

Item No: 11.4
Date: 26 October 2021
Author: Director Environment and Place, B Cant
Subject: **Annual Environmental Sustainability Scorecard and Review 2021**

Attachments: A Canopy Action Plan update
 B Green Adelaide's National Park City Charter and FAQs

Prev. Resolution: C290421/12818, 29/04/2021

Recommendation

That Council:

1. **Receive and note the annual environmental sustainability scorecard and review 2021; and**
 2. **Endorse Green Adelaide's National Park City initiative by signing the National Park City Charter.**
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Purpose

1. To provide Elected Members with information about Council's performance and initiatives to improve environmental sustainability, including the management of greenhouse gas emissions, waste, water, trees, biodiversity and corporate action.

Strategic Plan

2. The following Strategic Plan provisions are relevant:

Principles: Spans all Strategic Plan Principles

Theme: Environment

Goals: 2: Our City will be a leading environmental custodian

Priorities: 2.1 Adapt and mitigate for climate change
 2.2 Canopy cover, greening and open space
 2.3 Use natural resources efficiently and minimise waste
 2.4 Healthy habitats and biodiversity

Communications/Consultation

3. The following consultation has been undertaken:
 - 3.1. Data collection from across the organisation;
 - 3.2. Data collection from external agencies, including suppliers of electricity, gas, water, trees and waste management; and

- 3.3. Discussions with external agencies, including Green Adelaide.

Statutory

4. There are no statutory implications or requirements associated with this report.

Policy

5. The following Council Policy is relevant in this instance:

Climate Change Policy

Kerbside Waste Management Policy

Urban Tree Management Policy

Biodiversity Policy

Water Sensitive Urban Design Policy

Watercourse Management Policy

Asset Management Policy

Open Space Policy

Risk Assessment

6. There are no risks associated with the recommendation.

CEO Performance Indicators

7. This report includes initiatives that contribute to two CEO Performance Indicators from 2020/21:
 - 7.1. *Develop a Roadmap for the City of Burnside with regard to environmental sustainability and climate change.* A roadmap was presented in the ANNUAL ENVIRONMENTAL SUSTAINABILITY SCORECARD AND REVIEW 2020 (C12673). The Roadmap is presented again in this report with a discussion of progress.
 - 7.2. *Activate the Community to work in partnership with Council to achieve its environmental goals.* This report details initiatives that engage the Community.
8. This report also details actions that are planned and will contribute to two CEO Performance Indicators for 2021/22:
 - 8.1. *Undertake agreed actions to reduce Council's carbon footprint by 25% in line with the Carbon Neutral Burnside 2030 Plan; and*
 - 8.2. *Activate the Community to progress grass roots environmental initiatives.*

Finance

9. Annual operating budgets are in place for several ongoing environmental services, such as tree and biodiversity management. Budgets for specific initiatives are approved through the annual business plan and budget process.

10. There are no financial implications for the City of Burnside in respect of the Officer's recommendations.
11. Some savings have been realized to date as a result of environmental initiatives. For example in the 2020/21 financial year, the reduction in waste sent to landfill (290 tonnes) saved Council over \$41,000 in waste levy and over \$10,000 was saved in landfill fees.
12. Reduction in energy consumption across all Council sites has the potential to drive further operational savings, and this will be reported in future annual environmental sustainability reports. A consumption baseline (accounting for COVID) will be calculated and then a site-by-site analysis on energy consumption will be provided to Council to demonstrate any future savings realized.
13. Opportunities for future investment in Environmental Sustainability initiatives will be presented to Council as required. Funding for any new initiatives will be sought through the annual business plan and budget process as required.

Environmental Sustainability

14. This report outlines how the City of Burnside is positively progressing in relation to its environmental sustainability goals.

Discussion

Background

15. This report is provided in line with the Council Resolution C12673 (22/09/2020), which stipulated three reporting points each year for environmental sustainability:
 - 15.1. Annual Environmental Sustainability Scorecard and Review (October; this report)
 - 15.2. Annual environmental sustainability workshop for Elected Members (February)
 - 15.3. Environmental Sustainability update report (April)

SECTION 1: CITY OF BURNSIDE ENVIRONMENTAL SUSTAINABILITY SCORECARD (next page)



Greenhouse Gas Emissions

Baseline:

2,008 tonnes CO₂-e per annum (established 2019/20)

Achievements:

1,581 tonnes CO₂-e (reduced emissions)

Council endorsed plan to reach Carbon Neutral by 2030

Burnside Carbon Offset Scheme (B-COS) being implemented



Tree Planting

Baseline:

1,573 trees planted on council land (established 2019/20)

Achievements:

1,621 trees planted on council land

City of Burnside recognised as a **Tree City of the World**



Waste and Resources

Baseline:

7,498 tonnes landfill (established 2019/20)

Achievements:

7,208 tonnes landfill (4% decrease)

6,858 tonnes organics (2% decrease)

4,005 tonnes recyclables (1% decrease)



Environmental Sustainability Scorecard 2020/21

A high-level overview of City of Burnside baselines and achievements in key areas

Baseline:

11,029 total plants for public and private planting (established 2019/20)

Achievements:

13,080 total plants for public and private planting programs

3,396 plants given to residents

3.2 hectares woody weed control

Baseline:

307 ML water consumption (established 2019/20)

Achievements:

311 ML water consumption (1% increase)

139 new WSUD features installed

Baseline:

1,104 tonnes of recycled materials purchased (new baseline)

Achievements:

