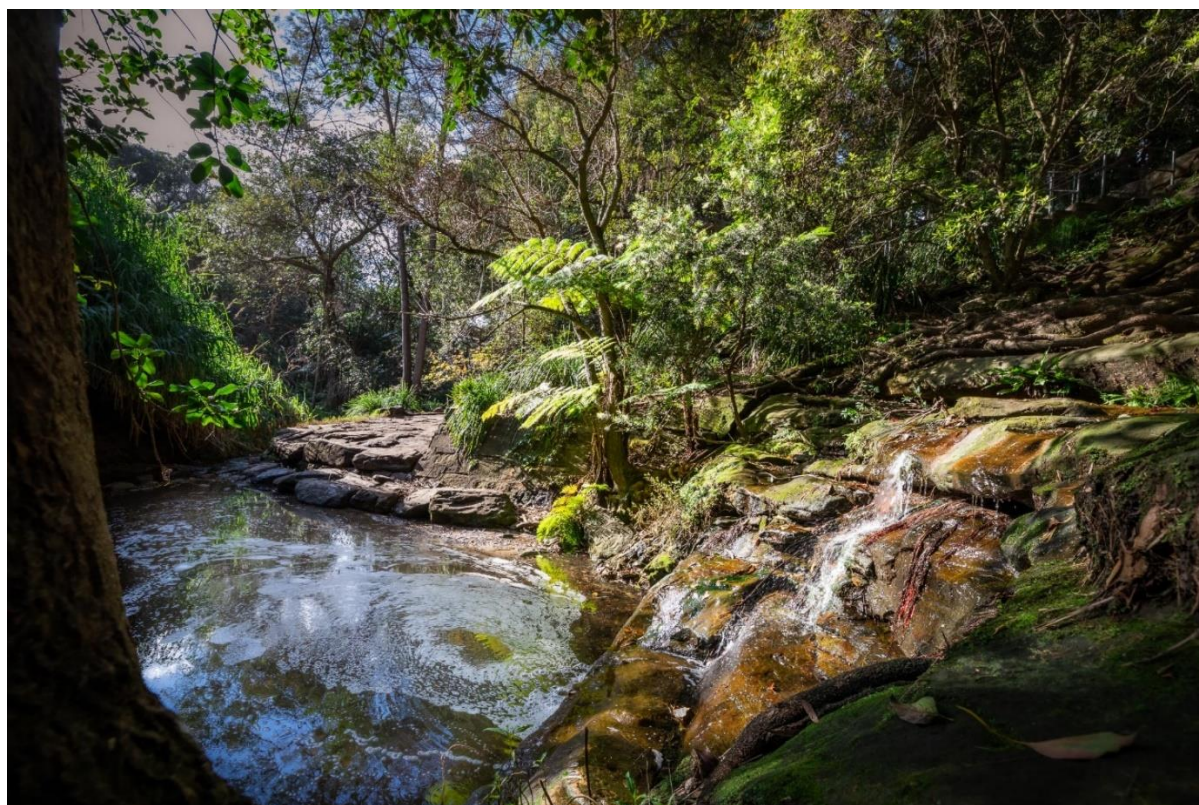




WAVERLEY
COUNCIL



State of the Environment Report 2021

1. Introduction

This State of the Environment Report for the Waverley Council LGA provides a brief snapshot of the environmental performance of Council against targets and some of the key environmental projects undertaken by Council and the local community.

The Waverley Local Government Area is known for its spectacular coastline but also for a community that is passionate about the environment and strongly supports Council to achieve ambitious environmental targets. Waverley Council has been implementing the *Environmental Action Plan 2018-2030* which has key focus areas of Energy and Climate Change, Sustainable Water, Urban Ecology and Sustainable Waste. To achieve environmental targets in these areas Council delivers projects that focus on the following areas:

- Advocacy and policy
- Capacity-building and behaviour change
- Collaboration and partnerships
- Leadership by example

Through this Council works to ensure that environmental sustainability is second nature in both Council and the community, and that environmental goals are achieved not just through specific environmental projects but through Council wide activities and through the work of the community.

