Parliament House 2003-2004 Environmental Performance Report

Introduction

The information in this report is structured using the core Global Reporting Initiative (GRI) environment performance indicators as a framework. The Global Reporting Initiative is an independent institution whose mission is to develop and disseminate globally applicable Sustainability Reporting Guidelines. These Guidelines are for voluntary use by organisations for reporting on the economic, environmental, and social dimensions of their activities, products, and services.

Materials

EN 1 Total materials use other than water, by type

Parliament House uses a variety of materials for the efficient functioning of Parliament. Some of the major items that have an impact on the environment are paper, fertiliser and chemicals. At this stage there are no reporting systems in place to record the quantities of these materials entering the building. In 2004-2005 systems will be developed to record the consumption of these items.

EN 2 Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation.

In 2003-2004 Parliament House did not use any significant quantity of materials that are wastes from sources external to the organisation.

Energy

EN 3 Direct energy use segmented by primary source.

Each year Parliament House reports its energy consumption to the Australian Greenhouse Office as part of the Energy Use in Australian Government's Operations Report. In 2003-2004 Parliament House consumed the following energy:

Parliament House Building

Electricity (kWh)	24,913,632
Natural Gas (MJ)	51,642,000
Diesel (Generators & Boilers)(L)	4,317
Greenpower (kWh)	2,853,996
LPG (L)	
Total GJ	151,772
Area (m^2)	152,000
MJ/Area (m^2)/annum	999

West Block Office - Tenant Light and Power

Electricity (kWh)	311,449
Greenpower (kWh)	16,392
Total GJ	1,180
Occupancy (People)	83
Area (m²)	2,326
MJ/Occupancy (People)/annum	14,220
MJ/Area (m²)/annum	507
m²/person	28.02

West Block Office - Central Services

Electricity (kWh)	133,478
Greenpower (kWh)	7,025
Total GJ	506
Area (m²)	2,326
MJ/Area (m²)/annum	217

Passenger Vehicles

LPG (L)	3,280
Petrol (L)	89,702
Automotive Diesel (L)	
Total GJ	3,152
Distance Travelled (km)	844,833
MJ/Distance Travelled (km)/annum	3.73

Other Transport - Truck

Automotive Diesel (L)	4,271
LPG (L)	
Petrol (L)	
Total GJ	165

Other Uses - Gardening Equipment

Automotive Diesel (L)	8,976
Petrol (L)	3,225
LPG (kg)	
Total GJ	457

Entity Totals

Total GJ	157,232

Summary

Component	Energy Consumption (GJ)	
Parliament House Electricity	99,963	151,605
Parliament House Gas	51,642	
Other		5,627
TOTAL		157,232

