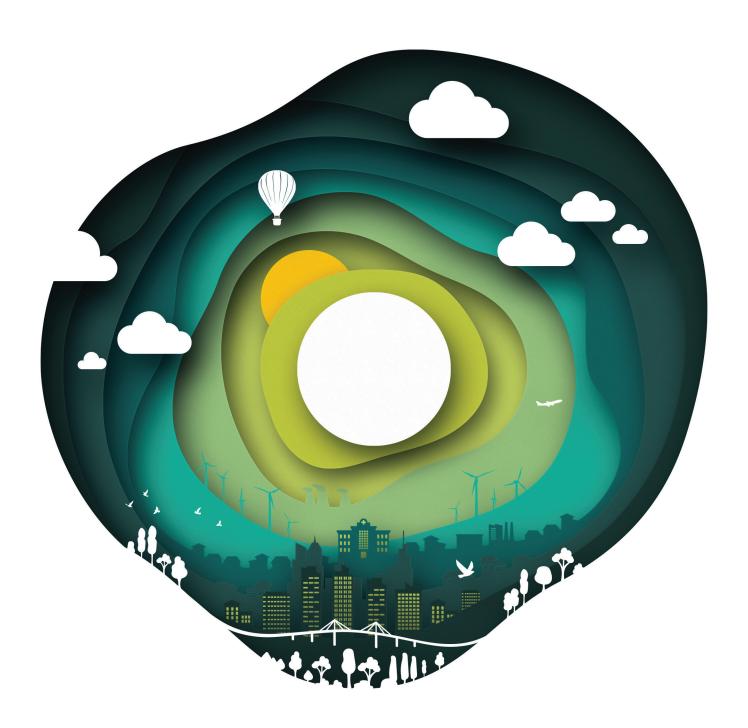
Sustainability Report

2020 / 2021





Acknowledgment of Country: Western Health acknowledges the Traditional Custodians of the land on which our sites stand. We pay our respects to Elders past, present and emerging. The traditions of these people in caring for country inspires much of the vision for sustainability we have for Western Health today.

Chief Executive Officer's Message

Western Health's commitment to sustainability has been officially embedded into our Strategic Directions 2021–2023 and Sustainability Plan 2020–2025. Our organisation continues to progress on the journey of establishing sustainability as a guiding principle of our business activity.

Despite the operational challenges presented by the COVID-19 pandemic, Western Health remains focused on building foundational blocks to achieve an organisational transformation that enables the delivery of our business objectives.

As we continue to take a more strategic approach in our implementation pathway, results will become more tangible and on a larger scale. Data driven decision–making will play a major part in our ability to deliver outcomes and with the support of our staff and community; we will continue to deliver legacy projects for the west.



Mr. Russell Harrison Chief Executive Officer Western Health



This financial year has presented significant challenges to Western Health, most of them at an operational level. Several changes were implemented in response to the COVID-19 pandemic including: reduction of activities, staff, elective surgeries, patients and visitors on site. Despite the activity decline, an increase in energy consumption and carbon emissions was registered.

COVID-19 dramatically changed the operational conditions across our organisation. Enabling positive outcomes in some departments while negatively impacting others. For instance there was a significant reduction in water usage, attributed to reduced activity from staff and patients. On the other hand, the pandemic created a massive strain across the supply chain. For health services in general, this translated into a major increase of clinical waste, forcing some external recycling operators to take risk mitigation strategies and reduce their services.

Despite external circumstances, Western Health is devoted to delivering the best sustainable practices. With a resilient and adaptive approach, Western Health's sustainability operations remain focused in finding alternative solutions to keep our business aligned to our objectives and turn threats into opportunities.

Western Health has embedded sustainability in the Strategic Directions; setting a guidance for the implementation of better practices and continuous improvement

Key achievements/projects delivered:

- Williamstown Hospital Recycling
 System Upgrade
- Green Maternity Ward Project
- Implementation of Agile project management methods within the Sustainability Program
- Design and planning for future delivery of low-emissions hot water system replacement at Sunshine Hospital

Summary



Energy consumption

INCREASED BY 9% ☆

from our performance baseline (FY2014/15), and

企2% IN COMPARISON

with last year (FY2019/20).



