

 Austin Health
Sustainability Report
2011/12



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CHIEF EXECUTIVE OFFICER'S MESSAGE

Welcome to the 2011/12 Austin Health Sustainability Report.

Each day our activities require the use of energy and water. Those activities also generate waste, which not only has the potential to affect our environment but can impact our patients, staff and the community.

As a major provider of tertiary health services, health professional education and research in the northeast of Melbourne, Austin Health has the responsibility to adopt more sustainable practices to help create a healthier hospital environment.

I am proud to report that during 2012 Austin Health became a founding member of the Global Green and Healthy Hospitals Network (GGHHN) - a global network of health organisations "dedicated to reducing their ecological footprint and promoting public and environmental health"¹.

The GGHHN developed and launched its agenda - an "environmental health framework"² for healthcare facilities. The framework identifies ten key goals in the areas of Leadership, Chemicals, Waste, Energy, Water, Transport, Food, Pharmaceuticals, Buildings and

Purchasing. Austin Health is committed to the framework and is already making progress in some of these areas. The GGHHN agenda will form the basis of the 2013-16 Environmental Management Strategy.

This report provides a review of our current performance in electricity, gas and water consumption and our campaigns for recycling and waste minimisation. Despite an increase in occupied building space and the number of patients treated, we have reduced our energy and water consumption when compared with the 2010/11 base line year.

In particular, this report shows the overall amount of waste generated decreased, recycling efforts increased and clinical waste continues to be effectively managed. Our greening initiatives continue to improve the hospital experience for patients, visitors and staff, including the establishment and revegetation of multiple garden areas. We also continue to make improvements to fleet management, resulting in a significant decrease in fuel consumption.

It is with pleasure that I present our 2011/12 Sustainability Report and we welcome your feedback on our progress.



A handwritten signature in black ink, appearing to read 'B Murphy'.

Dr Brendan Murphy

Chief Executive Officer

ENVIRONMENTAL PERFORMANCE AT A GLANCE

Austin Health Service Overview

- Austin Health is a major academic medical centre providing health services, health professional education and research to its local community, across the northeast of Melbourne and a range of highly specialised services to the whole Victorian community.
- Austin Health employs 8,038 people across the Austin Hospital (AH), Heidelberg Repatriation Hospital (HRH), and the Royal Talbot Rehabilitation Centre (RTRC).
- Our primary catchment population includes the municipalities of Banyule and Darebin with over 263,000 people. Our extended catchment is in excess of 1.28 million people and includes an additional seven local government areas to the north and east of Melbourne.
- Austin Health operates 984 beds across acute, sub-acute and mental health with a 2011/12 annual operating budget of \$702 million.
- In 2011/12, 99,552 inpatients and 186,485 outpatients were treated. The Emergency Department was one of the busiest in Victoria in 2011/12 – with 68,168 people presenting.

Commitment

We have committed in our Environmental Management Strategy: by June 2013, in the four key areas of energy, waste, water and greening, Austin Health will aim to achieve a ten percent reduction in resource consumption and waste generation; and a ten percent increase in greening initiatives.

Energy

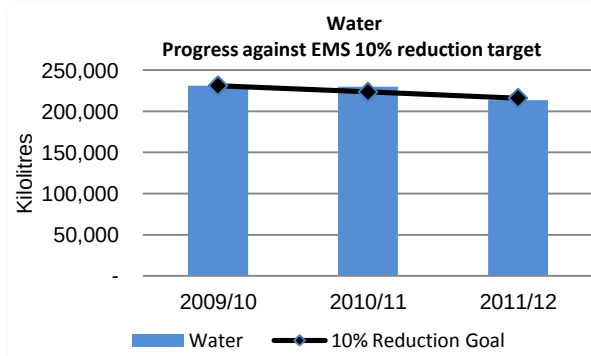
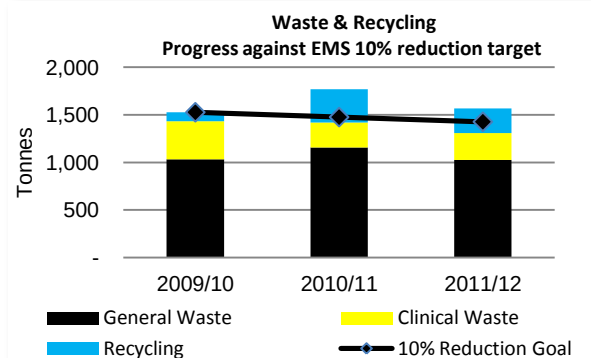
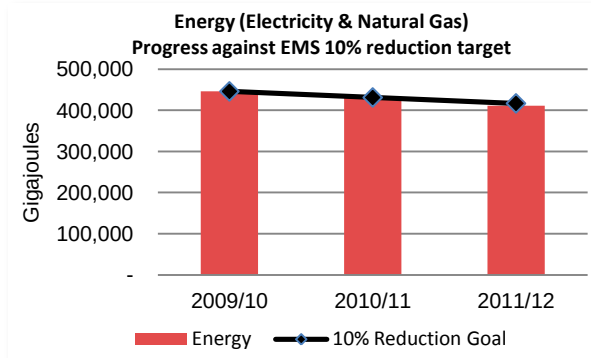
Electricity and natural gas used in 2011/12 was 5,330GJ less than anticipated and we are trending in the right direction to meet the 10% goal next year.

