

# South West Healthcare



## Environmental Sustainability Report 2016-17



This document contains Southwest Healthcare’s (SWH) environmental performance data as it relates to energy and water usage, waste production and generation of Greenhouse Gas Emissions (GHG). This report details performance against a standard, industry-wide set of metrics across the reporting period covering the financial year 2016-17. South West Healthcare is a sub-regional healthcare organisation consisting of two public hospitals (Warrnambool Base Hospital and Camperdown Hospital and Aged Care Facility), a mental health service division, an aged care facility and five community health centres. To support these patient services, South West Healthcare has commercial kitchens at two sites, two cafes at Warrnambool, a commercial laundry, supply and maintenance departments, tenancies and a range of smaller dwellings (i.e. Rotary house and medical student accommodation). The Energy and Water consumption totals for SWH include all of these sites, while the waste production totals relate solely to the SWH Warrnambool campus. All performance data is compared to data since 2014-15, the designated baseline year for Regional Health Services public environmental reporting requirements in the Department of Health *Policy and Funding Guidelines 2013-14*.

In line with Department of Health and Human Service’s requirement, Greenhouse Gas Emissions are provided by the Department of Health and Human Services Environmental Data Management System (EDMS). Data provided within this report is normalised using indicators relevant to the healthcare sector, occupied bed days (OBD) and area (m2). The normalised OBD figures have been highlighted for each area as they provide the most accurate snapshot of environmental performance in the context of increased overall service usage. Data assurance for this report has been achieved internally according to the *Department of Health’s Environmental Reporting Guidelines 2012-13*.

These figures report for the first time on targets outlined in the *South West Healthcare Environmental Management Plan 2017-2019* and provide an encouraging snapshot of changes achieved to date.

### Glossary

Throughout this report the following key terms are used:

**Area (m2):** Total building floor area (excluding car parks) – metres squared (m2) of South West Healthcare.

**Occupied bed days (OBD):** Inpatient bed days as reported through the Victorian Admitted Episodes Dataset (VAED) and the number of public sector residential aged care bed days for the reporting period reported to the Department of Health’s Aged Care Branch.

**Scope 1 Emissions:** Point source emissions including all emissions produced onsite that are material (>5%) to the operations and services of South West Healthcare. These include fleet transport fuel, gas and diesel consumption.

**Scope 2 Emissions:** Indirect emissions from the generation of peak and off peak electricity purchased and consumed by South West Healthcare are produced by the burning of fuels (coal) at the power station.

	Area (m2)	2014/15 OBD	2015/16 OBD	2016/17 OBD
Warrnambool Base Hospital	38,878	53001	53470	60,124
Camperdown Hospital and Aged Care Facility	5,255	16,279	14,140	15,186
South West Healthcare Total	58,285	69,280	67,610	75,310

The front cover provides some images of sustainability related activity within South West Healthcare during 2016-17 (clockwise from top left)

1. The World Environment Day Public Forum aimed to increase dialogue about health and sustainability related topics. The topic of this years’ forum was Sustainability and Healthcare: The role of therapeutic landscapes. Steven Wells from the Austin Hospital provided reflected on 14 years of experience working in therapeutic garden settings, international examples and associated research. Steven addressed over 100 interested staff and community members at events held at both Warrnambool and Camperdown. Pictured from L-R, Camperdown Maintenance Services Manager Les Harrison, Steven Wells, Maintenance Services Staff Kelvin Fitzgerald and Theatre Nurse Jodie Crossman in the Sensory Garden at Merindah Lodge. Jodie and Les represent Camperdown Hospital on the Environmental Sustainability Committee.
2. Buildings and Infrastructure Manager and Chairperson of the Environmental Sustainability Committee, Ray Bennett and Operations Manager Ken Thompson in front of the new Reverse Osmosis Unit. The installation of this equipment has enabled water from this new Unit and the Sterilisers to be added to the non-potable water supply (story featured on page 3).
3. Fleet Manager Tim Van der Starre, with District Nursing Staff Maureen Bourke, Manager Paul Crimmin, and Vicki Burns with the District Nursing Hybrid Camry’s (story featured on page 2).
4. Clinical Nurses Eliza Bartram, Jane Haberfield and Deborah Cameron from the Emergency Department at Warrnambool. Eliza Bartram is a member of the Environmental Sustainability Committee and one 50 staff members who have signed on to the SWH Green Ambassadors network, and is pictured here calling for staff to join an ED Green Team.
5. Clinical Nurse Sue Taylor recycling some KIMGUARD, a sterile wrap used extensively in Theatre. Read more about KIMGUARD recycling on page 4.