Sustainability Series, Nature Festival and Environment Awards events

Commenced *Burnside Neutral* video series

Ongoing partner in *Resilient East*



Habitat



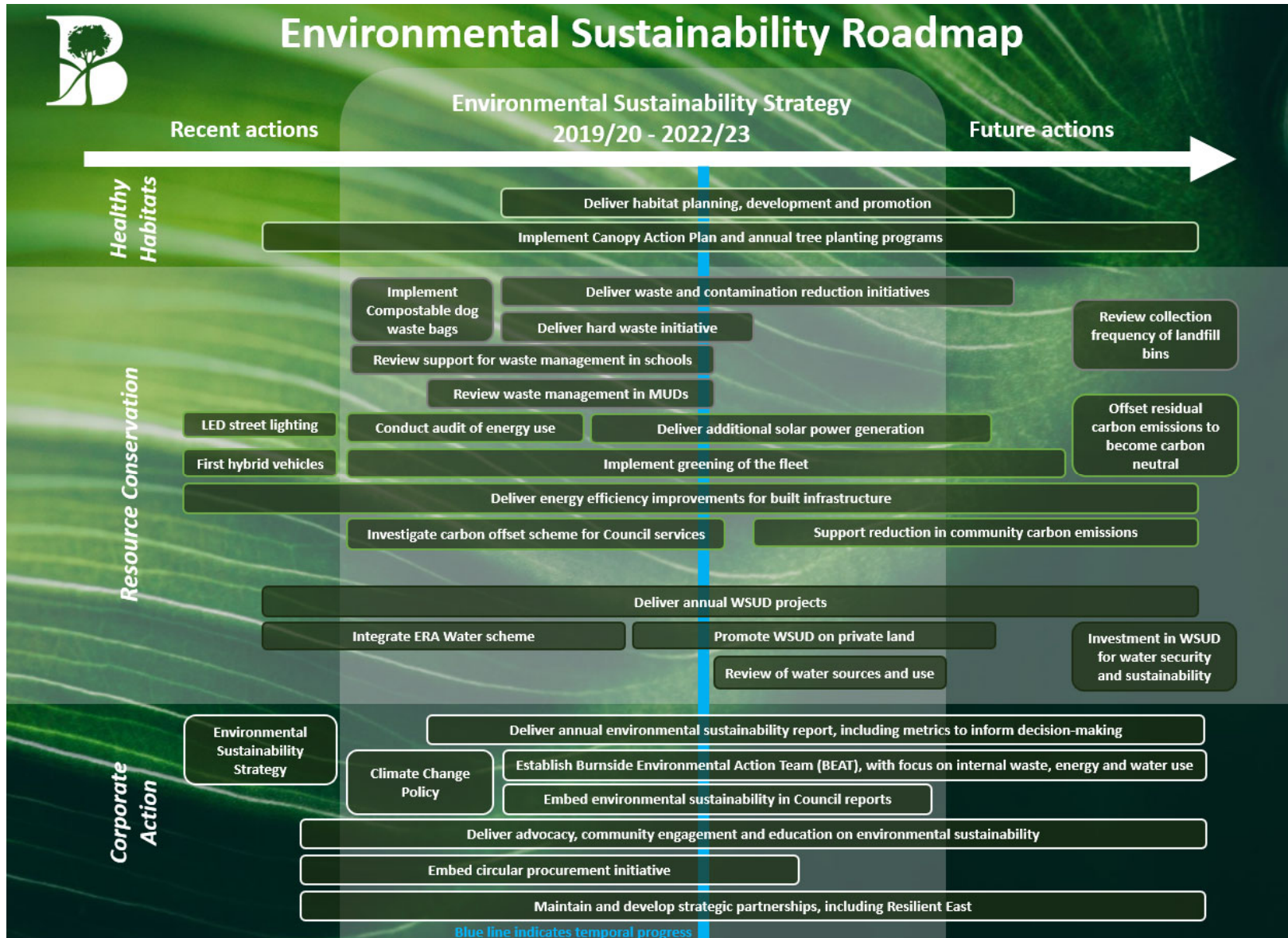
Water Management



Corporate Action

SECTION 2: CITY OF BURNSIDE ENVIRONMENTAL SUSTAINABILITY REVIEW

16. The Council’s Environmental Sustainability Roadmap (C12673) is presented below with a blue line to indicate temporal progress.



17. Council is on track with initiatives contained in the Roadmap. Progress is highlighted in the table below for each of the actions scheduled within the life of the Environmental Sustainability Strategy (2019/20-2022/23). Each item is assigned a progress icon, with further details available within the report.

✓ completed ● Progressing (on time) ● Progressing (delayed) ● Not progressing

Theme	Action	Progress		
Healthy Habitats	Deliver habitat planning, development and promotion	The <i>Biodiversity Sensitive Urban Design</i> project is progressing well	●	
	Implement Canopy Action Plan and annual tree planting programs	Ongoing; actions are detailed in this report	●	
Resource Conservation	Waste	Implement Compostable dog waste bags	Implemented 2020, dog waste bins now being trialled	✓
		Deliver hard waste initiative	Awaiting action from East Waste	●
		Review support for waste management in schools	Review complete and policy updated, implementation 2021	✓
		Review waste management in MUDs	Review complete and policy updated, implementation 2021	✓
	Energy	Conduct audit of energy use	Completed 2020 to inform energy modelling	✓
		Deliver additional solar power generation	Planning complete and installations scheduled and included in Council's long-term financial plan and Asset Management Plans	●
		Implement greening of the fleet	Being implemented: new vehicles are now hybrid where possible	●
		Deliver energy efficiency improvements for built infrastructure	Now a part of business as usual	●
		Investigate carbon offset scheme for Council services	Investigation complete, scheme being established in 2021/22	●
		Support reduction in community carbon emissions	Investigations have commenced	●
	Water	Deliver annual WSUD projects	Progressing as part of business as usual	●
		Integrate ERA Water scheme	Parks now utilising ERA Water	●
		Promote WSUD on private land	Due to be commenced in 2021/22	●
		Review of water sources and use	Due to be commenced in 2022	●
Corporate Action	Climate Change Policy	Policy adopted	✓	
	Deliver annual environmental sustainability report, including metrics to inform decision-making	Ongoing; reports and presentations have been delivered in line with Council's Environmental Sustainability reporting framework	●	
	Establish Burnside Environmental Action Team (BEAT), with a focus on internal waste, energy and water use	Delayed, but to be implemented 2021	●	
	Embed environmental sustainability in Council reports	Implemented from February 2021	✓	
	Deliver advocacy, community engagement and education on environmental sustainability	Ongoing; actions are detailed in this report	●	
	Embed circular procurement initiative	Project embedded in revised procurement policy; progress with two important procurement projects – asphalt and stationery	●	
	Maintain and develop strategic partnerships, including Resilient East	Ongoing; actions are detailed in this report	●	

Greenhouse Gas Emissions

18. Council's Environmental Sustainability Strategy sets a priority for strategic and cost-effective reduction of Council's carbon footprint. This priority requires the monitoring of Council's greenhouse gas emissions to inform decision-making and gauge progress.
19. Annual greenhouse gas emissions have been calculated for Council facilities and vehicles for 2020/21 and compared to the baseline established in 2020.
20. Different types of emissions can be included in assessments of greenhouse gas emissions. The following types of emissions have been included in the calculations for the City of Burnside, following Australian Government protocols:
 - 20.1. **Scope 1 emissions** (direct emissions), generated by gas consumption in council facilities and the use of fuel in vehicles or machinery;
 - 20.2. **Scope 2 emissions** (indirect emissions), generated by electricity consumption in council facilities (emissions from electricity are considered indirect because the electricity is produced elsewhere); and
 - 20.3. **Scope 3 emissions** (other indirect emissions), including those emissions generated in the production and transport of gas, electricity and fuel.
21. The focus of this work has been on Scope 1 and 2 emissions. These emissions may readily be reduced through changes to infrastructure (eg solar panel installations, vehicle upgrades or energy efficiency measures) and staff behaviour.
22. In future, additional emissions-causing activities could be added to this inventory, such as waste production, water use and the procurement of other goods and services. However, the additional work required to calculate these other Scope 3 emissions may not be worthwhile, particularly if the suppliers of the goods or services mitigate and offset their own emissions.
23. Table 1 provides the greenhouse gas emissions in tonnes of carbon dioxide equivalent (CO₂-e). The use of this standard measure allows for comparison across years and to other organisations. The term 'equivalent' is used because the measure accounts for carbon dioxide (CO₂) along with other polluting gases such as methane (CH₄) and nitrous oxide (N₂O). These three gasses are reported because they all make substantial contributions to global warming. Carbon dioxide makes the greatest contribution of the three gasses and is therefore used as the reference. While their contributions are lesser, the other two gasses have greater warming potential than carbon dioxide. For example, the *National Greenhouse Accounts Factors* (2021) lists the global warming potential of methane at 28 times that of carbon dioxide and nitrous oxide at 265 times that of carbon dioxide (but far less of these gasses is generated). The global warming potential of all three gasses is accounted for in the carbon dioxide equivalent (CO₂-e).

