Banyule's State of the Environment Report

2022/2023





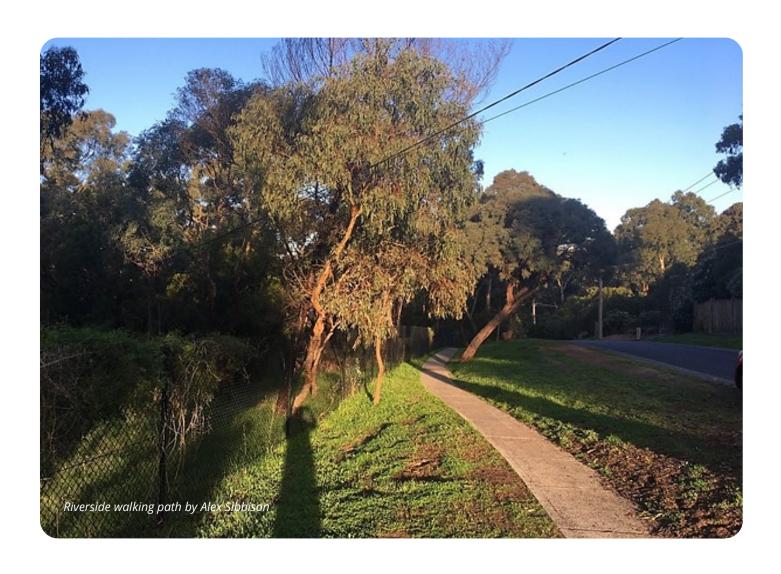
Introduction

The State of the Environment (SOE) Report is an annual glimpse into the work Banyule City Council delivered to ensure our natural environment is healthy and actively cared for. The work included in this report has been undertaken over financial year 2022/2023 and delivers on the strategic objectives outlined in Banyule's Council Plan 2021-2025 under the theme 'Our Sustainable Environment'.

In 2021 the current Council Plan was endorsed and included the Banyule Community Vision 2041:

'We in Banyule are a thriving, sustainable, inclusive, and connected community. We are engaged, we belong, and we value and protect our environment'

This vision embeds sustainability and the natural environment as a priority for Banyule City Council. This report provides a transparent overview of Council's progress against key indicators of environmental sustainability, including climate action, biodiversity, water, greenhouse gas emissions, waste and community engagement.





The SOE Report responds to Council Plan Priority Theme 2: Our Sustainable Environment.

Strategic Objective: A progressive and innovative leader in protecting, enhancing, and increasing the health and diversity of our natural environment, where we all commit to playing an active role in achieving environmental sustainability, waste, and carbon emissions reduction.

Strategies to strengthen our Sustainable Environment:

- 1. Protect and enhance our natural environment, providing connected habitat for diverse flora and fauna.
- 2. Minimise stormwater pollution and the impacts of flooding and maximise Council's water conservation to transition to a water sensitive city.
- 3. Demonstrate leadership in addressing climate change and take action to become a carbon neutral council by 2028 and city by 2040.
- 4. Empower and educate the community and businesses to take actions to achieve positive environmental and climate change outcomes.
- 5. Avoid waste generation and encourage and support the community to achieve zero waste to landfill by 2030.
- 6. Engage and work with the community and partners to protect, enhance and experience the environment.
- 7. Protect, increase, and maintain Banyule's urban forest population to provide a greener City for enhanced liveability.
- 8. Explore and support opportunities for urban farming and community gardens.



Biodiversity



Biodiversity is made up of all living things and the ecosystems that support them. From the expansive parklands of the Yarra River (Birrarung) to the wooded suburban hills of Montmorency, Banyule's natural environment is both unique and diverse. When our neighbourhoods abound in nature and wildlife they provide numerous community benefits, including cleaning our air and water, enhancing our mental and physical wellbeing, buffering us from the impacts of climate change and beautifying our yards, streetscapes and parklands.

Banyule supports an abundance of bushland reserves and leafy neighbourhoods that are biodiverse. But with increasing urban development in our suburbs, the ability of wildlife to move across the landscape and sustain viable populations is hindered. Other threats to biodiversity include weeds, pest animals, climate change and pollution.

To address these threats Banyule is fortunate to have a network of passionate residents and community organisations, and a dedicated Bushland Management Team employed by Council. These environmental stewards invest countless hours in protecting, enhancing and enriching bushland reserves and other public spaces that support biodiversity. To ensure the ongoing protection and enhancement of our conservation reserves, the Bushland Management Team and community volunteers work tirelessly to remove pest plants and animals, reinstate habitat and connect areas, ensuring our plant and animal communities are secure and prosper for years to come.



Biodiversity Indicators:

Indicator	2020/21	2021/22	2022/23
Indigenous species planted in bushland reserves (number of plants)	11,500	13,994	8,398
Friends of volunteer hours (number of hours)	746	416	890
Buy 1 Get 1 Free plant vouchers	117	990	908

In 2022/23 indigenous planting numbers were down due to commitments to ongoing maintenance of past revegetation work, which requires significant time input. The most planted species in bushland reserves in 2022/23 were grasses, herbs and lilies (Figure 1). These are the most abundant plant forms in most vegetation communities and provide important habitat and food for wildlife.

Volunteer hours by Friends of groups in Council bushland sites was up on past results. In addition, a further 2,150 hours was volunteered outside of this program through independent working bees to care for the environment in Banyule. In total approximately 3,000 volunteer hours were invested!

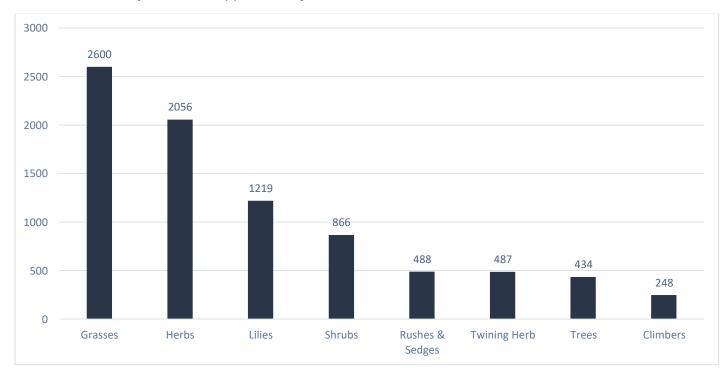


Figure 1: Total number of each plant type planted by the Bushland Management Team and volunteers in 2022-23.



Weed control has shown the same trends as previous years, with most time dedicated to the manually intense work of hand weeding (Figure 2). Hand weeding is a fundamental component of conservation work and has played a pivotal role in achieving an overall increase in the diversity of species across Banyule's bushland reserves. Other important complementary methods included burning, herbicide application and brushcutting.

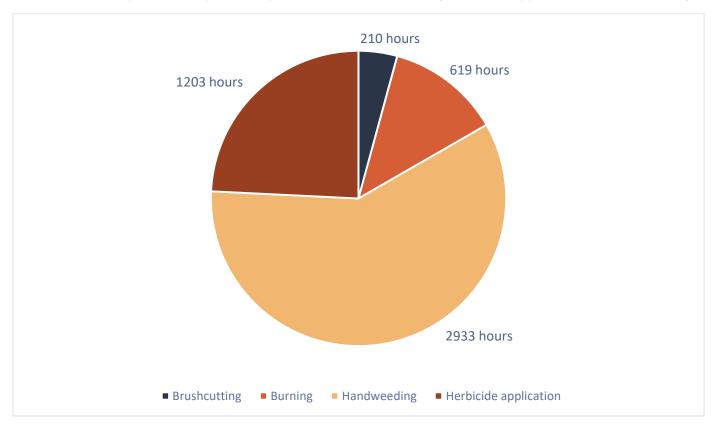


Figure 2: Bushland Management Team and volunteer weed control tasks by hours in 2022/23.



