

State of the
Environment
Report
2008/09

Future Focus

To achieve the ambitious targets set out in Sustainable Sydney 2030, we are working to green our council operations, helping community and business to reduce their environmental impact and retrofitting the City with green infrastructure.

Within our own operations we continue to reduce our energy use and remain 'carbon neutral' using GreenPower for all our electricity and purchasing carbon offsets to balance the greenhouse gas emissions that aren't related to electricity use.

We will continue to work with key local and international partners to demonstrate best practice in, and advocate for cleaner energy and greener transport, less waste, improved urban ecology, and efficient use of precious water. Partnerships with commercial building owners, hotels and small business as well as utility providers will also be important to achieve our goals.

Sustainable Sydney 2030 and the City of Sydney Environmental Management Plan establish the environmental vision, targets and actions for the City and our Local Government Area (LGA). The City's targets are:

- **Our emissions**

- 100 per cent offset of greenhouse gas emissions from Council operations and services by 2008 - which we have achieved.
- A minimum 20 per cent reduction of Council operations emissions by 2012 based on 2006 levels through energy savings measures. Already we have approved energy projects which are forecast to reduce emissions by 48% across our property portfolio over the next three years.

- **Community emissions**

- 70 per cent reduction of greenhouse gas emissions from our LGA by 2050 based on 1990 levels. This is equal to a 70 per cent reduction of greenhouse gas emissions from our LGA by 2030 based on 2006 levels.
- 25 per cent of electricity used in our LGA to come from renewable energy by 2020.

- **Transport** Increase the number of bicycle trips made in the City of Sydney, as a percentage of total trips, from less than 2% in 2006 to 5% by 2011, and to 10% by 2016. 20 per cent of total trips in the LGA between 2 and 20 kilometres to be made by bicycle by 2016.

- **Water** Zero increase in mains water used by Council and across the Local Government Area by 2015 based on 2006 levels, with 25 per cent of water used by Council and across the LGA to be recycled by 2015.

- **Waste**

- 66 per cent of residential waste from our LGA re-used, recycled or recovered by 2014.
- 66 per cent of waste generated by Council and its contractors re-used, recycled or recovered by 2014.
- 63 per cent of commercial and industrial waste re-used, recycled or recovered from our LGA by 2014.
- 76 per cent of construction and demolition waste from our LGA and Council projects re-used, recycled or recovered by 2014.

- **Open space** 24 square metres of public open space per resident

Legend

\$	Cost
%	Percent
°C	Degrees Celsius
Ha	Hectare
kg	Kilogram
kL	Kilolitres
LGA	Local Government Area
m ³	Cubic metre
ML	Megalitres
mm	Millimetre
MWh	Megawatt hour
ppm CO ₂	Parts per million carbon dioxide
t	Tonne
tCO ₂ e	Tonnes of carbon dioxide equivalent

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Message from the Lord Mayor

We are committed to achieving the exciting and ambitious goals set by Sustainable Sydney 2030 – the culmination of extensive expert research and widespread community consultation.

Sustainable Sydney 2030 responds to the needs of our city, with action to make our City socially, culturally, environmentally and economically sustainable. Based on scientific evidence on action needed to avert dangerous climate change, Sustainable Sydney 2030 commits us to a 70 per cent reduction in emissions by 2030, based on 2006 levels.

Addressing climate change is the biggest challenge we face locally and globally. The City became carbon neutral in 2008, and our priorities are now improving energy efficiency and identifying alternative sources of energy, including renewable sources.

We continue to work with businesses, residents, Local, State and Federal Governments, non-government organisations, industry groups, the Council of Capital City Lord Mayors, ICLEI Cities for Climate Protection Program, and the C40 Large City Climate Leadership Group on programs that reduce the environmental impact of activities in the city.

Across the City we are working to reduce our emissions. Recently we opened the King Street cycleway as a first step in our planned 200-kilometre safe cycling network, which will link eventually with a regional cycling network. Our new Surry Hills Library and Community Centre is a leading example of the new generation of sustainable public buildings.

New photovoltaic cells on the roof of the Town Hall will show that even our heritage buildings can be green. As part of our Green Infrastructure Masterplan to retrofit the City with sustainable infrastructure we are investigating alternative waste treatment, developing a total Water Cycle Management Plan and planning for local decentralised low-carbon energy generation such as trigeneration and renewable energy.

Across the city we are beginning to implement the ideas of world-renown Danish expert, Jan Gehl – particularly his vision to transform our central business district into a more pedestrian friendly area.

I am encouraged by the many Sydney residents and businesses who have embraced sustainability innovatively and with real commitment – you're making the changes essential for our planet's future. The next step is to encourage our national government to commit to more ambitious greenhouse gas reduction targets.

We know investing now in the green economy is our best hope for a sustainable and prosperous future.

As we continue to forge ahead with our projects, this State of the Environment report demonstrates our commitment to Sydney's future.



**Clover Moore MP
Lord Mayor**

Achieving Sustainable Sydney 2030

We are now in the implementation phase of Sustainable Sydney 2030 – the City’s plan for sustainable development over the next 20 years and beyond – and are working on projects that can help achieve the targets including a 70 per cent reduction in greenhouse gas emissions by 2030.