Water consumption

DECREASED BY 11% ↓

during FY2020/21 and is now

↓ 12% BELOW THE BASELINE.



Greenhouse gas emissions

DECREASED BY 1% ↓

per square meter, **but rose 4% per separation**. Total scope 1 and
2 emissions have **decreased by**

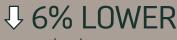
and 1 per cent compared to FY2019/20.



Total waste generation

INCREASED BY 5% ↑

mainly due to increase in the generation of clinical waste caused by COVID-19 waves. Impacts on recycling programs meant the landfill diversion rate was



than last year.

Projects & updates





Western Health's sustainability transformation journey is underway. This report contains an update on our progress towards embedding sustainability as a key design principle of our operations as established in the Strategic Directions 2021–2023.

This document provides a deeper insight into our programs, operations, and performance indicators. Our Sustainability Plan has been designed to provide solutions to existing issues, which allows for objectives to be planned and delivered independently. The objectives are:

1. Embed sustainability as a core aspect of our business

- 2. Create a clear path to achieve net zero emissions by 2050
- 3. Incorporate climate change action as a part of our corporate responsibility
- 4. Continuous discovery and innovation.

In alignment with these objectives, we have developed and successfully implemented sustainability strategies and initiatives during this financial year. Below is a description of some of the principal achievements.

Objective 1: Embed sustainability as a core aspect of our business

- Embedding sustainability as a core aspect of our business is instrumental to enable the delivery of the Strategic Directions. This involves integrating sustainability into daily practices and decision-making, which can be challenging due to the organisation's size. Thus, our focus has been on implementing the foundational blocks required to achieve this. Western Health uses data and performance analysis to identify areas of improvement across multiple areas, including engineering, operations and capital projects.
- The Eco-Vision is our digital monthly newsletter that outlines our progress with our staff and advises them about key updates.
 This is an accessible tool for staff to access news and engage in the work done by the sustainability team across the organisation.
 Currently, our subscribers are increasing and we are committing to growing the numbers throughout the next financial year.
- Williamstown hospital recycling program was upgraded adding metal, e-waste, and batteries to the on-site recycling streams. Increasing our waste diversion rate from landfill during the pandemic was a major challenge given the increased waste volumes.

Objective 2: Create a clear path to achieve net zero emissions by 2050

Achieving the net zero emissions target by 2050 is a key deliverable for Western Health. To achieve this, Western Health has committed to gradually phase out reliance on gas and fuel operated equipment. As a result, our asset replacement strategy continues to have a strong focus on project design and assessment with a strong focus on sustainability outcomes.

Replacement of hot water service at **Sunshine Hospital.** A clear example of our commitment is the currently proposed replacement of Sunshine Hospital's domestic hot water and heating hot water systems, which currently operate on gas-fired boilers. The preliminary business case for the domestic hot water service envisioned an electric heat pump system powered by a 140 KW solar photovoltaic (PV) system. In conjunction, a business case for the replacement of the heating hot water boilers has been preapproved. They solution proposes a hybrid gas boiler and electric heat pump system, with a 376 KW solar panel array to offset gas emissions. This project aims to reduce our scope 1 emissions.

Objective 3: Incorporate climate change action as a part of our corporate responsibility

- Climate action strategy and adoption of sustainability frameworks. Our corporate climate change action strategy is based on the creation of sustainability roadmaps for all directorates within our organisation.
 By incorporating diverse international frameworks, such as the UK's National Health Service sustainability framework, we are aiming to implementing specific initiatives tailored for the health sector. The roadmaps will also align our strategy with the United Nation's Sustainable Development Goals (SDGs).
- Green maternity ward project. Staff and community engagement play a key aspect for the success of this objective. For instance, the Green Maternity Project at Joan Kirner Women's and Children's has been running for six months and it aims to improve staff awareness and increase our recycling rate, ultimately reducing waste disposal in maternal care. A group of midwives and staff members took initiative to design, deliver and oversee the project's outcomes. The Green Maternity Project was one of 11 projects to be awarded a grant through the Western Health Foundation thanks to donor and sponsors support.
- Waste reduction. Other significant actions includes the donations and engagement from volunteers and coordinators in regards to donation of second-hand goods at Sunshine Hospital. Additionally, this project collected approximately 3 kilograms of soft plastic for recycling.

