



An Australian Government Initiative



## NCOS CARBON NEUTRAL PROGRAM

### PUBLIC DISCLOSURE SUMMARY

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#### City of Sydney

456 Kent Street  
Sydney NSW 2001  
ABN 22 636 550 790

## 1. ORGANISATION AND PRODUCT INFORMATION

Organisation Name: City of Sydney

Disclosure Period: From: 1 July 2009 to: 30 June 2010

Date of most recent verification: July 2011

Carbon Neutral Disclosure Type:

- a. Organisation

## 2. ORGANISATION

The City of Sydney is the local government authority responsible for the central business district (CBD) and more than 30 suburbs. Our local government area (LGA) covers about 26 square kilometres of inner Sydney. Our boundary extends 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.

The City of Sydney's role is to provide services for our 180,679 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 City of Sydney is also the main consent authority for new development in most parts of our LGA.

## CITY OF SYDNEY LOCAL GOVERNMENT AREA



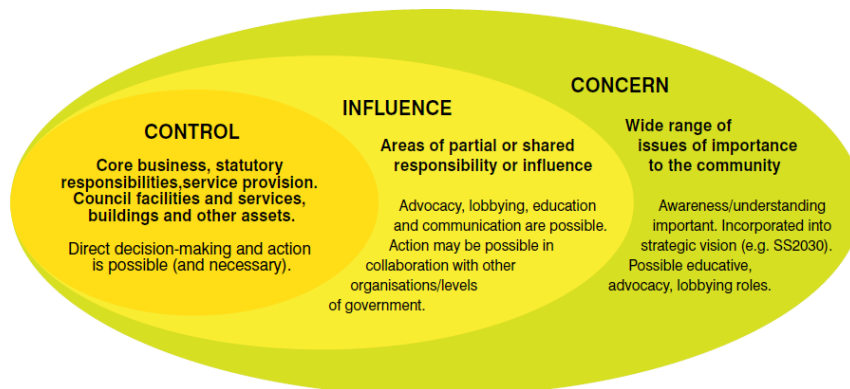
The core functions for Local Government in NSW are defined by the NSW Local Government Act 1993. A high level plain-English overview of the City of Sydney core and also non-core operations and services are listed below.

- Aquatic centres.
- Community centres, services and facilities.
- Development planning approval.
- Domestic waste service.
- Economic development.
- Events and sponsorships.
- Health inspections.

- Infrastructure i.e. roads, footways, drainage.
- Parking services.
- Parks and open space.
- Provision of street lighting.
- Strategic planning.
- Sustainability.

The City owns more than 230 buildings, many of which are tenanted. The City also owns 8,599 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 control. The City's operations are mostly run out of two main administration buildings, multiple depots, parks, venues and community centres. The City's main office is located at 456 Kent Street, Sydney behind the Sydney Town Hall. In 2009/10 there were 679 staff working at Town Hall House out of a total of 1,698 staff in total working for Council.

Sustainable Sydney 2030, developed in 2008 with the most consultation ever undertaken by the City of Sydney has set ambitious targets and programs to be achieved by Council and the Community working together. Sustainable Sydney 2030 proposes a Green, Global and Connected city and has significantly increased the expectations and service delivery by the City of Sydney. The major ways that the City can influence these outcomes are shown below.



In 2007 the City of Sydney Council resolved to become carbon neutral for its own properties and operations. This was effectively achieved in 2008 based on 2006/07 emissions which received limited independent verification. GreenPower and/or accredited greenhouse gas offsets have been purchased to offset all emissions since 2007. The City of Sydney was then termed the first local Government in Australia to go carbon neutral by measuring emissions, setting targets, reducing emissions, switching to renewable energy and offsetting emissions.

Hyder Consulting was engaged in 2008 to determine the City's emissions boundary which it based on the GHG Protocol's Corporate Accounting and Reporting Standard 2004. This included all Scope-1 and Scope-2 emissions, as well as a range of Scope-3 sources.

A general principle was applied to include emissions that would not otherwise occur if the City of Sydney as an organisation did not exist.