# Energy

In line with targets for reduced energy consumption set in the *SWH Environmental Management Plan 2017-19*, total energy usage declined for the organization in 2016-17, despite an 11.4% increase in Occupied Bed Days. Table 1 summarises energy data for 2016-17, with Figure 1 highlighting usage across the two major facilities. Table 2 provides a summary of Greenhouse Gas (GHG) Emissions with normalised figures. Total emissions have declined and this is most notable when normalised according to occupied bed days, as shown in Figure 2. Within total energy usage, electricity usage increased by 2%, natural gas usage decreased by 1.5% and fleet fuel usage decreased by 9%. Contributing to lowering fleet fuel usage is a consolidation of fleet vehicles from 116 vehicles in 2014-15 to 111 in 2016-17\*, and an increased percentage of 4 cylinder and hybrid vehicles (see story below). Rising prices of both electricity and gas in the 2017-18 financial year pose an immense challenge for South West Healthcare. In response, SWH has initiated an audit of key energy infrastructure, investigation of renewable energy supply options, and are completing an LED lighting upgrade.

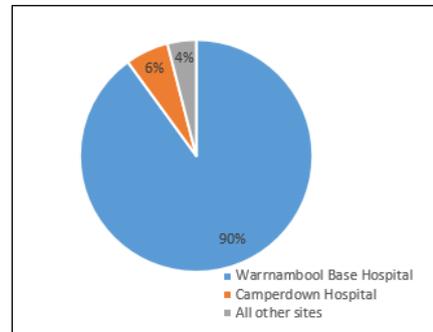
*Total Energy and Greenhouse Gas Emissions decreased in 2016-17 despite an 11.4% increase in Occupied Bed Days.*

	2014-15	2015-16	2016-17
Total Electricity MWh	6,916	7,636*	7,806
Total Electricity (GJ)	24,897	27,489	28,103
Natural Gas (GJ)	49,398	46,327	45,644
Liquid Petroleum Gas (GJ)	Not available	Not available	210
Fleet Transport (GJ)	6,853	7,288	6,572
<b>Total Energy Usage (GJ)</b>	<b>81,149</b>	<b>81,110</b>	<b>80,530</b>

**Table 1: Energy Consumption by Type**

\*Fleet vehicle total is the average number of vehicles per month

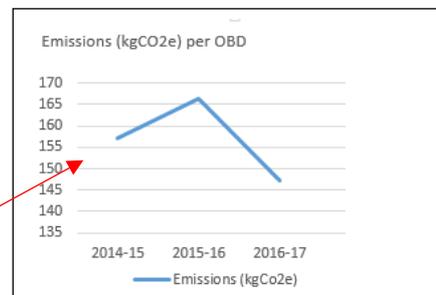
\*\* duplicate entries were corrected following an EDMS workshop in Dec 2016, resulting in an adjustment of total electricity reported last year for 2015-16 from 9,350 MWh to 7,636 MWh.



**Figure 1: Breakdown of Total Energy Usage**

	2014/15	2015/16	2016/17
Scope 1 – point source emissions (tCo2e)	2,725	2,613	2584
Scope 2 – indirect (tCo2e)	8,161	8,628	8509
<b>Total Emissions (tCo2e)</b>	<b>10,886</b>	<b>11,241</b>	<b>11,093</b>
<b>Total emissions (kgCO2e/OBD)</b>	<b>157.12</b>	<b>166.27</b>	<b>147.30</b>
Total emissions (kgCO2e/ m2)	241.45	192.87	190.32

**Table 2: Greenhouse Gas Emissions**



**Figure 2: Greenhouse Gas Emissions per OBD**



District Nursing staff are on the roads daily visiting patients, and the Hybrid Camrys are fit for purpose, allowing staff to carry the equipment they need. The cars deliver considerable energy savings when driven around town, but still meet the highest safety standards necessary for our rural roads. The Hybrid Camrys produce 142g/km of CO<sub>2</sub>, about 2/3 of the emissions of other similarly-sized base models. Fleet Officer, Tim Van der Starre was keen to strategically introduce a small number of these cars, and identified District Nursing as a suitable starting point (from L-R Tim, with Maureen Bourke, Paul Crimmin and Vicki Burns from District Nursing).



# Water

Total water consumption across South West Healthcare decreased in 2016/17 and this is summarised in Table 3. Seasonal factors, namely a wetter than average summer, meant that the rainwater/re-use water tank was topped up regularly reducing demand on potable water for the toilet flushing system.

In line with targets set in the *SWH Environmental Management Plan 2017-19*, work was undertaken to upgrade shower facilities with water saving devices and to increase the capacity of water recycled for non-potable purposes (see story below). 140 shower heads at Warrnambool were

*The highlight of water performance for 2016-17 has been the installation of equipment to capture and reuse an annual average of 4,000kL of water from the Theatre Sterilising Units and Reverse*

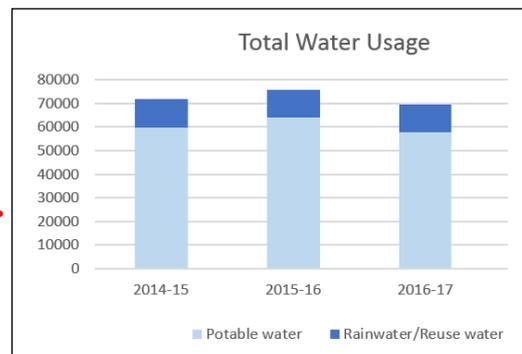
replaced with low flow shower heads. These low flow shower heads reduce the flow rate from 18-19 L/min to 8-9L/min, equating to an estimated savings of over 10,000L per day\*\*. The replacement of these shower heads has already been done at Camperdown Hospital, which means that our shower facilities all achieve the highest Water Efficiency Labelling and Standards (WELS) shower rating of 3- stars. Both these factors contributed to a reduction in potable water usage and this is seen in overall usage, as usage per area and as highlighted, per occupied bed day.