Waste

Overall the volume of waste generated in 2011/12 has increased and we are disposing of more waste than planned against the 10% reduction goal. The mix of waste types has improved, with recycling increasing and clinical waste reducing.

Water

Water consumed in 2011/12 shows we are on track to meet reduction targets in 2012/13 with 2,700kL less than anticipated for this year's progress.



One of the greatest challenges for Austin Health moving toward being a more sustainable organisation is improving and creating efficiencies that ensure our resource consumption and waste volume continue to reduce while patient numbers, hospital sizes and local community requirements increase.

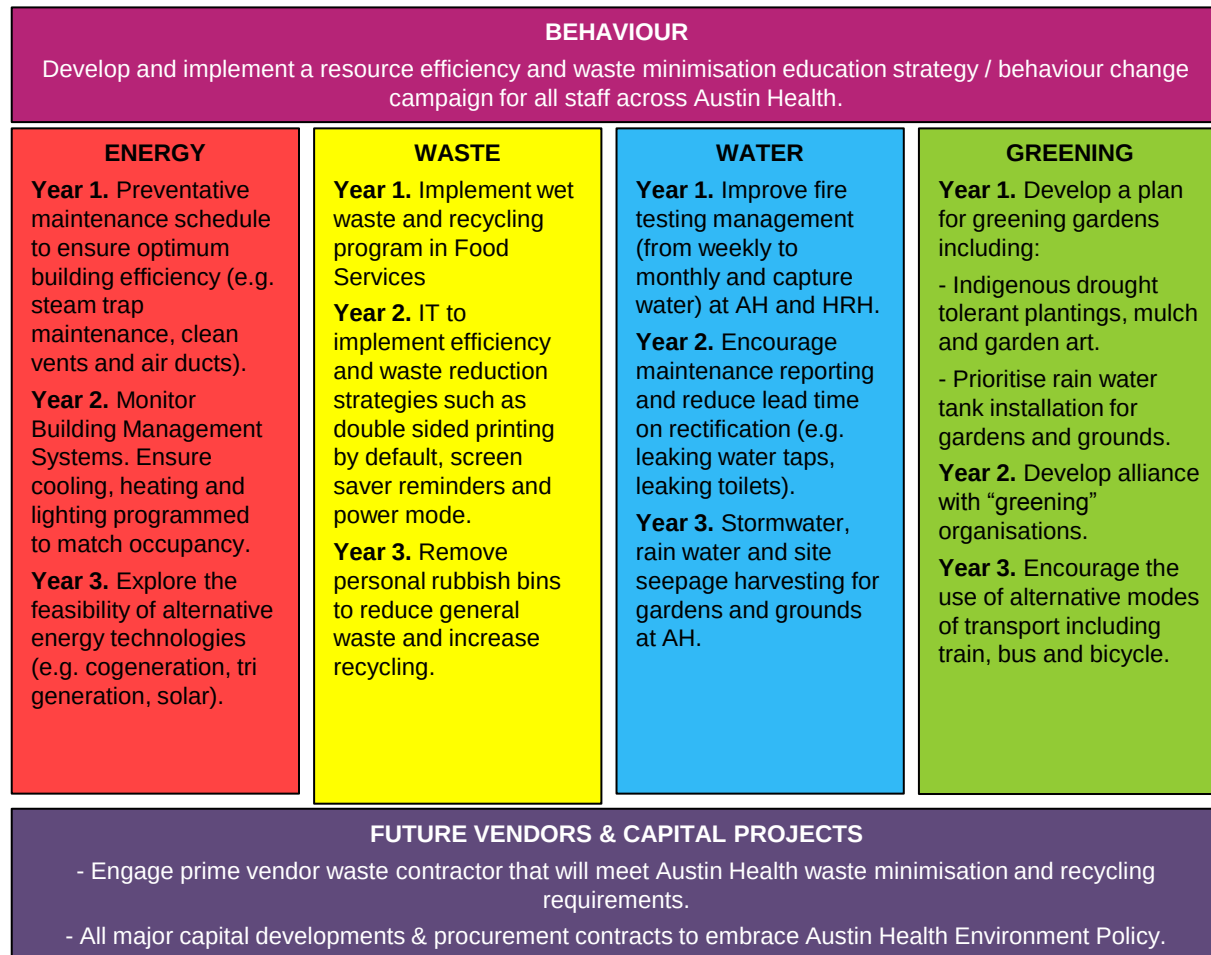
During 2011/12 the number of patients treated increased by an average of 2 percent or 12,000 patients when combining emergency department arrivals, occupied bed days and outpatient attendances.