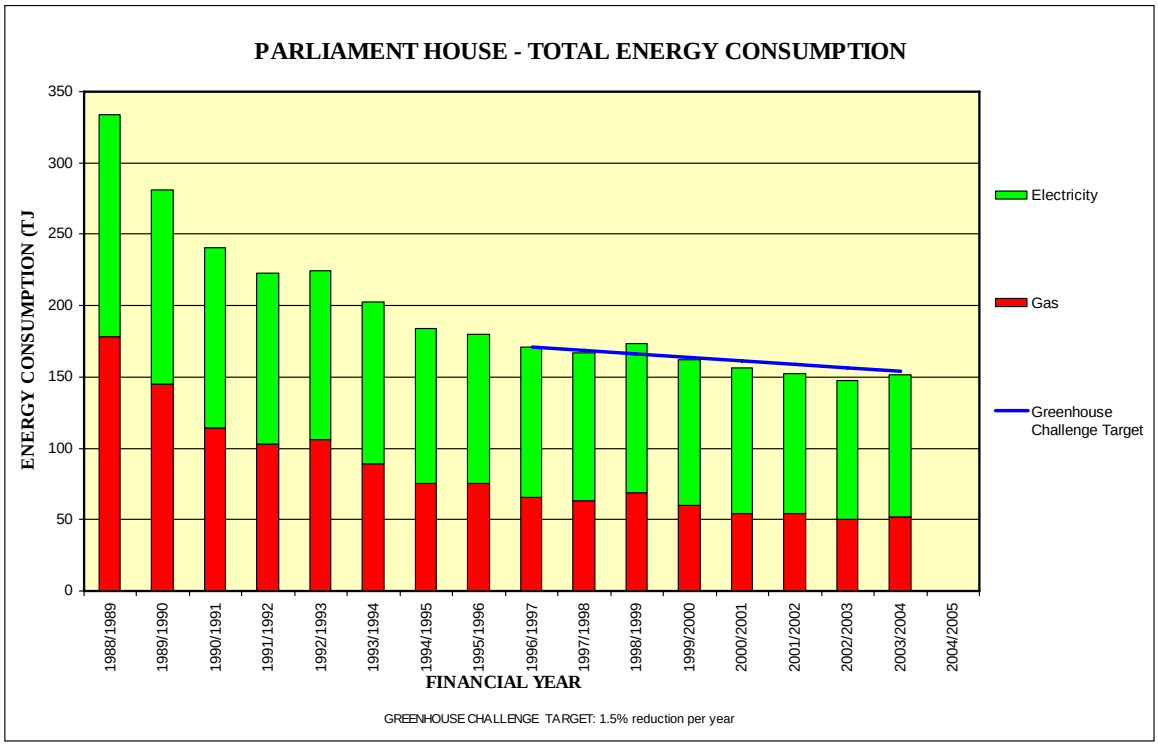
The main components of energy use in Parliament House are gas and electricity. Gas is used for heating, domestic hot water and catering equipment. Electricity is used to provide a variety of services including office power, lighting, mechanical

services, lifts, chillers, computer equipment, catering equipment, water features, central waste plant and boosted hot water heating.

The former JHD reported its energy management and greenhouse gas emission reductions from 1989–90 and worked hard to achieve the following results over the 1988–89 baseline year.

- Electricity reduction of 36%
- Gas reduction of 71%
- Carbon Dioxide emission equivalent reduction of 45%
- Total energy consumption reduction of 55%.

The former JHD signed up as a partner to the Greenhouse Challenge with a cooperative agreement on 18 November 1997. The Greenhouse Challenge target for Parliament House was for a 1.5% reduction in gas and electricity energy consumption per year over six years. This target equated to a reduction from 171,280 gigajoules (GJ) in 1996–97 to 156,430 GJ in 2002–03. This target was extended and the new Greenhouse Challenge target for 2003-2004 is 154,084 GJ. Actual gas and electricity energy consumption at Parliament House in 2003–04 was 151 605 GJ. The reduction in energy consumption is shown in the following graph.



Parliament House gas and electricity energy consumption for 2003-2004 was 2.6% higher than in 2002-2003. The increase in energy consumption relates largely to a problem with one of the chillers in the heating ventilation and air conditioning system which proved difficult to identify and repair. As a consequence, one of the remaining chillers was run inefficiently over an extended period to continue to maintain service to Parliament House users. The problem has now been identified and repaired.

In 2003-2004 Parliament House purchased 2,853,996kWhrs of green energy from the Snowy Hydro scheme. This represents approximately 10% of total electricity consumption.

In 2003-2004 an energy education training program was developed for a number of the former JHD staff following a telephone survey to determine existing staff attitudes and behaviours in relation to energy efficiency. An energy forum for Business Unit Leaders and senior staff was conducted to build support for energy management initiatives prior to involving general staff (attended by 20 managers). Ten workshops, open to all departmental staff, were held and attended by over 100 staff. The training was followed by collaborative energy audits in Landscape Services and Building Information and by a telephone survey of staff 3 months after the workshops, to determine the programs level of impact.

As part of the ongoing individual room control project, 250 additional room controllers were installed in 2003-2004. These new electronic controllers have energy conservation features including the ability to switch off air conditioning to rooms that are unoccupied. One thousand four hundred and fifty of the eighteen hundred controllers have now been converted to electronic control.

One of the recommendations in the ANAO Audit Report No. 24 of 2002–03 (Energy Efficiency in Commonwealth Operations—Follow-up Audit) was that an agency should indicate in an annual report to its Minister whether the agency complied with all the requirements of the Energy Policy. The following table is designed to fulfil that requirement.

