

# 3. atmosphere

The atmosphere surrounding the earth consists of a complex balance of gases that supports life. Human based activity, such as burning fossil fuels has rapidly increased the percentage of particular gases in our atmosphere resulting in negative impacts to urban air quality, human health and changes to our climate system.

## 3.1 Pressures on our Atmosphere

Key localised pressures include:

- pollutants from motor vehicles
- increased use of private vehicles, and increased traffic congestion
- smoke from bushfires
- use of woodfires in winter, and
- industrial landuse.

## 3.2 Condition of our Atmosphere

Transport in the Manly LGA is one of the primary contributors to the emission of greenhouse gases and reduction in air quality. Electricity consumption in the LGA also contributes to significant greenhouse gas emissions (GHG), however has minimal impact on localised air quality. Air quality in the LGA varies considerably depending on natural events such as windy days, bushfires and human activities, with poor air quality impacting on health.

The National Pollutant Inventory Data, presented in Figure 3, identifies the substances in the airshed, originating from the SHOROC Region that may impact on air quality. Data collected over the past 5 years on the condition of Manly's air quality together with Council and community GHG emissions is provided in Tables 3 to 5.

### Local Snapshot

Percentage of Pollutants Per Source for the SHOROC Region in 2008/09

Figure 3. National Pollutant Inventory Data for the SHOROC Region.

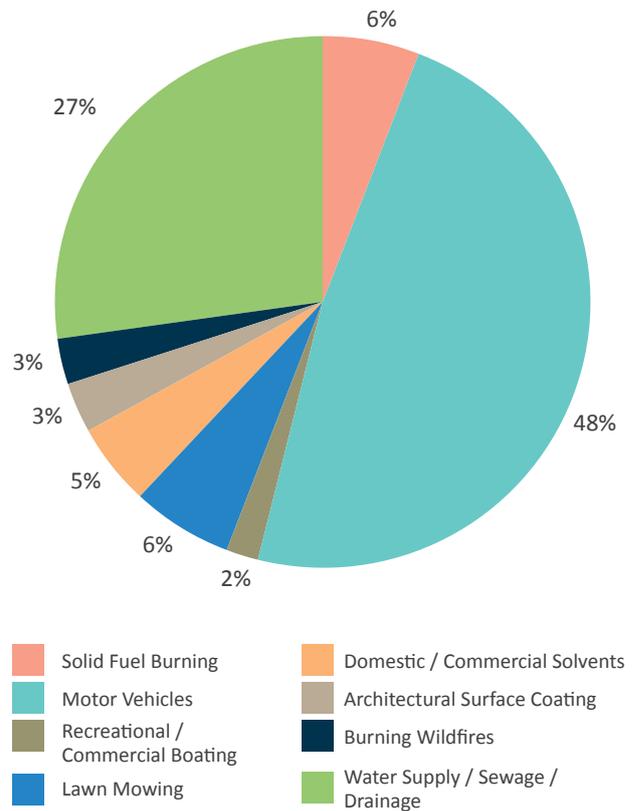


Table 3: Air Quality

INDICATOR	YEAR	MANLY
Air Pollution complaints received by council	2006/07	20
	2007/08	8
	2008/09	3
	2009/10	16
	2010/11	19

**Table 4: Greenhouse Gas Emissions**

INDICATOR	YEAR	MANLY
Registered vehicles in council LGA*	2006/07	23,113
	2007/08	23,727
	2008/09	24,585
	2009/10	24,804
	2010/11	25,155
Number of council fleet vehicles^	2006/07	170
	2007/08	162
	2008/09	177
	2009/10	Data unavailable*
	2010/11	Data unavailable*
CO <sub>2</sub> Emissions from Council fleet vehicles	2006/07	1,335
	2007/08	1,367
	2008/09	1,384
	2009/10	Data unavailable*
	2010/11	Data unavailable*
Electricity use - Councils operations (kWh)	2006/07	5,697,935
	2007/08	5,441,382
	2008/09	5,427,222
	2009/10	5,561,846
	2010/11	5,409,521
GHG emissions from kWh (tonnes CO <sub>2</sub> e)	2006/07	5,485
	2007/08	5,775
	2008/09	5,760
	2009/10	5,755
	2010/11	3,330
Community electricity consumption MWh (residential and non residential)	2006/07	Data not available
	2007/08	209,029
	2008/09	214,253
	2009/10	214,160
	2010/11	211,105

\* Figures provided by NSW Roads and Traffic Authority (RTA).

^ Includes passenger fleet, light, commercial, heavy truck and plant vehicles (if present in councils fleet).

\* Data was not available at the time the SoE Report was finalised.

**Table 5: Residential Rebate Program Uptake by LGA to 31 March 2011**

LOCAL GOVERNMENT AREA	MANLY
Rainwater Tank Rebate <sup>1</sup>	123
Hot Water System Rebate <sup>2</sup>	190
Ceiling Insulation Rebate <sup>3</sup>	118
Washing Machine Rebate <sup>4</sup>	614
<b>Total Rebates to June 2010</b>	<b>477</b>
<b>Total Rebates to March 2011</b>	<b>1,014</b>
Rebates for LGA per Capita	0.025

<sup>1</sup> Sydney Water and NSW Office of the Environment and Heritage (OEH) totals from the start of the rainwater tank rebates on 1/7/07.

<sup>2</sup> Totals from the start of the hot water system rebates on 1/10/07.

<sup>3</sup> Totals from the start of the ceiling insulation rebates on 1/10/07. Program finished 30/6/09.