Now that there is a National Carbon Offset Standard (NCOS), the City of Sydney is has reassessed its emissions boundary in order to seek carbon neutral accreditation based on 2009/10 emissions. Generally, our operational greenhouse gas emissions boundary includes:

- Energy and emissions sources where the City's has operational control as defined by the National Greenhouse and Energy Reporting Act, Section 11.
- All Scope-1 and Scope-2 emissions.
- Scope-3 emissions from business travel, waste and paper use as the minimum required under NCOS.
- Aggregated data for facilities and activities.
- Emissions resulting from energy used where the City is liable to pay for the energy.
- Emissions resulting where the City is the asset owner and/or the service provider.

Not included are energy and emissions sources deemed to be outside of the City's operational control including:

- Tenants within City of Sydney buildings (e.g. Woolworths).
- Head-leases (e.g. QVB, Capitol Theatre or Coronation Hotel).
- Locations where the tenant has an obligation to pay utilities expenses.
- Domestic waste.
- Staff travel.
- Public transport and freight.

It should be noted that in some instances the City takes on partial liability of tenant's emissions through the provision of base building energy where the tenants share cannot feasibly be separated out. The City does not include emissions from tenants or contractors waste where they are obliged to manage that waste as the City does not pay for these waste services and/or the emissions are not considered to be material.

The City's Scope-3 emissions boundary is beyond the minimum required under NCOS and some emissions may be considered incidental by the National Greenhouse and Energy Reporting Guidelines. Notable Scope-3 emissions sources include:

- Sydney New Years Eve as a high profile international event.
- Fuel combusted to deliver the following highly visible outsourced activities:
  - Waste and recycling collection.

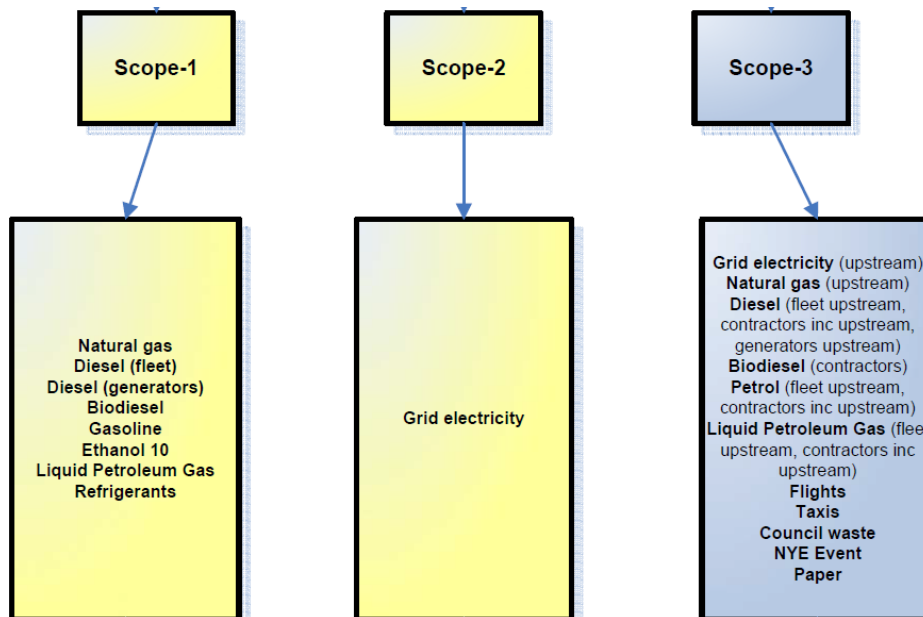
- Graffiti removal.
- Parks and Living Colour display maintenance.
- Water feature maintenance.
- Parking meter maintenance.
- Facilities Management.

These emissions sources have been included on the basis they could be considered as critical by key stakeholders. Councils are required to deliver certain services under the NSW Local Government Act 1993 and in some instances the public may not differentiate where these services are provided by City of Sydney staff or contractors.