Policy Requirements	**DPS Current State of Compliance**
Energy intensity targets to be met by 2002–03	The policy sets a number of end-use categories for different buildings. Parliament House falls into the public building category. At this stage there is no target for this category. In the Energy Use in Commonwealth operations—2002–03 report, the average energy intensity for this category was 1109MJ/m^2 and Parliament House's energy intensity was **983**MJ/m^2.
Departmental secretaries and agency heads to report to and be accountable to their ministers for their performance in improving energy efficiency.	Every year the former JHD reported on performance in improving energy efficiency. This practice will continue under the new DPS structure.
All departments and agencies to report annual energy consumption and intensity to the Department of Industry, Science and Resources (Australian Greenhouse Office).	JHD reported annual energy consumption and intensity to the Australian Greenhouse Office (AGO). This will continue under the new DPS structure.

Policy Requirements	DPS Current State of Compliance
A whole-of-government energy performance report to be prepared and published by the Department of Industry, Science and Resources (Australian Greenhouse Office).	JHD contributed to this report and the new DPS will continue to do likewise.
Energy performance contracting accepted and encouraged as a vehicle for achieving energy savings.	DPS has considerable in-house expertise in energy management and has not used energy performance contracting for achieving energy savings at Parliament House.
Energy and Environmental Services team available for specialist advice.	DPS has attended a number of very informative seminars organised by the Energy and Environmental Services Team (EEST).
Minimum energy performance standards apply to new buildings (owned and leased).	These standards shall be applied to all future internal office fitouts in Parliament House.
New building leases to exclude energy from being recovered from an outgoing.	DPS is involved in the leasing of office space in West Block. Under this lease, central services energy is not recovered as an outgoing. Parliament House is owned by the Commonwealth and is not subject to any lease agreements.
All building space to be energy audited regularly (every 5 years) and all cost effective recommendations implemented.	In the last 5 years, JHD conducted the following energy related audits: September 1999 Parliament House Energy Review (Lincolne Scott) April 2000 Greenhouse Challenge Independent Verification Report (NDV) September 2002 Energy Management Report 3/2003 (KPMG) October 2003 Energy Investigations Report (JHD Engineering Services) In addition, JHD conducted many studies and investigations into energy efficiency initiatives. In the last 5 years the following major energy efficiency initiatives have been implemented: Individual Room Controllers Stages 1-5. Air Fans in Committee Control Rooms Auditing of Start Stop Times Gas-Fired Steam Generator Swimming Pool Heating Creation of Energy Manager Position DPS Engineering Services have developed a draft energy strategy that includes a list of all cost effective recommendations to be implemented over the next 10 years.

Policy Requirements	DPS Current State of Compliance
All new office equipment to be US EPA Energy Star compliant, where applicable.	Environment Australia and the Australian Greenhouse Office have prepared environmental purchasing checklists for a key range of goods and services procured by the Commonwealth. These checklists include requirements for office equipment to be Energy Star compliant and include star rating requirements under the appliance Energy Efficiency Rating Label Scheme. DPS Procurement has incorporated the use of these checklists into the department's Chief Executive Instructions.
All new appliances to have 4 star or better energy rating under the appliance Energy Efficiency Rating Label Scheme.	
Opportunities to use renewable energy identified, and adopted, where cost effective.	DPS is currently purchasing 10% renewable (green) energy from the Snowy Hydro Scheme. The energy strategy will consider other sources of renewable energy.
All new houses (owned or leased) to have a NatHERS rating of 4 star or better, where available.	Not applicable to DPS.
Assess the potential to upgrade all existing houses to 3 star or better, where NatHERS is applicable.	Not applicable to DPS
Development of fuel consumption targets for the Commonwealth vehicle fleet to apply from 2003.	The AGO has set a target that by 2005, 28 percent of Australian Government passenger vehicles must have a Green Vehicle Guide (GVG) score of 10.5 or better. The GVG score gives vehicles a score of between 1 and 20 based air pollution, greenhouse gas emissions and fuel consumption. There are 41 passenger vehicles used by the Parliamentary Departments. Of these 29 per cent achieved the GVG score of 10.5 or better
Periodic reviews of the program and an independent review after 2 years, with results and recommendations to be brought to Cabinet.	Responsibility of the Australian Greenhouse Office and the Department of Industry, Science and Resources.

