

AlfredHealth

Environmental Sustainability Report 2018-19





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Garden provides calming environment

Thanks to the generosity of one of our donors, a new garden has been established at The Alfred's Psychiatric Inpatient Unit.

The anonymous donor approached Principal Landscape Designer at the Royal Botanic Gardens Andrew Laidlaw. Following consultation with patients and allied health staff, the garden now includes a lush, tropical retreat with sitting rocks, sun lounges, herb garden, and banana palms. There is also a BBQ area, outdoor fitness equipment, and a basketball ring.

Psychiatry Inpatient Nurse Unit Manager Gamze Sonmez said the sense of responsibility and purpose in tending to a garden was immensely beneficial for patients who have the opportunity to contribute to watering, repotting and garden maintenance.

Pictured left are peer worker Christopher Stefano and psychiatry nurse Nicky Scholvin

“Connecting with nature is an important part of staff wellbeing and patient recovery.”

Kethly Fallon, Director Corporate Social Responsibility

Message from the Chief Executive

The inaugural Alfred Health Environmental Sustainability report recognises our efforts to reduce our environmental impact and accepts responsibility for areas in which we can improve. The report demonstrates Alfred Health's commitment to improving environmental performance across the organisation. This report reinforces our commitment to transparency surrounding our environmental impact, acknowledging the challenges we face and celebrating the successes towards creating an environmentally sustainable health service.

The Alfred Health *Environmental Sustainability Strategy 2017-21*¹ provides the framework for our endeavours to engage, educate and empower staff to create an environmentally sustainable workplace.

Our Environmental Sustainability Committee oversees the implementation of the Strategy. The Committee includes representatives from Executive, key departments and the locally based sustainability Green Teams across Alfred Health.

The World Health Organisation recognises climate change as a leading threat to global health. As a leading public health service, it is imperative we demonstrate leadership in reducing our environmental footprint. Alfred Health is committed to improving the environmental sustainability of the world-class healthcare it delivers, and by doing so, reducing the potential impact of climate change on future population health.



Celebrating National Tree Day

In July, CEO Andrew Way and Director of Corporate Social Responsibility, Kethly Fallon, planted trees at Sandringham Hospital with our staff in recognition of National Tree Day (28 July).

The 'Yellow Box' gum tree was donated by the Bayside City Council community nursery, and is described as a handsome, spreading tree, valued for its honey and timber.' The native tree is considered to be locally rare to the Bayside area.

Trees play an important role in improving our mental and physical health, and can reduce the risk of diseases.

¹ Environmental Sustainability Strategy 2017-21

About

Our purpose is to improve the lives of our patients and their families, our communities and humanity². However, the activities we undertake to fulfil this purpose often have a significant environmental impact. From the resources we consume, to the waste we generate, the provision of healthcare to humans comes at significant cost to the environment.

During the 2018-19 year considerable changes occurred across the health service. Our transition to electronic medical records included our largest ever staff training program and was the primary focus for the organisation. We envisage the transition to electronic medical records will have environmental co-benefits, from direct benefits from reduced paper consumption, to indirect benefits from improved overall efficiency.

Significant capital works to improve our infrastructure affected our ability to deliver services, with a component of elective and cardiac surgery transferred to offsite facilities across January to June. This activity is included in our separations; however, the work was undertaken offsite. Normalising factors related to service activity for 2018-19 reflect favourably on our environmental performance, it is difficult to determine however, what impact the offsite activity has had on these figures.

The report meets the requirements of the DHHS *Policy and funding guidelines* and covers greenhouse gas emissions, energy use, water consumption, waste generation and recycling rates. Over time, the report will expand to include other environmental impacts such as vehicle fuel emissions, medical gases and paper consumption.

The reporting boundaries for this report include all utility accounts where Alfred Health pays the bill. The facilities where we are not utility account holders (e.g. leased sites) are smaller operations where the environmental impact is immaterial relative to our hospital and clinic operations. These boundaries reflect the reporting requirements of the *National Greenhouse and Energy Reporting Act 2007*.

The environmental data management system (EDMS) records our environmental performance data. The EDMS generates reports related to our environmental performance. The EDMS is being reviewed and historical data may change slightly over time. These impacts are immaterial in the context of our broader environmental reporting data.

² Alfred Health Strategic Plan 2016-20



The Admissions and Perioperative Unit (APU) at The Alfred are one of many Green Teams across the health service. Pictured are group leads John, Michelle, Sasha and Tanja celebrating World Environment Day in June.

Environmental citizenship



Pictured are Lauren and Emily from Alfred Centre, Level 2 with a week's worth of suture packaging.

