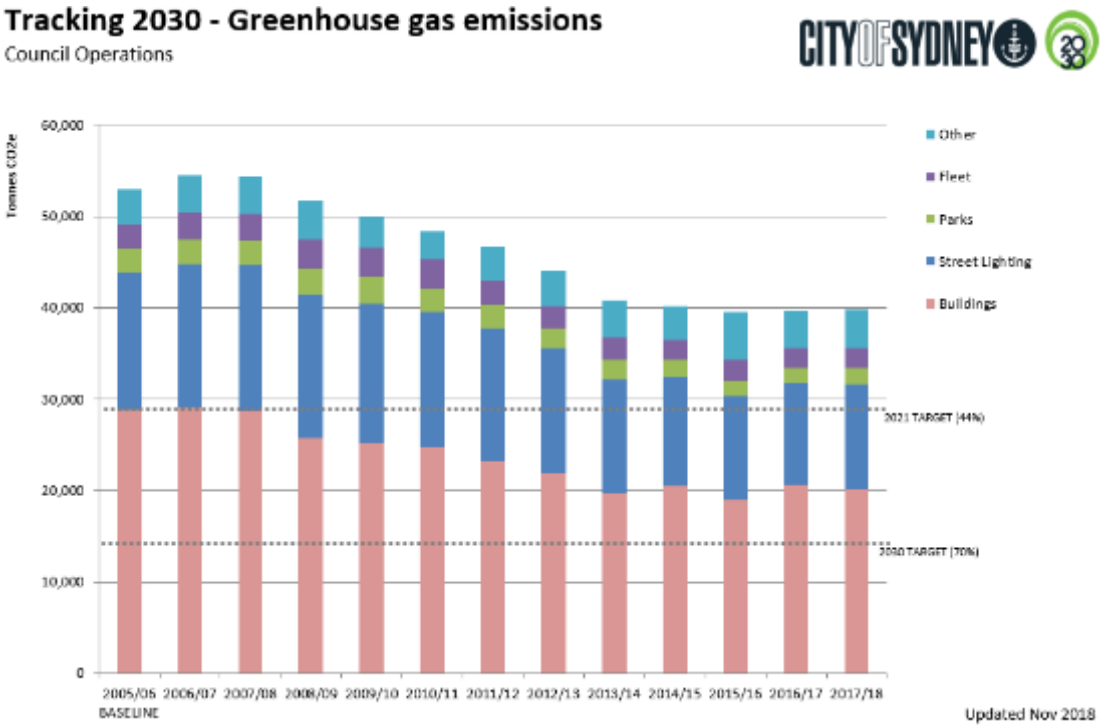


Table 2 – Annual emissions by major type

Tonnes C02e	2005/06 BASELINE	Year-1 2009/10	Year-2 2010/11	Year-3 2011/12	Year-4 2012/13	Year-5 2013/14	Year-6 2014/15	Year-7 2015/16	Year-8 2016/17	Year-9 2017/18
Buildings	28,775	25,203	24,718	23,150	21,847	19,711	20,468	18,996	20,616	20,034
Street Lighting	15,131	15,269	14,783	14,653	13,730	12,404	11,942	11,382	11,103	11,515
Parks	2,502	2,878	2,578	2,468	2,197	2,206	1,824	1,648	1,633	1,754
Fleet	2,669	3,225	3,175	2,710	2,373	2,417	2,293	2,244	2,156	2,245
Other	3,896	3,455	3,082	3,720	3,798	4,031	3,677	5,296	4,092	4,105
TOTAL	**52,972**	**50,030**	**48,336**	**46,701**	**43,945**	**40,769**	**40,204**	**39,566**	**39,600**	**39,653**