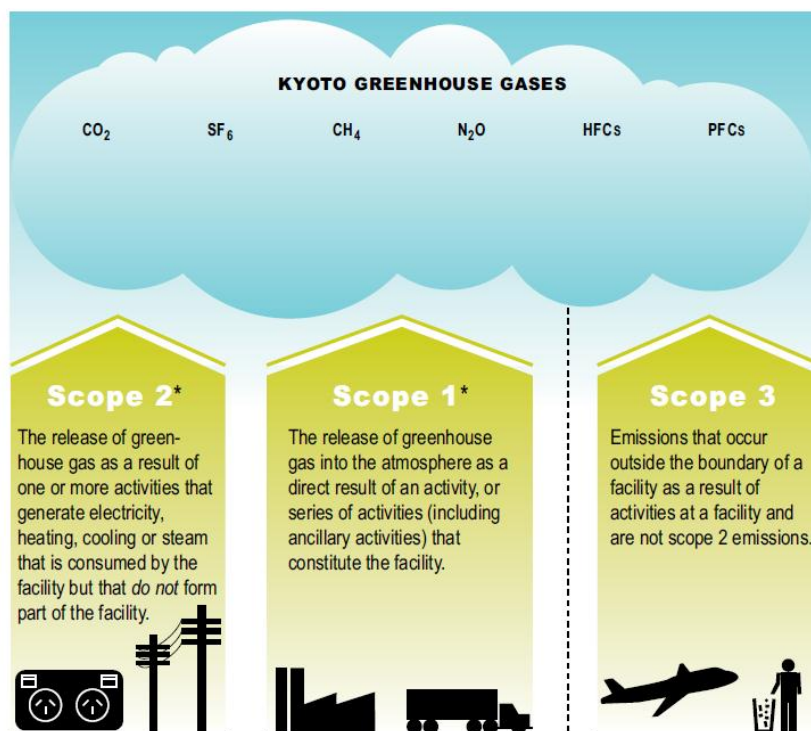
The City includes:

- Scope-1 emissions from:
  - The combustion of fuel which results in greenhouse gas emissions directly by the City of Sydney for transport and stationary energy.
  - Fugitive emissions from commercial buildings air conditioning.
- Scope-2 emissions from:
  - The combustion of fuel offsite which results in greenhouse gas emissions to provide electricity for the City's buildings, parks and street lighting.
- Scope-3 emissions from:
  - Business travel of employees.
  - Disposal of waste generated by the organisation.
  - Use of paper in the course of its business.
  - Extraction, production and transport of purchased fuels.
  - Major contractors fuel usage.
  - Various emissions sources associated with Sydney New Years Eve

A summary of emissions sources deemed to be within the City's operational control are shown below.



The definitions for Scope-1, Scope-2 and Scope-3 emissions have been interpreted from the National Carbon Offset Standard (NCOS) Version 1 2009, National Greenhouse and Energy Reporting Guidelines 2008, and the GHG Protocol’s Corporate Accounting and Reporting Standard 2004. This is depicted in the diagram below from the National Greenhouse and Energy Reporting Guidelines 2008.



As a high profile local Government entity we have publicly tested our emissions reduction targets and programs within the media, local and international events such as the C40 Cities Climate Leadership Group and the Cities Carbon Disclosure Project..

Review of other local and international Governments at varying stages of carbon neutrality has not revealed any material emissions sources which are not reported on by the City of Sydney. In 2008 the City of Sydney used the international emissions reporting tool, Project2Degrees Emissions Tracker (now defunct), developed by Microsoft and ICLEI for the Clinton Climate Initiative. The City's emissions inventory was publicly available world wide and reviewed by P2D staff. No criticism was received concerning the City's emissions boundary, which also aligned well with data fields of the Emissions Tracker tool which was purpose built for cities.

The City is currently in the process of reviewing its utilities management system to see where improvements can be made, and also conducts annual cross Council energy management diagnostic sessions using the Energetics One-2-Five Energy Tool.

### **3. PURCHASE OF GREENPOWER™ OR PURCHASE OF NCOS CARBON NEUTRAL PRODUCTS AND/OR CANCELLATION OF GREENPOWER™ ELIGIBLE RENEWABLE ENERGY CERTIFICATES (RECS)**

No GreenPower or RECS or identified NCOS carbon neutral products were purchased by the City of Sydney within the reporting year. In May 2010 the City made a Resolution of Council install renewable energy at Council owned sites instead of purchasing GreenPower.

### **4. TOTAL CARBON FOOTPRINT**

<b>Emission source</b>	<b>Tonnes CO<sub>2</sub>-e</b>
Natural gas	1,652
Diesel	3,827
Biodiesel	0
Gasoline	356
Ethanol-10	351
Liquid Petroleum Gas (LPG)	73
Grid electricity	41,698
Refrigerants	449
Flights	87
Taxis	28
Waste disposal	1,110
NYE Event	306
Paper use	93
<b>Total Emissions</b>	<b>50,030</b>



## 5. EMISSION REDUCTION MEASURES

### Strategy

Sustainable Sydney 2030 is the City's Vision for a Green, Global and Connected Future. It was developed through the most consultation ever undertaken by the City. Greenhouse gas emissions and climate change were considered a very significant issue by most of the 5,000 of the City's residents and business community who were directly involved in developing the plan.

