Australian Government



# Department of the Environment and Energy 2016-17 Annual Report Environmental Indicators

The following performance indicators should be read in conjunction with the Department's Annual Report. The supplementary report for the 2016-17 period is the first report to combine data for all national operations.

### Sites and Staffing

The Department operates nationally, with office facilities in;

- Canberra, ACT
- Darwin, NT
- Jabiru, NT
- Kingston, TAS

The Department also has laboratories and workshops in;

- Darwin, NT
- Jabiru, NT
- Hobart Port, TAS
- Kingston, TAS

The total area of these premises is 87,999m<sup>2</sup>. Antarctic operations are based out of one research station on Macquarie Island and three Antarctic research stations (Casey, Davis and Mawson).

The Department also has a number of staff located in other states and territories as well as overseas. The environmental management and reporting for these sites is completed by the organisation/s that are responsible for these locations.

During 2016-17, a Machinery of Government change resulted in the responsibility for energy policy transferring to the portfolio. The net effect of this is a small increase in staff (FTE) numbers.

The total number of staff (FTE) in Australian-based offices for the 2016-17 period was 1,967. The total number of staff (FTE) involved in Antarctic operations for the 2016-17 period was 151.

#### Environmental Management

Due to the diverse nature of the Department's operations the day-to-day management of environmental performance is completed at a local level.

The Department's Environmental Management System (EMS) provides the framework for the Department to plan, implement and monitor measures to improve environmental performance in Canberra-based offices. The EMS allows the Department to strategically approach the reduction of operational environmental impacts.

In the 2016-17 period the Australian Antarctic Division, based in Tasmania, retained certification of its Environmental Management System to the international standard ISO 14001:2004.

Although no dedicated Environmental Management System is in place at offices and laboratories located in Darwin and Jabiru, operations are conducted in a manner consistent with the Department's aim to minimise the ecological impact on the environment.

Staff based in other states and territories and overseas endeavour to operate to meet environmental best practice wherever practicable.



#### Department of the Environment and Energy

### <u>Energy</u>

Electricity and gas usage for national operations increased in the 2016-17 period, and usage per person also increased. Electricity usage in the 2016-17 period equates to 268 MJ/m<sup>2</sup>. The Department continues to promote energy efficiency practices to staff and installs energy saving devices wherever practicable.

Continued energy practices throughout the period, including test and tagging and condition reports of electrical equipment help to ensure efficient use of electricity. Canberra-based sites also continued to purchase 100% Green Power in the 2016-17 period to offset greenhouse gas emissions.

The 373 kW solar power system operating at the Department's Kingston premises produced 1,433,026 MJ of renewable energy. This renewable energy directly contributes to the Tasmanian power network.

Antarctic operations reported an increase in energy use, however due to the increased number of expeditioners', the usage per person in the 2016-17 period remained stable. Environmental training is provided by the Australian Antarctic Division to all expeditioners, and energy efficient behaviour is promoted across all stations.

The decrease in marine diesel oil used in the 2016-17 period can be attributed to favourable sea conditions, resulting in less ice breaking by vessels. The increase in aircraft fuel used during the period is a reflection of the changing nature of the Australian Antarctic Division's operations, including the use of the Royal Australian Air Force (RAAF) C17-A Globemaster III Aircraft and the ongoing use of the Airbus A319 to transport Australian Antarctic Program personnel and to support other National Antarctic Programs.

#### Water

Due to the metering system at the Nishi building and the type of services available at the Jabiru Field Station, water consumption figures for the 2016-17 period are unavailable for these locations.

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#### **Transport**

The total number of departmental fleet vehicles decreased in the 2016-17 period. The amount of diesel, unleaded and E10 fuel used also decreased significantly.

The total distance travelled by departmental fleet vehicles in the 2016-17 period was 138,801 km.

#### Resource Efficiency and Waste

Due to the type of services available at the Jabiru Field Station, waste figures are not available for this location. Waste data for the department's 51 Allara Street tenancy was not available at the time of this report being lodged.

All copy paper purchased by the Department in the 2016-17 period for national operations was made from post-consumer recycled content. Battery and other resource recycling facilities are also made available where practicable.

Canberra-based sites continue to participate in the ACT Smart Office Recycling Program.

Wastage figures from Antarctic operations can vary greatly dependent upon the type of works occurring. This is reflected in the data for the 2016-17 period with liquid waste returned to Australia increasing by 148.9% and all other wastage types decreasing.