<sup>4</sup> Sydney Water & OEH totals from the start of the washing machine rebates on 1/8/08. Program finished 30/6/10.

### 3.3 Responding to Atmospheric Issues

Council has undertaken and is involved in a number of projects, programs and working groups to address issues relating to and to improve the condition of the air quality in Manly and work towards reducing Council and community greenhouse gas emissions.

#### Regional Responses

##### Shaping Our Future

Transport in the SHOROC region is a primary contributor to the emission of greenhouse gases, and reduction in air quality. Transport is a major issue for the region and is tackled in part one of *Shaping Our Future* strategy which includes the priorities for investment in the region's transport including in Bus Rapid Transit systems and critical road upgrades.

*Shaping Our Future* calls for the State and Commonwealth Governments to invest in Bus Rapid Transit systems from Dee Why along Warringah Road to Chatswood and from Mona Vale along Pittwater/Spit/Military roads to the city. Land use planning will also seek to create more jobs close to home for residents to minimise car use.

The second part of the strategy, *Shaping Our Sustainable Future*, is focused on the use of public and community transport and alternatives to private vehicles for journeys both within and across the region so as to improve quality of life and reduce greenhouse gas emissions and contribute to a vibrant, sustainable, connected and healthy community. An integrated transport network that is efficient and integrated is critical if we are to move to a more sustainable region.

*Shaping Our Sustainable Future* strategy seeks to reduce greenhouse gas emissions and play our part in mitigating climate change by increasing energy efficiency, reducing use of centralised non-renewable energy use and increasing the use of renewable power sources. This is a high priority for the community and member Councils due to the climate change impacts and the the high cost of energy now and into the future.

The *Shaping Our Sustainable Future* action plan identifies opportunities for the SHOROC member Councils to work together as a region to share knowledge.

Such initiatives include the Climate Change Working Group, which has been established to identify synergies and opportunities for the SHOROC member Councils to continue to work together on climate change policies and projects for the region.

#### Delivering Local Responses

##### Fridge Buyback Program

This program provides a free community collection service for working second fridges and offers a \$35 rebate where applicable. All collected fridges are degassed and the metal recycled. In total, 62 fridges were collected across the Manly LGA during 2010/11, equating to 496 tonnes of CO<sub>2</sub> abated with an estimated 5.52 tonnes of metal recycled. Over the total life of the project, 320 fridges have been collected across the Manly LGA saving a total of 167 tonnes of carbon dioxide equivalents (CO<sub>2</sub>e), approximately 9kg of chlorofluorocarbons recycled, recycling around 10 tonnes of metal and collectively saving residents \$24,075 a year on their electricity bills.

##### Earth Hour

Earth Hour, an initiative of WWF-Australia, was supported by Manly Council in March 2011, through Council participation, the hosting of local events and promotion of Earth Hour to the community through local media. Manly Council switched off lights and appliances in main Council buildings and promoted Earth Hour to the local community.

##### Manly Carbon Emissions Reduction Project

The Carbon Emissions Reduction Project has progressed for both Council corporate and community components during the reporting year. This will assist Council to meet its emissions target of 30% by 2020 based on 2008/09 levels and existing building stock (i.e. 7,663 tonnes).

A Carbon Reduction Strategy and Action Plan for Council corporate has been prepared to achieve and, if possible, exceed this target. Staff workshops were held to provide feedback on the Plan and update progress on actions identified within the Plan. Staff were also trained in the use of the Council corporate carbon management tool 'CCAP'.

A staff workshop was held to assist the development of the Draft Manly LGA (Community) Carbon Reduction Strategy and Action Plan. The community carbon management tool 'CCAP-City' was also presented to staff.

### Climate Clubs

Climate Clubs is an initiative of the Institute for Sustainable Futures as part of the University of Technology, Sydney. It is an exciting new sports-themed environment program that encourages households to work together in teams to save energy, reduce carbon pollution and raise funds for their schools. Climate Clubs turns saving electricity into a competitive sport, with a winning trophy and school prize money up for grabs. Four schools in the Manly Local Government Area are participating. The program commenced in March 2011 and will end in November 2011.



2011 Manly Climate Club Participants and Supporters. Source: Manly Daily.

### Green Up Your Life – Solar Hot Water

A total of 5 Solar Panels and Solar Hot Water workshops were held during 2010/11. A total of 151 residents took advantage of this opportunity to discuss in detail the environmental and financial benefits of solar power as a renewable energy source. This workshop continues to attract large numbers and will be repeated in the 2011/12 financial year.



Hop Skip and Jump Bus. Source: Manly Council

### Hop, Skip and Jump – Manly's Free Community Bus

This free community bus service transporting residents and visitors alike to reduce the community's reliance on private vehicles. A total of 350,842 passengers were carried during 2010/11, a decrease of 8.5% compared to 2009/10 bringing the progressive total to 1,742,002 passenger journeys.

The 8.5% decrease is directly related to the inclement weather experienced during this period. By using the Hop, Skip and Jump community bus, patrons are contributing to a cleaner, healthier and happier future for all Manly residents and making a significant improvement to our environment. The buses operate on a 20% biodiesel blend and it is calculated that the use of this fuel, as opposed to standard diesel, has significantly reduced GHG emissions during the year. This is in addition to the less-quantifiable reductions achieved by residents turning away from private vehicle use to the bus service.

### Power-Mates on Stand-By at Manly Library

Power-Mates are a device that measures energy consumption of an appliance to which they are connected. These devices empower residents with knowledge about their energy usage habits and encourage residents to use less energy, thereby saving money and reducing GHG emissions. In 2010/11, these devices were made available to residents to borrow from Manly Library.