Accordingly, Sustainable Sydney 2030 contains many targets and strategies to reduce greenhouse gas emissions across the City of Sydney Local Government Area which also apply to the City of Sydney as an organisation. Sustainable Sydney 2030 was endorsed by Council in June 2008 as the City's Strategic Plan which guides our four yearly Corporate Plan and annual unit Business Plans. Sustainable Sydney 2030 can be viewed at [www.cityofsydney.nsw.gov.au](http://www.cityofsydney.nsw.gov.au)

### Goals

The City's goal is to reduce greenhouse gas emissions in line with leading science to reduce adverse consequences of human induced climate change. Grid electricity is the primary source of the City's greenhouse gas emissions and therefore the greatest opportunity to reduce emissions. In reducing greenhouse gas emissions, the City of Sydney applies recognised carbon hierarchy principles outlined in the graphic below and underpinned by monitoring and verification with independent assessment.



## Targets

The City of Sydney adopted the following corporate greenhouse gas emissions reduction and energy targets within Sustainable Sydney 2030, the City of Sydney Environmental Management Plan, and the Corporate Plan:

- Reduce 2006 emissions 20% by 2012
- Reduce 2006 emissions 70% by 2030
- Reduce 2009 fleet emissions 20% by 2014
- No reliance on coal-fired electricity by 2030 including:
  - 70 per cent electricity produced by trigeneration
  - 30 per cent renewable electricity

Translated to the 2009/10 baseline year, this means:

- Reduce 2009/10 emissions 15% by 2011/12  
(5 per cent annually)
- Reduce 2009/10 emissions 68% by 2030  
(3.2 per cent annually)
- Reduce 2009/10 fleet emissions 20% by 2013/14  
(4 per cent annually)

The City's target to reduce 2009/10 emissions by 5 per cent means 2,550 tCO<sub>2</sub>-e of abatement. Actions implemented in 2009/10 will result in emissions savings higher than the goal for 2009/10.

2009/10 Actual Emissions (tCO <sub>2</sub> -e)	2011/12 Emissions Target (tCO <sub>2</sub> -e)	2009/10 Annual Reduction Target (tCO <sub>2</sub> -e)
50,030	42,378	2,550

### Actions implemented during 2009/10 plan year

Emission Reduction Measures (undertaken across City of Sydney Property Portfolio - for specific site details see APPENDIX-EnergyEfficiency-RecentProjects.pdf)	Estimated Emission Quantity (Tonnes CO <sub>2</sub> -e) Reduced
Recommission boiler controls and heating valves	349.2
Movement sensors throughout depot and some lamp retrofits	212.0
Retrofitting fluorescent tubes in car park with LED tubes	193.1
Supplementary chiller is part of previous tenancy fitout - connected loads can be transferred to condenser water circuit.	185.7
Reschedule all after-hour fans and misc. A/C loads to limit use to 7am-6pm operations	165.0
Upgrade single T8 lamps with T5 retrofit kits to levels that have already been upgraded: levels 5, 10, 11, 14, 22 and 23	136.7
Lighting: Levels 1 & 2 circuits separation + control	119.8
Lighting upgrade to levels 6,7,8,9 and 13 - install voltage	118.0