Gardens for Wildlife

Banyule's Gardens for wildlife program has been running since 2021 and has seen significant growth since that time, with 182 residents now participating and contributing to important biodiversity habitat on private property in Banyule. The program is delivered by volunteer Garden Guides and supported by Council. Beyond the benefits to the local environment, Gardens for Wildlife allows people in the community to connect and share in their passion for our local environment.

The 2023/23 financial year saw a significant increase in garden visits and overall program delivery, which is largely thanks to the dedication of our volunteer guides and the Environmental Project Officer driving it in the background. The guidance provided to participants through their garden visits and reports has anecdotally led to increased biodiversity in local gardens.



Eltham Copper Butterfly populations in Banyule

The Eltham Copper Butterfly (*Paralucia pyrodiscus lucida*) is a highly endemic species in Banyule, meaning it only occurs in small, isolated populations. It is also known to exist in our neighbouring Nillumbik Shire Council and further north in Castlemaine and Kiata.

The Eltham Copper Butterfly is currently listed under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999* as *Endangered* and the Victorian *Flora & Fauna Guarantee Act 1988* as *Critically Endangered*. Under this legislation Banyule has an obligation as a land manager to actively monitor and protect this species. Council's Bushland Management Team has been working to protect the Eltham Copper Butterfly at Andrew Yandell Reserve since 2004. Excitingly in 2021 a local community member discovered Banyule's second population on a road reserve in Montmorency, triggering plans to ensure the ongoing protection of this species at the site.



The Eltham Copper Butterfly has unique habitat requirements and a fascinating symbiotic relationship with a species of ant and host plant, the Sweet Bursaria (Bursaria spinosa). Ongoing management of the ecosystems these butterflies are found in is critical to ensure their survival and prosperity. Annual monitoring programs tell management teams how the Eltham Copper Butterfly is tracking and allow decisions to be made on when different management techniques need to be implemented. Population data (Figure 3) shows that the Andrew Yandell population has remained stable and resilient over time, a testament to the dedication of the **Bushland Management Team and local** volunteers in caring for this species and its habitat.

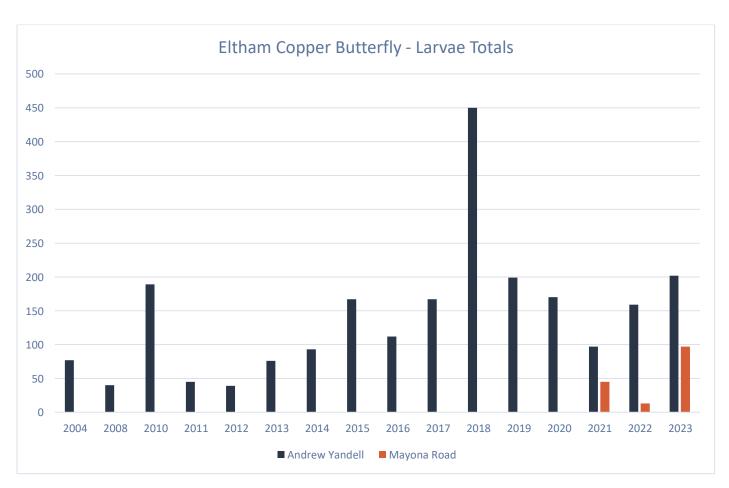


Figure 3: Number of Eltham Copper Butterfly larvae recorded through annual surveys since 2004 (Andrew Yandell Reserve population) and 2021 (Mayona Road population). Surveys at Andrew Yandell Reserve became annual from 2010.

Backyard Bird Count

Each year Council staff and Banyule residents take part in the Aussie Backyard Bird Count, which is now in its tenth year. It is a citizen science program that captures bird observations in backyards, parks, and local wildlife areas. Bird population numbers and diversity are important indicators of the overall health of our local environment and the wildlife habitat it supports.



Overall, observations were down significantly in 2022/23 for the Backyard bird count. The top 5 birds recorded stayed the same (Table 1), but Noisy Miner observations as a portion of total observations increased by 4%. This aligns with anecdotal observations community members are making, with noticeable impacts on the number of other species due to displacement. Pleasingly, the proportion of Common Myna observations remained stable. This speaks to the ongoing success of the Common Myna trapping program in many residential backyards, facilitated by the Darebin Creek Management Committee.

Small bird populations were also significantly lower (Table 2), but their observations as a proportion of total observations increased. This demonstrates

there are still pockets of suitable vegetation for these small woodland birds, but also highlights the need to increase these patches to safeguard and increase numbers. It was encouraging to see Spotted Pardalotes in the top as they had been absent for the past two years.

Table 1: Top 5 overall bird species observations.

2020/2	2020/21		2021/22		2/23	
Common Name	Number	Common Name	Number	Common Name	Number	Trend
Rainbow Lorikeet	7,692	Rainbow Lorikeet	9,801	Rainbow Lorikeet	4,727	1
Noisy Miner	6,041	Noisy Miner	6,233	Noisy Miner	4,311	1
Australian Magpie	2,960	Australian Magpie	2,915	Australian Magpie	1,627	-
Little Raven	1,902	Little Raven	1,695	Little Raven	997	1
Red Wattlebird	1,832	Red Wattlebird	1,637	Red Wattlebird	958	•

Table 2: Top 5 small bird species observations.

2020/2	2020/21			202	2/23	
Common Name	Number	Common Name	Number	Common Name	Number	Trend
Brown Thornbill	95	Grey Fantail	142	Red-browed Finch	89	•
Red-browed Finch	89	Superb Fairy-wren	114	Brown Thornbill	74	•
Grey Fantail	75	Brown Thornbill	101	Superb Fairy-wren	46	•
Superb Fairy-wren	70	Silvereye	64	Spotted Pardalote	42	NEW
Willie Wagtail	50	White-browed Scrubwren	62	Grey Fantail	39	•

Table 3: Top 5 introduced bird species observations.

2020/21		2021/22		202	2/23	
Common Name	Number	Common Name	Number	Common Name	Number	Trend
Common Myna	1,594	Spotted Dove	1,385	Common Myna	783	-
Spotted Dove	1,066	Common Myna	1,229	Spotted Dove	752	•
Common Blackbird	381	Common Blackbird	312	Rock Dove	257	1
Rock Dove	245	Rock Dove	292	Common Blackbird	201	1
Common Starling	206	Common Starling	68	Common Starling	53	1

To learn more about the Backyard Bird Count, follow the QR code below.



Banyule's Urban Forest

Trees are an integral component of the Banyule landscape. With increasing pressures from urban growth and climate change, the services that trees provide to people and wildlife, such as habitat, shading and cooling, are vital to Banyule's liveability and sustainability for current

and future generations. When asked what Banyule residents valued most about Banyule in Council's most recent community survey, the most popular response was the green, leafy character of its neighbourhoods and parks.

Banyule experienced above average rainfall in early 2022 due to La Nina, which resulted in some planting intended for 2022/23 financial year being brought forward to take advantage of the favourable tree establishment conditions. As such, the number of trees planted in public spaces in 2022/23 (1,627) was down from the 2021/22 total of 4,416. This included 1,333 trees planted within streetscapes and 294 scattered trees planted within parklands. This work aims to maintain and enhance Banyule's urban forest to maximise the range of ecosystem and human services that trees provide. The urban forest can be defined as the trees and green assets that exist in the urban area that are strategically

planned, designed and managed, and the ecosystems, soils and water that support them. Council is developing a new Urban Forest Strategy to guide ongoing protection and enhancement of Banyule's urban forest into the future. Follow this QR code for more info:



Urban Forest Indicators:

Indicator	2020/21	2021/22	2022/23
Council tree plantings in streets and parks	3,150	4,416	1,627
Net gain of trees per year (public land)	1,350	2,383	758



Water



Water is a vital resource for plants, animals and people and supports a healthy, productive and resilient environment. Banyule is fortunate to contain many important waterways such as the Yarra River (Birrarung), Plenty River, Darebin, Banyule, Salt and Karingal Yalloc creeks, and wetland sites such as Banyule and Warringal Swamps and Banyule Billabong. These watery habitats abound in local flora and fauna and provide us with opportunities to meaningfully connect with nature.