Table 1. City of Burnside greenhouse gas emissions 2018/19 to 2020/21

Financial Year	EMISSIONS (tonnes CO₂-e)	Change (% change from previous year)
BASELINE: expected emissions in 2020/21	2,008	Not relevant
2018/19	2,499	Not calculated
2019/20	1,855	-26%
2020/21	1,581	-15%

24. As it can be difficult to visualise emissions, the tonnage from 2020/21 has been converted into cubic metres. The 1,581 tonnes would occupy over 860,000 cubic metres (at 21°C). To picture that volume of gas, imagine covering the Hazelwood Park Reserve entirely with a blanket of gas over six-and-a-half metres thick.

Changes in greenhouse gas emissions

25. Table 1 notes a **15 per cent decrease in emissions from 2019/20 to 2020/21**. This decrease can be attributed to several factors that are discussed below.
- 25.1. **State-wide savings from the grid:** 84 per cent of the decrease in Council emissions is due to state-wide improvements in electricity emissions factors (i.e. cleaner energy production in South Australia). When more renewable energy is produced in South Australia, it benefits all energy users across the energy grid. This improvement is occurring faster than was forecast in Council's energy modelling. These changes are not driven by Council but demonstrate the benefit of Council advocating to State and Federal governments to increase renewable energy production.
- 25.2. **Closure of the spa and steam area at the George Bolton Swimming Centre:** 5 per cent of the decrease in Council emissions is due to the spa and steam area being closed when equipment reached the end of its serviceable life.
- 25.3. **Energy efficiency measures:** some reduction in emissions should be attributed to energy efficiency measures initiated during 2020/21, including:
- 25.3.1. Office upgrades to LED lighting, with 140 new lighting units installed – these units are around 60% more efficient than the previous lighting installed;
- 25.3.2. Computer upgrades to new hardware that is over 30% more efficient than older hardware;
- 25.3.3. LED streetlights account for 1% of the reduction in Council emissions (further details below);
- 25.3.4. A new 'eco' model HVAC (Heating Ventilation and Air Conditioning) unit was installed on the roof of the Burnside Civic Centre; and

25.3.5. Improvement in the insulation of windows in the Town Hall room, with the installation of a secondary layer of glazing to the windows.

25.4. **COVID-19:** a small reduction in emissions should likely be attributed to COVID-19, with some short lockdowns during the year leading to reduced work hours in the civic centre and some cancelled community activities.

Sources of greenhouse gas emissions

26. Table 2 provides data on the types of energy use that generated Council's greenhouse gas emissions. Most emissions resulted from the use of electricity. Additionally, most of the reduction in greenhouse gas emissions can be attributed to reductions in emissions from electricity.

Table 2. City of Burnside greenhouse gas emissions by type, 2018/19 to 2020/21

Year	Electricity EMISSIONS (tonnes CO ₂ -e)	Gas EMISSIONS (tonnes CO ₂ -e)	Fuel EMISSIONS (tonnes CO ₂ -e)	TOTAL EMISSIONS (tonnes CO ₂ -e)
2018/2019	1,754	370	375	2,499
2019/2020	1,131	331	394	1,855
2020/2021	831	384	367	1,581

27. Figure 1 depicts the greenhouse gas emissions by Council source for 2020/21, demonstrating the major sources of Council emissions. The combined emissions of the swimming centre and vehicles account for over half of Council's greenhouse gas emissions.