<b>Emission Reduction Measures</b> (undertaken across City of Sydney Property Portfolio - for specific site details see APPENDIX-EnergyEfficiency-RecentProjects.pdf)	<b>Estimated Emission Quantity (Tonnes CO<sub>2</sub>-e) Reduced</b>
reduction units with T8 tri-phosphor lamps	
78kW PV installations	115.0
Upgrade light fittings, paint walls and ceiling and install movement sensors	114.1
On/off timers	106.0
On/off timers	106.0
HVAC controls tuning: time of use	79.7
Lighting control: Install switches in the car park store room, main store room and tyre store room	67.2
Upgrade lighting control and provide after-hour switches to levels 5, 6, 7, 8,9, 10, 12, 13, 14, 22 and 23	66.6
Retrofit the sports court lights for smaller lamps.	65.9
Recommission outside economy air-cycles	49.9
On/off timers	42.4
On/off timers	42.4
Change the lighting control strategy	42.4
Movement sensors throughout depot and some lamp retrofits	42.4
Install a lighting control system	42.4
Garage 1&2: improve lighting & associated control	41.6
The four escalator operation to be controlled by movement sensors	38.7
Court lighting controls	37.5
Optimise CHW and condenser water chiller control	34.5
Install a new DDC system for A/C control	33.6
Provide linear (modulating) control of car park supply and exhaust fans based on CO levels.	33.1
Library, Passive Hall and other area light fitting (troffer) replacement	30.9
Replacement of discharge lighting with fluorescent light fittings	29.0
Domestic Hot Water - solar heat pump system with remote evaporators	27.0
replace mercury vapour lamps with Tornado fluorescents	26.3
Install PE light switch and occupancy sensor with On/Off timer to fluorescent and high bay lamps in covered area near main office entrance	25.6
Replace metal halide lamps in car park to T5 fluorescent lamps	22.9
Install skylights to gym areas, delamp fittings where possible -	22.0

<b>Emission Reduction Measures</b> (undertaken across City of Sydney Property Portfolio - for specific site details see APPENDIX-EnergyEfficiency-RecentProjects.pdf)	<b>Estimated Emission Quantity (Tonnes CO<sub>2</sub>-e) Reduced</b>
install tri phosphor tubes. Install occupancy and daylight sensors.	
Install skylights to gym areas, delamp fittings where possible - install tri phosphor tubes. Install occupancy and daylight sensors.	22.0
Lighting control (movement sensors) throughout building	21.2
Replacement of troffer fittings and installation of movement sensors	19.0
install occupancy sensors in meeting rooms and delamp overlit areas	15.9
Replacement of the indoor sports court metal halide lighting with dimmable fluorescent fittings and with daylight and occupancy controls	15.6
Domestic hot water: Electric heat pump to replace electric storage type	14.9
Service corridor areas are over lit - remove every second tube or relocate fittings appropriately	13.4
Replacement of the indoor sports court metal halide lighting with dimmable fluorescent fittings and with daylight and occupancy controls	12.8
HVAC: Function Rooms - Occupancy Sensor control + Reassignment of push-button switches	12.5
Installation of solar hot water system	12.4
Cleansing Bay lighting: change to 250W metal halide	11.9
Fine tuning of lighting controls to prevent lights turning on during day	11.6
Car park lighting: dimming control system	11.6
Install voltage reduction unit to fluorescent lamps in main hall, Jessie Street library and Main Library	11.6
8kw Solar PV cell installation	11.1
8kw Solar PV cell installation	11.1
24 hours fluorescent lighting: convert to T5 lamps	10.7
Bar radiator time delay switches	10.7
Car park lighting: separate store area circuits	10.7
Install PE cell control to car park fluorescent and halogen flood lamps	10.7
On/off timers	10.6
Install lighting control system	10.6
Install solar hot water system	10.4
7kw Solar PV cell installation	9.7

<b>Emission Reduction Measures</b> (undertaken across City of Sydney Property Portfolio - for specific site details see APPENDIX-EnergyEfficiency-RecentProjects.pdf)	<b>Estimated Emission Quantity (Tonnes CO<sub>2</sub>-e) Reduced</b>
7kw Solar PV cell installation	9.7
Delamping 65 double fluorescents with single triphosphor tubes and a number of occupancy sensors	9.5
Install push-button timer switch to bar radiators	9.2
Offices/Reception areas lighting - voltage reduction	8.9
Masonry Store external lighting: Install PE cell control	8.6
Install light switches in main workshop, and welding shop	8.6
Install occupancy and daylight sensors to the toilets and other areas of the building	8.5
HVAC: Adjust temperature set-points to widen dead-band	7.7
Install solar hot water system	7.5
Install solar hot water system	7.5
Install a VSD control on the cooling tower fan motor	7.2
Install occupancy sensors to the Garbage department office, common room and corridor lights	7.1
HVAC: install push-button timers and contactors for 8 units	6.8
Lighting: Incandescent to CFLs upgrade	6.8
CO Sensors and On/Off controls for car park ventilation fan	5.9
Recommission domestic hot water (DHW) controls	5.9
Install solar hot water system	5.6
Install occupancy sensors to office, common room and store lights of building near the front entrance	5.4
Movement sensors in meeting rooms	5.3
Replace double T8 fittings with single T5	5.3
Motion sensors for the rangers area lights	4.8
Gym lighting - voltage reduction	4.8
Install solar hot water system	4.7
AC in packing room to be controlled via timeclock/timer	4.6
Masonry Store lighting: occupancy sensor control	4.2
Lighting: Exterior PE cell control	4.2
HVAC: Optimum start and stop	4.2
Replace 50W Low voltage down lights with 35W IRC lamps	4.2
Lighting upgrade from T8 to T5 lamps using retrofit kits - L1 seminar room 1&2, ground floor kitchen and L2 foyer	4.2
Install solar hot water system	3.4
Install solar hot water system	3.4