Council is committed to protecting waterway assets through effective stormwater quality management, mitigating floods and managing aquatic ecosystems. Council is also devoted to conserving water through its operations and has set a target to keep water use below 300 ML (megalitres) per year.

Water Indicators:

Indicator	2020/21	2021/22	2022/23
Banyule Council water use (ML)	197	227	242
Litter collection (tonne)	77.5	68.5	35
Silt collection (tonne)	280	1300	460

Although the Viewbank rainfall gauge recorded 128% of average annual rainfall, Council's water use trended upward as several new sports ovals were converted to warm season grass (Figure 4). These ovals will require 40% less irrigation in the future but need establishment watering. Warm season grasses are adapted to warmer environments and less rainfall, making them more resilient to current and future climate change. Despite the additional need for irrigation, overall water use remained below the 300 ML target.

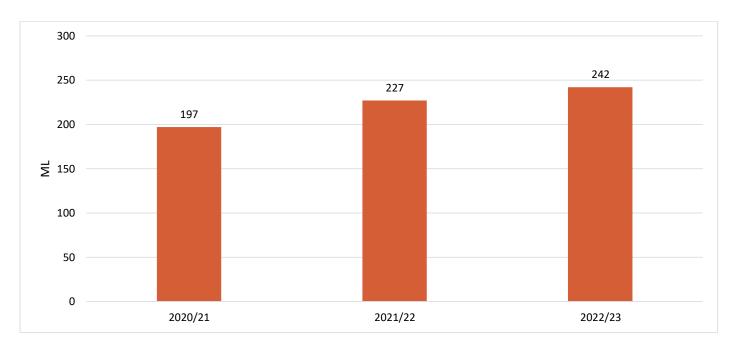


Figure 4: Banyule Council water use (ML) across all operations.

2022/23 saw a continuation of litter collection in our litter traps, though Confined Space Assessments to ensure staff and contractor safety delayed the Gross Pollutant Trap cleaning program. Figure 5 shows that the 2022/23 collection rate fell 15 tonnes under the 50-tonne target that Council has set in the Water Plan. Ongoing collection of litter from these traps improves the visual appearance of our creeks and rivers and reduces the impact of litter on local wildlife.

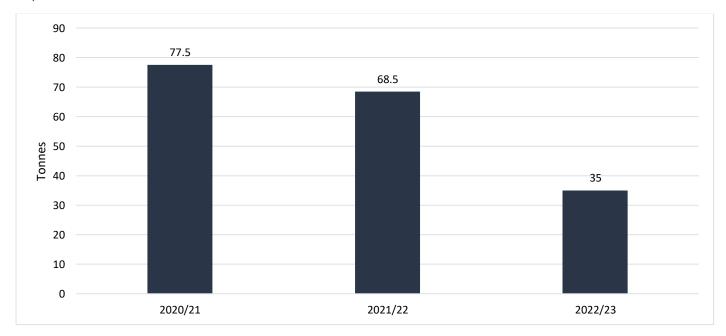


Figure 5: Litter collection (tonne) from gross pollutant traps under Council management.

Council aims to remove 130 tonnes of silt per year from small wetlands and undertake bigger desilting projects from larger wetlands that are due for renewal. Desilting is an important activity to prevent local rivers and creeks becoming so muddy that wildlife like fish and platypus cannot survive. In 2022/23 Council removed 460 tonnes of silt across the wetlands that it manages (Figure 6). This included small sediment ponds at Redmond Court wetland in Bundoora and Remembrance Park Heidelberg, which contained enough material to well exceed the 130-tonne annual target.

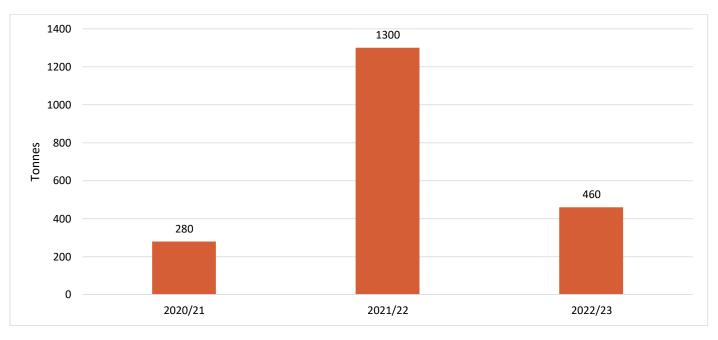
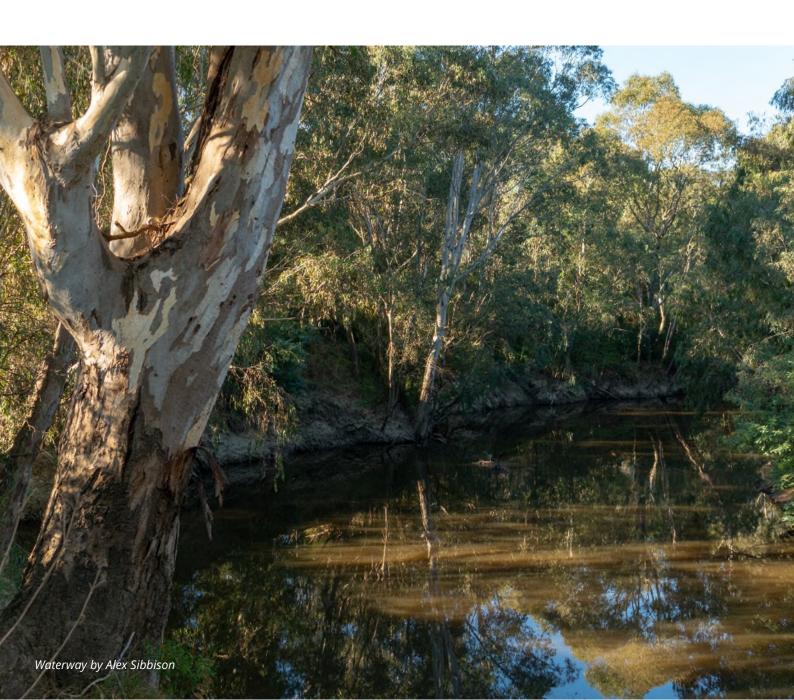


Figure 6: Silt collection (tonne) from Council-managed wetlands in Banyule.



Litter in waterways

Litter in waterways is a significant environmental issue, not only for the impact on amenity but also for the impact it has on wildlife such as water birds and platypus. A 2021 study (Serena, M and Williams, G. *Australian Mammalogy* 44(1) 81-86) found that more than a third of known individuals in some urban streams had been entangled at least once in their life, and that 4% of platypus in live trapping surveys were encircled by rubbish in Greater Melbourne.

Banyule has more than a dozen litter traps (also known as Gross Pollutant Traps or GPTs) in the municipality that are designed to catch litter before it gets to local creeks and streams, and is reviewing new sites for GPTs annually. Our Water Plan has a target of 50 tonnes of litter removal via these traps per year.

The latest litter trap installed above Greswell Forest Nature Conservation Reserve in Bundoora has a unique design. The mesh top lets passers-by see the amount of litter it catches, even after a single storm. The Urban Stormwater Best Practice Environmental Management Guidelines (CSIRO, 1999) suggest a target of 70% litter removal, and this unit is designed to remove 95% of litter in the drain it services.

While these traps are a valuable defence against litter pollution, the best litter trap is your hand! Picking up litter, properly depositing it in bins, and ensuring that loops of plastic are cut before disposal all help to keep litter away from waterways, preserving their beauty and reducing the impact on platypus and other local wildlife.