Environmental Management Strategy

Austin Health has developed an Environmental Management Strategy (EMS) and is committed to actions in the areas of energy, waste, water and greening. Our commitment to building a strong and sustainable future flows from our desire to become an industry leader in providing environmentally sustainable healthcare. Through the EMS implementation we aim to adopt best practice resource efficiency and waste minimisation strategies.

The 2011/12 Sustainability Report details our achievements and challenges against the second year actions of the EMS.

EMS Framework



Behaviour Change

Underpinning the EMS is the support and participation from employees in their daily roles. Education sessions, new staff induction information and topic specific presentations all form a part of a sustainability education program. In 2011/12 waste, recycling and sustainability education sessions were delivered to more than 650 staff in 65 clinical areas. More than 700 new staff were given an environmental awareness session as part of the standard induction process.

Capital Projects

A significant building project, the Olivia Newton-John Cancer Wellness Centre (ONJCWC) under construction at the Austin Hospital site, will provide a range of treatment options for patients. In June 2012 Radiotherapy, Day Oncology, Outpatients and Ludwig Institute for Cancer research occupied levels 2, 3 and 5 of the ONJCWC, while the remaining levels are under construction.

The Ecologically Sustainable Development (ESD) opportunities identified for the project focus on the core aspects of indoor environment quality, water and energy conservation whilst also

delivering on best practice solutions around waste and emission minimisation measures, low environmental impact building and fitout materials, efficient transport and ecological enrichment. The project is aiming for a 4 star Green Star – Healthcare V1 rating, and is anticipating achievement of the rating in early 2013.

Key sustainable design elements include:

- Doors and windows that open so that occupants can have greater control over their environment
- Air conditioning programming that complements natural ventilation
- Bamboo flooring and environmental friendly fixtures
- Programmable lighting systems, which include timer, occupancy and dimmable controls.
- Solar thermal boosting for the domestic hot water
- A 120kL tank for rainwater used for toilet flushing and plant irrigation

Graph Legend

For the graphs in this report: Bar indicates utility consumption. Line indicates number of patients treated.



* For the purposes of this report, patients treated refers to the number of occupied bed days and out patient attendances.

ENERGY – ELECTRICITY & NATURAL GAS

Victorian public sector facilities account for around 1.5 percent of Victoria's total electricity and gas consumption. The sector's largest users are healthcare providers—health services and hospitals—which account for around 26 percent of public sector energy consumption³. Healthcare also accounts for 20 percent of Victorian government sector greenhouse gas emissions⁴.

The second year energy EMS action was to monitor building management systems (BMS) and ensure heating, cooling, and lighting were programmed to match occupancy. Where possible, in the non-clinical areas, BMS programming to match occupancy has occurred.

While high level programming has occurred, it is still apparent that improvements can be made in spaces such as meeting rooms and lecture theatres. Ongoing staff education and behaviour change strategies are still required to ensure the appropriate use of heating, cooling and lighting systems.

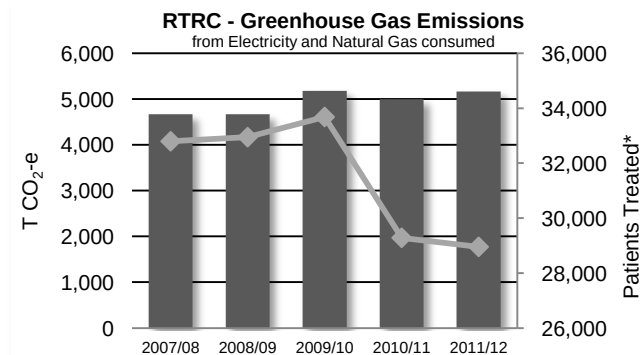
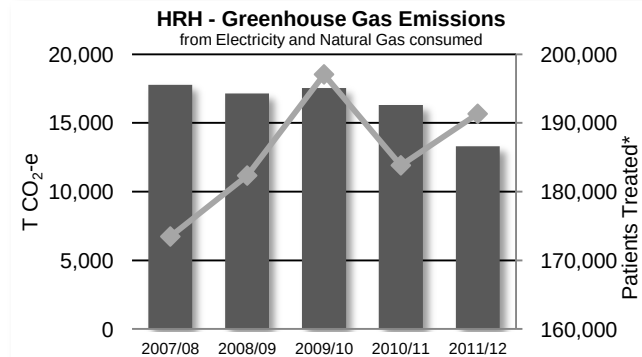
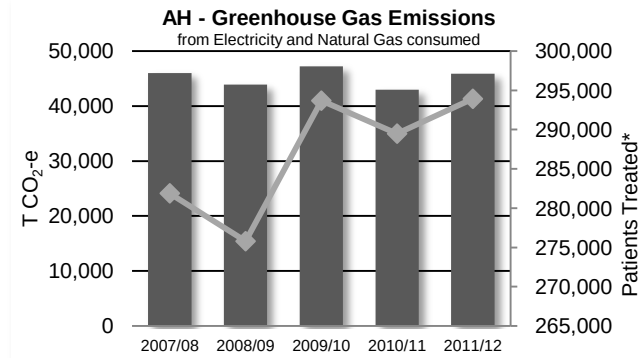
Through a repairs and maintenance program, fluorescent lighting is gradually being replaced by energy efficient LED lighting.