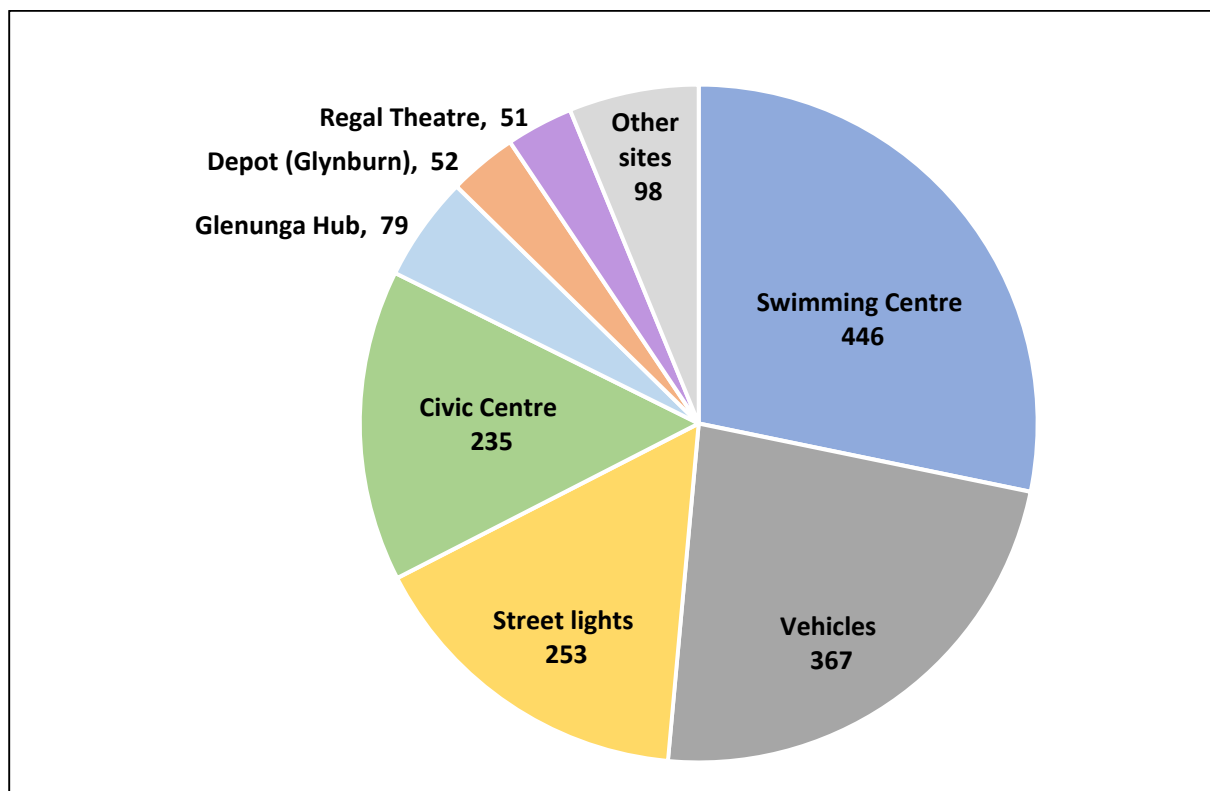


Figure 1. City of Burnside greenhouse gas emissions by Council source, 2020/21

28. Greenhouse gas emissions from streetlights reduced from 367 tonnes in 2019/20 to 253 tonnes in 2020/21. This reduction is largely attributable to reductions in grid emissions (i.e. cleaner energy production in South Australia). However, it is

noteworthy that the Council continues to improve the network of streetlights. Nine new LED streetlights were installed, and 33 older units were upgraded to LEDs during the financial year. Despite adding new lights to the network, the emissions from streetlights accounted for 1% of the reduction in Council's emissions, over-and-above reductions from the grid. Figure 2 depicts that most streetlights were replaced during 2018-19, with ongoing additions to the LED network.

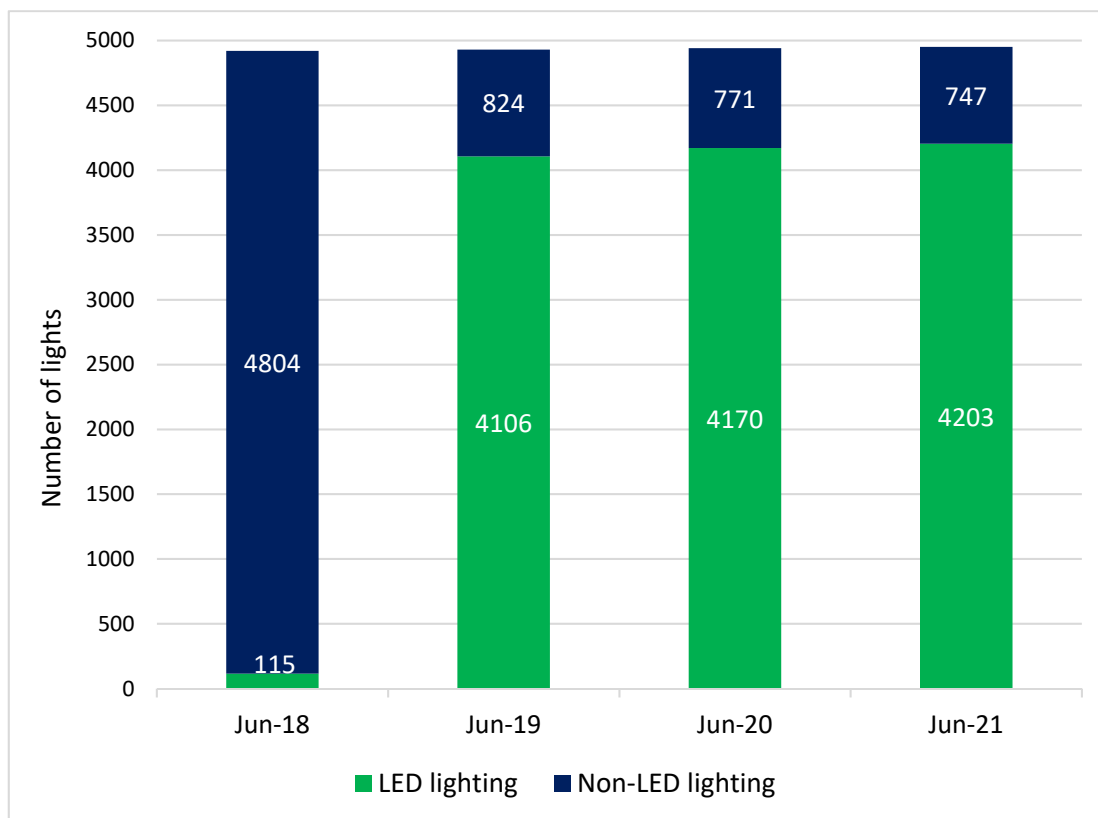


Figure 2. Streetlights in the City of Burnside, by type (LEDs and non-LEDs)

29. **Carbon Neutral:** During 2020/21, the City of Burnside committed to becoming carbon neutral by 2030, with a clear plan of how to achieve this goal:
- 29.1. The Burnside Carbon Reduction Scenario Tool (Burnside CARES Tool) was finalised during 2020, and results were presented to Council on 8 December 2020.
 - 29.2. **Council endorsed a plan to reach carbon neutrality by 2030 (C12708).** Further information on the scenario is available in the Council Report that was presented on 8 December 2020.
30. **Implementation of the carbon neutral plan has commenced:**
- 30.1. The Burnside Carbon Offset Scheme (C12708 and C12646) is being implemented, commencing in 2021/22. This scheme will offset emissions from the George Bolton Swimming Centre and the Regal Theatre.
 - 30.2. Replacement of the heating system at the George Bolton Swimming Centre is scheduled to occur in 2021/22. An engineering firm has been appointed to develop a design with an intent to implement the new system after the pool season concludes in April / May 2022.
 - 30.3. Replacement of the HVAC (Heating Ventilation and Air Conditioning) unit at the Regal Theatre has been unavoidably delayed by contractors. This work was expected in 2020/21 but is now expected in 2021/22. This delay will

not slow Council’s journey to becoming Carbon Neutral because other factors are tracking above expectations (eg cleaner energy production in South Australia).

- 30.4. Council staff are working with LGA Procurement and staff from other Councils on the procurement of electricity beyond 2023 when the current contracts expire. A key driver for this work is to explore opportunities to purchase renewable electricity. Currently, ‘green power’ is available, but purchasing this electricity from renewable sources incurs higher charges. The falling costs of renewable electricity needs to be assessed, and the potential for purchasing green power without the present unreasonable surcharges is being explored.

Looking forward: greenhouse gas emissions

- 31. Five new hybrid vehicles have been ordered. Delays in delivery are expected, with COVID-19 affecting supply chains. Delivery of the vehicles should occur during 2022.
- 32. Exploration of initiatives to support the community to reduce emissions has commenced in accordance with Council’s Environmental Sustainability Roadmap. Focus on this work will increase in 2022.
- 33. Council will continue on its trajectory to be Carbon Neutral by 2030. Figure 3 demonstrates that the Council is ahead of the forecast position for the 2020-21 financial year. The forecast data are from the Council Report “Measures for Reducing Council’s Carbon Footprint” (Council Resolution C12708). The carbon footprint has reduced faster than forecast, primarily because of state-wide improvements in electricity emissions factors (i.e. cleaner energy production in South Australia).