In 2020 Council achieved and exceeded our corporate greenhouse gas emission target that was set over a decade earlier as part of Council's first *Environmental Action Plan*. Council also has a community greenhouse gas emission target for emissions across the whole Local Government Area (LGA) which wasn't achieved, but there is steady and continuous progress in this area. During the last Council term, Council declared a climate and biodiversity emergency and increased their targets so that Council will be net zero for their scope 1 and 2 emissions by 2030, which is ambitious but on track to achieve.

Since March 2020, the COVID-19 pandemic has had a very significant impact on Waverley Council and the community. This has resulted in significant changes to transport use, waste generation and patterns of consumptions that have both positive and negative environmental outcomes such as reduced transport emissions but also increasing waste generation and use of single use plastics.

Council will be updating their Environmental Action Plan in early 2022 which will outline how Council and the community will achieve targets in the areas of Greenhouse Gas Emissions and Climate Change; Urban Ecology, Sustainable Water and Sustainable Waste.

2. Greenhouse gas emissions and climate change



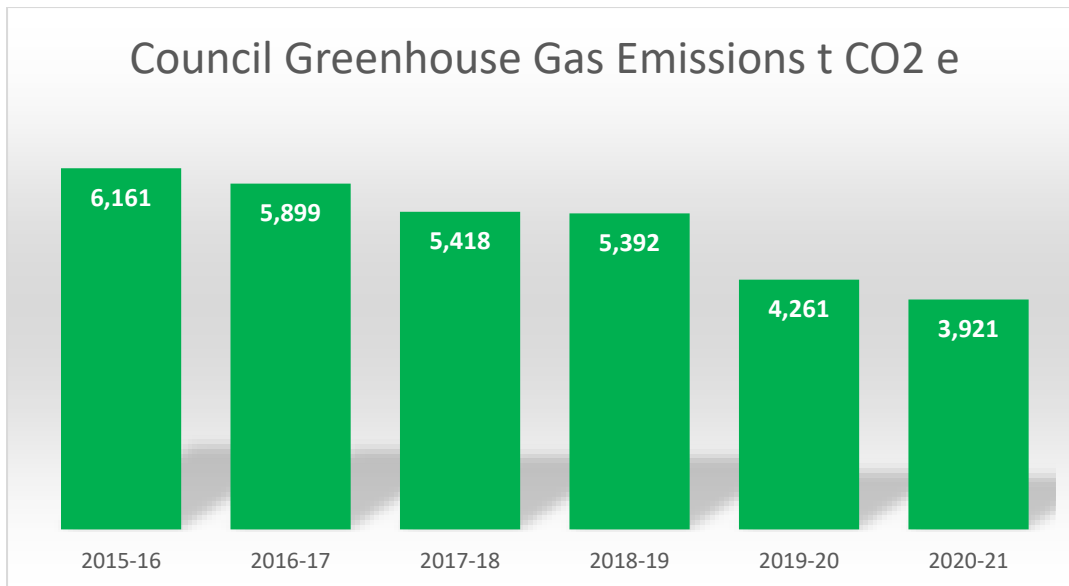
Reducing our greenhouse gases and preparing for the impacts of climate change

Council Greenhouse Gas Emissions

Council achieved the target to have a 30% reduction in GHG emissions of 2003/04 levels by 2020 for their own Council emissions.

In the last term Council declared a Climate and Biodiversity Emergency and in 2021 Council increased our greenhouse gas emission target with a commitment to become net zero by 2030 for our scope 1 and 2 emissions. This will entail the full transition away from the use of fossil fuel gas and also changing all of Council's fleet vehicles to electric vehicles powered by renewable energy.

Council achieved the 2020 organisational greenhouse gas emission reduction target, and has now achieved a 50 per cent reduction in greenhouse gas emissions compared to the baseline year.



In 2020/21 Waverley Council also became carbon neutral through the purchase of carbon offsets for the remainder of our scope 1 and 2 emissions.