Key projects begun in 2008 include:

- **Environmental Review.** A comprehensive review of the environmental impacts and opportunities within operations was undertaken, ensuring that all our work plans align with the goals of Sustainable Sydney 2030.
- **Environmental partnerships and memberships.** In 2008/09, the City maintained environmental memberships or partnerships with many environmental organisations and Government departments, including: Australian Conservation Foundation; Clean Up Australia ; Cooks River Foreshore Working Group; Environment Business Australia ; ENVIRONS Australia ; Green Building Council of Australia ; ICLEI – Local Governments for Sustainability ; Institute for Sustainable Futures; Keep Australia Beautiful; Nature Conservation Council of NSW ; (then) NSW Department of Environment and Climate Change; (then) NSW Department of Water and Energy; Observatory Hill Environmental Education Centre; Planet Ark; Pyrmont Ultimo Landcare; Rozelle Bay Community Native Nursery; Southern Sydney Regional Organisation of Councils; Streamwatch; Sydney Metropolitan Wildlife Service; Sydney Water Corporation; The Sydney Coastal Councils Group; The Watershed; Total Environment Centre (Green Capital); WWF Australia.
- **Environmental Management Plan.** As of June 2009, a total of 51 out of 53 actions listed in the plan to reduce Council’s environmental impact have been initiated. For a complete description of actions and targets, read or download the Environmental Management Plan at www.cityofsydney.nsw.gov.au/EMP
- **Surry Hills Library and Community Centre.** The City’s new library, community centre and childcare centre on Crown Street in Surry Hills opened in June 2009. This facility sets a sustainability benchmark for public buildings through reduced energy and water use. A plant atrium naturally cools and filters the air, façade louvers automatically track the sun to provide natural light and reduce heat and solar panels provide renewable energy.
- **The Watershed.** The City continues to fund the Watershed Sustainability Resource Centre in partnership with Marrickville Council. The Watershed provides workshops, publications and seminars to help residents live more sustainably. Most popular were the City’s composting and worm farming workshops, attracting 1200 participants over 2008–09. The NSW Local Government and Shires Association named The Watershed the 2008 Overall Winner: “Environmental Education Award for Outstanding Environmental Education”.
- **Environmental grants.** The City provides funding and in-kind support to community groups to implement programs with a direct environmental benefit. The 2008/09 grants were:
 - **BikeSydney Advocacy Inc** – Creation of three self-guided ride kits and cards containing maps and information to encourage cycling in the City
 - **Chinese Youth League of Australia Ltd** – Media and public seminars in Chinese about waste reduction
 - **South Sydney Multicultural Neighbourhood Centre** – Growing Green in Redfern project to develop a school with community workshops and a TAFE course for high school students
 - **Pyrmont Ultimo Landcare Inc** – Wildlife corridor extension around the Davey Flour Mill Weighbridge in Ultimo
 - **The Factory Community Centre Inc** – Market Day at Waterloo / Waterloo Recycling Workshop
 - **The Nature Conservation Council of NSW** – Ran the successful Climate Challenge - Diversity in Action program with the Chinese community to demonstrate tangible savings in greenhouse emissions
 - **Windgap Foundation Ltd (Envirohouse)** – Environmentally sustainable demonstration home for people with intellectual disabilities
- **Awards.** The City received six Keep Australia Beautiful Sustainable Cities National Awards in 2008/09, including the Litter Prevention and Dame Phyllis Frost awards. The awards recognise efforts by residents, community groups, businesses and government agencies to protect and enhance their local environment for long term sustainability.

- **Green roofs.** Pyrmont Progress Incorporated received an environmental grant from the City to deliver the Green Roof Resource Manual, which outlines the benefits of green roofs, types of green roofs, landscape and architectural design ideas, sustainable water and energy technologies, maintenance issues, and case studies. The report can be downloaded from www.cityofsydney.nsw.gov.au/environment. The City is a member of Green Roofs Australia.
- **CitySwitch.** CitySwitch Green Office is a national tenant energy efficiency program run in partnership between the cities of Sydney, North Sydney, Parramatta, Willoughby, Canberra, Brisbane, Adelaide, Melbourne and Perth along with state government agencies, the NSW Department of Environment, Climate Change & Water and Sustainability Victoria. The program works with office tenants to improve their energy efficiency, thereby to reduce carbon pollution. In June 2009 over 175 tenancies had committed to the program, the equivalent of over 1 million m² of commercial office space across Australia.
- **CCCLM.** The City is a member of the Council of Capital City Lord Mayors (CCCLM), which brings Lord Mayors together to take action on a range of issues including sustainability, public transport and infrastructure. The City of Sydney chaired the CCCLM in 2009 where the focus of meetings was on green energy production and affordable housing.
- **Residential Environmental Action Strategy.** Adopted by Council in June 2009, the Residential Environmental Action Strategy is a multi-level program to encourage sustainable living and provides ideas on how to save energy and water in the home and the community. A number of programs have already begun from the Strategy including:
 - **The Home Energy Consumption Trial:** Energy Monitors were installed in almost 100 homes across the LGA to help residents see what their baseline electricity use is and how much lighting, heating, appliance use and stand-by time contribute to their electricity bills. A monthly newsletter for Trial participants called 'Watts going down in 100 Sydney Homes' has been sent out to provide energy saving information and share participating households' experiences.
- **Green seminars and workshops:** A series of sustainable living seminars were conducted with the Home Ideas Centre in Alexandria, providing the latest information on how to live sustainably and save money. The City also held free Green Your Apartment workshops for people living in smaller spaces, and partnered with the Australian Conservation Foundation and Department of Environment, Climate Change and Water on a series of GreenHome Essentials workshops.
- **Public Housing Pilot Environmental Education Project:** The City, in partnership with Housing NSW and the Department of Environment and Climate Change, ran a pilot Environmental Education Program with more than 135 Public Housing residents. Eight workshops were held and focused on saving energy at home and sustainable living. A workshop manual was developed for future Public Housing sustainability programs.
- **City Talks.** The City's free series of public talks on sustainability continued in 2008 and 2009. Highlights included the Mayor of New Orleans C Ray Nagin discussing the future of his city, and Allan Jones' presentation on his work at the London Climate Change Agency.
- **Advocacy.** In 2008/09 the City made various submissions on environmental issues, policies and programs including the proposed Australian Voluntary Carbon Standard; the Carbon Pollution Reduction Scheme White Paper; IPART review of NSW climate change mitigation measures; Solar Feed-in Legislation; AER NSW Draft Distribution Pricing Determination; NSW Draft Sea Level Rise Policy Statement; Senate inquiry into Climate Policy; and Mandatory Disclosure of Commercial Office Building Energy Efficiency.