Photo. Midwives after the 24-hour waste audit. This practice provided a better understanding of the waste generation within the department for the implementation of waste reduction strategies.

Objective 4: Continuous discovery and innovation

Western Health is known for our commitment to sustainability. By focusing on data-driven performance, innovation, and research, we aim to solidify our position in the health sector and influence other organisations to do the same.

- Research. The Innovation Acceleration
 Program (IAP) is a partnership between
 Western Health and researchers at the
 University of Melbourne that encourages
 innovation. This exciting opportunity links
 compelling problems and unmet needs
 from the health sector with world-class
 research and commercialisation expertise
 at the University. This program furthers our
 connection to the research industry and
 encourages staff to be actively involved in
 sustainable innovation.
- Mentoring and innovation. Additionally, Western Health completed our second and third intake for our Master's degree engineering placement through the University of Melbourne. This program focuses on providing students with an opportunity to gain professional experience and exposure to delivery of sustainability projects. The program operates on agile project management frameworks to foster a flexible approach, which efficiently optimises project management. Likewise, the sustainability team's project management workflow migrated to Monday.com. This platform facilitated the implementation of SCRUM and allowed to keep track and record of the different activities and actions in sustainability delivery.



Sustainability in the pandemic

The following section presents the analysis of the sustainability operational metrics. The COVID-19 pandemic created several significant operational challenges. These changes in circumstances included reduction in operational activity, elective surgeries and staff, patients and visitors on site. Based on the above, analysis and comparisons to our baseline (FY 2014/15) must be made warily.

In an effort to gain insight from this data, a focus will thus be placed on normalised measurements, taking into consideration resource consumption scaled by separations, occupied bed-days (OBD) and total patients treated.

During this financial year Western Health's portfolio increased its operational area by over 2000 m2 and the number of separations decreased by 3.5 per cent. With this in mind, the analysis below will look at the resources utilised to deliver our health care services.

Normalisers	Baseline 2014 /2015	2018 /2019	2019 /2020	2020 /2021	% Change from baseline	% Change Previous Year
Area m2	115,356	116,406	136,406	138,513	20.07	1.54
OBD	333,738	359,200	346,241	349,649	4.76	0.98
Separations	115,337	133,550	130,726	126,181	9.40	-3.48
Patients treated	576,428	653,701	624,357	629,124	9.14	0.76

Table 1: Comparison of normalisers

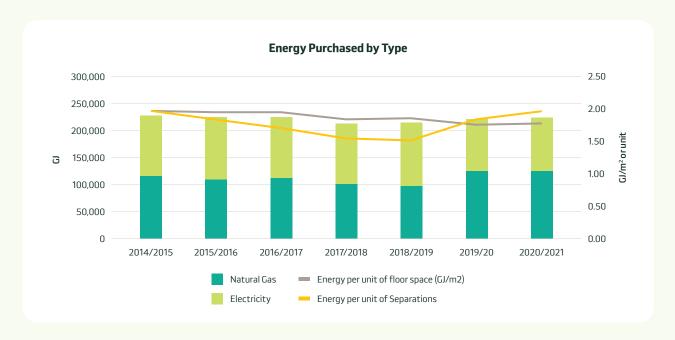


Total energy consumption increased by 3 per cent from the previous financial year, bringing the total increase from the baseline (FY14/15) to 9 per cent. This can be attributed to expansions in the Western Health portfolio, namely Joan Kirner Women's and Children's in FY 19/20 and Community Chef in FY 20/21. An additional contributing factor to the increase in energy consumption (despite the lower occupancy), has been the requirement to operate on return air as standard operational practice, as required by the Victorian Health Building Authority (VHBA).

In light of the above, this year saw a slight increase of 1.4 per cent on energy consumption per unit of floor area (FY20/21 1.79GJ/m 2 vs FY19/20 1.76GJ/m 2). Please refer to table 2 and figure 1.