Council Greenhouse Gas Mitigation activities

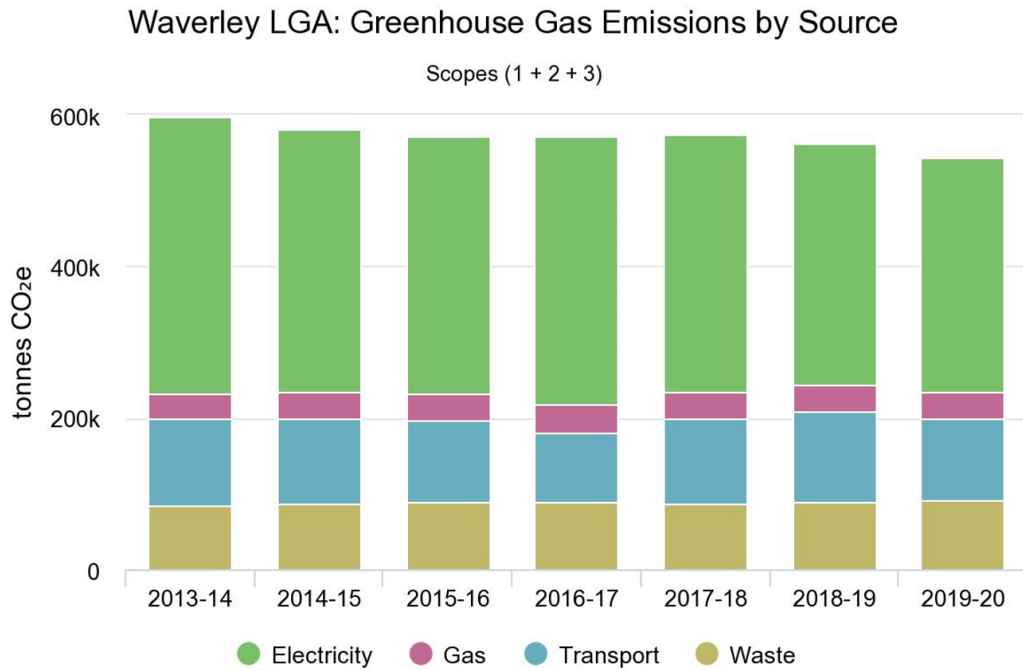
Since 2019, Council has purchased more than 30% renewable energy annually through a Power Purchase Agreement and purchase of electricity from the Moree Solar Farm.

Council has now upgraded the majority of lighting at all of our major community buildings and car parks. Upgrading to LED lighting can achieve savings of up to 80% and significantly reduces our greenhouse gas emissions. Council has worked with AusGrid to upgrade the majority of our residential streetlighting to LEDs in the last 3 years and is now looking to upgrade our main road lighting.

Council's major community facility the Bondi Pavilion is currently undergoing a major restoration and will be constructed to 5 star green star rating (Green Building Council of Australia) and will include a large rooftop solar array.

Community Greenhouse Gas Emissions

While community greenhouse gas emissions are reducing, the 2020 target was not achieved and there will be significant work to be done for the community to achieve a 70% greenhouse gas reduction by 2030. However it is noted that community greenhouse gas emissions continue to reduce, despite ongoing increases in the local population.



Community Greenhouse Gas Mitigation projects

Building Futures

Council's [Building Futures program](#) continues to assist multi-level apartment buildings to reduce their energy and water consumption and improve their waste management practices. The program includes detailed building assessments to identify actions the Owners' Corporation and on average buildings have been able to reduce energy use by over 20%, saving over \$10,000 per year, per building.

In 2020-21, in response to the economic and social challenges presented by the COVID-19 pandemic the third round of Building Futures also included aged care and social housing participants to reduce energy consumption in common areas, operating costs, and carbon emissions for vulnerable residents.

Solar My School

[Solar my School](#) is a free local government initiative founded in 2016 by Waverley, Woollahra and Randwick Councils as part of the 3-Council Regional Environment Program to help schools access the commercial, environmental and educational benefits of renewable energy. The

program is designed to overcome key barriers for schools to install solar power by making the process easy and seamless with independent support from start-to-finish.