Energy and emissions

The best available scientific evidence tells us that greenhouse gas emissions from human activity, particularly our use of energy from fossil fuels are contributing to climate change, and that the change is occurring faster than initially predicted. Cities have a critical role in reducing greenhouse gas emissions. They cover two per cent of the Earth's land surface, have over 50 per cent of the population and are cause to an estimated 75 per cent of the world's greenhouse gas emissions.

The City of Sydney is working to reduce energy use and greenhouse gas emissions in order to meet ambitious targets to reduce 2006 emissions by 70 per cent by 2030. These targets can only be achieved with the support of our community to 'live green' and with the provision of green infrastructure.

- **GreenPower.** The City of Sydney has been increasing the proportion of GreenPower used each year for its total electricity consumption, and has been carbon neutral since . In 2009, the City purchased 40,830 megawatts of 100% accredited GreenPower.
See www.cityofsydney.nsw.gov.au/GreenPower
- **Low-carbon Local Energy.** Centralised coal-generated electricity accounts for around 80 per cent of greenhouse gas emissions for our City. To remove our reliance on coal-fired electricity, the City is developing decentralised energy master plans for Combined Cooling, Heat and Power (trigeneration) and renewable energy, including renewable gases from waste. Whilst coal-fired electricity loses around two-thirds of its energy as steam to the atmosphere, well-designed trigeneration loses only 15 per cent of its energy in production and transmission.
See www.Sydney2030.com.au for more information.
- **Expert advisor, Allan Jones.** In 2008/09, Allan Jones MBE – former CEO of the London Climate Change Agency, provided expert advice to the City in developing its plans for a low-carbon future built upon green infrastructure. Green infrastructure is key to achieving the City's 2030 target of 70 per cent of energy used within the City to come from locally generated low-carbon energy by 2030.

■ **C40 Cities – Climate Leadership Group.**

The City of Sydney is a member of the C40 Large Cities Climate Leadership Group, a network of international cities committed to action on global warming. The C40 Group works closely with the Clinton Climate Initiative, to stimulate the uptake of innovative ways to tackle global warming. The redevelopment of Barangaroo should be among Sydney's first carbon positive developments and a case study for the world's cities.

- **Carbon Neutral.** In 2008, the City of Sydney became the first carbon neutral local government in Australia through energy efficiency, renewable energy and offsets. The City made this commitment voluntarily to reduce impacts of climate change, show leadership, influence sustainable market processes, and reduce costs through energy savings. In 2009, the City's greenhouse gas emissions inventory was independently verified, and tenders were sought for the provision of 100 per cent GreenPower and other offsets to enter into our second year of carbon neutrality.

See www.cityofsydney.nsw.gov.au/Carbon

- **Property Upgrades.** The City of Sydney property portfolio accounts for about 60 per cent of our greenhouse gas emissions from our own operations, with the remainder from other sources like street lighting and our vehicle fleet. Across our 207 sites – which comprise 378 buildings – we have identified opportunities for a 48 per cent reduction in emissions from our buildings by 2012 based on 2006 levels. We will achieve this by eliminating unnecessary energy use, improving energy efficiency and substituting our energy with low-carbon and renewable sources.

Our energy efficiency measures are well underway: Town Hall House now uses 23 per cent less energy than in 2005/06, saving an estimated 2,618 tonnes of greenhouse gas emissions; another major energy user, 307 Pitt Street, has reduced energy consumption by 49 per cent.

We have installed solar hot water at nine locations and solar photovoltaics (solar electricity) at Redfern Community Centre and the State Emergency Services building at Erskineville. Plans are well underway for a large scale (42 kilowatt) installation of photovoltaics on the roof of Town Hall.

- **Sustainable Vehicle Fleet.** The City is on track to achieve a 3 per cent emissions reduction in its vehicle fleet operations over the next financial year. Large utes have been replaced with small diesel vans and hybrid trucks, which use up to 39 per cent less fuel, are being rolled out across the City of Sydney's fleet to service the City's parks, footpaths and roads. Eco-driving tips have been provided to drivers and a pushbike fleet in Town Hall is available for staff to use for local inspections and meetings.
- **LED lighting trial.** The City, in conjunction with Energy Australia, is undertaking a 6-month trial of Light Emitting Diode (LED) and other energy efficient street lighting. These lights could potentially reduce energy consumption by 50 per cent, and it is hoped the trial will drive the introduction of energy efficient lights across Sydney and beyond.
- The City has promoted the **Fridge Buyback** program encouraging residents to responsibly dispose of unnecessary second fridges. Since the program started, 46 fridges have been collected from the LGA alone, saving an estimate 384 tonnes of greenhouse gas emissions and \$66,000 in residents' electricity bills.
- **Air Quality.** The two air pollution problems of prime concern in Sydney are photochemical smog and particle pollution. Monitoring of air quality in Sydney is conducted by the NSW Department of Environment, Climate Change and Water at 19 sites, with the closest stations to the City being Rozelle, Earlwood and Randwick. To improve air quality, the City has programs to encourage people to use zero or low emissions modes of travel. The NSW Government holds the most up to date information about air quality in the Sydney region at www.cleartheair.nsw.gov.au.