Austin Health has also been chosen as pilot site

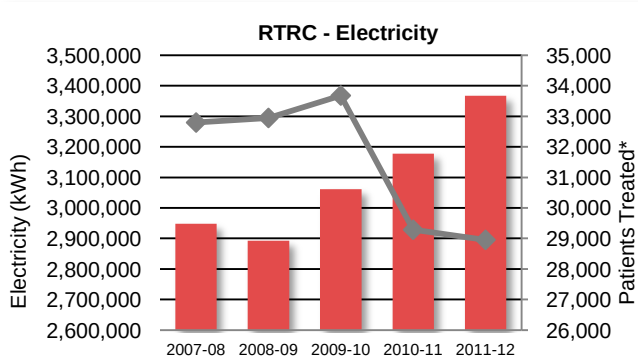
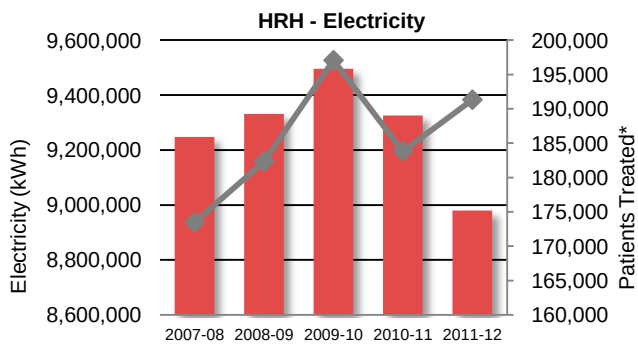
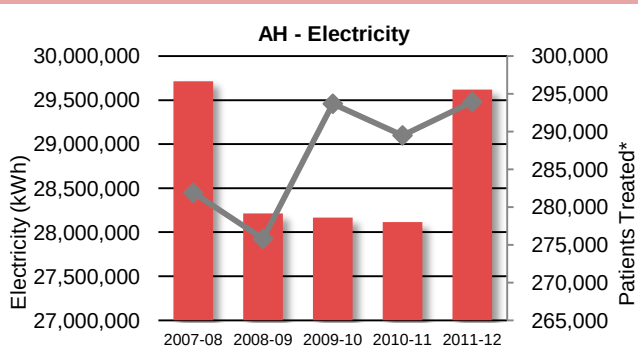
for an Electricity Performance Contracting (EPC) initiative. It is a joint venture between Department of Treasury and Finance and the Department of Health of which HRH and RTRC have been chosen as pilot sites with a view to roll out the program across the AH site in the future.

“Energy Performance Contracting is when an energy service company is engaged to improve the energy efficiency of a facility, with the guaranteed energy savings paying for the capital investment required to implement improvements”⁵.

Implementing EPC's within public hospitals is more complex than some other government facilities, such as offices. The delivery of health services needs to be maintained throughout the program.



ENERGY – ELECTRICITY & NATURAL GAS



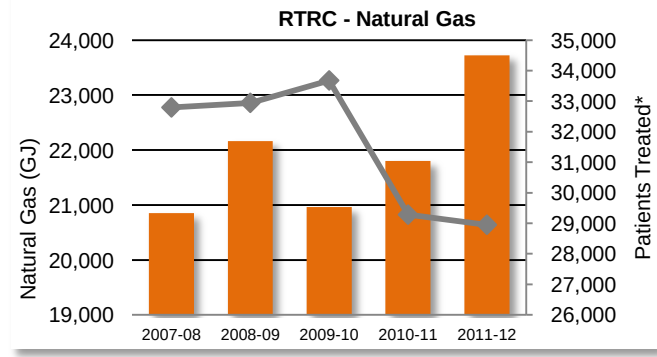
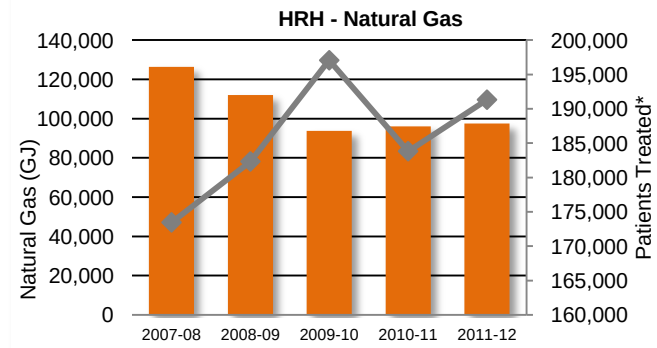
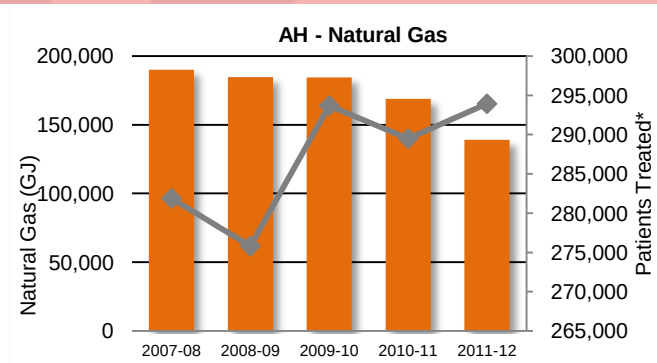
Electricity