Figure 5 – Annual emissions by major type



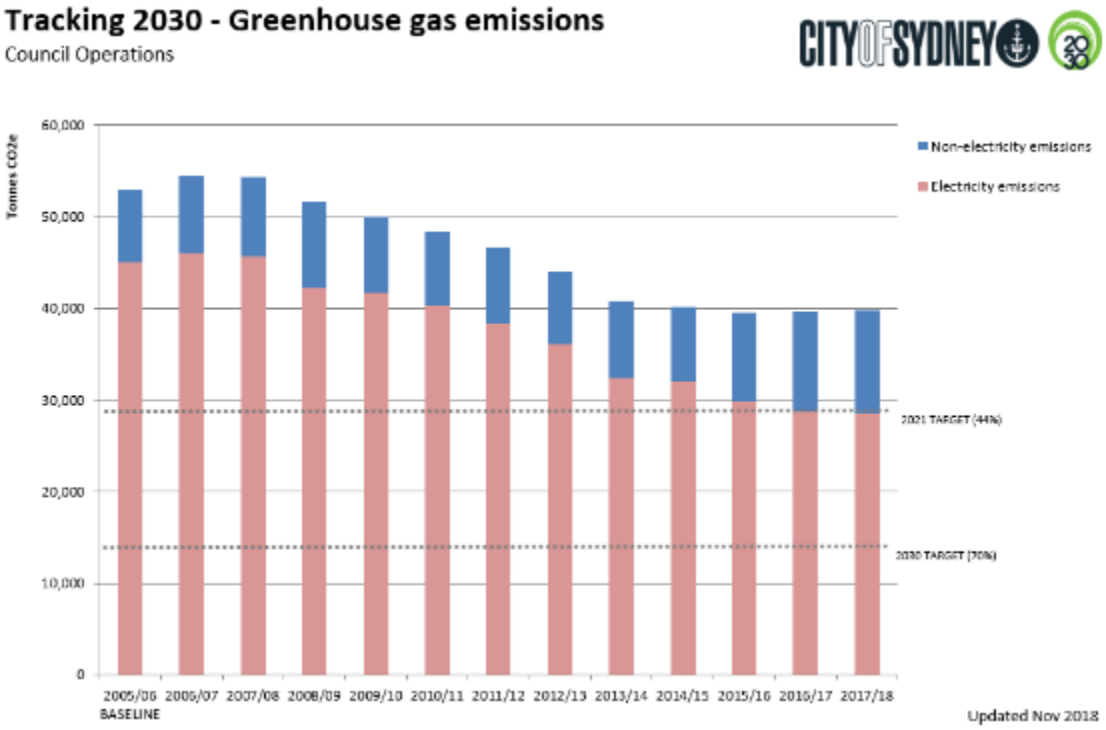
Part B. Emissions reduction strategy

The emissions reduction strategy focusses on the City's planned or intended actions to achieve its target to reduce 2006 emissions by 70 per cent by 2030. This is an absolute target, based on the City playing its fair share to constrain global average temperature increases to below 2 degrees Celsius.

In the first instance, the City will continue to deploy energy efficiency and solar PV as part of its current tenders and commitments. In addition the City will continue to identify feasible opportunities to reduce emissions through technologies, management practices and the design and operation of its properties and other assets.

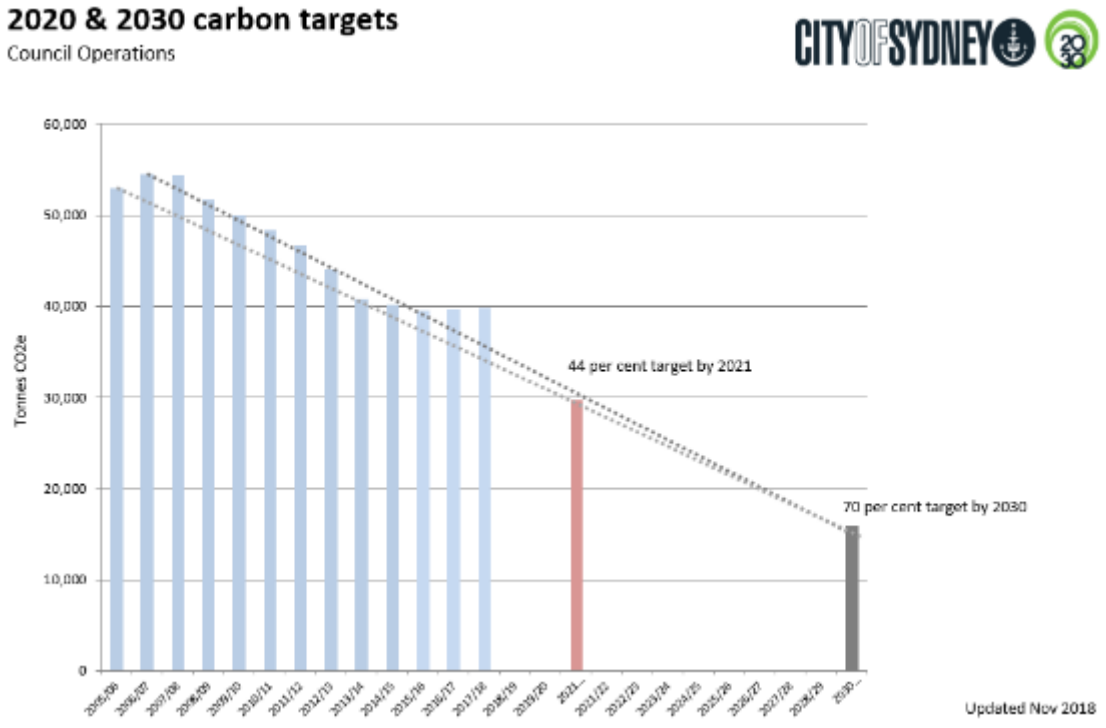
Figure 6 shows that the majority of emissions are from electricity which reflects the highly emissions intensive NSW grid due mostly to coal-fired generation. The majority of emissions reductions achieved to date, as well as future savings, will come by reducing grid electricity through energy efficiency and renewable energy.