Greenhouse gas emissions

There are many greenhouse gasses, of which Carbon Dioxide (CO₂) is the most abundant. Different greenhouse gasses have different global warming potentials and longevity in the atmosphere and therefore concentrations are often expressed as CO₂-equivalent (CO₂e). There is general consensus in the scientific community that atmospheric concentrations of CO₂e need to be less than 450ppm in order to limit the probability of 'runaway', 'abrupt' or 'dangerous' climate change. According to the IPCC AR4 Synthesis Report, atmospheric CO₂e concentrations were already 455ppm in 2005, of which 379ppm is CO₂. By June 2009, long-lived greenhouse gasses in the atmosphere were estimated to be 467 ppm, of which CO₂ was 385 ppm (this is equal to 3.64 trillion metric tons, growing at 2 billion metric tons per month)¹.

(tCO ₂ e)	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Australia ²	565 million	584 million	584 million	572 million	581 million	581 million	~
City of Sydney LGA ³	no data			5.46 million	no data	no data	-

1 www.dbcca.com/dbcca/EN/carbon-counter.jsp

2 Calendar year forecast estimate (including abatement measures) from Tracking To The Kyoto Target 2007, Australian Government.

3 2006 estimate developed by Kinesis for Sustainable Sydney 2030. There are currently no reliable emissions estimates at the local government area level. The City will be developing a system for regular monitoring of LGA emissions to track progress toward 2030 targets.

City of Sydney greenhouse gas emissions⁴

(tCO ₂ e)	2006/07	2007/08
Scope-1 (emissions from onsite gas usage, fleet emissions, and refrigerant leakage)	4,363 (9%)	4,311 (9%)
Scope-2 (emissions from mains electricity)	35,002 (72%)	36,344 (71%)
Scope-3 (emissions from events, flights, taxis and major contractors)	9,192 (19%)	10,319 (20%)
Total	48,556	50,975
Electricity emissions	41,688	43,245
Non-electricity emissions	6,869	7,721

⁴ The City's first detailed emissions inventory in accordance with recognised standards and independent verification was prepared for 2006/07 then subsequently 2007/08. The 2008/09 inventory was not prepared at time of publication. Previous years emissions have been estimated only and therefore are not suitable for comparison. The City's 2007/08 emissions were 50,975 tonnes CO₂e which is a slight increase on 2006/07 emissions. This is explained by new facilities being added to the emissions inventory (existing major energy using sites have actually decreased over this period). To achieve a zero net emissions balance the City purchases GreenPower to offset all of the emissions associated with electricity used by our properties and street lighting. Carbon offsets provide for the non-electricity emissions such as fleet and contractors fuel usage, natural gas, taxis, flights and events.

Electricity

(MWh)	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
City of Sydney LGA electricity usage⁵							
Households	No data			417,885	415,712	423,915	×
Small business	No data			1,451,819	1,478,506	1,460,106	✓
Large business	No data			2,608,896	2,674,848	2,631,174	✓
Council electricity usage⁶							
Total	No data		40,759	42,485	40,836	37,208	✓
Per employee	No data		27	26.5	25.5	22	✓

GreenPower

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
GreenPower usage in Australia (MWh) ⁷	No data	495,250	688,754	1,013,707	1,455,887	2,144,726	✓
Households using GreenPower	No data	150,374	281,701	565,977	748,377	940,560	✓
Businesses using GreenPower	No data	7,229	14,676	24,313	30,313	32,276	✓

⁵ Information provided by Energy Australia for suburbs in and around the City of Sydney. Data is not confined to the LGA and may be based on accruals and estimates.

⁶ Information provided by Planet Footprint using data from Energy Australia. Figures vary from previous reports due to improved estimates of street lighting electricity usage and the inclusion of new sites.

⁷ National GreenPower quarterly reports www.greenpower.com.au

City of Sydney GreenPower

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Council GreenPower usage (MWh) ⁸	50	3,312	7,645	39,328	40,836	Purchase pending	✓
Percent of electricity use (per cent)	<1%	~10%	~20%	100%	100%	1,460,106	
GreenPower cost (\$)	Sponsored	\$140k	\$272k	\$2.3M	\$1.9M	2,631,174	
Main provider	TruEnergy	Climate Friendly	AGL	C0zero	C0zero	22	

Air pollution

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Regional air quality (days standards are exceeded)⁹							
Visibility – NEPH	3	0	1	3	0	2	×
Ozone – 1hr	1	1	0	0	0	0	–
Ozone – 4hr	0	1	0	0	1	0	✓
Particulates (PM10)	0	0	0	2	0	4	×
Customer requests – Air pollution/odour	No data		17	228	200	283	–

⁸ Includes GreenPower used by properties, public lighting. Smaller amounts of GreenPower for fleet offsets and events are not listed.