	2014/15	2015/16	2016/17
Potable water usage (kL)	59916	63,917	57,692
Rainwater/re-use water***	12,000	12,000	12,000
Total Water Usage	71,916	75,917	69,692
Water usage (kL/OBD)	1.04	1.05	0.93
Water usage (kL/m2)	1.23	1.30	1.20
% Rainwater / Reuse rate	16.7%	15.8%	17.2%

**Table 3: Water Usage for South West Healthcare.**

\*\*savings estimated using the estimation of each shower used for 10 minutes daily, with most showers being in shared access arrangements.

\*\*\*estimated volume



**Figure 3: Potable and Non-potable Water Usage**

The 300,000L water tank at Warrnambool Hospital collects rain water and recycled water from Dialysis for re-use in non-potable water requirements, primarily the toilet flushing system. In this reporting period, work was completed to extend the capture of recycled water to the Theatre Steriliser Units and Reverse Osmosis Units. It is estimated that up to an additional 4,000kL will be captured from these Units annually, further decreasing our usage of potable water. The project was instigated by Ray Bennett, Buildings and Infrastructure Manager who is pictured below left with Operations Manager, Ken Thompson (right), and the new Reverse Osmosis Unit.





# Waste

Detail about waste generated through activity at Warrnambool is provided in Table 4. It is important to note that the *Victorian public health services waste reporting tool: version 2.01* will be integrated into the EDMS for the 2017-18 reporting period. This tool will enable information to be captured for other campuses of South West Healthcare and standardise anomalies in reporting of waste by weight or volume, thus enabling accurate assessments to be made regarding progress with targets relating to increasing recycling and decreasing waste to landfill as outlined in

the *SWH Environmental Management Plan 2017-2019*. An 8% increase in general waste quantities was recorded, but when normalised according to occupied bed days, waste generation remained fairly constant, as demonstrated in Figure 4. Paper and comingled recycling rates increased by 15% and new recycling streams implemented within the reporting period include the expansion of e-waste collection to other campuses, and a KIMGUARD and soft plastics collection for Warrnambool.

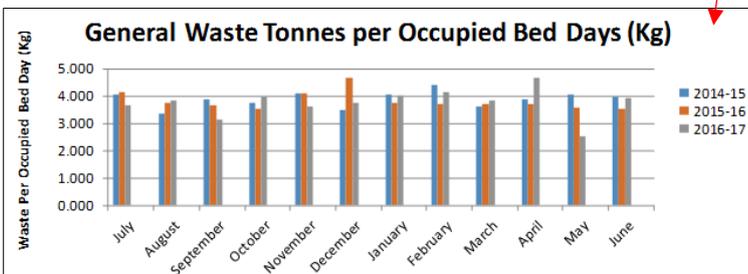
Educational initiatives including staff in-services and written materials focused on increasing awareness and recycling activity operated throughout this period and may have attributed to this increase in recycling activity.

KIMGUARD is a sterile wrap used extensively in theatre (approximately 3 tonnes annually). KIMGUARD recycling services operate in metropolitan areas, but our regional location had made this collection prohibitive in terms of transportation costs. However, SWH has been able to work with Statewide Recycling to negotiate a new pathway for the collection, local compaction and transportation of KIMGAURD for recycling at Geelong. The wraps are turned into polypropylene pellets which are used to make buckets, drain pipes and corrugated packaging. A trial of KIMGUARD collection started with Theatre in Warrnambool in April and will extend to Camperdown in the next reporting period. Pictured is Sue Taylor, a SWH Green Ambassador and one of a team of nurses in Theatre attempting to encourage recycling.

Waste Generation by type (kg or where not available m3)			
	2014-15	2015-16	2016-17
General (inc. sanitary) (kg)	204,400	203,400	219,700
General (inc. sanitary) – (m3)	4030	4039.5	3971.5
Clinical (inc. anatomical and cytotoxic) (kg)	25,800	26,700	23,555
Recycled (inc. comingled & paper/cardboard) (m3)	1227.2	1341	1548
E-waste (kg)	Not avail	3,600	1,047
KIMGUARD and PVC (kg)	Not avail	112	335
Printer cartridges (kg)	Not avail	164.8	144.58
Percentage recycled****	22.1%	24.2%	27%
General Waste (kg) per OBD	3.85	3.80	3.65

**Table 4: Waste Generation by Type**

\*\*\*\*Estimations for percentage recycled were developed using the *Victorian public health services waste reporting tool: version 2.01* estimations for converting volume to weight for comingled cardboard and general waste at 87kg/m3)



**Figure 4: Waste Generation normalised by Occupied Bed Days.**