97% (60 of 64) schools in the Eastern Suburbs have been involved, the program has expanded and as of July 2021 1.95MWh of solar power has been installed across 138 schools in NSW. In September 2020, Solar my School won the Service Design Public Sector Services category in the Australian Design Awards in recognition for outstanding design and innovation, adding to a long list of recognition and awards for this Council program.

In Waverley, Solar My School has helped, Moriah College, Clovelly Public School, Waverley College, St Catherines, Bondi Public School, Bondi Beach Public School, Gaililee Primary, and St Clares College install solar.

Electric Vehicle Charging Network

Waverley Council was one of the first Australian Councils to install [on street charging](#) with the install of charge points at Bondi Beach and Bondi Junction. Decarbonising the transport sector through electric vehicles powered by renewable energy will be a key pathway for the local community reaching net zero.

Bondi Junction Cycleway

The Bondi Junction Cycleway and Streetscape Upgrade is a priority project from Complete Streets, where we green and beautify public areas and footpaths, make meeting places more appealing and improve connections for cycling, walking and access to public transport. Improving active transport in Waverley is a key way that the Waverley community can reduce their greenhouse gas emissions.

Resilience and Preparing for the impacts of climate change

Climate Change Resilience Framework

Council has prepared a climate resilience framework that brings together the different areas of Council that will contribute to ensuring that the area is resilient to climate change. This framework has been broken down into five areas:

- Emergency Management
- Asset Management
- Environmental Sustainability
- Community Services and Planning
- Strategic Planning

In 2021 Council undertook a climate change risk assessment for the Community Services and will be undertaking Assets and Planning risks assessments shortly.

Future Proofing Residential Development to Climate Change

Ensuring that our local dwellings are safe and resilient under future climate conditions is key. Through a NSW Government grant funded project, Council investigated if current building controls are accounting for climate change, such as projected average and extreme temperature increases and projected seasonal rainfall declines. In partnership with neighbouring Councils and State and Commonwealth colleagues, this research project showed that as the number of warm days increase, cooling needs for houses and apartments may surge by over 300% by 2070, and potentially threatening the safety of communities in the region. Subsequent research also identified design solutions to improve heating and cooling of buildings for Waverley residents through adaptations, such as building materials, window glazing and improved shading. Council is using the findings of this research to implement actions to reduce risks and potential costs to occupants, by addressing heat resilience, emission reductions, energy performance and water management through building and development guidance.

This project was recognised by the Greater Sydney Commission, winning the Planning Disruptor Award, for its clear recommendations to improve and update State planning instruments using future climate data files, to ensure dwellings meet thermal comfort compliance and are safer for residents.

3. Urban Ecology



Remnant Bushland Sites

Waverley Council has approximately 6 hecatres of native remnant vegetation across 12 main sites:

- Clifftop Remnants North
- Caffyn Park
- Diamond Bay Reserve
- Loombah Road Cliffs
- Eastern Reserve
- Raleigh, Rodney and Weonga Reserves
- Hugh Bamford Reserve
- Bondi Golf Course and Williams Park
- Clifftop Remnants South
- Tamarama Pacific Marine Drive
- Waverley Cemetery Cliffs and Calga Reserve
- York Road Eastern Suburbs Banksia Scrub.

There is also the critically endangered plant community Eastern Suburbs Banksia Scrub (ESBS) which is protected under Commonwealth and State legislation. ESBS in our area is

located on private and public land adjoining York Road and within Queens Park. Council manages the verge adjoining the main ESBS area which is managed by Centennial Parklands. There is a population of the threatened species *Acacia terminalis* (subsp. Eastern Sydney) at Loombah Road Cliffs at Dover Heights. Over the last four years new *Acacia terminalis* plants have sprouted at this site which is positive although there is likely very low genetic diversity.