Corporate Emissions



In 2019, Banyule declared a Climate Emergency and endorsed the *Corporate Emissions Reduction Plan (CERP)* 2020-2023 with a goal to be a carbon neutral organisation by 2028 (Target28). A Climate Emergency recognises the urgent action required by all levels of government, including Council, to address the ongoing threat posed by climate change and mitigate harmful greenhouse gas emissions.

Council's greenhouse gas emissions can be categorised into three types:

- **Scope 1** these emissions derive from the direct release of greenhouse gases into the atmosphere in Council's operations, such as burning gas for heating and petrol for powering cars.
- **Scope 2** these are indirect emissions generated through the burning of coal or other fossil fuel energy sources to provide electricity to an organisation.
- **Scope 3** these emissions are those generated from the wider economy, such as the emissions created to produce the goods or services that Council purchases.

To track progress toward Target28 Council measures changes against all emissions sources each year. Council also measures the capacity of its renewable energy projects like solar in generating electricity and reducing energy consumption from the grid.

Corporate Emissions Indicators

Indicator	2020/21	2021/22	2022/23
Total annual corporate GHG emissions (Scope 3)	1,714	1,682	1,989
Total annual corporate GHG emissions (Scope 1 & 2)	11,307	4,676	4,324
Total renewable energy capacity (MW)	1.3	1.5	1.7

2022-23 saw electrification of seven Council sites and progress towards further electrification. This involves the replacement of cooking, hot water and space heating equipment with efficient, electric alternatives, followed by the decommissioning of natural gas connections. Energy efficiency work has also included multiple projects at Watermarc; installation of an automatic door between the pool hall and the cafe, upgrading to more efficient

fans in the air handling units and steel work in preparation for the next two pool blankets. In addition, new solar panel installation on Council buildings increased the total renewable energy capacity by 0.2 MW.

As a result of these upgrades, Council has seen a minor drop in its overall Scope 1 and 2 emissions (Figure 7). This is due to a combination of reduced consumption and the electrification projects. Reduced consumption came about through energy efficiency measures and solar installations, while the electrification works at small Council facilities have reduced overall gas emissions by 63 TcO2-e.

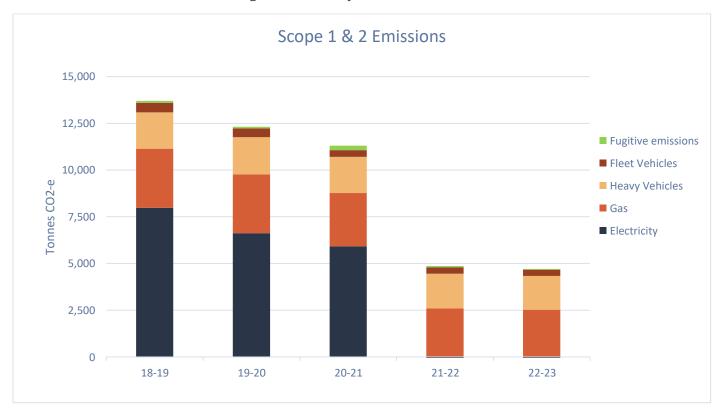


Figure 7: Council's Scope 1 and 2 greenhouse gas emissions. Electricity emissions have been negated since 2021/22 due to Council commencing the purchase of 100% green power.

Figure 8 shows emissions totals previously presented in Figure 7, though with the addition of Council's Scope 3 emissions. These include such things as printing, paper, catering, business travel and asphalt. While these emissions sources are not within Council's control, Council can influence these emissions by increasing the emphasis on sustainability through procurement contracts.

Scope 3 emissions experienced a minor rise in 2022/23. This is primarily due to increased electricity and gas consumption in the goods and services Council procured.



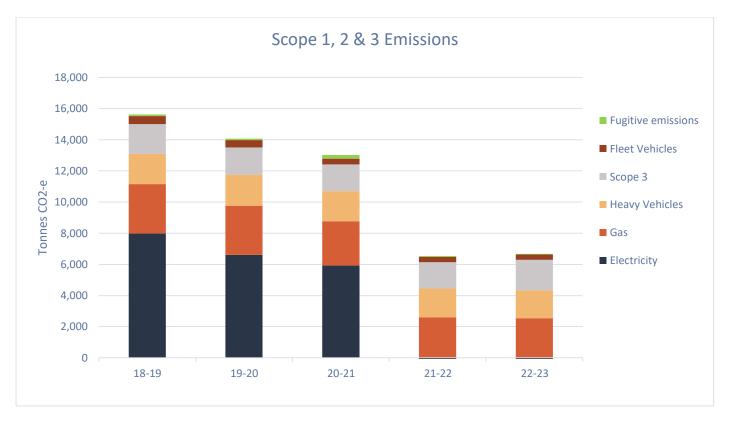


Figure 8: All of Council's emissions sources, including Scope 3 emissions. Electricity emissions have been negated since 2021/22 due to Council commencing the purchase of 100% green power.

The road ahead

2022/23 marked the final year of implementation of the current CERP and brings Council to the halfway point on the journey toward Target28. The road ahead will include ongoing electrification and energy efficiency works and tackling the more challenging emissions sources. Council's projected emissions in line with Target28 are outlined in Figure 9. This graph shows a projected incremental reduction in emissions through to 2028 as we continue to phase out gas and prioritise the transition to a 100% green fleet.

At the halfway point toward Target28 the key challenges to reaching our net zero target will be:

- **Green fleet:** Zero emissions solutions are still being developed for heavy fleet vehicles. Council is committed to trialling new technologies and seeking industry partnerships, but commercial scale roll out for organisations like Council is still a few years away.
- **Electric pools:** Council operates three large aquatic facilities that account for the bulk of its gas emissions. Although heat pump technology exists for large scale water and space heating, this solution can still be very expensive if retro fitting and upgrading existing electrical infrastructure. Council will focus on maximising energy efficiency for our existing pool buildings to lower the cost of electrification.
- **Fugitive emissions**: All heating, cooling and refrigeration leak greenhouse gases to operate. Although these emissions for Council are relatively low, they are difficult to eliminate. Ensuring that all new applicable appliances are using low emissions refrigerants will help bring down fugitive emissions, but further technological advances are needed to trap all these emissions.

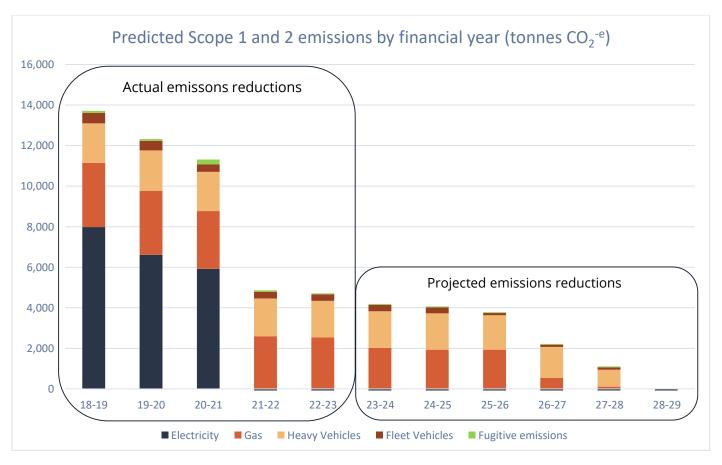


Figure 9: Banyule's actual and projected Scope 1 and 2 emissions in Tonnes CO₂ equivalent (TcO2-e). Electricity emissions have been negated since 2021/22 due to Council commencing the purchase of 100% green power.

Victorian Energy Collaboration



Banyule Council is one of the 51 Victorian councils that have signed up to the Victorian Energy Collaboration (VECO), which is the largest ever emissions reduction project by local government in Australia.

One year on from signing up to VECO, Council has continued to experience the emissions reduction benefits of sourcing all its electricity from the Dundonnell wind farm near Mortlake and Murra Warra II wind farm near Horsham. The latter wind farm became fully operational from June 2022 and both farms are exporting 100% green power to a rising number of Victorian councils, with a further five councils signing up since the initiative established in 2021/22.