Normalisers	Baseline 2014/2015	2018/2019	2019/2020	2020/2021	% Change from baseline	% Change Previous Year
Energy per unit of floor space (GJ/m2)	1.97	1.86	1.76	1.79	-9.3%	1.4%
Energy per unit of Separations	1.97	1.51	1.84	1.96	-0.4%	6.7%
Energy per unit of bed-day (LOS +Aged Care OBD) (GJ/OBD)	0.68	0.58	0.69	0.71	4.0%	2.0%

Table 2. Energy consumption comparison



 $\label{lem:figure 1: Total energy purchased with energy normalisation measurements. \\$

Despite the reduction in separations and activity, energy consumption per separations has increased during the 2 pandemic-affected financial years from 1.51GJ in FY18/19 (pre-COVID) to 1.84 and 1.96 GJ/separations in FY19/20 and FY20/21, respectively.

Effectively, the reduction in occupancy has not translated into energy reduction. In fact, by operating under the restricted conditions, portfolio operations have become less energy efficient.

Figure 2 shows a clear trend nearing equal energy consumption for both the pandemic affected years (FY 19/20 and FY 20/21) from July to January and April to June due to similar conditions for COVID 19 restrictions. There is a slight deviation in February and March showing higher energy consumption in FY 20/21. This could have occurred due to the easing of COVID-19 restrictions in February 2021.

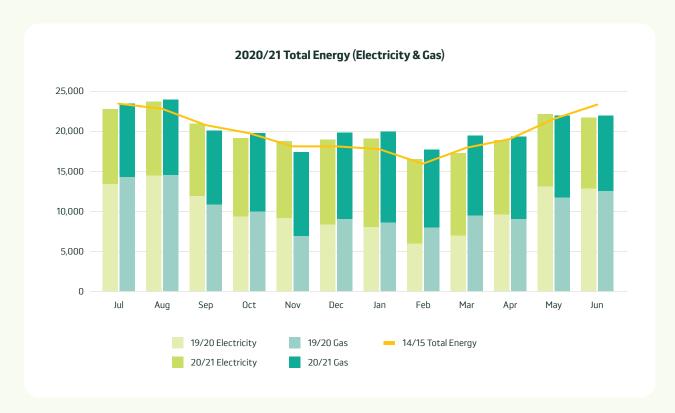


Figure 2: Energy consumption by month for financial years 2019/20 and 2020/21



Greenhouse gas emissions

A comparison and compilation of greenhouse gas emissions for scope 1 and scope 2 is shown in table 3. Yearly emissions have decreased by 0.8 per cent when compared to last financial year. When assessing the emissions per m-2, the emissions intensity has decreased by 0.9 per cent. As

mentioned above, it is likely the similarities in consumption between current and previous year is largely influenced by the compliance requirement to operate on outside air. Western Health emissions during this financial year have remained at 5.4 per cent below the baseline year.

Greenhouse gas emissions

Total greenhouse gas emissions (tonnes CO2e)	Baseline 2014/2015	2018/2019	2019/2020	2020/2021	% Change from baseline	% Change Previous Year
Scope 1	6,008	5,289	6,625	6,570.97	9.4%	-0.8%
Scope 2	36,093	34,451	33,535	33,270.68	-7.8%	-0.8%
Scope 2	36,093	34,451	33,535	33,270.68	-7.8%	-0.8%
Total	42,100	39,740	40,160	39,842.00	-5.4%	-0.8%

Normalised greenhouse gas emissions	2014/2015	2018/2019	2019/2020	2020/2021	% Change from baseline	% Change Previous Year
Emissions per unit of floor space (kgC02e/m2)	364.96	344.50	290.21	287.64	-21.2%	-0.9%
Emissions per unit of Separations (kgCO2e/ Separations)	365.02	279.79	302.82	315.75	-13.5%	4.3%
Emissions per unit of bed- day (LOS+Aged Care OBD) (kgCO2e/OBD)	126.15	108.08	114.33	113.95	-9.7%	-0.3%