Comparing the three major Austin Health sites – AH, HRH and RTRC there has been a three percent increase in the annual consumption of electricity as compared with the previous year. The graphs indicate site specific consumption including the number of patients treated.

Electricity consumption has increased at the AH site due to the steam absorption chillers being offline or at reduced capacity, leading to a greater consumption for electricity of heating and cooling. The reverse occurred at the HRH site. Steam absorption chillers decrease the reliance on electricity for heating and cooling. Steam, from the gas fired boilers, is delivered to the chiller unit and indirectly produces refrigerant water. This produces chilled water which is circulated through the air handling units.

Natural Gas

A nine percent decrease in gas consumption has been noted across the three sites. Most notably was a decrease at the AH site, which was again due to the steam absorption chillers being offline. The increase at the HRH site is due to the commissioning of two new buildings. The RTRC gas consumption increase is presumed to be due to a continual pool water heating in relation to an identified leak in the pool system.



The Victorian Department of Health estimates 260,000 tonnes of solid waste is generated by Australian hospitals each year ⁶. Managing waste in healthcare involves storage, transport and disposal, staff education, contract negotiations, risk management, reporting and compliance whilst investigating new technologies. In most cases, improving waste management for sustainability outcomes coincides with financial benefits.

There are more than 25 different waste streams generated at Austin Health which are classified into three main categories:

- General waste – items that are not capable of being recycled, reprocessed, reused or composted.
- Clinical waste – items that have the potential to cause disease including anatomical, pharmaceutical, medical, cytotoxic, quarantine and sharps waste.
- Recyclables – materials which can be remanufactured or reused such as cardboard, cartons, cans, glass, paper, metals and plastics.

A range of waste materials are also recycled that are segregated and collected separately. These include batteries, light globes, electronic

equipment, printer cartridges and food and garden waste.

Staff Commitment

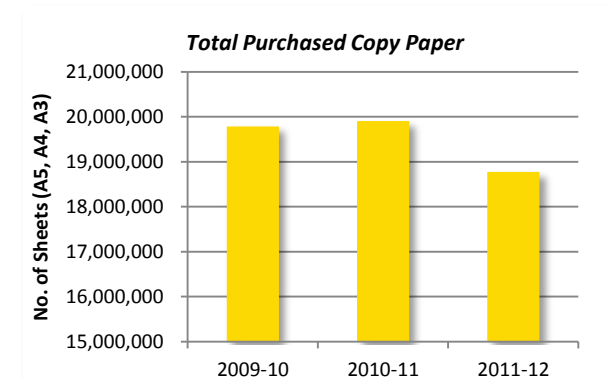
It is important to commend the passionate individuals and those 'green at heart' that have become Green Champions, and have started action groups to implement improved waste management and sustainability. A number of Champions and Action Groups exist across the three main sites. These staff are key to creating change in the workplace and represent a bottom-up approach to complement the top-down support from the Austin Health Board and Executive staff.

The second year waste action for the EMS evolved into the Think Before You Print Campaign. The campaign involved an intranet based approach to encouraging staff to reduce their paper consumption. A competition was held for the best paper saving ideas early in 2012 with some excellent responses. Copy paper purchased in 2011/12 was 6 percent less than the previous year.

One of the campaign responses was from the Aged and Residential Care department which identified a significant opportunity in their work

location:

Instead of printing assessment outcome reports (three pages) and the Victorian Comprehensive Assessment Form (ten pages) for ten clients a day, then sending this to Scanned Medical Records (SMR) for scanning; we now convert to PDF and upload direct to the SMR system. No paper printed at all!



Overall the total volume of waste generated from patient care activities (excludes project specific and building wastes) was reduced by 11 percent from 1,766 tonnes in 2010/11 to 1,564 tonnes in 2011/12.

Due to the increased clinical load across the sites the amount of clinical waste increased by 8 percent. Pleasingly, the general waste disposed of to landfill decreased by 11 percent overall and the commingled recycling fell by 27 percent. As the general waste and recyclables both decreased, this reflects a reduction in the volume of waste generated as a site total.