Award nomination for recycling effort

Alfred Health's suture packet recycling collection program was nominated for a 2019 Premier's Sustainability Award.

What started in the Main Ward Block theatres has expanded to Sandringham and Alfred Centre theatres.

At Alfred Health, we recognise improving human health is dependent on a healthy natural environment. Many of our staff lead environmental sustainability initiatives in their local work area, which helps to reduce the environmental impact of the services we deliver. This helps to achieve the vision of our *Environmental Sustainability Strategy 2017-21*, to engage, educate and empower staff to create an environmentally sustainable workplace.

Recognising the desire our staff have to limit our environmental footprint we established a network of Green Teams, who are locally based sustainability groups who work to improve the environmental performance of our day-to-day activities. From being efficient in the way we use single-use consumables to improving recycling practices in our workplaces, staff are encouraged to seek out and implement initiatives to reduce, reuse and recycle.

We have found that many sustainability initiatives arising from staff in local areas are applicable beyond their own work areas, and aim to use the Green Team network to extend the reach of these initiatives, developing best practice approaches for Alfred Health to further our environmental sustainability.

From our ICU Green Team replacing polystyrene cups in staff areas with reusable water bottles and coffee cups, to The Alfred Centre's Short Stay Unit swapping plastic straws for paper, we have a history of supporting staff in their endeavours to improve our environmental practice while delivering excellent patient care. This year, the work of perioperative nurse Drukshini Dissanayaki to recycle aluminium suture packaging has been recognised with a nomination in the Health category of the Premier's Sustainability Awards 2019.

Waste education in healthcare

During 2018-19, Alfred Health partnered with DHHS and Sustainability Victoria on a number of components of the *Waste education in healthcare* project. The two-year project identifies a number of target areas for intervention, with an aim to achieve environmental and financial benefits within public health services.

- **Waste audit guidelines:** Conducted a series of general waste audits across the three hospitals to help develop standardised waste audit guidelines for health services.
- **Piloting waste segregation in theatre:** Partnering with Monash University in a research project to investigate behaviour change strategies to improve resource recovery in our theatres.

- **PVC recycling:** Assisting the Vinyl Council of Australia in efforts to reduce contamination in the PVC Recycling in Hospitals program.
- **Single-use metal instrument recycling:** Piloting a program to recover single-use metal instruments for recycling, which reduces energy-intensive sharps waste disposal.



Bid to reduce and recycle

As part of an exciting pilot program to drastically reduce how much waste we produce, Alfred Health is looking at recycling stainless steel instruments, which can be melted down and reused.

Each year, Alfred Health goes through more than 140,000 single use metal instruments like scissors, scalpels and tweezers, which are currently sent to landfill.

In August 2019, Deakin University waste management expert Dr Trevor Thornton and his students visited Alfred Health as part of a pilot program to reduce the amount of waste the health service produces, including recycling stainless steel single use instruments. It is the first stage of an audit to see how we can continue to reduce our environmental impact.

Greenhouse gas emissions

The delivery of health care contributes to a quarter of all of the Victorian Government's energy related carbon emissions. As one of Victoria's largest health services, Alfred Health has a responsibility to improve efficiency of our service delivery to help reduce the environmental impact of health care delivery.

Over the last three years, overall greenhouse gas emissions at Alfred Health have reduced by almost 2% despite increases in service delivery. This is reflected in our CO₂-e emissions per separation decreasing by almost 7% over the same time.

As part of our ongoing refurbishment program, we continue to drive down carbon emissions through introducing modern low-emission technology to replace our ageing infrastructure. Due to increasing gas prices, we are undertaking a program to replace outdated steam infrastructure with in-situ electrified equipment to reduce our reliance on gas-dependent steam and hot water systems.

Greenhouse gas emissions

Total greenhouse gas emissions (tonnes CO ₂ e)	2016/2017	2017/2018	2018/2019
Scope 1 (Alfred Health emission sources)	3,065	3,329	3,104
Scope 2 (Emissions from energy supplied by a 3rd party)	48,324	47,629	47,326
Total	51,389	50,958	50,430

Normalised greenhouse gas emissions	2016/2017	2017/2018	2018/2019
Emissions per unit of floor space (kgCO ₂ e/m ²)	217.89	216.05	213.82
Emissions per unit of Separations (kgCO ₂ e/Separations)	442.23	424.37	412.79*
Emissions per unit of bed-day (LOS+Aged Care OBD) (kgCO ₂ e/OBD)	125.05	123.79	124.14

* Note the emissions per separation data may be influenced by the activity-undertaken offsite as outlined earlier in the report.