Table 3. Greenhouse gas emissions comparison

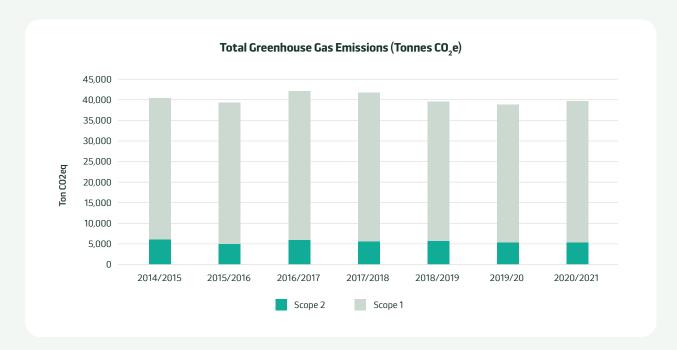


Figure 3: Total organisational emissions (tonnes CO₂)

It is important to note that while scope 2 emissions (electricity) have decreased by 7.8 per cent, scope 1 emissions (gas and fleet fuel) have increased by 9.4 per cent, when compared to the baseline year. The overall decrease in the organisation's carbon footprint is associated to the higher incidence scope 2 emissions have on the portfolio's performance.

Following the Victorian Government commitment to source 100 per cent renewable electricity for all public buildings by 2025, Western Health has placed a strong focus on its asset management approach with the aim of reducing scope 1 emissions.

Decreasing scope 1 emissions on existing buildings is proving to be a very difficult task given current technology limitations, space and ability to retrofit existing assets. Therefore, minimising gas dependence on future assets has become our main priority. Western Health continues to explore alternative options with the aim of finding a sustainable solution for the replacement of Sunshine Hospital's gas powered domestic and heating hot water systems. Please refer to figure 4 below.

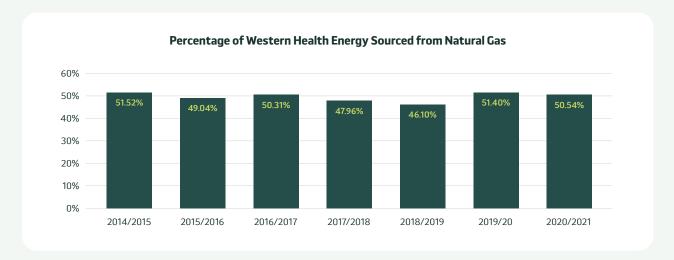


Figure 4: The proportion of total Western Health Energy sourced from gas

Figure 5 presents the past seven years of emissions with the projections required for Western Health to reach its objective of achieving net zero emissions by 2050. A linear projection is shown alongside the projection with a rate of reduction of 4.1 per cent per year. Even though future expansions and the decarbonisation of electricity are accounted for in this graph, Western Health is currently not predicted to reach its target in 2050; a challenge that will be further exacerbated if the organisation is to start monitoring its scope 3 emissions. Thus, it is vital for us to incorporate sustainability into all decision making to reach our target.

Assumptions and clarifications

- The rate of emissions reduction was taken to be 4.1%, which is the average reduction over the past 6 years.
- A large drop in emissions is expected after 2025, due to the Victorian Government initiative to provide public buildings with 100% renewable energy by 2025. See figure 5.
- Current projects and building expansions (until 2026)
 are included in the assumptions for assessing Western Health's emissions profile and forecast.



Figure 5. Total Carbon Emissions with 2050 Projection



Water usage has been significantly reduced this year due to low occupancy, as staff are working from home for COVID-19 restrictions (see table 4 below). The water usage has decreased by 10 per cent with respect to the previous year (FY 19/20). It is relevant to mention that due to a major water leak in the month of December (FY 19/20),

water performance comparisons between FY 19/20 and FY 20/21 are not necessarily accurate. Figure 6 shows that water consumption has been virtually unchanged across the entire year (FY 20/21), this can be attributed to the low activity/occupancy through the pandemic.