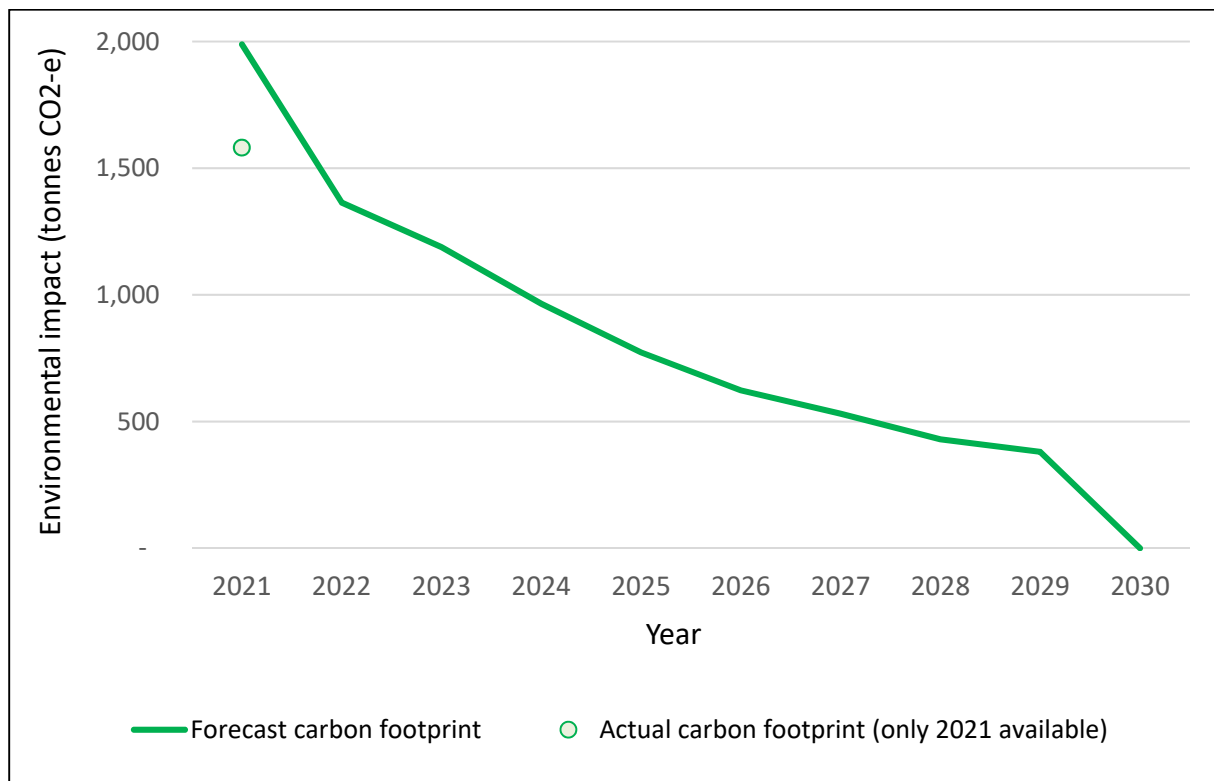


Figure 3. Forecast and actual carbon footprint for City of Burnside 2021-2030 financial years

Waste and resources

34. Council's Environmental Sustainability Strategy prioritises supporting our Community to reduce waste and increase recycling of resources. Council works closely with East Waste, a regional subsidiary, to monitor and promote improvements in the management of waste and resources.

Kerbside waste and resources (landfill, recycling and organics)

35. Table 3 includes statistics for kerbside collections of waste and resources during 2020/21, plus comparisons with the previous financial year. Key metrics include:
- 35.1. **A 290-tonne reduction in waste-to-landfill** – a 4 per cent reduction on the previous year.

Table 3. City of Burnside kerbside waste and resources collected 2020/21: weights and comparisons to 2019/20

	Landfill	Organics	Recyclables	Hard waste	Notes
Weight (tonnes)	7,208	6,858	4,005	500	The weight of waste collected through the kerbside system.
Corrected weight (tonnes)	7,731	6,789	3,952	407	Accounts for contamination in waste streams (eg landfill waste collected in recyclables). For hard waste, the reported total is utilised to produce energy. Some estimates are required based on the most recent and appropriate data possible.
Equivalent weight (Boeing 747s)	35	31	18	2	This equivalent weight is provided to assist in visualisation of tonnages; a Boeing 747-8 commercial passenger aeroplane (unladen weight = 220 tonnes)
Comparison to previous year					
Previous financial year (tonnes)	7,498	6,975	4,043	482	Data from City of Burnside's Annual Environmental Sustainability Scorecard And Review 2020
Change from previous year (tonnes and %)	-290 4% decrease	-117 2% decrease	-38 1% decrease	+18 4% increase	

36. **Waste levy savings:** the reduction in the tonnes of waste sent to landfill has environmental benefits and financial benefits, too. Each tonne of waste costs for collection, transport and dumping in landfill. Further, each tonne of waste attracts a State Government waste levy. During 2020/21, the levy was \$143 per tonne. The reduction in waste sent to landfill during the financial year (290 tonnes) saved Council over \$41,000 in waste levy. Additionally, over \$10,000 was saved in landfill fees.
37. **Trends in residential waste management:** the graphs below provide further data on changes over time for waste-to-landfill (Figure 4), organics (Figure 5), and recycling (Figure 6) collection tonnages. The graphs report the averages of kilograms of waste or resource per capita per week, which may help visualise the quantities. The graphs all use the same scale on the vertical axis, so they are comparable. When the averages are calculated, changes in population are accounted for based on community profile data available through the Council website. The comparative data from other councils are from public sources (eg East Waste Annual Reports), noting that data from the 2020/21 financial year are not yet publicly available and are therefore not presented.