⁹ Data from Air Quality Index (Randwick) www.environment.nsw.gov.au

Transport

The City's integrated transport plan connects heavy rail and metro systems with surface transport including light rail, bus, pedestrian and cycling links. We continue to work with and push the State and Federal Governments for urgent, strategic and coordinated investment in public transport.

This integrated transport strategy would reduce the impact of traffic on public space and improve the experience of being in the City Centre, creating large pedestrian squares and boulevards.

Cycling

Increasing public transport, cycling and walking opportunities is vital to reducing road congestion, green house gas emissions, improving public health and making Sydney more sustainable. The City is spending \$76 million over four years on a 200km cycle network that will include 55km of separated cycleways as part of a strategy to increase the number of people choosing cycling as a safe, sustainable and healthy transport option. Currently one per cent of trips into the city are made on bicycle - the city aims to increase this number by 10 per cent by 2016. We have also joined 14 surrounding

councils to map out a 245km regional network and have sought national funding for this project.

Free Cycling in the City courses are teaching responsible riding skills and building confidence to ride on city streets. More than 900 bicycle parking rings and rails have been installed across the city on smart poles, traffic poles and at popular locations, with many more planned. Read more at www.cityofsydney.nsw.gov.au/cycling

Pedestrian space

The City of Sydney is committed to building a network of continuous green corridors with shaded footpaths, tree-lined streets, and reduced vehicle traffic. Our Pedestrian, Cycling and Traffic Calming plans are a way of working with residents to determine opportunities to provide better pedestrian access in local village areas.

Car share

At 30 June 2009, the City had installed 63 dedicated on-street parking spaces for car share schemes. Each car share can take ten cars off the road.

Fleet

(tCO2e)	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Council fleet emissions ¹⁰	2,795	2,981	2,692	2,980	3,001	3,208	×
Contractor vehicle emissions	No data		1,060	1,315	1,438	1,571	
Total			3,752	4,295	4,439	4,779	
Emissions offset (per cent)	25%	50%	100%	100%	100%	100%	✓
Main Provider	Greenfleet		Greenfleet Climate Friendly	CO2 Aus	AGL	Cleaner Climate	-

Transport

(tCO2e)	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Vehicles per day in LGA ¹¹	No data	No data	701,476	689,581	697,788	689,391	✓
Staff with travel passes	194 (13%)	266 (18%)	321 (21%)	338 (21%)	363 (23%)	408 (24%)	✓

¹⁰ Full fuel cycle emissions calculated using 2008 National Greenhouse Accounts (NGA) factors developed by the Australian Government. These figures include all light and heavy fleet vehicles, as well as smaller road and plant equipment. The City's fleet emissions have increased slightly due to increased service levels and because we ceased the use of bio-diesel which comes from unsustainable sources. However emissions are forecast to decrease with the introduction of more heavy fleet hybrid vehicles, driver behaviour programs and investigation into using new sustainable fuel sources.

¹¹ Information provided by the NSW Roads and Traffic Authority (does not include Cross City Tunnel). Based on combined direction vehicle numbers for Sydney Harbour Bridge, Sydney Harbour Tunnel, Anzac Bridge, Oxford Street, Parramatta Rd, King Street, Regent St, O'Riordan St, Cleveland St, and City West Link Rd.

Water

As water storage levels decrease and the population increases, the conservation of water and water pollution are key environmental issues for the City of Sydney. Water pollution is also a major environmental issue. While the water quality of Sydney Harbour has improved in recent times, this natural asset continues to be degraded by pollution from stormwater, sewer overflows, land contamination and vessels.

In response to these challenges, the City of Sydney is working to reduce water demand, implement sustainable water supply sources and improve stormwater quality.

■ **Sydney Water Partnership Small Business Program.** The City of Sydney and Sydney Water have formed a partnership to promote and implement water saving actions for businesses using between 10–80 kiloLitres per day. Sydney Water has funded two Sustainable Business Officers at the City who will undertake water use assessments of the small businesses and recommending water saving actions through advice and financial assistance.

■ **Cooks River Sustainability Initiative (CRSI).** The City is one of eight councils working to create an integrated river management plan to conserve water and improve the health of the Cooks River. Planning for water management in Munn Street Subcatchment is being undertaken by City of Sydney as part of the Cooks River Sustainability Initiative (OurRiver), to improve the water quality of Alexandra Canal and Cooks River.

■ **Total Water Cycle Management Strategy.**

The City is developing a Total Water Cycle Management (TWCM) framework to help develop opportunities for harnessing alternative sources of water (roof water, stormwater, blackwater and sewer mining) and for using vegetation to improve stormwater quality.

■ **Water Reuse Projects.** The City has built 20 Stormwater Harvesting and reuse projects and 28 roofwater harvesting and reuse projects. We are also installing a water metering system that will help in reporting the volume of water reused in the Council's properties and facilities.

■ **Stormwater and water pollution.** Stormwater runoff from roofs, roads, paved areas, building sites and parks can pick up many pollutants, including litter, organic material, nutrients, oils and grease, suspended solids, pathogens, metals, pesticides and other chemicals. Street cleaning operations remove large volumes of potential stormwater pollution, and the City owns and maintains 11 large stormwater pollution traps and about 4,000 smaller trapped gully pits which collect pollution each year. Litter and pollution are also periodically removed from the City's Federal Park Salt-Marsh Wetland and an adjacent gross pollution trap.