<b>Emission Reduction Measures</b> (undertaken across City of Sydney Property Portfolio - for specific site details see APPENDIX-EnergyEfficiency-RecentProjects.pdf)	<b>Estimated Emission Quantity (Tonnes CO<sub>2</sub>-e) Reduced</b>
Install solar hot water system	3.4
Install solar hot water system	3.4
Install solar hot water system	3.4
Install occupancy sensors to main office and staff room lights	3.3
External lighting upgrade and control	3.2
Replace 100W halogen wall lamps with 23W CFLs in the foyers	2.7
Install solar hot water system	2.6
Isolate 2 x heat pumps over winter (annually)	2.1
Install timer to the large refrigerator plug such that the fridge only operates when needed	1.5
Fit timer to large ZIP water heater in main kitchen area	1.5
Install voltage reduction unit to the fluorescent lamps in ground floor tenancy	1.2
Replace 50W low voltage down lights with 35W IRC lamps	0.9
Lighting: Occupancy sensor control in level 2 tea room	0.6
Fit timer to ZIP water heater in staff kitchenette	0.3
Fit timer to Zip water heater in staff kitchenette	0.3
Power Factor correction (upgrade to 0.98)	0.0
Power Factor correction (upgrade to 0.98)	0.0
Power Factor correction (upgrade to 0.98)	0.0
Survey of site compressed air requirements, installation of new air compressor and receiver, and repair all leaking compressed air fittings	0.0
Install BMCS System	0.0
Power Factor correction (upgrade to 0.98)	0.0
Install BMCS System	0.0
Cleaning of heating coils to improve air flow	0.0
Installation of a BMCS system	0.0
Remove leaking 50 litre hot water heater and connect piping to existing system	0.0
Power Factor correction (upgrade to 0.98)	0.0
Installation of BMCS system	0.0
Sub metering of levels 1 to 12	0.0
Upgrade T8 lamps with T5 retrofit kits to Level 3	0.0
Upgrade T8 lamps with T5 retrofit kits to Levels 1 and 2	0.0
Upgrade T8 lamps with T5 retrofit kits to all toilets	0.0

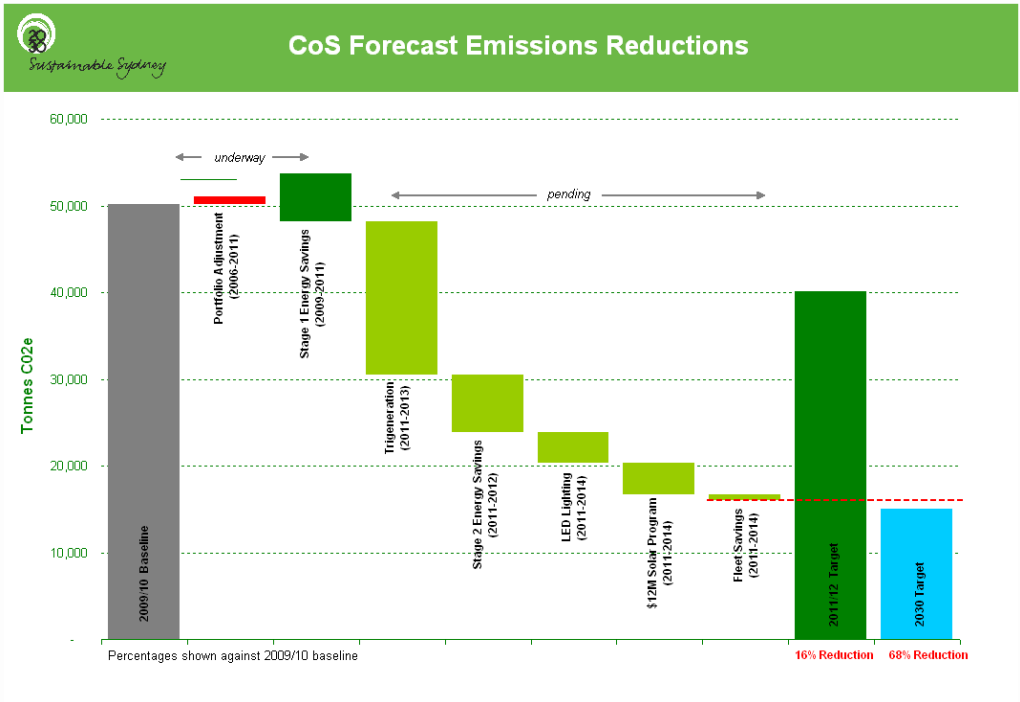
<b>Emission Reduction Measures</b> (undertaken across City of Sydney Property Portfolio - for specific site details see APPENDIX-EnergyEfficiency-RecentProjects.pdf)	<b>Estimated Emission Quantity (Tonnes CO<sub>2</sub>-e) Reduced</b>
Install supplementary AC to Level 1 + 5 for after hours use	0.0
3 heat pumps (domestic HW) are running during winter. Investigation shown that they are cycling on/off throughout winter.	0.0
Add supplementary lighting to tunnel lighting to allow the feature lighting to be turned off.	0.0
<b>Total Estimated Quantity of Emissions Reduced</b>	<b>3,401 t CO<sub>2</sub>-e</b>