Other recycling, which includes batteries, electronic waste, light globes, toner cartridges, green waste, grease trap waste, recyclable chemicals and confidential paper, has decreased nearly 50 percent from 297 tonnes in 2010-11 to 150.5 tonnes in 2011-12. Again, this reflects less waste generated.

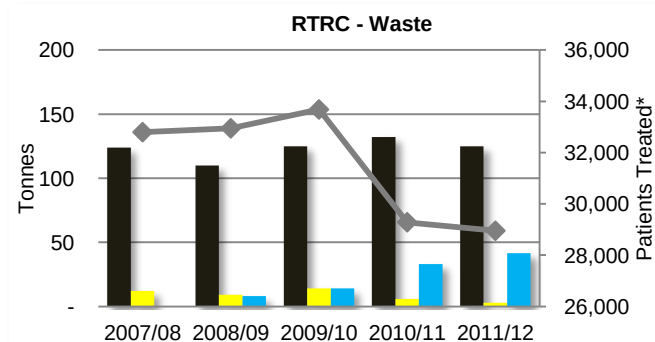
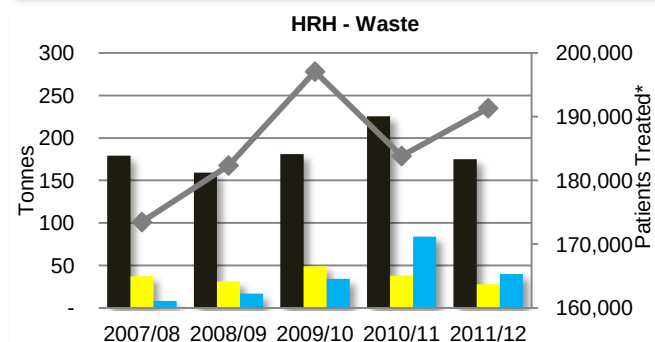
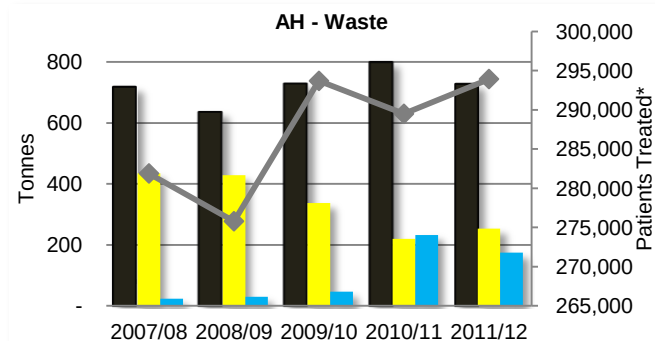
Various construction projects throughout the year have resulted in the generation of approximately 575 tonnes of hard waste.

At AH the total amount of waste generated has reduced by eight percent. An additional 4400

patients treated during the reporting year has resulted a in clinical waste rise of 16 percent from the previous year. A review of all clinical bin placement in high demand areas will be undertaken to ensure appropriate bin placement.

The HRH achieved an outstanding 30 percent reduction in the total amount of waste generated which is to be commended. Impressive reductions in clinical waste (22 percent) and general waste (27 percent) were accomplished. That aligns with waste volumes to 2008/09 levels when there were 28,122 less patients treated*.

The RTRC recorded an impressive 53 percent reduction in clinical waste in 2011/12. The RTRC staff and patients also made a 26 percent increase on their commingled recycling efforts.



■ General Waste ■ Clinical Waste ■ Recyclables ◆ Patients Treated*

Victorian public hospitals use approximately 3,800 megalitres of potable water each year. The Victorian Department of Health estimates for a metropolitan hospital such as Austin Health, 35 percent of water is used in processes such as sterilising, laboratories and cooling, 30 percent in ablutions (showers, sinks, basins) 25 percent in sanitary flushing, and 10 percent in food preparation⁷.

As a significant water user, Austin Health continually monitors water meters, and aims to respond quickly to reports of leaks or damaged equipment that is consuming an unusual amount of water.