The renewable energy is being provided by Red Energy, and the 240GWh of clean power is equivalent to powering 48,000 homes with renewables or removing the emissions from 90,000 cars every year. For Banyule the initiative has continued to eliminate close to 60% of Council greenhouse gas emissions at no additional cost.

Community Emissions



In 2020, Banyule City Council endorsed its Community Climate Action Plan with a goal to be a carbon neutral municipality by 2040. To achieve this scale of change we know we need to work together with our community. Acknowledging this, Council will need to play the role of collaborator, enabler, educator, broker, and advocate.

As Figure 10 shows, residential energy use (gas & electricity) makes up 25% of total emissions, with commercial energy making up 29%. Fortunately, the technology to transition households to all electric and zero emissions already exists and will make homes more comfortable and healthier while also lowering energy bills. Overall electricity and gas are the largest emissions sources, with electricity falling from 2020-21 (Figure 11).

In 2022/23, Council's Community Energy Service assisted over 500 households to make energy efficiency upgrades, install solar or access discounts on their energy bills. Council's Better Score Program saw 41 households access a free Home Energy Scorecard Assessment and a rebate to support them to undertake one of the recommended upgrades.

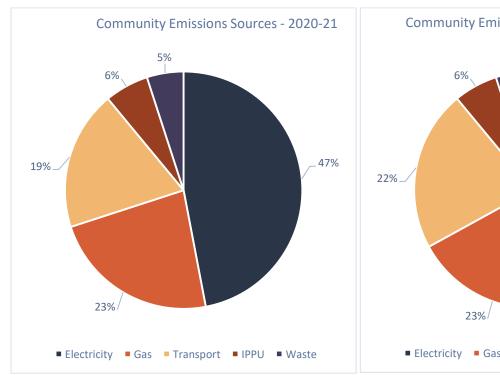
Council is also tackling transport emissions by strengthening work in active transport and investigating opportunities to support the uptake of electric vehicles. Repair stations at Bellfield, Ivanhoe, and Macleod as well as public e-vehicle charging stations at the Ivanhoe Library & Cultural Hub and at Watermarc in Greensborough.

Council is committed to supporting the community in lowering emissions and creating healthy and resilient suburbs. Banyule is currently on track to achieve the target of a net zero emissions community by 2040.

Emissions Source	Sector	Percentage
Electricity	Residential	8%
	Commercial	26%
	Industrial	10%
Gas	Residential	17%
	Commercial	3%
	Industrial	3%
Transport	Road	21%
	Rail	1%
Waste	All	5%
IPPU*	Industry and Commercial	6%

Figure 10: Community emissions sources per sector in Banyule in 2021-22.

*Industrial Processes and Product Use (IPPU) – This category covers greenhouse gas (GHG) emissions occurring from industrial processes, the use of GHG in products and from non-energy uses of fossil fuel carbon. In Banyule, the majority of IPPU emissions are attributed to metal manufacturing (67%) domestic air conditioning (12%) and industrial refrigeration (8%).



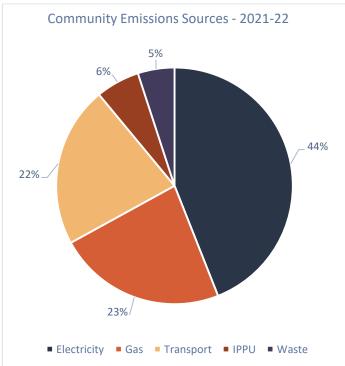


Figure 11: Banyule community emissions sources for 2020-21 and 2021-22. The 2021-22 data shows a drop in emissions from electricity, likely due to residential solar and energy efficiency programs as commercial and industrial remained stable. It also shows a rise in transport-related emissions, likely due to a post-COVID increase in use of all forms of transport.

Banyule is a city that is geographically very small relative to the state average and has a high urban density. Its major emissions source is electricity consumption with most of this coming from commercial electricity consumption.

Total Banyule community emissions for 2021/22*:

840,000 tCO₂-e

*Total community emissions are calculated one year in the rear as emissions and utility data takes time to gather for the range of sectors which make up the municipality. This means the total community emissions number in this State of the Environment Report will be from 2021/22, rather than 2022/23.

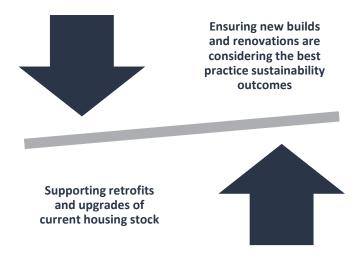
Total community emissions in 2020/21 were, by comparison, **856,000 tCO₂-e**. This equates to a 1.87% reduction in emissions, which is primarily due to reduced electricity consumption in the residential sector. *Note: readers may notice that the 2020/21 Banyule emissions were presented as 1,048,000 tCO2-e in the 2021/22 State of the Environment report. Due to industry improvements in data accuracy and the methods for calculating community emissions, the 2020/21 emissions result for Banyule has now been adjusted to 856,000 tCO2-e.*

Some of the challenges of achieving our community emissions goal include:

- The speed of the transition of the grid, to ensure renewable energy capacity can be accommodated.
- **Emerging technology trials to move away from gas**, **petrol and diesel** to power heavy fleet and industrial processes.
- Charging infrastructure and battery storage roll out, to accommodate a transition to electric vehicles (EVs) and the use of locally generated renewable energy.
- **Biodiversity loss and adaptation**, ensuring we are protecting and enhancing our natural environment, so the community remains safe, healthy, and resilient to extreme weather and a changing climate.
- **Community engagement**, to ensure the transition is equitable and the community benefits from changes.

Residential Emissions in Banyule

Banyule Council is working towards ensuring all housing stock in the municipality is electrified, energy efficient and powered with renewables, making homes comfortable & healthy while also lowering energy bills. Council breaks this down:



The Built Environment Sustainability Scorecard (BESS)



BESS is the recommended tool under the Sustainable Design Assessment in the Planning Process (SDAPP) framework, which is used by a growing number of Victorian local governments.



BESS

The Built Environment
Sustainability Scorecard
(BESS) is an assessment tool
created by local
governments in Victoria. It
assists builders and
developers to show how a
proposed development
demonstrates sustainable
design at the planning
permit stage.

BESS looks at a range of factors that affect the natural environment and the well-being of building occupants. The tool includes building management, water, energy, indoor environment, transport, waste, urban ecology, and innovation as considerations.

Banyule is continuing to work closely with the Council Alliance for a Sustainable Built Environment (CASBE) to raise sustainability standards in the planning scheme which will ensure we are delivering good quality, comfortable and healthy homes for our residents, present and future.

Council's Community Energy Saving Programs:

Better Energy

In 2022/23 Council's Better Energy Banyule program had 65 households install reverse cycle air conditioners (29), hot water heat pumps (29) and induction cooktops (7).

Solar Savers

Banyule Council knows that residents want solar energy, but can be put off by the initial expense and the choices of finding the right system. Banyule's Solar Savers program allows residents to access vetted solar suppliers and have confidence around the products installed. Council's Solar Savers program had 30 solar installs with a total generating capacity of over 200 kW in the 2022/23 financial year.



Better Score

Banyule's Better Score program subsidises households to receive a Home Energy Scorecard Assessment, which allocates a score to the homes' energy efficiency performance and recommends upgrades which would improve this score. The program then offers subsidies for households that choose to undertake one or more of these recommended upgrades.

The 2022-23 program saw 41 households access a free Home Energy Assessment and a rebate to support them to undertake on of the recommended upgrades. The Better Score program has seen household energy scores raise by an average of 1.61 stars out of 10, making residents more comfortable and lowering energy bills.

We are committed to supporting our community to achieve carbon neutrality by 2040, as detailed in our Community Climate Action Plan.

Case Studies



Lisa's Story

Lisa from Greensborough signed up for the program because she was looking to find help with the process of making her house more energy efficient, and the program seemed perfect for this.

