

CARBON NEUTRAL STRATEGY

THE CHALLENGE

Climate change and managing carbon emissions are among the most significant challenges facing organisations globally today. Monash University is a global organisation committed to excellence, quality and leadership in all of its activities. Monash strives to lead through an innovative approach to research, education and a commitment to social justice, human rights and a sustainable environment. Monash recognises its responsibility to practice and promote behaviours that support activities which contribute to environmental sustainability within the local, national and international community and so has committed to decreasing its carbon footprint with the aim to becoming carbon neutral by 2011.

WHAT IS CARBON NEUTRAL?

Carbon neutral is a term applied to individuals, businesses, or organisations whose practices contribute zero carbon dioxide emissions to the atmosphere.

CURRENT ENVIRONMENTAL INITIATIVES

Currently Monash participates in a range of environmental initiatives, which are both legislative and voluntary. These include:

- Ecobuy
- Energy Efficiency Opportunities Program
- Environment and Resource Efficiency Plans
- Green Building Council Australia
- Greenhouse Challenge Plus Program
- Green Program
- Green Steps Program
- National Greenhouse & Energy Reporting System
- Tailloires Declaration
- Water MAP
- Waste Wise

CARBON FOOTPRINT (Details overleaf)

Monash University will now extend its commitment to the environment by reducing their carbon footprint and achieving carbon neutrality. Monash University's greenhouse gas footprint of quantifiable emissions in 2006 was significantly increased from 2005 levels due to the growth in new buildings and facilities and improved data collection.

Total greenhouse gas emissions (tonnes CO₂-emitted)

2005		171,550
2006		188,919
2007		172,866

REDUCING OUR CARBON FOOTPRINT will:

- Reduce our environmental impact
- Demonstrate our environmental commitment to staff and students
- Reduce our exposure to increases in energy costs and to future carbon prices and regulation
- Demonstrate our leadership in environmental sustainability

THE WAY FORWARD

Reduction in our carbon emissions is the prime focus of our path to reaching carbon neutrality, which involves three critical steps.

Step 1:

Understanding and measuring carbon emissions

- Data collection processes are being established for accurately measuring carbon emissions from University operations
- Key performance indicators will monitor the performance of environmental programs and initiatives against appropriate bench marks and targets for reductions in carbon emissions
- Monash will continue to monitor and improve the methods for determining the carbon footprint to stay abreast of latest trends and enhancements in this methodology

Step 2:

Reducing our carbon emissions

Initially, Monash will reduce its carbon emissions using sustainable methods before implementing carbon offsets. The research and implementation of these efficiency measures will take 2-3 years to ensure that all emission sources are identified and that carbon emissions are reduced as low as practicable.

- Monash has committed to a 20% reduction in energy consumption by 2010, from 2005 levels
- Reduction strategies for the key carbon emission sources of electricity, gas, transport, paper and waste are being developed and implemented
- Monash will increasingly source its energy from renewable energy providers and develop its own onsite renewable energy capabilities

Step 3:

Implementing carbon offset programs for remaining emissions

From 2010, those carbon emissions which cannot be reduced further by efficiency measures or the use of new or alternative technologies will be offset.

- Currently offsets are purchased via Greenfleet for the use of University vehicles and some air travel
- The carbon emissions from air travel will be offset by the purchase of green power from 2009
- The offsets purchased will be transparent and cost competitive products from leading carbon offset providers, which are independently verified, satisfy best practice requirements and that, where practicable, provide additional environmental benefits

Monash University Greenhouse Gas Inventory

2007

EMISSIONS SOURCE	Units	Consumption	Calculated Emissions	Proportion of total inventory	Change from 2006 to 2007
			t CO2-e	%	%
Direct emissions (Scope 1)					
Natural Gas all sites	GJ	325,402	16,888	9.8	-1
Transport Vehicle fuels - Unleaded Petrol	L	718,759	1,725	1.0	-15
Transport Vehicle fuels - Diesel Petrol	L	38,738	105	0.1	+457
Transport Vehicle fuels - LPG	L	10,575	17	0.0	-
Non Transport - Diesel	L	16,352	44	0.0	-5
Non Transport - LPG	kg	495	1	0.0	+317
Refrigerants			895	0.5	-2
TOTAL Scope 1			19675	11.4	-2
Indirect emissions (Scope 2)					
Electricity	kWh	90,619,932	112,278	65.0	-6
TOTAL Scope 2			112,278	65.0	-6
Optional emissions included (Scope 3)					
Electricity - all sites	kWh	90,619,932	7,793	4.5	-49
Natural Gas Clayton Main (large user)	GJ	171,583	1,973	1.1	-7
Natural Gas all other	GJ	153,819	1,800	1.0	+8
Paper & cardboard waste to landfill	tonnes	965	2,413	1.4	+28
Food waste to landfill	tonnes	298	268	0.2	+4
Plastic, recyclables and metal to landfill	tonnes	1,326	0	0.0	0
Vehicle fuels - Unleaded Petrol	L	718,759	216	0.1	-1
Vehicle fuels - Diesel Petrol	L	38,738	12	0.0	+455
Transport Vehicle fuels - LPG	L	10,575	2	0.0	0
Non Transport - Diesel	L	16,352	5	0.0	-5
Non Transport - LPG	kg	495	0	0.0	0
Water - embodied energy	kL	503,707	87	0.1	-16
Wastewater treatment emissions	kL	382,725	335	0.2	-16
Paper - embodied energy	reams	178,422	850	0.5	+5
Air Travel Domestic	km	6,284,753	1,885	1.1	+6
Air Travel International	km	66,024,871	19,807	11.5	-8
Hire cars	km	412,235	121	0.1	-12
Cab Charges (Taxis)	\$	734,379	147	0.1	+14
Fire Extinguisher	kg	4,265	4	0.0	0
BOC CO2	kg	3,400	3	0.0	0
Shuttle bus services (diesel)	L	1,046,213	3,139	1.8	0
Livestock	kg CH4	2,449	51	0.0	0
Couriers and other transport					
Leased property electricity					
Equipment - embodied energy					
Buildings - embodied energy					
Couriers and other transport					
Staff travel to and from work					
Student travel to and from work					
TOTAL Scope 3			40,193	23.7	-17.7
Total All Emissions for Monash University (t CO2-e)			172,866		-8.5
Total All Emissions for Monash University (t CO2-e per EFTSL)			5.09		-9.6
REDUCTION MEASURES					
Green power	kWh	8,447,634	-11,193	-6.5	n/a
Greenfleet Offsets					n/a
- Car fleet	cars	414	-1,886	-1.1	n/a
- Air travel			-6,865	-4.0	n/a
TOTAL reduction			-19,944	-11.6	
NET EMISSIONS			152,922	88.5	

The Monash University carbon footprint outlines the emissions associated with Australian activities over which we have operational control as defined by the Energy Efficiency Opportunities program and the National Greenhouse and Energy Reporting system. Data is collected and calculated according to the National Greenhouse Accounts Factors, January 2008 and the Australian Standard 14064.1-2006. To be as comprehensive as possible, all sources are included that can be accurately estimated at present.