EN 4 Indirect energy use.
Indirect energy refers to the total amount of energy used to provide electricity to Parliament House and includes the energy used to produce and transmit the electricity to Parliament House. Most of Parliament House's electricity comes from coal fired power stations with 10% green energy being purchased from the Snowy Hydro scheme. For 2003-2004 the figures used to calculate indirect energy are based on factors for Australian electricity production from the GRI Energy Protocol.

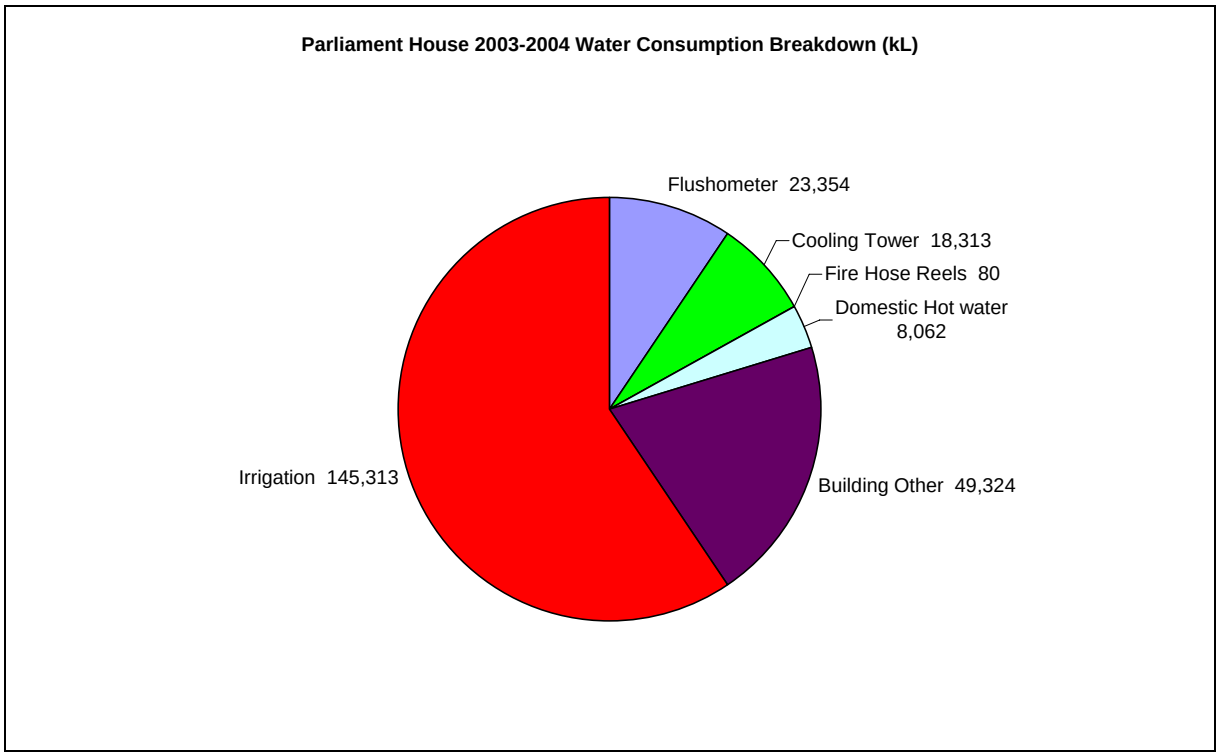
Based on this factor indirect energy consumption for Parliament House in 2003-2004 was 334,876 GJ.

For 2004-2005, rather than use a factor which is the average for all Australia's electricity production, DPS will try to obtain a factor that is more applicable to the electricity supplied to Parliament House. DPS will also investigate ways to report on the indirect energy consumption of gas.