Council undertakes 5 yearly surveys on the condition of this remnant vegetation. Council engages bush regeneration contractors with the relevant skills and experience to implement management actions at remnant bushland sites. Through the implementation of the *Biodiversity Action Plan: Remnant Sites 2015–2020* the area of remnant vegetation in good condition in 2020 (9%) was more than double that identified in the 2015 survey (4%). Over the 5 years, 26 patches of remnant vegetation expanded via natural processes as a result of bush regeneration practices. These increases in vegetation area and condition are strong evidence that the implementation of the Biodiversity Action Plan: Remnant Sites 2015–2020, has been successful. The fragmented and vulnerable character of all of Waverley’s remnant vegetation, and the finding that just 9% of remnant vegetation is now in good condition, are indicators that restoration and retention of this vegetation will need to be a long-term and ongoing undertaking.

Bronte Ecological Restoration and Action Plan

[The native restoration of the Bronte Gully](#) continues to progress as an area of native bushland with a diverse range of native plantings expanding into areas previously occupied by dense weed thickets. This is a long term plan that is implemented in stages through the use of bush regeneration contractors, the support of the two Bronte Gully volunteer bushcare groups, and plantings undertaken as part of National Tree Day. On the northern slope of Bronte Gully further zones have been weeded with coral trees removed and native plants establishing well. Bronte Gully has significant use so balancing the needs of all users is difficult as is the time required for weed management.

Tamarama Ecological Restoration Framework and Action Plan

The [Tamarama ERFAP](#) is a long term plan that over the last 4 years has significantly progressed and transformed the area above and around the waterfall. The native plants put in following the removal of budlejia weed are now established and have created a significant area of habitat. The area of habitat in Tamarama Gully now connects with new native plantings along the Carlisle St stairs and Carlisle median which all have maturing native habitat.

Living Connections

With the support of the NSW Government Environmental Trust, Waverley Council has delivered the [Living Connections program](#) to improve native habitat on private property in the Bronte and Tamarama areas. Private gardens hold the key for reconnecting habitat and creating healthy thriving neighbourhoods. Working with 165 households, Council provided garden and planting advice and native tubestock to these residents who have reported that these plants and recommended habitat features have supported increased insect, pollinators and small animals sitings, which can improve connectivity and protections for local small bird populations.

Over the three years of this project, Living Connections has provided over 5,000 new native plants to participating sites, with a reported plant survival rate for over 80%.

Bushcare Program

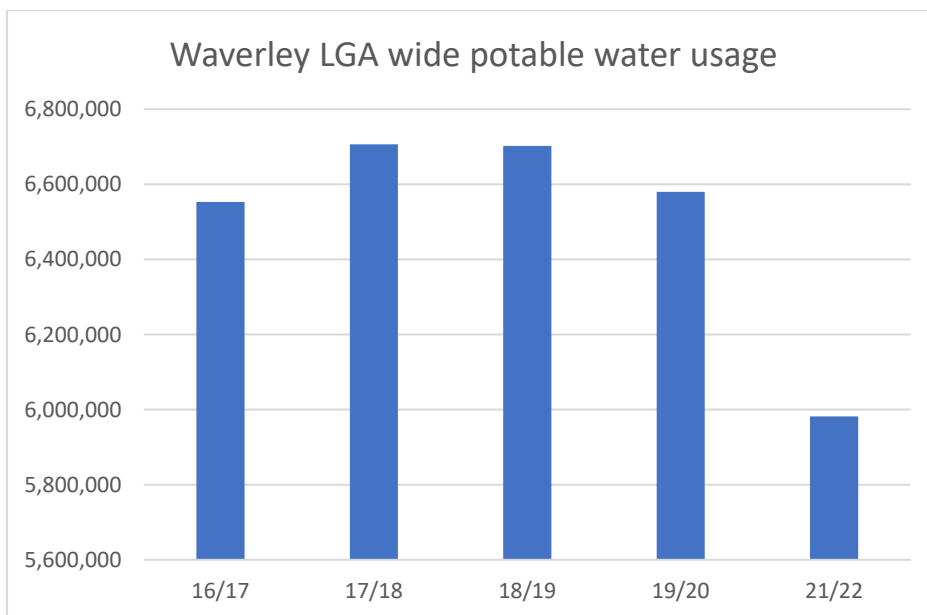
In addition to the work of Council staff and bush regenerators, an important component in caring for Waverley's bushland is the contribution of our volunteer Bushcare groups. The [Council Bushcare program](#) operates over 5 sites at Diamond Bay, Eastern Reserve, Hugh Bamford Reserve, Bronte Gully and Bronte Gully Waterfall. In 2020 and 2021 volunteers dedicated more than 500 hours to Waverley's natural areas through land conservation and bush regeneration activities.