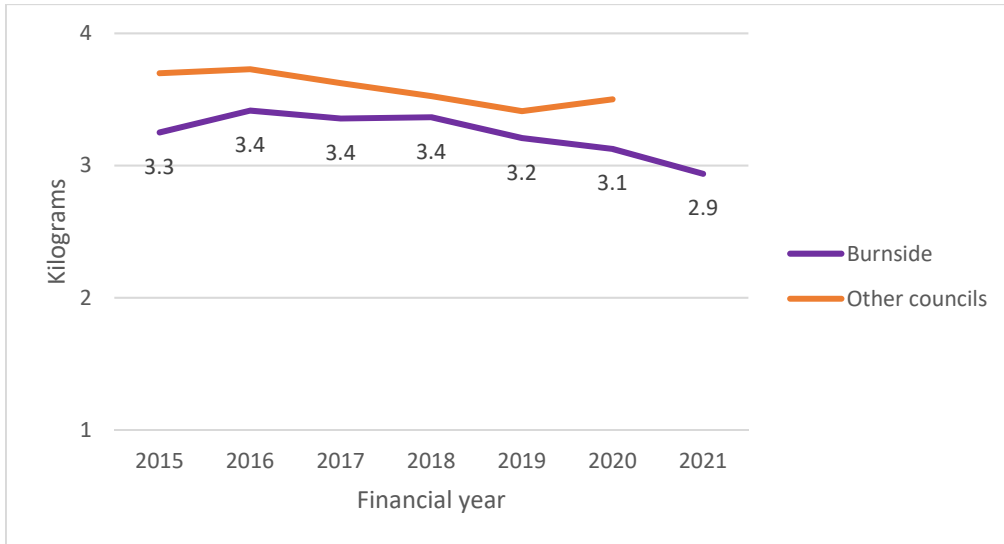


Figure 4. Landfill per capita per week - East Waste Councils
(data labels are for City of Burnside data)

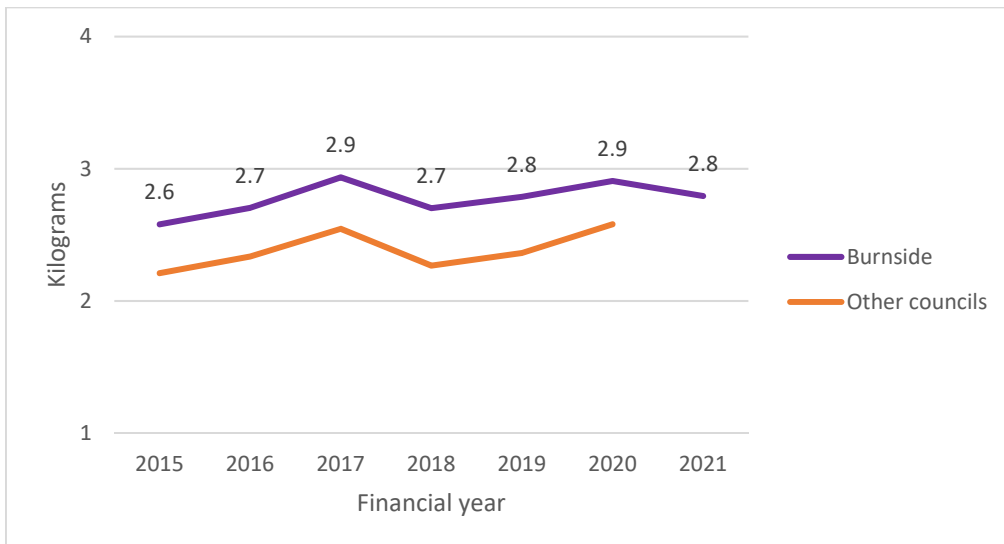


Figure 5. Organics per capita per week - East Waste Councils
(data labels are for City of Burnside data)

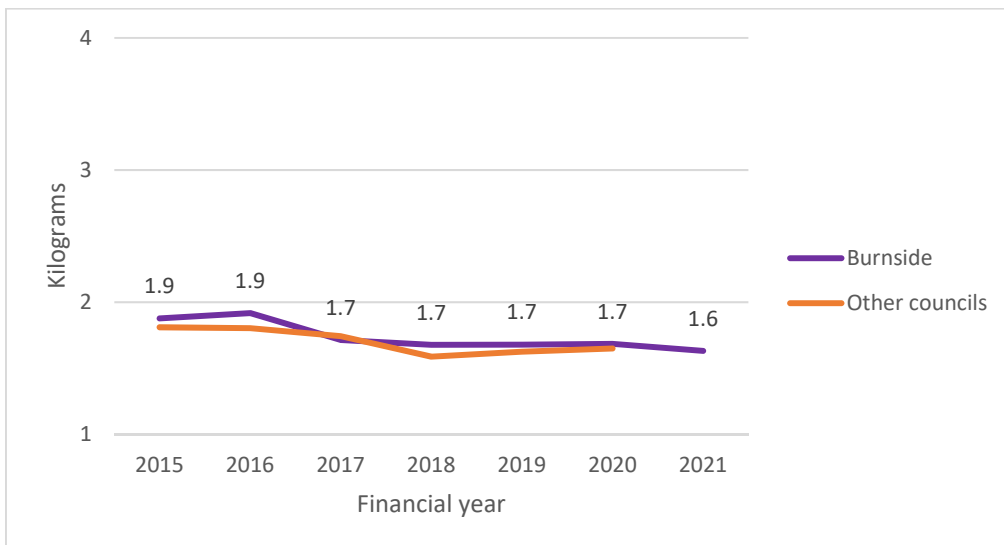


Figure 6. Recyclables per capita per week - East Waste Councils
(data labels are for City of Burnside data)

At-call hard waste service

38. The following graphs provide further data on changes over time for hard waste collections. The earliest data provided is for the 2016/17 financial year, the first full year of the at-call hard waste service.
39. Figure 7 displays hard waste collection tonnages. The results are displayed in kilograms of hard waste per capita so that quantities can be readily visualised. Changes in population are also accounted for based on community profile data available through the Council website. It is important to note that the quantities are presented as kilograms per year and cannot be directly compared to the previous graphs that displayed kilograms per week (there is far less hard waste collected per resident than other kerbside waste collections).
40. The decrease in hard waste per capita between 2017/18 and 2018/19 is likely to be partly attributable to a change in arrangements for mattresses. There was a move to separate mattress collection in 2018/19. In prior years, some mattresses were included in the hard waste tonnages.
41. Figure 8 displays the number of mattresses collected annually through the at-call hard waste system. The totals before 2018/19 are not reported as mattress collection was combined with hard waste collection, and the number of mattresses was not always recorded. The number of mattresses reported in last year's Environmental Sustainability Report (2019/20 Financial Year) was inaccurate and updated in Figure 8 (from 1,119 to 986).
42. There was a continued steep rise in the number of mattresses collected during 2020/21. This increase may be partly attributable to ongoing COVID-19 restrictions, with more residents at home during holidays and (potentially) cleaning or de-cluttering their homes.