Water

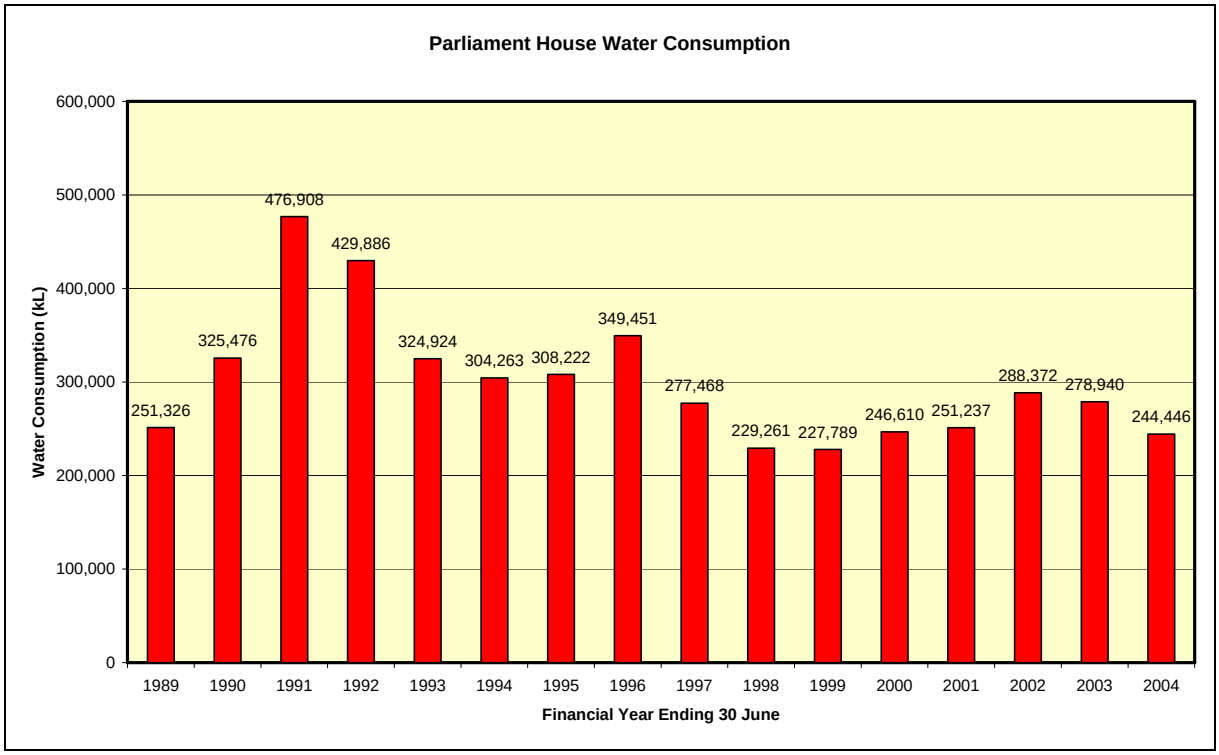
EN 5 Total water use

In 2003-2004 Parliament House consumed 244 ML of water. The consumption of water can be broken down into the following categories.



Landscape water consumption has reduced to 44% of net evaporation in line with the ACT Government's Stage Three water restrictions. This has resulted in increased plant morbidity, especially of some native species in the external periphery (5,000 plants and two hectares of lawn).

The following graph shows the consumption of water since the building was opened in 1988.



Biodiversity

EN 6 Location and size of land owned, leased, or managed in biodiversity-rich habitats

In 2003-2004 DPS did not own or lease any land in biodiversity rich habitats.

EN 7 Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, freshwater, and marine environments

A number of birds were found dead in a southern courtyard during the annual bogong moth migration to the Snowy Mountains. It was suggested "in the media" that the bird deaths had been caused by spraying the building with a synthetic pyrethroid, Cislin 10, that discourages the moths from roosting. This claim was made even though Cislin 10 has been used annually for some years without any previous adverse effects on bird life around Parliament House and its surrounds. Three bird carcases were sent for autopsy. In one case the cause of death was old age. In respect of other two the test results were inconclusive. The Senate passed a motion preventing future spraying using Cislin 10. This decision is expected to have adverse consequences for both the building and its occupants including increased respiratory complaints and other OHS issues like vermin and rodent infestations. Given the sensitivity of some building occupants to the bogong moth issue, a review of treatment and deterrent options is ongoing.