Lisa went through the Better Score program in 2022/23 and replaced an old hot water system with a more efficient heat pump hot water system. The unit Lisa selected was one of the quietest though not the cheapest, which, most importantly to Lisa, "has CO_2 as the refrigerant - the least damaging to the environment".

The Better Score program has seen household energy scores raise by an average of 1.34 stars out of 10 making residents more comfortable and lowering energy bills.

Lisa also had Solar panels and a Battery installed at her home.

Lisa's Results

The most notable change for Lisa has been in how much her electricity bills have reduced.

Lisa's electricity usage went from 252kWh for September 2022 to 212kWh in October 2022, just from changing the hot water system to a heat pump.

After Lisa's Solar PV was installed it dropped to an incredible 5.9kWh in November. Lisa's monthly usage bill is now averaging about 4kWh, Lisa happily telling us "Powerpal tells me I spend \$1.30 per day - and that is basically service fees!".

Lisa wishes to share that she "would absolutely recommend Scorecard assessments and programs like the Banyule Better Score program to others! I am really glad that this initiative exists and hope that many more people will be able to upgrade their homes to be more energy efficient and comfortable in the future."

Solar energy system by Lisa, Greensborough



Local Business Improvements in Sustainability

Located on the charming Were Street in Montmorency, the Foodworks supermarket stands out not only for its wide range of retail offerings but also for its commitment to energy efficiency.

A Banyule Council officer observing some aerial photographs noticed the impressive sight of solar panels adorning the store's roof, prompting a discussion with the store's Manager, Adrian Alvaro.



The store's solar energy system has been operational for approximately 5 to 6 years, it covers the roof with over 120 panels, for a 100kW system and is supported by 5 x Fronius inverters which allow real time energy monitoring.

By harnessing the sun's power, the store has significantly reduced its reliance on traditional energy sources. Adrian expected the payback period of the solar system to be 4 years but due to increased electricity prices in recent years the actual return on investment was quicker by a year!

Foodworks has also implemented other energy-saving measures, resulting in significant benefits for both the environment and their bottom line. In addition to solar panels, the store has made strategic changes to enhance energy efficiency. They have transitioned from conventional lighting to LEDs, resulting in immediate substantial electricity cost reductions.

The optimisation of refrigeration systems, including the installation of fridge doors and energy-efficient fridges, and upgrading of plant in recent years, has also led to notable energy savings in cold storage.

The store has reviewed its power supply agreement to minimise peak usage charges, particularly during high-demand periods. The decision to finance the solar panel installation through a combination of a grant and a loan demonstrates the owners' long-term vision for sustainability. The solar-generated electricity has significantly reduced the store's reliance on grid power during summer, resulting in lower electricity bills.

The improvements have been so successful that the addition of batteries to their solar energy system was deemed unnecessary, as being a high energy store, the store uses almost all the power generated immediately.



Foodworks' dedication to energy efficiency serves as an inspiration to other local businesses, showcasing how sustainable practices and renewable energy investments can lead to environmental impact reduction and cost savings. As the community prioritises sustainability, Foodworks Montmorency stands as a shining example of thriving in a competitive market while making a positive difference.

Waste

Council continued its journey towards zero waste in 2022/23, achieving a significant reduction in the amount of household waste taken to landfill (Figure 12). This reduction is largely due to the introduction of the Food Organics, Garden Organics (FOGO) kerbside collection service in July 2022.

The collection of food and garden waste rose by 46.7% in 2022-23. This is due to the introduction of FOGO and above average rainfall stimulating higher volume plant growth. Bagless FOGO has meant that the contamination rate has not significantly increased – a common occurrence following the introduction of FOGO.

Council experienced a slight decrease in the amount of recyclables collected per household in 2022/23 (Figure 12). This is expected to decrease further in 2023/24 with the introduction of the Victorian Container Deposit Scheme on 1 November 2023. Glass is a heavy product in recycling bins so the change will be observable. The packaging industry has also been refining product design to use less material to make a box or bottle.

2022/23 resulted in the largest increase in the percentage of waste diverted from landfill since the recyclables bin was introduced (Figure 13). This increase was due to a combination of the FOGO introduction and the above average rainfall in 2022-23, resulting in high levels of garden organics growth.



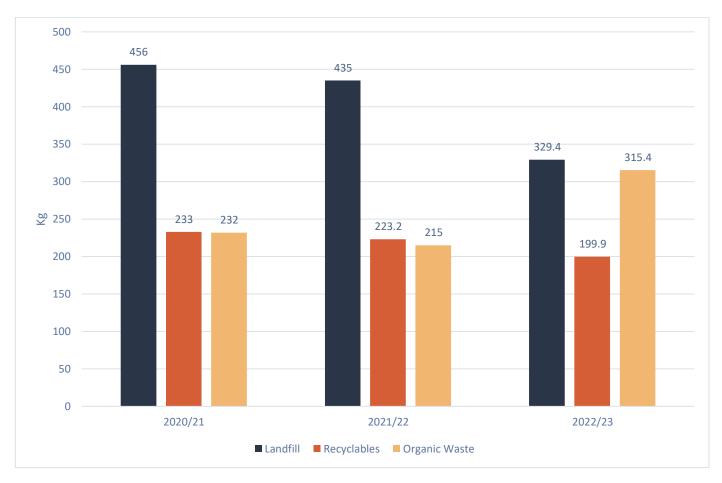


Figure 12: Average amount of rubbish, recyclables and organic waste collected per household in kilograms.



Figure 13: Total percentage of household waste diverted from landfill.

FOGO: a year down the greener track!



Following the success of the 2021/22
Food Organics, Garden Organics (FOGO)
trial, Council rolled out the new FOGO
kerbside service to Banyule households
from July 2022. Prior to FOGO, when
food scraps, garden waste and organic
matter were disposed of in the rubbish
bin they were sent to landfill. In landfill,
organic matter releases methane – a
powerful greenhouse gas approximately
28 times more potent than carbon
dioxide in contributing to climate change.

Instead of going to landfill, Banyule's food waste can now be placed in the FOGO bin, along with garden waste. FOGO waste is then composted and turned into nutrient dense soil fertilizers which can be used on farms and in parks and gardens.

As part of the service change, bin collection frequencies also changed. The FOGO bin moved to a weekly collection while the rubbish bin moved to a fortnightly collection. Since the introduction of FOGO the tonnage of rubbish sent to landfill has decreased by approximately 4,500 tonnes compared to the year prior (refer Figure 14). This equates to over 10% increase in diversion from landfill, from 52% to 62.6%, an amazing achievement by Banyule!



Figure 14: Total percentage of household waste diverted from landfill.

Waste Challenge: Contamination



When an item goes in the wrong bin, it is known as contamination. Contamination compromises the sorting of materials and results in recoverable waste (recyclable or compostable) being sent to landfill. Some examples of common contaminants in the recyclables bin includes bagged waste (both recyclables and general waste), soft plastics and textiles. The most common contaminant in the FOGO bin is also bagged waste (including the use of compostable liners). Rubbish bins can also be contaminated, which can have negative environmental consequences.

Contamination, even by a small number of householders, can have a major impact on the quality and acceptability of a recycled product. Contamination items must be manually removed by the processers employees and sent to landfill, resulting in adverse environmental impacts and cost penalties to Council.

During the 2023 Towards Zero Waste management survey, residents indicated strong support for contamination management (92%), with a significant majority of residents considering it very important (71%) or important (21%) that Council responds to contamination in bins. Results from the waste audit revealed that most households audited (85%) had a low percentage of contamination (between 0 – 5%) for FOGO (Figure 15). Only a small number (4%) of households had a FOGO contamination rate greater than 60%, however, they account for over half of the total contamination weight found during the audit. This means that effort is still needed to target households that contribute to a significant amount of contamination.