Sustainability was a key consideration when 5 West opened in late 2019. The ward, which is Alfred Health's first purpose built facility dedicated to early recovery of trauma patients, includes a more efficient water heating system, and an automatic cooling system which has helped reduce energy use. Pictured are nurses Gabby and Gemma.

Energy

The majority of greenhouse gas emissions from Alfred Health is due to the energy we consume. As a 24-hour operation, we have a significant energy demand from lighting, air conditioning, medical activities and other day-to-day operations. Heavily reliant upon fossil fuels for energy to operate, Alfred Health seeks to improve energy efficiency to reduce our environmental impact and associated costs.

Our total energy consumption has reduced by more than 5% over the past three years. A corresponding reduction in energy usage per activity is shown in the table below.

Replacement of boilers at our Caulfield Hospital over the last year has contributed to this decrease in energy usage. The constant upgrade of ageing infrastructure also contributes to our improved energy efficiency.

The installation of onsite renewable energy (solar PV) at The Alfred is being investigated as part of broader infrastructure upgrades.

Energy audit: Melbourne Sexual Health Centre

An energy audit was conducted at Melbourne Sexual Health Centre to better understand how energy efficiency measures could improve environmental performance and reduce energy costs.

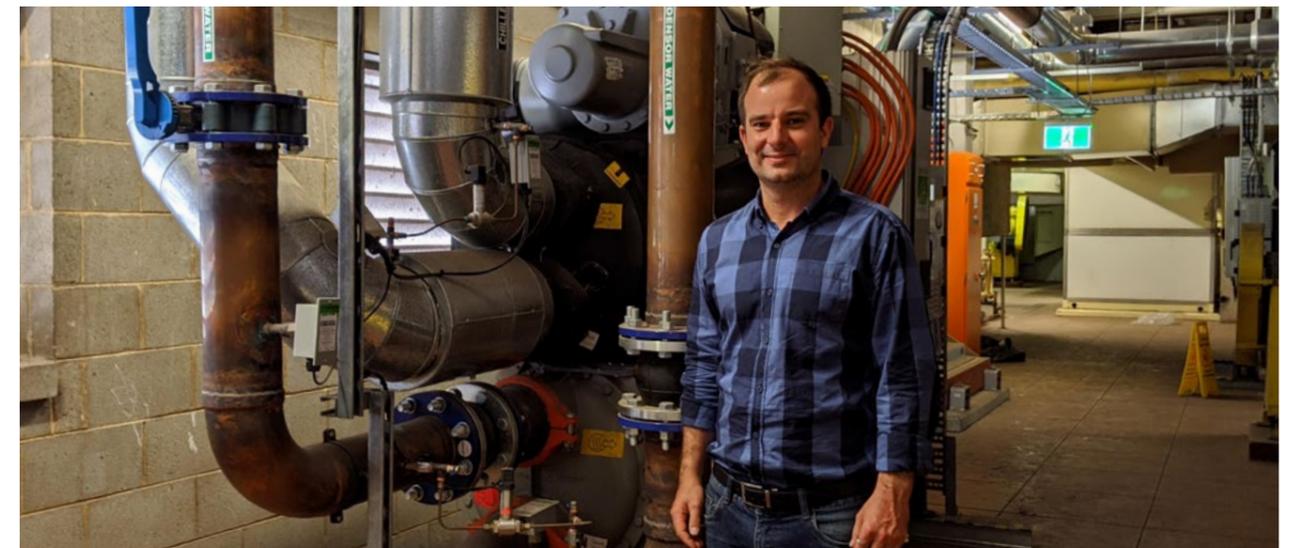
The regular operating hours and stable energy demand at Melbourne Sexual Health Centre made it a suitable site to demonstrate the carbon emission and cost savings of improved building energy efficiency.

The analysis, which was conducted by CarbonetiX, has outlined staged measures for us to consider implementing in 2019-20 and beyond to better our energy and greenhouse gas performance.

Stationary energy

Total stationary energy purchased by energy type (GJ)	2016/2017	2017/2018	2018/2019
Cogen Electricity	27,595	28,539	25,927
Electricity	123,414	123,731	123,768
Natural Gas	59,483	58,530	54,393
Steam	106,656	98,866	96,406
Total	317,149	309,667	300,494

Normalised stationary energy consumption	2016/2017	2017/2018	2018/2019
Energy per unit of floor space (GJ/m ²)	1.34	1.31	1.27
Energy per unit of Separations (GJ/Separations)	2.73	2.58	2.46
Energy per unit of bed-day (LOS+Aged Care OBD) (GJ/OBD)	0.77	0.75	0.74



The sustainability features of a new chiller system in Centre Block of The Alfred, including reduced electricity and water use. Pictured is Tom O'Brien from Engineering Services.