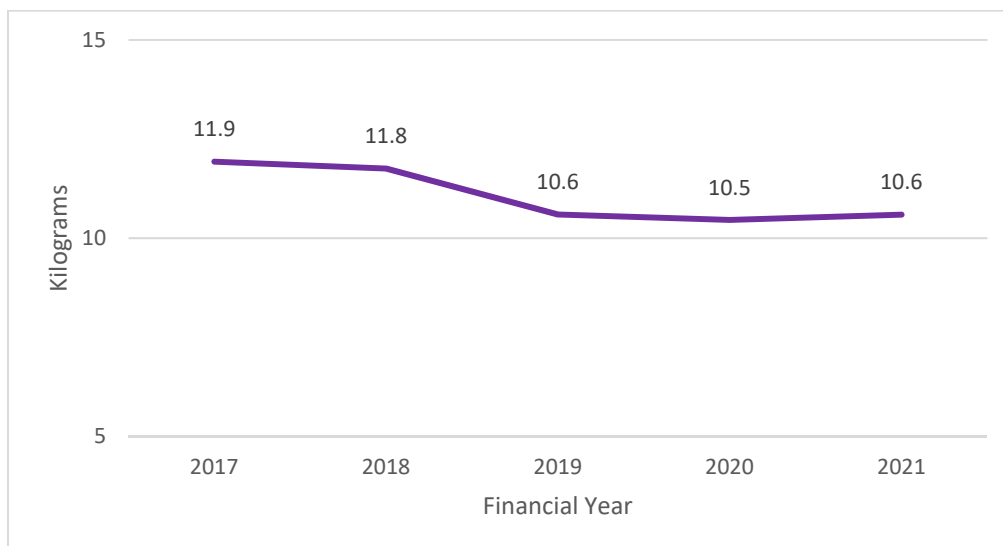


Figure 7. Annual hard waste per capita - City of Burnside

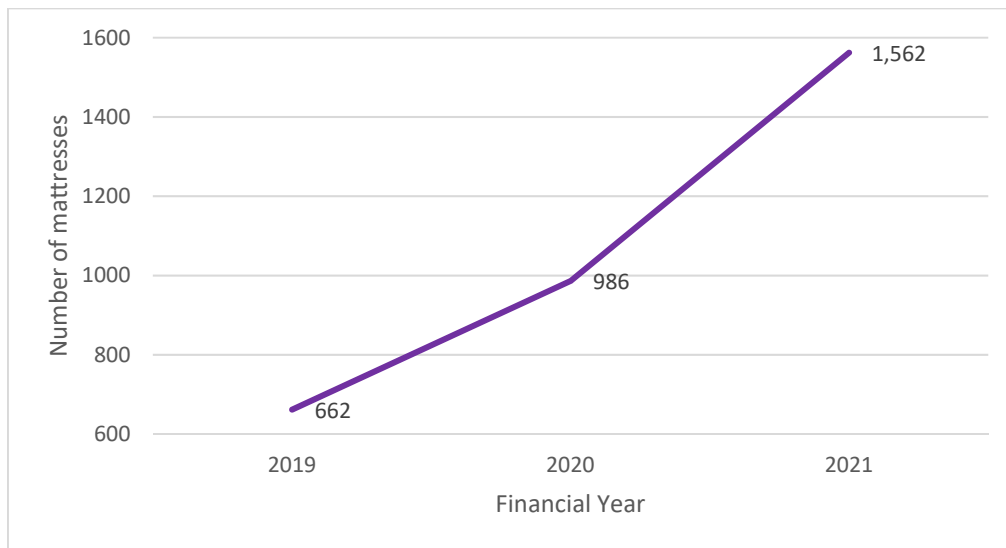


Figure 8. Annual mattress collection - City of Burnside

Additional waste matters

43. Table 4 provides additional waste statistics. Noteworthy items include:
- 43.1. There was an ongoing increase in the number of compostable bags residents are obtaining from Council each year, up 3.1 per cent, to 21.4 per cent of households.
 - 43.2. There was a decrease in bookings for hard waste, possibly related to the increased number the year before.

Table 4. Additional waste statistics: hard waste, bins and compostable bags

	2016/17	2017/18	2018/19	2019/20	2020/21
Hard Waste					
Hard waste bookings	4,163	4,416	4,142	5,161	4,584
Hard waste collections	3,682	3,894	3,556	3,672	3,855
Cancelled bookings	264	281	327	372	390
Bookings not collected (no items to collect on collection day)	217	241	259	352	339
Second collections within the financial year (paid by resident)	56	87	97	104	119
Number of customer requests relating to dumped rubbish	506	320	336	421	418
Compostable bags (household bags provided free to residents)					
Households provided with compostable bags		3,313	3,416	3,531	4,143
Percentage of households in City of Burnside provided with compostable bags (including independent living households)		17.2%	17.7%	18.3%	21.4%
Bins					
Bins reported as stolen or misplaced			207	187	199
Bin repair requests			307	282	319
Bins replaced due to irreparable damage			154	96	122
Complaints to Ranger Services about bins being left out			22	27	33
E-Waste					
E-waste (tonnes; sources include the monthly resident drop off to the Council Depot plus collection of illegally dumped e-waste; 2019/20 was the first full year of e-waste service at the Council Depot)				8.3	5.8

44. Two new initiatives were planned to commence during 2019/20 as outlined in the 'Initiatives for Utilising RFID Technology in Kerbside Bins' report (Council Resolution C12427). One of the projects has now progressed:
- 44.1. **Bin-tagging:** this project is designed to provide direct feedback to residents about their use of the organics (green-lidded) bins. The aim is to improve resident use of organics bins. Bin-tagging involves rapid visual inspections of bins when bins are on the verge – the contents of the bins are not disturbed. Feedback is provided in the form of informative tags (paper signs) attached to the bin handle (Figure 9). This project is based on the successful bin-tagging projects conducted by several other councils in Adelaide.
 - 44.2. Implementation of the bin-tagging project was delayed because East Waste has had ongoing issues with data collection that affect the monitoring of the project. Further delays occurred with COVID-19.
 - 44.3. A trial of bin-tagging has now commenced, beginning in September 2021. Results of the project will be presented to Council when the trial is complete (expected late 2021). Initial indications are that the project is having a positive impact, with more residents using their green bins for food scraps.

Positive feedback has also been received. Some residents are leaving the positive bin tags on their bins, suggesting they are proud to have been identified for correctly using their bins. No complaints have been received. Further information on the project is available on the Council website, including a section of FAQs: <https://burnside.sa.gov.au/bins>



Figure 9. A bin tag placed on an organics bin to provide feedback on the use of the bin.