### **Performance and future actions**

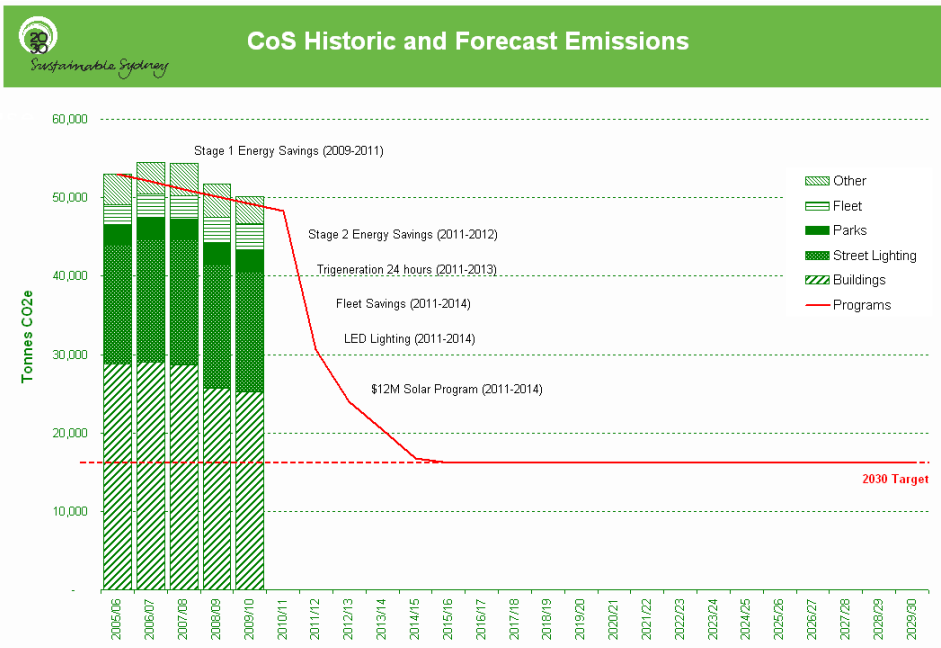
The City has made substantial progress toward its 2012 emissions reduction target. There are many energy efficiency and renewable energy underway making the City well positioned to achieve it's mid and long term targets. In 2009/10 the City called for Expressions of Interest for projects to reduce greenhouse gas emissions including:

- Trigenation Systems Design, Installation, Operation and Maintenance for Aquatic Centres, Town Hall Precinct and Other Sites - Natural gas fired combined cooling, heat and power (trigenation) to take all of the City's buildings and street lighting "off the grid".
- \$12M worth of solar photovoltaic solar to be installed at Council sites over 5 years.
- Energy Efficient Light Emitting Diode (LED) Lighting Retrofit of the City's Public Domain Lighting Luminaries - Replacement of 8,599 street lights with energy efficient LED lighting.
- Fleet eco driver program and biofuels
- Energy and Water Efficiency Retrofit of the City's Buildings and Operations.