Details of the water initiatives listed in this section are available at: www.cityofsydney.nsw.gov.au/environment/water

Water supply

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Potable water cost (\$/kL) ¹²	\$1.013	\$1.013	\$1.264	\$1.48	\$1.83	\$1.87	–
Water storage level (per cent) ¹³	42.6%	38.3%	41.8%	50.5%	66.7%	61.4%	–
Average City of Sydney rainfall (mm) ¹⁴	705	1,041	792	1,403	1,197	1,156	–

¹² Sydney Water pricing for consumption more than 100 kilolitres per quarter.

¹³ Sydney Catchment Authority June figures.

¹⁴ Average rainfall for 5 monitoring stations around City of Sydney provided by Sydney Water.

Water usage

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
City of Sydney LGA water usage							
Total (ML)	32,891	34,508	33,712	34,419	32,471	32,602	×
Commercial average (kL)	2,825	2,504	2,417	2,451	2,292	2,194	✓
Units average (kL)	176	171	172	170	161	160	✓
Houses average (kL)	200	191	190	183	173	175	
Council water usage							
Total (ML)	534	484	483	491	476	454	✓
Per employee (kL)	361	326	322	304	304	269	✓
Fountains (kL/site/day)	No data	No data	1.9	2.0	1.5	1.29	✓

Water pollution

Indicator	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Darling Harbour bacteria levels (percent of time at safe limit)¹⁵							
Faecal coliforms							
Winter	41%	41%	59%	35%	55%	65%	✓
Summer	39%	23%	41%	32%	35%	61%	✓
Enterococci							
Winter	41%	32%	55%	40%	68%	43%	✓
Summer	74%	35%	69%	55%	48%	55%	✓
NSW Maritime rubbish collection (m³)							
Blackwattle Bay	96	99	116	126	93	95	–
Rozelle Bay	214	298	263	204	157	87	–
Rubbish from Council storm-water pollution traps (t)	1,104	1,372	1,102	1,290	1,334	1,263	–
Water pollution infringements	52	94	76	44	84	81	–
Customer requests – Sewer overflows/water leaks	No data		25	170	144	191	–
Customer requests – stormwater pollution	No data		5	85	68	93	–

¹⁵ Darling Harbour testing by the NSW Department of Environment and Climate Change against standards for primary contact.

Waste and recycling

Waste

Climate change, landfill levies and challenging State waste reduction targets – the environmental and economic costs of waste are never far from the headlines. The City of Sydney recognises the important role that it plays when it comes to managing the impact that waste will have on the future of Sydney.

Today, we do much more than manage domestic waste collection and disposal. To increase the City's recycling and resource recovery rates, we are taking an integrated approach to waste management that commits us to dramatically reducing the amount of waste that goes to landfill and leading Sydney towards becoming sustainable.

- **Alternative Waste Treatment.** The City is currently developing a business case for comprehensive waste management and takes us towards 'zero waste', recovering, reusing and recycling everything, including generating renewable energy from our waste. In 2008/09, the City committed to using the Macarthur Resource Recovery Park's Alternative Waste Treatment facility, a mechanical biological processing facility, to dispose of half (24,000 tonnes) of the City's domestic waste. This facility is the first of its kind in Sydney and it recovers 70 per cent of household waste for reuse, energy generation and production of high grade compost. This will increase the City's current diversion of waste from landfill from 32 per cent to 57 per cent in the first year of operation.
- **Zero waste.** The City's Zero Waste educational campaign aims to reduce waste sent to landfill by arming the community with the knowledge, skills and tools to not only recycle, but to reuse and avoid waste. The City runs free composting and worm farming workshops; offers an extensive range of waste and recycling services to residents; supports schools and businesses; and engages with the community through high-profile events and projects which encourage people to view waste as a valuable resource.

- **Hazardous waste.** The City provides free quarterly e-waste collection days for residents to drop off unusable electronic equipment with the confidence it will be reused and recycled. During 3 collections in 08/09, 28 tonnes of e-waste was recycled. The City's first Household Chemical Cleanout collection, run through the Department of Environment, Climate Change and Water's Household Chemical Clean Out Program, collected over 13 tonnes of hazardous household waste.
- In June 2008, the City conducted a **waste audit** on all Council occupied levels of Town Hall House to evaluate recycling systems and determine how much waste is being generated. Initiatives included trialling a single bin system with the following results: waste to landfill reduced by 14 per cent; recycling increased by 11 per cent; and mixed container recycling doubled. The City will start to roll-out the recycling changes to every Council occupied floor of Town Hall House in December 2009 and will commence a waste audit on all other Council properties with a view to improve recycling systems.

Waste and recycling

Indicator	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	Trend
Household waste¹⁶							
Total (t)	26,020	36,553	39,999	38,752	40,230	41,890	×
Per person (kg)	230	238	257	234	238	237	✓
Household recycling¹⁷							
Total (t)	9,169	12,186	13,227	16,122	16,654	19,556	✓
Per person (kg)	84	79	85	97	99	110	✓
Landfill diversion (per cent)	26%	25%	25%	29%	29.3%	32%	✓
Public place waste collection (t) ¹⁸	7,565	6,901	7,410	7,750	7,205 ¹⁹	7,451	–
Clean-Up Notices ²⁰	15	67	54	15	3	0	–
Litter infringements	80	122	671	1,412	1,340	1,406	–
Council A4 paper use (sheets/ employee)	6,370	8,597	8,595	7,908	6,059	5,152	✓
Building materials recycled at Council facility (t) ²¹	21,417	18,950	26,727	19,894	19,349	25,725	✓

¹⁶ Waste includes collected household waste and clean-ups disposed to landfill.