The causes of contamination can be for a range of reasons. Households may believe they are sorting correctly but not fully understanding what is accepted, some people simply do not care or are unwilling to separate materials, others may have a full bin and they place the overflow in another bin, or other unknown factors.



Figure 15: Contamination rate (%) per household for FOGO collection (dark blue), and the proportion of overall contamination attributed to each contamination range (orange).

Community Engagement



In 2022/23, the COVID 19 restrictions that limited community engagement in prior years were less limiting and there was more opportunity for in person engagements and events.

Council's Upskilling workshops continued with sessions on advocacy, collaboration, sustainability, and storytelling just some of the topics covered. These workshops aim to build capacity in our environmental community, so they are supported to lead action on environmental issues.

The Annual Environment Grants program awarded funding to 17 projects which included upgrades to food gardens, education programs for children, art projects to connect community with nature and planting projects to boost biodiversity. Through Environment Grants Council also ran a community-led energy Innovation round, the first of its kind in local government in Victoria, which funded the exploration of opportunities for community-led power in Banyule. These grants recognised that the biggest barrier for community-led power is the initial funding needed to explore feasibility. Results of this grant are informing Council's next steps in community energy production and storage.

Banyule's Environment and Climate Action Advisory Committee (BECAAC) worked closely with Council to inform and advise on strategic environmental programs and policies. This Committee is made up of volunteers from the community who have a background in the environment sector or represent a stakeholder. The group works collaboratively with Council to ensure we are on track to meet our environmental and climate action goals.

Council continues to engage with the community to ensure they feel supported and empowered to act and play an important role in progressing environmental and climate action goals in Banyule.

Eco Festival 2022

Eco Festival was planned in response to community interest and Banyule's commitment to sustainability and was aimed at all of the green thumbs, pet owners and animal lovers! The event was jam-packed with a program of pet related entertainment, activities and giveaways. The event was also filled with garden-themed workshops and activities, display stalls, giveaways, roving entertainment, sustainability information and food trucks.



The event featured a "best pet competition and show", and this inaugural competition honoured the dogs, cats, birds, lizards, guinea pigs, rabbits, snakes and other non-human friends who stood by us and helped us through the darkest days of lockdowns.

The event attracted approximately 3,000 people (plus their pets) across the day and was held on Sunday 6 November 2022 at Petrie Park, Mountain View Road, Montmorency.



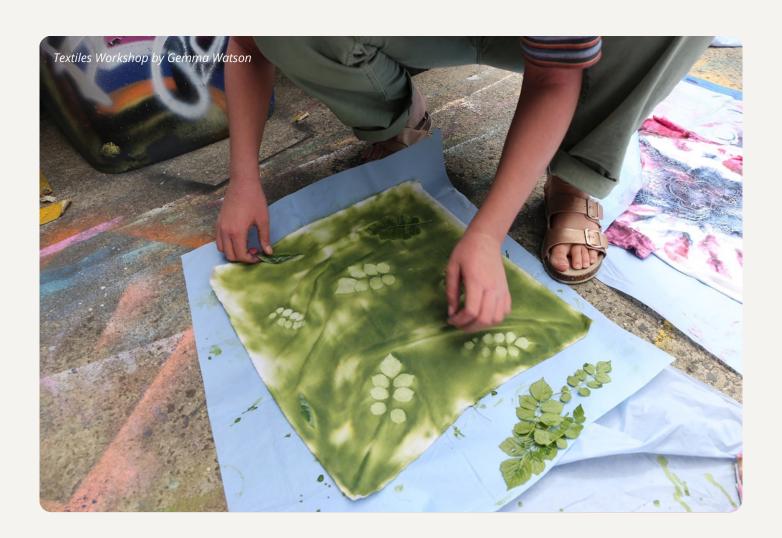
Empowering Young People to Reduce Textile Waste

Supported through a Banyule Council Environment Grant, **A Fitting Connection** successfully held two workshops in 2023 for young people in the Banyule community, focusing on the pressing environmental issue of textile waste reduction. In response to a recommendation from the 2021 Youth Summit, these workshops provided young people with an opportunity to learn about the environmental challenges associated with textile waste and the fashion industry.

During these sessions, young people had the chance to explore sun printing and screen-printing techniques, bringing new life to old textiles, and giving them a second purpose. The goal was to empower young people, giving them the knowledge and skills to make more sustainable choices, reduce waste, and minimise their environmental footprint.

A Fitting Connection provided insights and practical guidance on the textile waste challenges and the fashion industry. The workshops not only educated but also inspired young people to take action and continue their sustainability journey.

These workshops were part of the Fundraising with Purpose program, supported through Banyule Council's Environment Grant program.



Cultivating Sustainable Practices at Viewbank Primary

With support of a Banyule Council Environment Grant, an abandoned tennis court at Viewbank Primary School has been transformed into a vibrant community garden, an urban farm, and an outdoor environmental education hub.

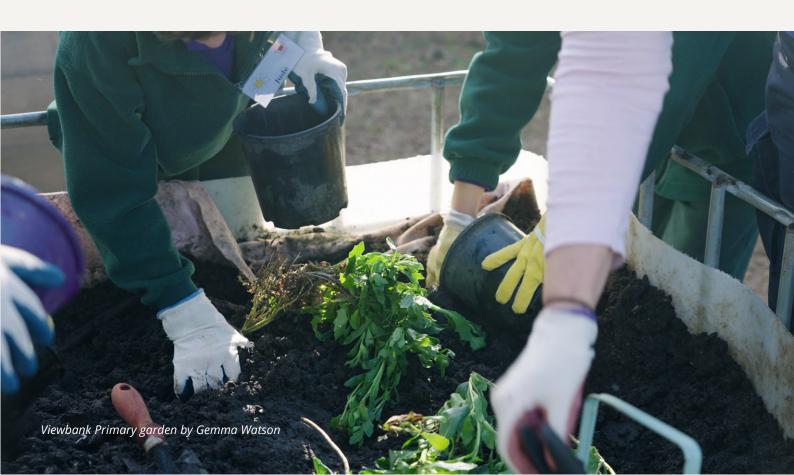
Equipped with newly installed composting bays, a chicken coop, and water-efficient raised beds, the students are cultivating and harvesting produce instilling life skills in sustainable principles and practices.

The garden serves as a hands-on learning environment, enabling students to connect with and appreciate nature while fostering skills and leadership in urban farming and climate change action.

Additionally, the garden enables students to explore the concepts of health and wellbeing as they engage in the preparation of nutritious meals, from garden to plate, as part of the school's Stephanie Alexander Kitchen Garden Program.







Transport

Leading on the use of sustainable modes of transport and encouraging walking, cycling and the use of public transport is a key community expectation of Council. It is also strategic objective of both the Council Plan 2021-25 and the Banyule Community Vision 2041. This section overviews Banyule City Council's sustainable transport activities for 2022-23.

Banyule Bicycle Strategy Implementation



In 2022-23 we delivered the first year's actions of the Banyule Bicycle Strategy and Action Plan 2022-27, working in key areas of improving the connectivity of our bicycle network; applying a safe and inclusive design lens to our infrastructure and increasing cycling participation through education, promotions and events. Some key achievements of this work are detailed below.

Bicycle skills sessions

During the year Council delivered over 55 hours of subsidized community bike skills training in partnership with Bike It Better cycle coaching. This included a mix of one-on-one skills sessions for beginner adults and children, small-group classes for people wanting to improve their riding confidence and bike maintenance sessions. Feedback was overwhelmingly positive with participants noting an increase in confidence in a supportive environment as a key contributor to their rating.

Banyule sustainable transport grants

Sustainable transport was included as a funding category in the Banyule Environment Grants for the first time in 2022. Two primary schools were funded through the program and used the funds to deliver new and improved bicycle parking at their schools.

overstatement to say that working with Cazz has completely transformed my bike riding. Riding to school with my child has gone from being a dream to reality."