These projects are expected to go to tender for implementation. Expected savings from these projects are shown in the figures below which serve as a guide to show how the City expects to meet its medium and long term emission reduction targets.



The figure below shows forecast and actual trends. The information above is updated periodically as more timely data becomes available and reported publicly to Council within quarterly sustainability reports.





## 6. OFFSET PURCHASE / CANCELLATION

The City of Sydney procures offsets at the end of the reporting year once it has developed its greenhouse gas emissions inventory which is used as the basis to tender for offsets. Offsets are tendered on the open market and assessed against price, standard of offset, rating of the Carbon Offset Watch (if applicable), environmental impacts, and type of offset. Offsets for the 2009/10 reporting year were purchased in 2010/11.

Offset Type	Offset Register	Planned offset purchasing strategy
Verified Carbon Units (VCUs) issued by the Verified Carbon Standard (VCS)	<p>NYSE Blue. VCS Registry.</p> <p>Serial Numbers: 1353-58626314-58676327-VCU-004-APX-CN-1-511-28032006-31122006-0</p>	<p>50,014 VCU offsets were purchased in June 2011 and retired on 5 July 2011 to offset 100% of 2009/10 emissions (excluding emissions from flights taken in Q3 and Q4).</p> <p>Independently verified greenhouse gas emissions inventories are used as the basis to purchase offsets on an annual basis. The City procured via tender 50,014 VCUs from Climate Friendly in June 2011 to offset emissions from the 2009/10 financial year.</p> <p>Pending verification, information about the City's 2009/10 carbon neutral program including offset certificates will be listed on the at <a href="http://www.cityofsydney.nsw.gov.au/Carbon">www.cityofsydney.nsw.gov.au/Carbon</a></p> <p>VCS Registry: <a href="https://vcsregistry1.apx.com/mymodule/rpt/CertificateInfo.asp?rhid=2087&amp;ftType=PRO">https://vcsregistry1.apx.com/mymodule/rpt/CertificateInfo.asp?rhid=2087&amp;ftType=PRO</a></p>
Gold Standard Offsets	<p>Gold Standard Registry.</p> <p>Serial Numbers: GS1-1-TR-347-12-2008-15-33625 to 33640 (16 units)</p>	<p>16* VCU offsets were purchased in 2010 and retired on 7 April 2011 to offset 100% of 2009/10 flight emissions, which represents &lt;1% of total City of Sydney emissions.</p> <p>Offsets were purchased through Climate Friendly to offset emissions from flights at the end in April and July 2010.</p> <p>Anemon Intepe Wind Farm, Turkey GS Project ID: GS347 GS Project Link (includes all accreditation documentation): <a href="https://gs1.apx.com/mymodule/ProjectDoc/EditProjectDoc.asp?id1=347">https://gs1.apx.com/mymodule/ProjectDoc/EditProjectDoc.asp?id1=347</a></p> <p>GS Registry retirement link (Anemon): <a href="https://gs1.apx.com/mymodule/rpt/CertificateInfo.asp?rhid=332&amp;ftType=PRO">https://gs1.apx.com/mymodule/rpt/CertificateInfo.asp?rhid=332&amp;ftType=PRO</a></p>

\* The City of Sydney subscribed to the Climate Friendly service which offsets flight emissions using Gold Standard carbon credits half way through the reporting year. The remainder of the flight emissions during the reporting year were offset within the VCU offsets listed above.

The City has developed a set of stringent criteria to ensure that offsets are real, additional, and result in greatest emissions reductions with least environmental impacts. In May 2010 the City made a Resolution of Council to remain carbon neutral by reducing greenhouse gas emissions and purchasing 100% NCOS eligible offsets. Money previously allocated to buying GreenPower is now being used to install renewable energy at Council owned sites.

## **7. OTHER INFORMATION**

In 2008, the City of Sydney became the first carbon neutral local government in Australia through energy efficiency, renewable energy, GreenPower and carbon offsets. We made this commitment voluntarily to reduce impacts of climate change, meet public and staff expectations, show leadership, influence sustainable market processes, and reduce costs through energy savings.

The City has made substantial progress against its mid-term 20 per cent target. There are many energy efficiency and renewable energy underway making the City well positioned to achieve it's mid and long term targets.