¹⁷ Recycling includes containers, paper, green waste and white goods collection.

¹⁸ Includes street cleansing waste, public bins, events and waste dumps.

¹⁹ 10% of public waste in 2007/08 was recycled through the UR3R resource recovery facility.

²⁰ Clean-Up Notices were first issued by the City in Q4 of 2003.

²¹ Burrows Road Materials Recycling Facility, St Peters.

Urban ecology

European settlement and the subsequent urbanisation of our area had a significant impact on its natural biodiversity. The City is working to conserve and improve our parks and streets with programs to improve the health and diversity of our urban ecology.

The City's Sustainable Sydney 2030 Vision aims to secure Sydney's future, its prosperity and liveability as a model green City, with a well functioning habitat and increased biodiversity. The City's Greening Sydney Plan, the Urban Ecology Survey and subsequent Urban Ecology Strategic Action Plan will all prioritise, protect, conserve and increase the City's native flora and fauna.

■ **Greening Sydney.** We are developing a Greening Sydney as one of the many cross-Council initiatives to make Sydney a green, global, connected City – the main objective of Sustainable Sydney 2030. The plan will be further developed in 2009/10 but over-arching strategies of the Greening Sydney Plan are likely to include:

- developing and protecting the City's urban forest;
- greening Sydney's arterial transport and utility corridors;
- greening new developments;
- empowering our communities to green the City;
- greening local streets and spaces;
- building liveable green networks; and
- restoring habitat and biodiversity

■ **Urban Ecology Survey and Strategic Action Plan.** To better understand the impacts and opportunities to preserve, conserve and improve local native plants and wildlife communities, in 2009/10 the City will seek services from suitably qualified organisations to work with the community and undertake an audit of the LGA to inform an Urban Ecology Strategic Action Plan. The plan will prioritise our actions and ensure adequate resources to achieve results.

■ **Community Gardens Program.** The City is helping residents to grow their own food by supporting 13 community gardens, including three new gardens in Alexandria, Redfern and Pyrmont. The City recently employed a Community Gardens Coordinator to support these existing gardens and

to expand its community garden program. As part of the community gardens program we have run a number of tours, talks and workshops to encourage more residents to become involved in community gardens. The City is also consulting on a Community Gardens Policy which outlines how we will support both new and existing community gardens and provide a clear application process for groups interested in establishing community gardens on Council land.

■ **Trees.** The City of Sydney has approximately 25,000 street trees. In 2008/09 alone we planted 777 trees. Programs are underway to improve the condition and canopy cover provided by trees. For example, to ensure that the magnificent Central Avenue in Hyde Park is preserved for future generations, new Hills Figs are being grown to eventually replace the original trees. The City has also developed a suite of Tree Management policies to ensure the protection and enhancement of the City's urban forest.

Information such as The Benefits of Trees, Guidelines for Arborist Reports, our Register of Significant Trees and Tree Management Policies are available on the City's website www.cityofsydney.nsw.gov.au/trees

■ **Landcare.** As part of the Pyrmont Ultimo Landcare group, fifty volunteers have provided a total of 2,123 hours of weeding, watering, planting and mulching work. The City continues to support the great work undertaken by volunteers at the Rozelle Bay Community Native Nursery to plant and care for native plant species indigenous to the area.

■ **Animals.** The City recognises that pets are an enormous source of pleasure and companionship for our community. The City encourages residents to de-sex and microchip their pets through a partnership with The Sydney Dogs and Cats Home and by providing information on the City's companion animals website: www.cityofsydney.nsw.gov.au/Residents/Animals

■ **Pests.** Unwanted exotic plants and animals significantly disturb natural systems. The City manages weeds and feral animals within our parks and open spaces and has a comprehensive pest control program.

Plants and animals

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Area of parks and open space (Ha)	377					
Area managed by the City of Sydney (Ha)	188					
Number of bird species ²²	65–68					
New and replacement street trees ²³	850	1,127	1,150	2,030	1,301	777
Native plantings for National Tree Day	11,660	6,547	8,000	4,665	5,400	4,500
Native plantings by Rozelle Bay Community Native Nursery	2,365	1,441	2,806	2,812	2,757	No data
Native plantings by Pymont Ultimo Landcare	No data	No data		~1,500 per year		
Free native plants distributed ²⁴	90	1,500	2,250	1,198	772	No data
Customer requests – Weeds	No data	1	24	19	32	
Customer requests – Vermin/pests/insects	No data		18	270	177	328
New aerial bundle cabling on electricity cables (spans)	100	95	45	15	9	0

Flora and fauna of the Pymont Peninsula²⁵

	1788	2008
Flora	750	15
Mammals	63	3
Birds	223	45
Reptiles	44	6
Frogs	23	–
Total	1103	69

²² Sightings by the Bird Atlassers Association, and bird watchers in Pymont and Glebe.

²³ Calendar year plantings.

²⁴ Includes World Environment Day, National Tree Day and other environmental events.

²⁵ John Broadbent Sep 2008 – Ecology in the Pymont peninsula project funded by the City of Sydney Environmental Grants Program.

Land and noise

Land

Development control. The City seeks to manage the land use in an environmentally and socially responsible manner. We must balance economic, social and residential needs with sustainability and preserving our natural ecology.

The City has a series of processes and development controls to address environmental issues such as contaminated land (Contaminated Land Development Control Plan), signage, heritage, open space, site specific plans of management, cycleways, pedestrian access, onsite parking and access to transport and services.