4. Sustainable Water



Potable water targets

Waverley Council achieved our potable water target in 2020/21 of no net increase above 2005/06 levels with only 47,764Kl of water consumed on Council controlled sites. This has been through the ongoing use of recycled water at Bronte, Tamarama and Bondi Beach and also at Barracluff Reserve and Waverley Park. Council has ensured sustainable water management at our buildings and facilities, including the installation of smart irrigation systems at our parks and real time leak detection to maximise water efficiency.



While the community did not achieve the potable water target in 2019/20 for the whole LGA in 2020/21 there has been around 10% reduction in water use. Analysis of this is that there was higher water use during 19/20 due to higher temperatures and lower rainfall. In 20/21 due to COVID restrictions it appears that water usage by commercial properties is down by 25%. It is likely that this will not continue into the future.

Water quality

The NSW Government Beachwatch program measures the water quality at Bondi, Bronte and Tamarama Beaches. All of our beaches have been rated good. Despite this there are water quality issues at our beaches after rain due to stormwater run-off and also in our receiving catchments of Sydney Harbour and Centennial Parklands. Waverley Council manages Gross Pollutant Traps at our beaches.

Waverley Council has been actively working with Sydney Water to connect the remaining areas in Watsons Bay, Vaucluse and Rose Bay that aren't connected to the sewerage treatment system so that untreated effluent no longer enters the coast at Diamond Bay and near to Eastern Reserve.

Coastal Management

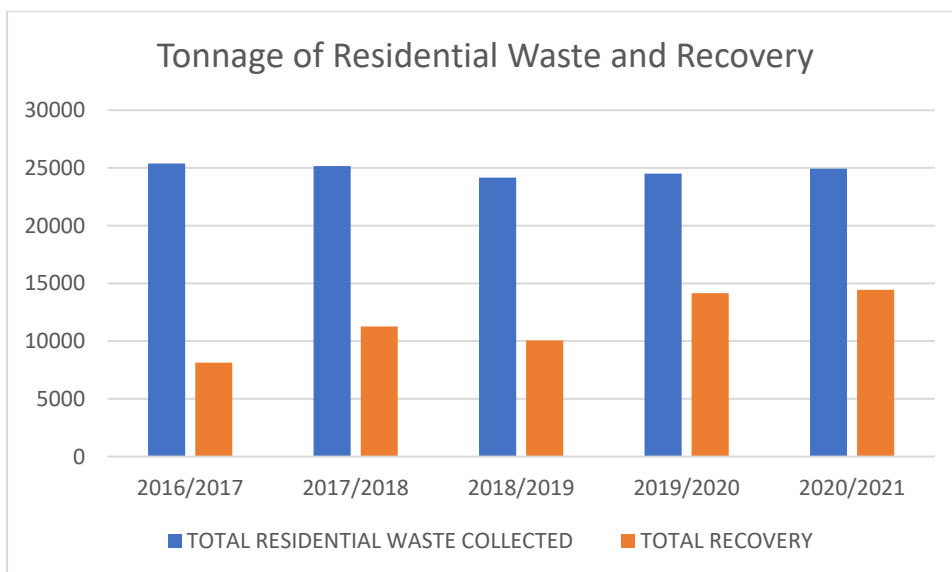
Over coming decades our Beaches will experience development, population and visitation increases, and climate changes. These will impact coastal assets, water quality, local biodiversity, and amenity, and place increasing pressures on local resources. In 2020 in collaboration with Randwick and Woollahra Council, an Eastern Beaches Coastal Management Plan (CMP) Scoping Study was completed. Council is now progressing to the development of a comprehensive CMP, to ensure Council can sustainably manage our coastline in to the future.