## Department of the Environment and Energy

Indicator	2015-16 Result	2016-17 Result	% Change	
Staffing				
Average Staffing Levels	1,932 FTE	1,967 FTE	1.8%	
Energy Use				
Total Electricity and Gas <sup>^</sup>	21,979,580 MJ	23,582,264 MJ	7.3%	
Electricity Use per Person	11,377 MJ	11,989 MJ	5.4%	
John Gorton Building, Canberra	n/a	7,254,266 MJ	n/a	
33 Allara St, Canberra	n/a	179,399 MJ	n/a	
51 Allara St, Canberra	n/a	1,760,313 MJ	n/a	
Nishi Building, Canberra	n/a	1,587,301 MJ	n/a	
3 Pederson Rd, Darwin	n/a	4,148,535 MJ	n/a	
Jabiru Field Station, Jabiru	n/a	2,041 MJ	n/a	
Channel Hwy, Kingston	7,784,358 MJ	7,844,719 MJ	0.8%	
Hobart Port Cargo Facility	766,688 MJ	789,494 MJ	3.0%	
Kettering Facility	14,674 MJ	16,196 MJ	10.4%	
Greenhouse Gas Emissions				
Total Greenhouse Gas Emissions^	n/a	4,206.99 t CO <sub>2</sub> -e	n/a	
John Gorton Building, Canberra	n/a	1,757 t CO <sub>2</sub> -e	n/a	
33 Allara St, Canberra	n/a	43 t CO <sub>2</sub> -e	n/a	
51 Allara St, Canberra	n/a	425 t CO <sub>2</sub> -e	n/a	
Nishi Building, Canberra	n/a	223 t CO <sub>2</sub> -e	n/a	
3 Pederson Rd, Darwin	n/a	795 t CO <sub>2</sub> -e	n/a	
Jabiru Field Station, Jabiru	n/a	.39 t CO <sub>2</sub> -e	n/a	
Channel Hwy, Kingston	883 t CO <sub>2</sub> -e	911 t CO <sub>2</sub> -e	3.2%	
Hobart Port Cargo Facility	47 t CO <sub>2</sub> -e	50 t CO <sub>2</sub> -e	6.4%	
Kettering Facility	0.90 t CO <sub>2</sub> -e	1 t CO <sub>2</sub> -e	11.1%	
Transport				
Total Number of Fleet Vehicles	29	21	- 27.6%	
Unleaded Fuel Used by Fleet Vehicles	4,590 L	2,984 L	- 35%	
E10 Fuel Used by Fleet Vehicles	2,337 L	1,746 L	- 25.3%	
Diesel Fuel Used by Fleet Vehicles	16,772 L	9,937 L	- 40.8%	
Resource Efficiency and Waste				
Office Copy Paper Purchased	12,745 Reams	16,301 Reams	27.9%	
Copy Paper per Person	6.6 Reams	8.3 Reams	25.8%	
Office Paper Recycling*	160.3 t	127.27 t	- 20.6%	
Co-Mingled/Cardboard Recycling*^^	190.78 t	149.67 t	n/a	
Organic Waste*^^	18.82 t	23.25 t	n/a	
Waste to Landfill*^^	214.41 t	173.75 t	n/a	
Total Waste per Person	302 kg	n/a	n/a	
Water Consumption				
Total Water Use**	41,976 kL	37,661 kL	n/a	
Water Use per Person	21.7 kL	n/a	n/a	
APrior to the 2016-17 period this information was only avail	lable on a city level.			
Wyaste ligures do not include 51 Aliała Street pielinises.				

#### Table 1: Summary of Environmental Indicators – Australian-based Operations

\*Due to the regional location and type of services available in Jabiru, water consumption and waste figures for the 2016-17 period are

unavailable.

\*\*Due to the meter system used at the Nishi Building, water usage figures for tenanted areas is unavailable.

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## Department of the Environment and Energy

Table 2: Summary of Environmental Indicators – Antarctic Operations

Indicator	2015-16 Result	2016-17 Result	% Change	
Staffing				
Average Staffing Levels	144 FTE	151 FTE	4.9%	
Energy Use				
Electricity Generated by Diesel	18,518,764 MJ	19,729,922 MJ	6.5%	
Renewable Energy Generated	5,438,271 MJ	5,915,326 MJ	8.8%	
Electricity Use per Person	166,368 MJ	169,836 MJ	2.1%	
Operational Diesel Fuel	2,268,650 L	2,093,559 L	- 7.7%	
Marine Diesel Oil (Shipping)	3,337,744 L	3,134,025 L	- 6.1%	
Aircraft Fuel	1,494,239 L	1,555,730 L	4.1%	
Total Number of Operational Vehicles	187	173	- 7.5%	
Greenhouse Gas Emissions				
Station Emissions – Diesel Fuel	6,086 t CO <sub>2</sub> -e	5,616 t CO <sub>2</sub> -e	- 7.7%	
Total Emissions – Antarctic Operations	19,894 t CO <sub>2</sub> -e	19,002 t CO <sub>2</sub> -e	- 4.5%	
Water Consumption				
Total Water Use	6,270 kL	6,786 kL	8.2%	
Water Use per Person	43.5 kL	44.9 kL	3.2%	
Waste Returned to Australia				
Liquid Waste – Treated and Disposed	17.4 t	43.3 t	148.9%	
Waste Sent to Recycling Facilities	46.5 t	30.2 t	- 35.1%	
Waste to Landfill	173.8 t	146.7 t	- 15.6%	
Total Waste per Person	1.53 t	1.17 t	- 23.5%	