Figure 6 – Electricity and non-electricity emissions



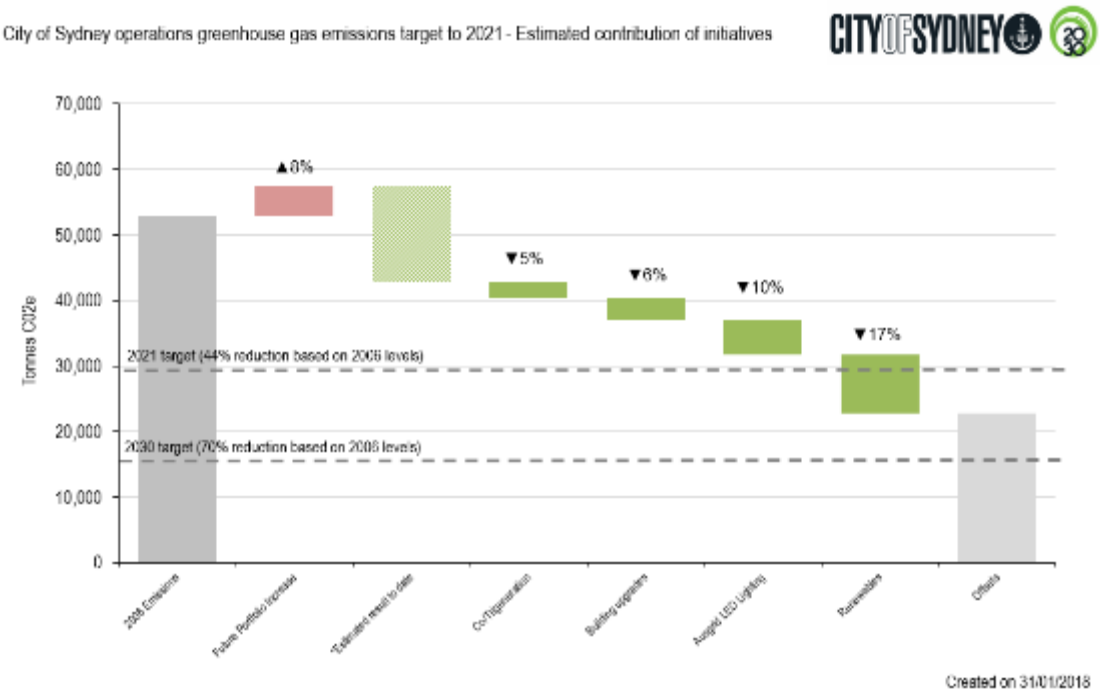
Figures 7 shows the emissions reduction tasks for achieving the City's interim 2020 and longer term 2030 targets.

Figure 7 – Target trajectories 2020 & 2030



The emissions savings shown in Figure 8 indicate a range of opportunities to achieve the 2030 target to reduce 2006 emissions by 70 per cent. These charts are continually revised as new information and opportunities become available and are included within the twice-yearly City of Sydney Green Report.

Figure 8 – Tracking 2030 emissions



Part C. Emissions reduction actions

Emissions reduction measures implemented in the current reporting period 2017/18 are shown in table 3.