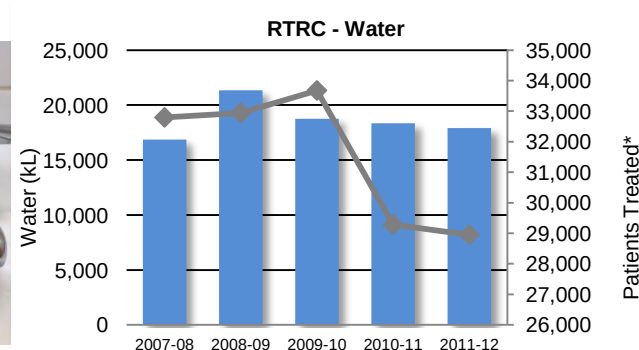
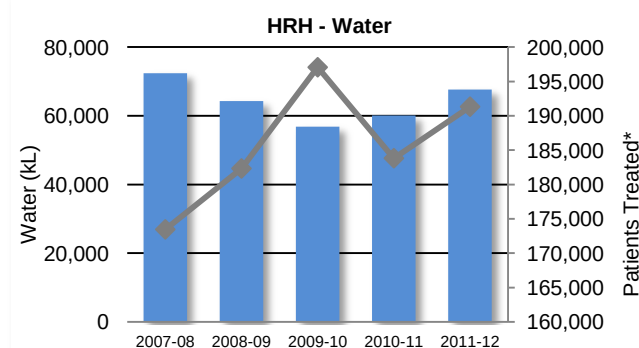
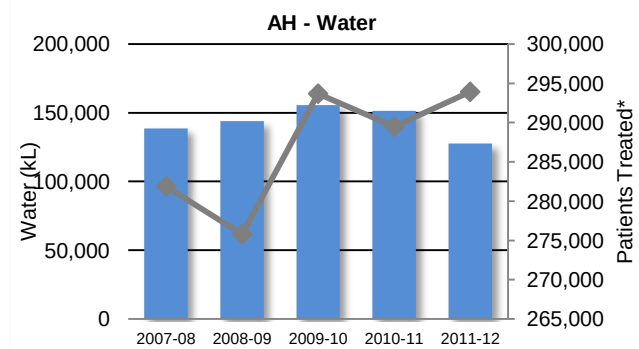
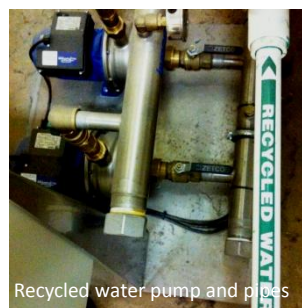
A large volume of water consumed at Austin Health is for cooling towers, boilers, chillers, hydrotherapy pools, operating theatres, sterile processing (autoclaves), dialysis, analytical labs and pure water systems.

The second year water action for the EMS was to encourage maintenance reporting and reduce lead time on rectification of issues such as dripping taps, leaking pipes and malfunctioning toilets. This particular action involved a behaviour change element.

More than 600 stickers from the water retailer,

were placed near tapware where appropriate, to encourage staff to turn off taps or report leaks. From the previous financial year Austin Health noted a 21 percent increase in water leak reporting. Water conservation education continues to be delivered to all new staff at Induction as well as refresher sessions for existing staff.

Comparing the three major Austin Health sites – AH, HRH and RTRC, there has been a seven percent reduction in the annual consumption of water as compared with the previous year. The graphs below indicate site specific consumption including the number of patients treated. The increase at the HRH site was due to a major leak in the outpatients building and the full year impact of the hydrotherapy pool that was commissioned in late 2010.



GREENING - GARDENS

The Gardens and Ground Project at Austin Health aims to increase gardens and vegetation across our three major sites for the benefit of our patients, visitors and staff, as well as the for the environment.

The EMS focus for 2011/12 was to develop new partnerships to support the goals of the gardens and grounds project. A collaborative doctoral research project commenced between Austin Health and Deakin University to explore the health and wellbeing experiences in accessing gardens and nature within a health care setting. This research will be the first of its kind in Australia and outcomes are hoped to influence the incorporation of green spaces in hospital design nationally and internationally.

The appointment of Jane Edmanson as the Patron of the Gardens and Grounds Project at Austin Health was exciting news. Jane is a well-known passionate gardening identity who is an advocate for connecting people with gardens and nature for improved health and well-being.

Ongoing partnerships were fostered with Banyule City Council and Avocare. Banyule City Council have generously donated indigenous plants for revegetation projects. Avocare is a not-for-profit community based organisation

that provides innovative employment and training programs for long term unemployed people in collaboration with Job Services Australia. Their involvement has focussed on the development of new garden projects.

Ongoing partnerships have also been fostered with Bunnings, Amgrow Fertilisers and Neutrog Fertilisers who continue to support the gardens through in-kind donations.

Key Projects

Garden projects undertaken in 2011/12 include:

Austin Hospital

- Quattro Café courtyard garden
- Paediatric Ward relaxation garden

Heidelberg Repatriation Hospital

- Wetlands regeneration
- Tobruk Centre indigenous revegetation
- Darley House East aged care balcony garden
- Café courtyard garden

Royal Talbot Rehabilitation Centre

- Mellor Ward balcony garden



Plant propagation



Quattro café courtyard garden



Rainbow wall at Royal Talbot Rehabilitation Centre

GREENING - TRANSPORT

Fleet Management

The 2011/12 fleet consists of 172 vehicles including small to medium fuel efficient four cylinder cars, station wagons, shuttle buses, vans, and utes. There are 19 less vehicles as compared with the 2010/11 fleet due to vehicle efficiencies and the out-sourcing of services that previously required vehicles.

Due to reduction in the fleet size and improved vehicle maintenance a 22 percent reduction in diesel and 23 percent reduction in petrol has been achieved during the reporting year.