Fiona, 1-on-1 bike skills participant

"It's not an

Watsonia Heights Primary School implemented their STRIVE to ride program updating their bike and scooter facilities. Feedback from students and their families was that the lack of spaces to safely store equipment was a significant impediment to kids riding or scooting to school. The space can now store 27 bicycles of varying sizes and 20 scooters. It also includes an air pump for the students to use and an in-built wheel chock to hold the bike upright and still whilst the students inflate their tyres.







After

Schools programs

As a Council we recognize the significant environmental, economic and wellbeing benefits that exist in partnering with schools and school communities to deliver increased walking, cycling and scooting to school.

Safe Access Audits

In the last 12 months, Banyule has funded Safe Access to School audits for five primary schools:

- Bundoora Primary School,
- St Pius X Primary School,
- Olympic Village Primary School,
- Watsonia Heights Primary School, and
- Greensborough Primary School.

These audits identify access and safety improvements that can range from smaller items such as trimming back vegetation and replacing a broken footpath panel to larger items such as new pedestrian crossing facilities. This work recognises that improving streets for people walking and riding bicycles also improves general liveability and the use of these public spaces. Audits also provide an evidence base for Council to draw-on when seeking grant funding from State and Federal governments. Rectification recommendations for all five schools have been added to Council's new works and infrastructure maintenance programmes for delivery.



Active to School program

In 2022-23 Council appointed an Active Travel to School Education Officer (0.2 EFT) to work with primary school communities and deliver active travel programs. Active schools in the last year have included Greenhills Primary School, Ivanhoe East Primary School and St Pius X Primary School. The program provides a package of materials including maps and footpath decals, prizes as well as pop-up transport information sessions with Council officers. Partnering schools promote the program and collect data as well as celebrate the outcomes. In 2022-23 sessions with Council officers. Partnering schools promote the program and collect data as well as celebrate the outcomes. In 2022-23 participating schools saw an increase of up to 30% in the number of families enjoying active ways to get to and from school.

Schools can also integrate the program into their health, environment, community and road safety curricula. St Pius X Primary School kicked their Active to School program by taking the whole school for morning walks around the neighbourhood, getting in their steps and connecting with community in the process. Their extension program included a meet-and-greet with Heidelberg Community Police, health and wellbeing sessions from the Banyule Community Health Promotion Team and the Aboriginal Health Team, and an education session on road safety with RACV.

Indicators at a glance

Indicator	2020/21	2021/22	2022/23	Commentary
Total annual corporate GHG emissions (Scope 3)	1,714	1,682	1,989	Scope 3 emissions rose due to increased energy consumption through goods and services.
Total annual corporate GHG emissions (scope 1 & 2)	11,307	4,676	4,324	A minor reduction was achieved through energy efficiency and phasing out of gas at several small community facilities.
Total renewable energy capacity (MW)	1.3	1.5	1.7	Several new solar installations took place, which increased overall capacity.
Friends of volunteer hours in bushland reserves	746	416	890	Community volunteer hours rose above levels experienced through COVID.
Indigenous Species planted in bushland reserves	11,500	13,994	8,398	Planting numbers still down on pre-COVID numbers, largely due to a focus on handweeding and investing in the care of previously planted species.
Buy 1 Get 1 free indigenous plant voucher's redeemed	117	990	908	Continued high uptake of the program and some responses received from past participants on success from plants acquired.
Banyule Council Water use (ML)	197	227	242	A minor increase was experienced due to demand for irrigation to establish new warm season grasses on sports fields.
Litter collection (Tonne)	77.5	68.5	35	Slight reduction due to focus on training around new safety protocols.
Silt collection (Tonne)	280	1300	460	Exceeded the target through collection at sediment ponds at Redmond Court wetland Bundoora and Remembrance Park Heidelberg.
Landfill waste per household (kg)	456	435	329	Expected reduction achieved after introduction of FOGO.
Recyclables per household (kg)	233	223	200	A slight decrease observed, though generally remained steady.
Organic waste per household (kg)	232	215	315	The expected rise due to introduction of FOGO has been achieved in 2022/23.
Diverted from landfill – total (%)	50.5	52.03	63	Expected increase due to introduction of FOGO has been achieved in 2022/23.
Students at the Rethink Centre	902	0	0	Temporarily closed due to pending building works.
Environment Grant applications	37	18	17	Applications were consistent with the prior year, with several worthy projects awarded grant funding.
Home Energy Audits / Better Score Program participants	30	41	53	Allocation was expanded for 2022/23, with additional budget allocated from Council.
Council tree plantings in streets and parks	3,150	4,416	1,627	Above average rainfall in the year prior resulted in some tree planting being brought forward.
Net gain of trees per year (public land)	1,350	2,383	455	Lower net gain 2022-23 is due to reduced planting numbers with significant planting occurring in 2021-22.

HOW TO CONTACT YOUR COUNCIL

- Call us on 9490 4222
- Main fax line: 9499 9475
- Online enquiries: enquiries@banyule.vic.gov.au
- Post can be sent to PO Box 94, Greensborough VIC 3088

If your hearing or speech is impaired, you can call us through the National Relay Service on 133 677 (TTY) or 1300 555 727 (ordinary handset) and ask for 9490 4222.

Service centre locations and hours:

Do not visit our customer service centres in person if you are feeling unwell. Get tested and stay home if you have any symptoms.

- Greensborough: 1 Flintoff Street, Greensborough, 3088
 Open from 8:30am to 5pm. E-waste recycling drop-off (for small items only) on Level G in foyer. This is our main service centre and office building. Make payments and lodge requests in person, and discuss planning, building or other matters here.
- ▶ Ivanhoe: Ivanhoe Library and Cultural Hub, 275 Upper Heidelberg Road, Ivanhoe, 3079
 Open from 9:00am to 5pm. E-waste recycling drop-off (for small items only) in front entrance. The centre is inside the Ivanhoe Library and Cultural Hub. Make payments and lodge requests in person. To discuss planning, building or other matters, visit us in Greensborough.

Interpreter service:

- If you need an interpreter call TIS National on 131 450 and ask to be connected to us on 9490 4222.
-) الوطنية على TISإذا كنت ترغب في المزيد من المعلومات وبحاجة إلى مساعدة مترجم، يرجى الاتصال بخدمة الترجمة الكتابية والشفهية (

 الرقم 131450 وأطلب أن يتم إيصالك بمجلس بلدية بانيول على 4222 9490.
- **如果你需要一名翻**译, 请打电话到国家电话翻译服务处 (TIS National) <u>131 450</u>, 再转接到Banyule市政府<u>9490</u> 4222
- ▶ 若你需要口譯員,請致電131 450聯絡TIS National, 要求他們為你致電 9490 4222接通Banyule市政廳。
- Ako vam je potreban tumač, molimo vas, nazovite TIS National na broj <u>131 450</u> i zatražite da vas se spoji sa Vijećim općine Banyule na broj <u>9490 4222</u>.
- > Se hai bisogno di un interprete chiama TIS National al numero <u>131 450</u> e chiedi di essere messo in comunicazione con il Comune di Banyule al numero <u>9490 4222</u>.
- Αν χρειάζεστε διερμηνέα τηλεφωνήστε στην Εθνική Υπηρεσία Διερμηνέων Μεταφραστών στον αριθμό 131 450 και ζητήστε να σας συνδέσουν με τη Δημαρχία Banyule στο 9490 4222.
- \triangleright Ако ви треба преведувач ве молиме јавете се на TIS NATIONAL на <u>131 450</u> и замолете да ве поврзат со Banyule Council на <u>9490 4222</u>.
- ➤ Haddii aad u baahan tahay mutarjum wac khadka qaranka oo ah TIS <u>131 450</u> weydiina in lagugu xiro Degmada Banyule tel: <u>9490 4222</u>.
- Nếu cần thông dịch, xin gọi cho TIS Toàn Quốc qua số <u>131 450</u> rồi nhờ họ gọi cho Hội Đồng Thành Phố Banyule theo số <u>9490 4222</u> giùm quý vị.