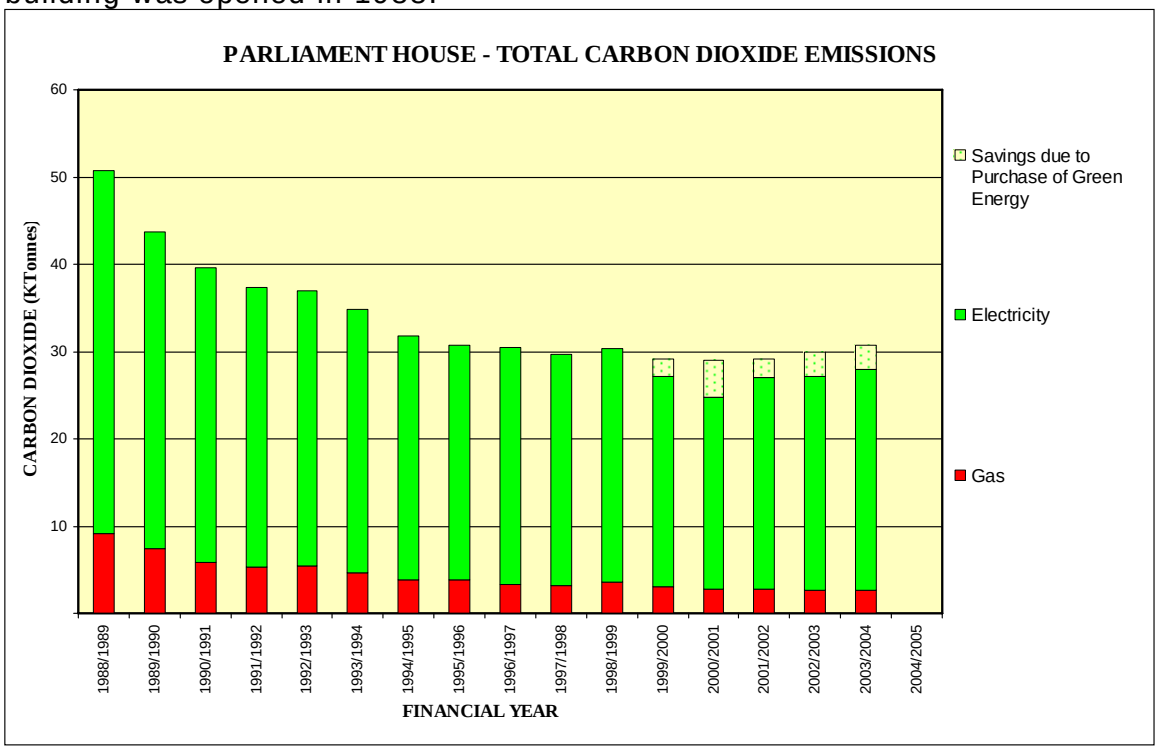
Emissions, Effluents and Waste

EN 8 Greenhouse gas emissions

DPS is a member of the Greenhouse Challenge Program and has been reporting on greenhouse gas from Parliament House since 1997. The following is an extract from the 2003-2004 Greenhouse Challenge report.

Emissions Source	**Consumption (units)**	**Conversion factor**	**CO_2-e (tonnes)**
Electricity(kWh)	27,767,628 kWh	1.012	28,101
Natural Gas (GJ)	51624 GJ	.517	2,669
Petroleum Products -Transport (Kilolitres)			
LPG-Fleet Vehicles	3 kL	1.6	5
Petrol (unleaded) Fleet Vehicles	90 kL	2.5	224
Petrol (unleaded) Landscape Services	3 kL	2.5	8
Automotive Diesel Oil (ADO) Transport	2 kL	2.7	5
Automotive Diesel Oil (ADO) Landscape	11 kL	2.7	31
Industrial diesel fuel Generator & Boiler	4 kL	2.8	12
Waste (Tonnes)			
Comingled	625 t	1.2	750
SF_6 (Tonnes)		23 900	
GROSS EMISSIONS			31805
OFFSETS:			
SEQUESTRATION	Green Electricity 2,853.996 kWh		-2,888
NET EMISSIONS			28917

The following graph shows greenhouse gas emissions over time since the building was opened in 1988.