Water Consumption

Total water consumption by type (kL)	Baseline 2014/2015	2018/2019	2019/2020	2020/2021	% Change from baseline	% Change Previous Year
Class A Recycled Water	N/A	N/A	N/A	N/A	N/A	N/A
Potable Water	229,160	228,996	227,634	201,369.55	-12.1%	-11.5%
*Reclaimed Water	2,497	5,502	N/A	N/A	N/A	N/A
Total	231,657	228,996	227,634	201,370.00	-1.7%	-0.6%

Normalised water consumption (Potable + Class A)	Baseline 2014/2015	2018/2019	2019/2020	2020/2021	% Change from baseline	% Change Previous Year
Water per unit of floor space (kL/m2)	1.99	1.99	1.45	1.45	-26.8%	0.0%
Water per unit of Separations (kL/Separations)	1.99	1.61	1.65	1.60	-19.7%	-3.2%
Water per unit of bed-day (LOS+Aged Care OBD) (kL/OBD)	0.69	0.62	0.64	0.58	-16.1%	-10.6%

Table 4. Water consumption Comparison

^{*}Reclaimed Water data not available due to issues with the metering system

Overall, water usage for the portfolio has decreased by 12.1 per cent with reference to the baseline year. When assessing water usage per m2 against FY19/20, an 11.5 per cent improvement is observed. Water usage per separations and per occupied bed-day has also decreased this financial year by 3.2% and 10.6% correspondingly, with water usage per separation now showing a substantial drop of 26.8 per cent from the baseline, but remained the same as past financial year. As mentioned above, this data is the reflection of lower occupancies in the hospitals. Please refer to figure 6 below.

Assumptions and clarifications:

FY14/15 water consumption data presents two drops in usage during October and December. The latter, more importantly, seems to have occurred during a summer month, a period where water usage is expected to be at its peak, as observed during November and January. This inconsistency brings into question the veracity of this data. No further information was available at the time of finalising this document (See figure 7).

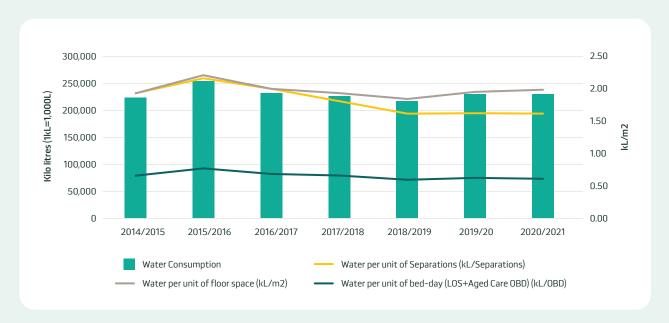


Figure 6. Total Water Consumption with Normalisers



Figure 7. Monthly water consumption fy20/21 and previous fy19/20 (million litres)



Waste type	Baseline 2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021	% Change from baseline	% Change Previous Year
Clinical waste (tonnes)	317	376	336	336	338	330	440	38.80%	33.3%
Clincal waste bagged (tonnes)	290	345	305	305	308	301	410	41.4%	36.2%
Clincal waste sharps (tonnes)	27	31	31	31	29	29	0	11.1%	3.4%
Landfill (tonnes)	1,444	1,290	1,359	1,358	1,244	1,384	1,367	-5.3%	-1.2%
*Recycling (tonnes)	546	558	554	570	604	698	506	-7.3%	-27.5%
Total waste to landfill generated (kg clinical waste + kg general waste	1,761	1,666	1,695	1,694	1,582	1,714	1,807	2.6%	5.4%
Total waste generation	2,307	2,224	2,249	2,264	2,186	2,412	2,313	0.3%	-4.1%

Waste type	Baseline 2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021	% Change from baseline	% Change Previous Year
Waster / OBD (kg)	6.91	6.57	6.34	6.24	5.95	6.82	6.45	-7%	-5%
Waste / patient treated (kg)	3.99	3.73	3.59	3.51	3.34	3.78	3.58	-10%	-5%
Total waste to landfill per patient treated (kg clinical waste + kg general waste)/PPT	3.04	2.80	2.71	2.63	2.42	2.68	2.79	-8%	4%
Rate of diversion from landfill	27.44%	30.19%	28.96%	29.56%	32.68%	33.53%	27.02%	-2%	-19%