5. Sustainable Waste



Since 2016/17 to 2020/21 Council has been able to increase the total waste recovery, that is, diversion from landfill from 32% to 58%. As of July 2017, Council’s kerbside red-lid bin waste, including food waste, has been processed through a new Mechanical and Biological Treatment (MBT) facility at Woodlawn whereby the organics material in the red bin is able to be extracted and reused for land remediation. This is on top of the resource recovery that occurs through the use of the garden organics (green bin), paper and recycling (blue bin) and plastics and containers (yellow bin) waste streams. This is one of several landfill diversion strategies that Council is undertaking in order to meet our target resource recovery rate of 75% by 2020. The MBT has allowed Waverley to increase our recovery rates to 58%.

Council has also been actively working with the community to promote the circular economy and reduce the amount of waste and recycling being generated.



Moving towards a Circular Economy

In 2019, Council completed its first roads made from recycled soft plastics, glass bottles and printer toner as part of Council's circular economy roadmap to reduce waste sent to landfill. Council has re-sheeted sections of Blair Street, North Bondi and Henrietta and St Thomas Streets, Bronte with Reconophalt, an innovative asphalt product composed of materials that would otherwise likely end up in landfill, stockpiled, or as a pollutant in the local environment. Each tonne of Reconophalt contains around 800 soft plastic bag and packaging equivalents, 252 glass bottle equivalents, toner from 18 used printer cartridges and 300 kilograms of reclaimed asphalt pavement.

Recycling Improvement Program

The Recycling Improvement Program targeting apartment buildings with waste infrastructure, education and support has more than halved contamination rates, leading to better recycling outcomes. Since its inception in 2018, the program was delivered to more than 120 buildings, reaching 4900 households. For each building, bin room signage, posters, stickers and a separate containers and 890 sets of reusable recycling bag to store recyclables were delivered. In 2020-21 the program resulted in a 74 per cent reduction in contamination in the container recycling bin (yellow lid bin) and 70 per cent reduction in the paper and cardboard recycling bin (blue lid bin).

Diverting Problem Waste From Landfill

Council provides problem waste recycling through stations and drop off events. Problem waste stations are located at the Library and Customer Service Centre as well as two at Rose Bay Secondary School and Waverley College. Publicly accessible locations recycle batteries, mobile phones, printer cartridges, light globes, x-rays, fluorescent tubes, and oral care products.

From 2017 to 2020, Council has offered electronic waste drop off events, and in 2021 expanded the list of accepted items to include bulky cardboard, textiles, polystyrene, globes, fluorescent tubes, household batteries, medical scans (x-rays and CT scans), mobile phones and accessories. Since 2017, 75.5 tonnes of large e-waste have been diverted through seven events delivered between July 2017 and June 2021 and 2234 people attended.

Council also offers safe collection and disposal of sharps at six chemists. In 2020-21, Council collected 300 kg of sharps.

Preventing and reducing litter

Annual litter audits were conducted at Bondi, Bronte and Tamarama beaches. There has been a trend of litter reduction over the past 12-years at Bondi Beach. The average litter count on the beach per 48 square metres reduced to seven in 2020 from 16 in 2009. The most littered beach was Bondi, followed by Bronte and then Tamarama. Beach walls had the highest accumulation of litter, the centre second and the foreshore was the least littered area of all beaches.

Each summer, Council implements a litter prevention program that involves community engagement, infrastructure improvement and enforcement activities in litter hotspots. In 2018, the Plastic Free Bondi campaign resulted in a 50 per cent reduction in takeaway packaging litter on Bondi Beach. In 2020, the Being Litter Smart in Bondi program achieved an 83 per cent reduction of packaging litter by volume.