EN 9 Use and emissions of ozone depleting substances

The following ozone depletion substances were purchased in 2003-2004. These substances are refrigerants which are used in:

(a) chillers which provide cooling for the building's air conditioning;

(b) coolrooms;

(c) freezers; and

(d) refrigerators.

The table shows the Ozone Depletion Potential and the Global Warming Potential for each of these of these refrigerants.

Refrigerant	Qty Purchased (kg)	Ozone Depletion Potential	CFC-11 equivalent (kg)
404A	8	0	0
R22	48	0.055	2.64
R134a	260	0	0
Total			2.64

The amount of refrigerant purchased does not necessarily correlate to the amount of refrigerant used. In 2004-2005 DPS will develop systems to accurately record the amount of refrigerant actually used.

EN 10 NOx, SOx, and other significant air emissions by type

The combustion of natural gas for heating, hot water and cooking purposes generates quantities of NOx, SOx, and other air emissions from Parliament House. Each year Parliament House reports on these emissions to the National Pollution Inventory. The following table lists the emissions from Parliament House for 2003-2004.

Substance	**Total Emissions (kg)**
Carbon monoxide	1,800
Oxides of nitrogen	2100
Particulate matter (PM10)	160
Polycyclic aromatic hydrocarbons	0.015
Sulfur dioxide	11
Total Volatile organic compounds	120

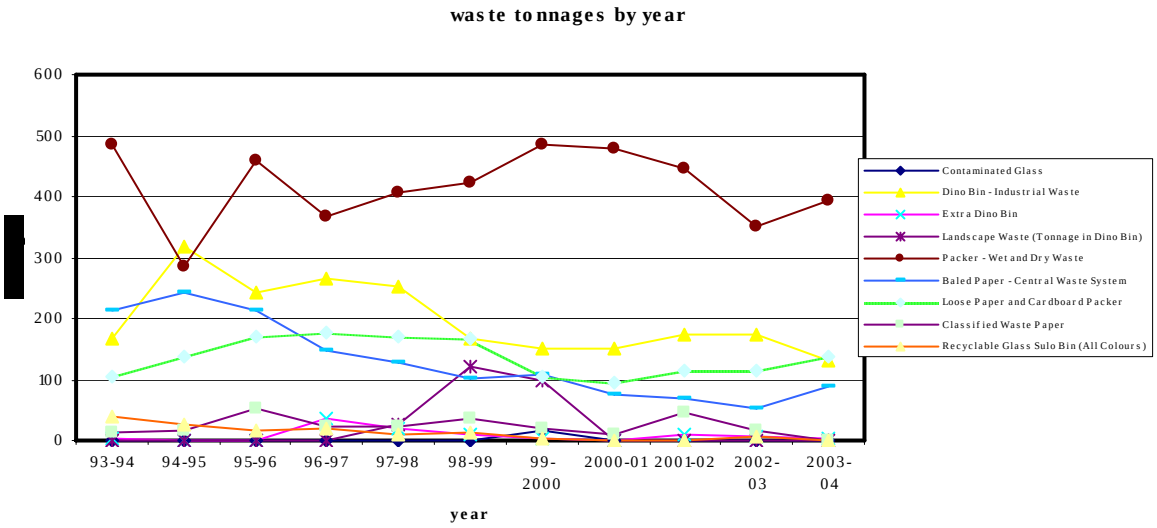
EN 11 Total amount of waste by type and destination