Table 5. Waste streams comparison

Clinical waste during FY 20/21 has been at an all-time high, with the organisation seeing an increase in generation of 33.3 per cent in reference to the previous year (FY 19/20). The portfolio expansion in conjunction with the COVID-19 pandemic has amplified the production of clinical waste (PPE, etc.) generating an increase of 110 tonnes. Figure 8 displays a spike in clinical between the months of July

and November for FY 20/21 with respect to FY 19/20. Stricter COVID-19 measures in these months (second and longest lockdown) demanded increased use of personal protection equipment and disposable items such as gloves and facemasks that attributed to this change. This trend repeats in later months – February to June – in alignment with lockdown restrictions.

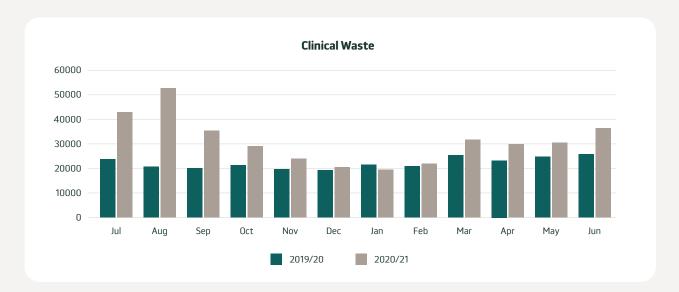


Figure 8. Comparison of clinical waste broken down by month (2019/20-2020/21).

Despite the organisation's expansion, recycling volumes have reduced by 27.5 per cent across the portfolio. This outcome reflects the activity reduction on elective surgeries and low occupancy with staff working from home due to COVID-19. With several recycling programs put on hold, landfill diversion rate has decreased from 33.5 per cent to 27 per cent. While less waste was produced than last year, a higher proportion of it has ended up in

landfill. Overall, total waste generation at Western Health decreased by 4.1 per cent compared to the previous financial year and there was a slight 0.3 per cent increase when compared to the baseline. Figure 9 shows the dramatic increase in clinical waste by reductions in waste elsewhere. The pandemic has shed a light on some key waste management issues within the industry.

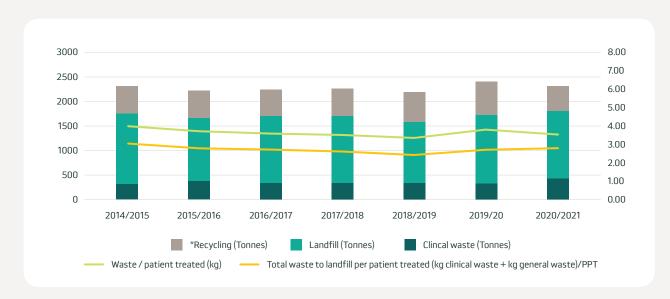


Figure 9: Waste generation with normalisers.

In particular, the dramatic increase in clinical waste per separation (figure 10) has reversed reductions previously achieved in this area. These issues have begun to inspire research needed to make positive change maintain Western Health's position as an industry leader.

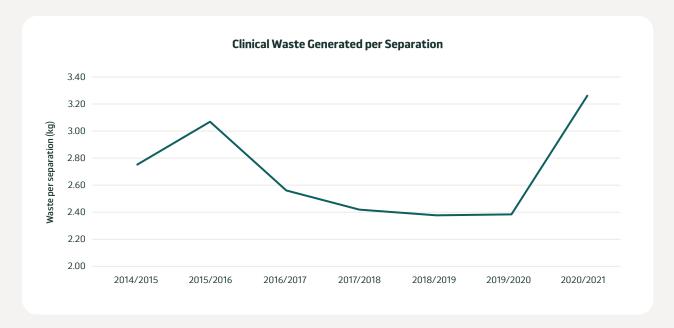


Figure 10: Clinical waste produced per hospital separation over the past financial years.

The challenges experienced during the last pandemic highlighted the urgency of additional action on Climate Change and waste generation. Both issues pose a real and imminent threat to business activities. Western Health will continue to emphasise the importance of implementing holistic strategies to drive real organisational change.



Together, caring for the West

westernhealth.org.au

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