Table 3. Emissions reduction measures

Emission source	Status	Reduction measure and calculation method	Scope	Status during the reporting period	Overall* Project Reduction (t CO_2-e)
Solar photovoltaic	Install in progress	Tender to install approximately 2MW of solar PV to City-owned sites.	2 & 3	Installation in progress.	1,953
Utility management	Complete	The new streamlined energy and emissions SMART reporting system is now in an operational phase with regular utility monitoring, reporting and continual improvement	1-3	Implementation, testing and completion.	Not quantified
Water management	In progress	Parks Water Saving Action Plan will further identify efficiency measures, development of alternative water sources, improved management practices, new technologies and improvements to monitoring and reporting	3	In progress	Not quantified
	In progress	Significant sections of recycled water pipeline have been installed and construction continues along George Street between Circular Quay and Central as part of the Sydney Light Rail project.	3	In progress	Not quantified

Emission source	Status	Reduction measure and calculation method	Scope	Status during the reporting period	Overall* Project Reduction (t CO_2-e)
Energy and water at major properties	In progress	Major Properties Efficiency Project (MPEP) includes energy and water improvement projects at thirteen City of Sydney sites, which account for almost 80 per cent of the City's total energy and water consumption.	1-3	In progress	Not quantified
Waste	In progress	Recycling of waste from City parks, streets and public places continues to increase as a result of changes to waste processing contracts that divert organic waste from public litter and stormwater material from landfill. Construction and demolition waste produced by the City has reduced since 2016/17 and the diversion rates remains high at 100%.	3	In progress	Not quantified

** Overall project reduction (tCO2e) shown*

3. Emissions summary

Emission sources and totals for the period 2017/18 are listed in table 4.

Table 4. Emissions inventory

SCOPE 1 Emission source	Scope	Activity data	t CO_2-e
Natural gas in Buildings & Parks	1	75,144,496 MJ	3,872
Transport diesel & biodiesel (post 2004 vehicles fleet)	1	869,636 kL	1,998
Transport ULP & ethanol (post 2004 vehicles)	1	62,766 kL	139
Contractor diesel	1	402,312 kL	1,094
Contractor biodiesel	1	22 kL	0
Contractor ULP	1	45,463 kL	105
Contractor ULP (ethanol)	1	2,649 kL	.025
Refrigerants	1	535 kg	921
Stationary diesel	1	1,290 kL	3
Total Gross Emissions (Rounding applied)			6,933

SCOPE 2 Emission source	Scope	Activity data	t CO_2-e
Purchased electricity for buildings, parks & street lighting	2	31,244,951 kWh	25,621
Solar PV / Combined cooling, heat and power (CCHP) Exports	2	299,802 kW	-246
Total Gross Emissions (Rounding applied)			25,375

SCOPE 3 Emission source	Scope	Activity data	t CO_2-e
Purchased electricity for buildings, parks & street lighting	3	31,244,951 kWh	3,124
Natural gas for buildings & parks	3	75,144,496 MJ	962
Transport diesel (post 2004 vehicles)	3	729,818 kL	101
Transport ULP fleet (post 2004 vehicles)	3	60,069 kL	7
Contractor diesel	3	402,312 kL	56
Contractor ULP	3	45,463 kL	6
Business travel – flights	3	Flight distances	32
Business travel – accommodation	3	Hotel nights	2
Business travel - taxis	3	38,680 km	12
Stationary diesel	3	1,290 kL	0.2
Municipal solid waste	3	793 t waste	952
New Year's Eve event	3	Event inventory	662
Paper (A4, A3 & plotter)	3	2,937 reams	36
Water	3	550,627 kL	251
Solar PV / Combined cooling, heat and power (CCHP) Exports	3	299,802 kW	-30
Carbon neutral certified paper	3	7,433	-27
Total Gross Emissions (Rounding applied)			7,345
Total Net Emissions			39,653

4. Carbon offsets

Part A. Offsets summary

The City ensures information about its carbon neutral program - including offset certificates - is transparent and available for public scrutiny on its website www.cityofsydney.nsw.gov.au/carbon Offsets are purchased and retired in arrears at the end of the reporting period.

Offset retirements that relate to the current reporting period 2017/18 are shown in table 5.

For the 2017/18 year City of Sydney total net emissions were 39,653 tonnes C02e however the City purchased slightly over this amount of offsets in order to be carbon positive.

Table 5 - Offsets Summary

Offset type	Registry	Date of retirement	Quantity (tCO2e)	Serial Number
VCUs	APX	11 Dec 2018	42,000	6237-287505852-287547851-VCU-034-APX-IN-1-1742-01092015-31122015-0
Total			42,000	

Part B. Offsets purchasing and retirement strategy

Offsets are purchased and retired in arrears at the end of the reporting period.