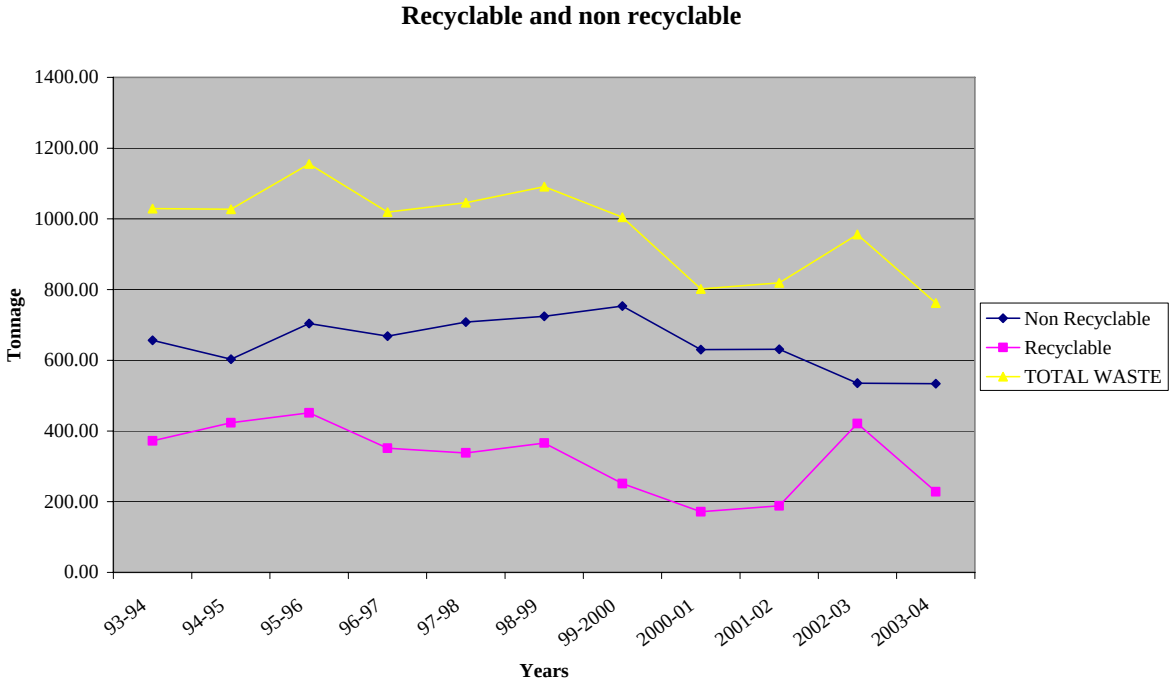
Parliament House generated the following waste in 2003-2004:

	Waste Stream	Tonnes	Total
Landfill	Dino Bin - Industrial Waste	132.18	530
	Extra Dino Bin	4.14	
	Packer - Wet and Dry Waste	393.44	
Recycled	Baled Paper - Central Waste System	88.83	228
	Loose Paper and Cardboard Packer	139.29	
	Chemical Waste - Solvents	0.18	
TOTALS		758.06	758

The total volume of waste generated at Parliament House in 2003–2004 was reduced on 2002–2003 by 15.77%. Whilst the volume of general waste going to landfill increased slightly (by 3.4%) over the 2002–2003 financial year, the volume of general waste recycled as a percentage of total general waste produced, actually improved by 22.15% in the same period. Paper waste recycled continued to increase and for the first time since 1998–1999 exceeded 250 tonnes, a very pleasing result.

The following graphs show waste trends over time.





EN 12 Significant discharges to water by type

In a typical year approximately 62.8 ML is discharged into the sewerage system. The sewerage is essentially domestic strength. There are a number of systems installed to prevent trade waste from entering the sewerage system. These include:

(a) Grease traps on all of the kitchens (which are cleaned out every 3 months);

(b) A coalescing plate filter on the vehicle washdown bay (to prevent oil from entering the sewer); and

(c) A system to remove paint solids from paint brush washing facilities before they enter the sewer.

There was no measurable leachate runoff from the site into the surrounding waterways during the reporting period.

EN 13 Significant spills of chemicals, oils, and fuels in terms of total number and total volume

In 2003-2004 there were no significant spills of chemicals, oils and fuels from Parliament House.

Products and Services

EN 14 Significant environmental impacts of principal products and services

In 2003-2004 Parliament House did not produce any products or services that had significant environmental impacts.

EN 15 Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed

In 2003-2004 Parliament House did not sell any products that are reclaimable at the end of the product's useful life.

Compliance

EN 16 Incidents of and fines for non-compliance with all applicable international declarations/conventions/treaties, and national, sub-national, regional, and local regulations associated with environmental issues.

In 2003-2004 there were no instances of fines for non compliance with any regulations associated with environmental issues.