Waste and recycling

The sterile environments required to provide safe health care results in the use of many single-use disposable items. Paper towel for hand drying and single use metal instruments such as scissors, forceps and tweezers are just a few examples of the waste we produce.

Total waste generated at Alfred Health has reduced by almost 10% over the last three years. This improvement has been offset by declining recycling rates from over 18% in 2016-17 to 15% in 2018-19.

While international import restrictions on Australian recyclables has impacted upon recycling rates, Alfred Health needs to improve recycling rates as we are currently well below the Victorian public health service average of 22%.

In an effort to improve recycling recovery rates we are trialling our "War on Waste" strategy to improve waste standardisation systems across Sandringham Hospital, using standardised waste infrastructure, colours and signage to help our staff and visitors dispose of waste appropriately.

Waste and recycling

Waste	2016/2017	2017/2018	2018/2019
Total waste generated (kg clinical waste+kg general waste+kg recycling waste)	3,261,688	3,208,053	3,004,470
Total waste to landfill generated (kg clinical waste+kg general waste)	2,748,438	2,747,303	2,600,974
Total waste to landfill per patient treated ((kg clinical waste+kg general waste)/PPT)	4.39	4.33	4.12
Recycling rate % (kg recycling / (kg general waste+kg recycling))	18.23	16.64	15.67



Environmental sustainability priorities

In June 2018, Alfred Health celebrated the launch of our Environmental Sustainability Strategy, with events at The Alfred, Caulfield and Sandringham.

Waste management was at the forefront of everyone's mind, with improved access to recycling bins the theme of most of the feedback. As a result, the Environmental Sustainability Committee have made waste management a key focus, with communication of these improvement works and the reporting of our environmental impact also important.

Pictured are Green Team members at The Alfred.

Water

Alfred Health consumed 234 megalitres of water in 2018-19. This is enough water to fill an Olympic-sized swimming pool over 1,000 times. We consume significant amounts of water through our water chillers, sterilising equipment and medical processes such as haemodialysis.

Figures from our water supplier show our water usage has fluctuated over the last three years. Our investigations into these variances (2016-17) have shown this to be due to metering issues. Despite these inconsistencies, our water usage per

patient bed-day in 2018-19 was 580 litres, which is comparable to the Victorian public health service average of 600 litres per bed day.

As part of our efforts to decommission ageing steam infrastructure, we have replaced end of life bedpan flushers with modern electrified units, which has resulted in increased water efficiency. The boiler replacement program at our Caulfield Hospital has also contributed to water efficiencies.

Water

Total water consumption by type (kL)	2016/2017	2017/2018	2018/2019
Class A Recycled Water	N/A	N/A	N/A
Potable Water	191,355	245,233	234,016
Reclaimed Water	N/A	N/A	N/A
Total	191,355	245,233	234,016

Normalised water consumption (Potable + Class A)	2016/2017	2017/2018	2018/2019
Water per unit of floor space (kL/m2)	0.81	1.04	0.99
Water per unit of Separations (kL/Separations)	1.65	2.04	1.92
Water per unit of bed-day (LOS+Aged Care OBD) (kL/OBD)	0.47	0.60	0.58

Water re-use and recycling	2016/2017	2017/2018	2018/2019
Re-use or recycling rate % (Class A + Reclaimed / Potable + Class A + Reclaimed)	N/A	N/A	N/A



War on Waste pilot at Sandringham

Alfred Health's recycling rates have dropped by almost 3% over the last three years to 15.67%, compared to a Victorian public health service average of 22%. To improve recycling performance, we are piloting our War on Waste strategy across the Sandringham Hospital.

The strategy aims to improve recycling rates by:

- Using standardised waste stream colours, signage and bin infrastructure.
- Collocating waste and recycling bins to allow segregation at the point of disposal.
- Conducting staff education to improve knowledge of different waste types.

Due to the pressure often associated with delivering health care, making it easy for staff to dispose of waste responsibly is vital to improving recycling rates and reducing waste to landfill. Through clear, consistent and repeated waste management systems, we aim to achieve a 15% reduction in waste to landfill by 15%, a key objective of our *Environmental Sustainability Strategy 2017-21*.

Jason and Nick are part of the team which have joined Sandringham Hospital's War on Waste

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