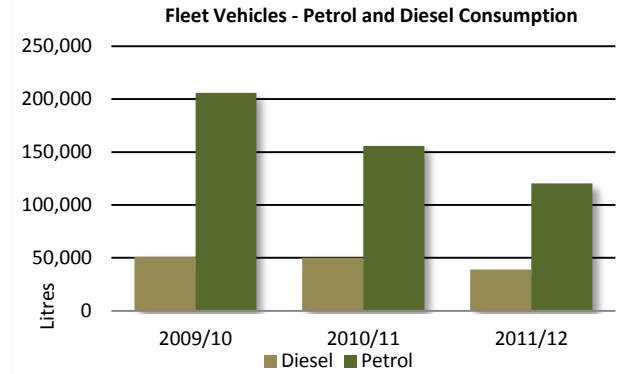
The online fleet car booking system has proven valuable, allowing improved management of the fleet. In addition to the system, a new arrangement with local mechanics for regular servicing and vehicle checks has allowed preventative maintenance to occur rather than reacting when issues arise or vehicle operation begins to fail.

A cost neutral service is provided by a local tyre technician. Tyres are regularly inspected to ensure they are at optimum pressure as per manufacturers specification and achieving even wear to maximise tyre life which ultimately increased overall fuel efficiency in the process.

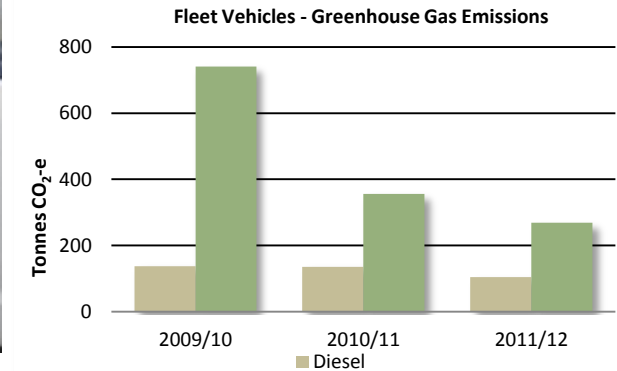
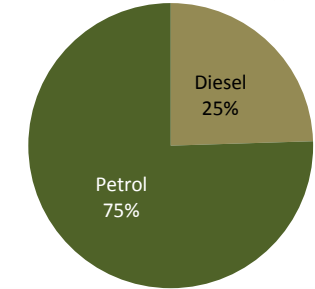
The number of tyre replacements has

decreased by 21 percent during 2011/12. Overall maintenance costs for the fleet, including replacement tyres and wheel alignments has reduced by 24 percent.

Tyres that are no longer roadworthy are recycled into useful products such as roads, adhesives, brake pads and children's playgrounds.



2011-12 Fleet Vehicle Fuel Type



As our current Environmental Management Strategy enters its third and final year, we look forward to reporting the 2012/13 results and commit to the following actions.

Energy: Austin Health will integrate ecologically sustainable design (ESD) principles into Capital Works and Facility Maintenance policies and guidelines as per Department of Health recommendations to ensure sustainable construction of new buildings and retro fitting of existing buildings. Due to the EPC process, the action to explore the feasibility of alternative energy technologies (e.g. cogeneration, tri generation, solar) will not be implemented at this stage.

Waste: remove personal rubbish bins to reduce general waste and increase recycling, as well as engaging staff participation in waste initiatives and increasing correct segregation.

Water: stormwater, rain water and site seepage harvesting for gardens and grounds at the AH site. We will explore the rainwater harvesting options available at the three major Austin Health sites.

Greening: encourage the use of alternative modes of transport including train, bus and bicycle. An active transport plan is currently being developed that will promote the use of alternative transport, conduct a survey to determine staff travel profile and increase transport information and options for staff.



Separating paper and plastic wastes



Royal Talbot gardens



Local fauna

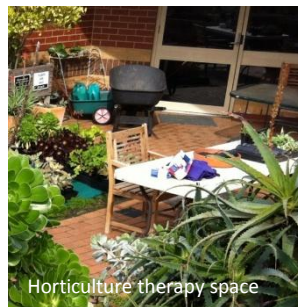


Waste segregation



Environmental training

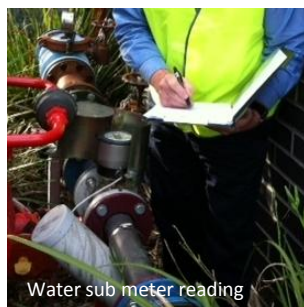
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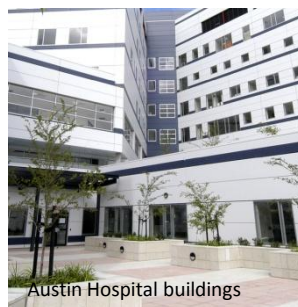
Horticulture therapy space



Royal Talbot gardens



Water sub meter reading



Austin Hospital buildings

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