The Contaminated Land Development Control Plan ensures that land contamination is assessed and acted on so that it cannot enter the environment. This happens predominantly when new development occurs. Currently there are 361 Site Audit Statements about contaminated land issued by accredited Site Auditors held by the City's databases.

Noise

The City prevents and regulates noise through planning controls and reports of noise incidents. With the exception of construction activities, the City limits neighbourhood noise from most sources to a maximum of five decibels above background levels.

The City's Health Compliance team responded to around 1574 requests for assistance related to noise in 2008. See www.cityofsydney.nsw.gov.au/residents/noise

Demographics

	2004	2005	2006	2007	2008	2009
Residents	146,540	155,559	160,090	161,800	168,400	176,287
Workers (per day)	350,000	367,544	369,043	375,000	385,000	370,000
Visitors (per day)	450,000	475,000	475,000	475,000	475,000	475,000
Visitors (total nights)	8,732,100	9,000,000	9,039,900	9,462,800	9,507,600	9,384,700
City of Sydney employees	1,479	1,485	1,509	1,601	1,602	1,686

Built form

	2004	2005	2006	2007	2008	2009
Households (dwellings)	84,123	87,506	90,597	93,965	97,907	90,948
Completed commercial development (sqm)	85,276	150,859	246,825	107,404	333,372	131,180
Completed residential development (sqm)	4,812	3,706	2,558	3,368	3,942	1,426

Noise

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Customer requests – Construction noise	No data		15	274	183	348
Customer requests – Other noise	No data		124	852	625	899

Cultural heritage

The City adopted its first Cultural Diversity Strategy in June 2008, and continues to celebrate and promote the City's cultural diversity through major events and festivals. The City is also committed to providing accessible information and services to its diverse communities.

Living in Harmony Festival 2009

The 2009 Living in Harmony Festival was held from March to April 2009 to celebrate the City's cultural diversity and promote cross-cultural understanding within the community. More than 7800 people attended 18 events. Some of the activities included: a film screening and forum on "Overcoming Stereotypes", a multicultural concert, Cross-Cultural Awareness Workshops, Aboriginal Heritage Tour, Chinese Cultural Days, the Rocks Walking Tour and a Youth in Harmony Photographic Exhibition.

Indigenous programs

The City continues to consult and work with Sydney's Aboriginal and Torres Strait Islander (ATSI) communities and has achieved a significant improvement in the working relationships between the greater community, Indigenous community organisations and Council. The ATSI Advisory Panel will help the City work towards the delivery of landmark 2030 initiatives such as the Indigenous Cultural Knowledge Centre and the Eora Journey.

■ NAIDOC Week

NAIDOC celebrations are held around Australia in July each year to celebrate the history, culture and achievements of Aboriginal and Torres Strait Islander people. The City of Sydney's NAIDOC Week 2009 celebrations consisted of 18 events attended by more than 5000 people.

■ Reconciliation Week

The City, in partnership with the NSW Reconciliation Committee and the NSW Sorry Day Committee, celebrated Reconciliation Week 2009 and the UN International Year of Reconciliation by helping to raise awareness and understanding, and encourage the general public to get involved in supporting the reconciliation process.

■ Indigenous Public Art in the City's LGA

The City consulted and engaged our Aboriginal and Torres Strait Islander community regarding public art programs. Recognition in the Public Domain included:

- Flying the Australian Aboriginal and the Torres Strait Islander flags over Sydney Town Hall for the course of NAIDOC Week.
- Displaying NAIDOC week posters in more than 200 bus shelter sites from 28 June to 12 July 2009.
- Displaying 704 NAIDOC week banners in significant locations across the City for two weeks from 28 June to 12 July 2009.
- Displaying NAIDOC Week 2009 promotional material and displays in City libraries, community centres and through City marketing channels including the City's What's On website and e-newsletter.

History

The City's History Program is nationally and internationally recognised for its depth, rigorous research and commitment to ensuring all members of the community have the opportunity to access information on the LGA's history. In 2008/09 the City's history programs included:

- staging of Heritage Week and History Week celebrations;
- completion and launch of "Sydney Town Hall and its collection";
- publication of a precinct history of Glebe and reprints of Surry Hills and Chippendale precinct histories;
- completion of history walks maps and brochures for Ultimo and Oxford Street;
- launch of oral history collection online;
- support for the on-going development of the Dictionary of Sydney at www.dictionaryofsydney.org;
- public lectures, talks and presentations by the City Historian and the Research Historian. A number of presentations were made to conference groups, students, history groups and the general public; and
- support for publications through the History Publication Sponsorship Program.

Heritage

During 2008/09 the City has continued reviewing its heritage conservation planning controls, heritage items and conservation areas, in preparation for consolidated Local Environment Plan, Development Control Plan and City Plan.

- the City of Sydney leads by example in heritage conservation by ensuring that its own heritage projects demonstrate best practice. The Paddington Reservoir Gardens project has received multiple awards including the 2009 Australia Award for Urban Design.
- conservation works to Sydney Town Hall are currently in progress.
- Hyde Park Barracks is currently under consideration for World heritage listing as part of a national listing of sites related to convict transportation.

Information about heritage in the City of Sydney is available on the City's website at: www.cityofsydney.nsw.gov.au/Development/HeritageInformation

The NSW Department of Planning's Heritage Branch also provides information on heritage items on their website at: www.heritage.nsw.gov.au