- 44.4. **Contamination conversations:** the second project that was scheduled to commence during 2019/20 was focused on reducing contamination in recycling bins. The project would involve calling residents who have gross contamination in their recycling bins. Gross contamination means that a substantial amount of the contents of the bin is not recyclable. Grossly contaminated bins are identified by East Waste truck drivers when they empty the bins.
- 44.5. This project has had ongoing delays due to technology issues at East Waste. The linking of RFID, GPS and driver monitoring systems is required to accurately identify the houses with contaminated bins. These issues were expected to be resolved during 2020 but have been ongoing. Council is ready to commence the project when the technology issues are rectified.
45. A revised Kerbside Waste Policy was adopted (Council Resolution C090221/12744) and updated (Council Resolution C240821/12917) with key updates enabling:
- 45.1. Support for waste management in apartment buildings (Council Resolution C12692); and
- 45.2. Support for schools, with a revitalisation of waste education programs, plus the provision of compostable bags and kitchen caddies for classrooms, balanced by a reduction in bin services.
46. The new Environmental Sustainability Officer position has commenced (Council Resolution C12708). This position has a focus on waste management and assists in delivering environmental sustainability initiatives across the council. Initial foci of this position have included:
- 46.1. Implementing the support for waste management in apartment buildings:

- 46.1.1. 288 apartment units from three apartment buildings now have access to a three-bin system;
- 46.1.2. Residents have been provided with compostable bags, kitchen caddies; and
- 46.1.3. Signage has been provided to the buildings.
- 46.2. Implementing additional support for schools and providing further educational resources for schools;
 - 46.2.1. Conducting workshops for school administrators and teachers to support an expansion of Council's waste education activities; and
 - 46.2.2. Educational activities have been conducted for St Peters Girls School, Children's Educational Care Centre, Nido Early School Kensington.
- 46.3. Providing additional support for waste management for lessees of Council facilities (eg sporting clubs and community groups).
- 46.4. Supervising student interns from the University of South Australia and working with them to implement:
 - 46.4.1. The bin-tagging trial; and
 - 46.4.2. Internal waste management initiatives.
- 46.5. Establishing a regular (monthly) hard waste program for residents at large sites where the typical hard waste service does not work efficiently, including the Queen Victoria Apartments and the Housing SA apartments on Portrush Road.
- 47. Council is working with East Waste to develop and trial an innovative Hard Waste Interception Project. The project will facilitate the collection of valuable items from Hard Waste before East Waste collects any residual waste. This project is designed to achieve both financial and environmental benefits. The interception of Hard Waste will save Council funds on waste disposal fees. The reuse of items and recycling of materials has environmental benefits associated with an increase in the re-use of resources. Council is awaiting action from East Waste to commence the trial.
- 48. East Waste's Education Officer provided ongoing support in waste education and promotional activities. Services included weekly tips promoted through social media and via the My Local Services app (delivered to 2,490 app users in City of Burnside). Numerous education and information sessions were also delivered, including:
 - 48.1. Plastic Free July (Burnside Library, 9/7/21);
 - 48.2. National Recycling Week (Online session, 11/11/20);
 - 48.3. Burnside Community Day (Glenunga Hub, 15/11/20);
 - 48.4. Outdoor Movie nights (Glenunga Hub, 22/12/20 and 22/1/21);
 - 48.5. Australia Day Citizenship Ceremony (Hazelwood Park 26/1/21);
 - 48.6. Circular Economy (Burnside Library, 4/2/21);

- 48.7. Waste education (Pineview Retirement Village, 2/4/2021);
 - 48.8. Environment Day Awards (Beaumont House, 11/4/2021); and
 - 48.9. International Compost Awareness (Burnside Library, 29/4/2021).
49. During February and March 2021, the Pepper Street Arts Centre hosted an exhibition named 'Reduce, Re-use: An exhibition of upcycled and recycled artwork'. This exhibition encouraged visitors to consider their impact on the environment and alternate uses of 'waste' materials.

Looking forward: waste plans for 2021/22

- 50. Council have installed a prototype specialised dog waste bin at the Conyngham Street Dog Park. A trial of regular organics bins in parks during 2019 and 2020 found contamination was too high for the waste to be sent to a composting facility. The new specialised bins, known as a 'Doggie Dummies,' have proven effective at collecting organic waste with no contamination issues. However, an issue with the bin was identified – some of the dog waste bags were falling inside the enclosure but not into the bin. The manufacturers have rectified this issue, and three more Doggie Dummies will be installed in high-use Council parks during 2021-22.
- 51. Results of the bin-tagging trial will be presented to Council.
- 52. Council will continue to work with East Waste to implement the 'Contamination conversations' and hard waste trials.
- 53. Council will conduct further engagement of residents, schools, businesses and sporting clubs to promote and encourage best-practice waste management.

Biodiversity and trees

- 54. There are two important elements related to the management of biodiversity and trees in Council's Environmental Sustainability Strategy:
 - 54.1. Preserve and promote biodiversity, and the natural environment, including habitat for healthy wildlife populations; and
 - 54.2. Conserve and enhance canopy cover, including promotion and protection of trees on private land.

The 2021 planting season

- 55. The 2021 planting season commenced in April and ran into September. While this report is focused on the 2020/21 financial year, the timing of planting each year means that reporting is best done for the planting season, rather than the financial year. This approach will provide a better understanding of trends over time and allow more reasonable discussion of annual variations.
- 56. Table 5 includes relevant statistics for growing and planting of trees, shrubs, wildflowers and native grasses during the 2021 season. Key metrics include:
 - 56.1. **A total of 1,621 trees were planted on Council land**, including street trees, trees in reserves, and trees planted at conservation sites (Hills Face Reserves and Urban Biodiversity Sites);
 - 56.2. **A total of 11,798 plants were grown at Burnside Biodiversity Nursery.** Most of the plants were planted on urban biodiversity sites and in Hills Face

Reserves. This was the first year of the growing program at the new Biodiversity at The Shed on Conyngham Street. The new nursery is working well with volunteers well settled in. The new facilities include additional equipment which increases the range of species Council can propagate.

56.3. **A total of 3,396 trees and other plants were given to residents, including:**

56.3.1. **Biodiversity Nursery Giveaway:** saw 321 trees and 2,900 smaller plants given to residents.

56.3.2. **The Native Tree Giveaway** (Council Resolution C12049): saw 175 trees collected by residents from tree nurseries.

56.4. **A grand total of 13,080 plants** were utilised in public and private planting programs

Table 5. Season 2021: growing and planting statistics for trees, shrubs, wildflowers and grasses, with 2020 data for comparison

Year	2020	2021
Plant growing		
Plants grown at Burnside Biodiversity Nursery	8,697	11,798
Plants provided to be planted on private land		
Native tree giveaway initiative	100	175
Biodiversity Nursery giveaway: trees	289	321
Biodiversity Nursery giveaway: shrubs, wildflowers and grasses	2,776	2,900
Subtotal: trees given to residents	389	496
Subtotal: Shrubs, wildflowers and grasses given to residents	2,776	2,900
TOTAL: plants provided for planting on private land	3,165	3,396
Planting on public land		
Street tree planting	905	1,069
Urban Biodiversity site planting: trees	221	259
Urban Biodiversity site planting: shrubs, wildflowers and grasses	2,500	5,952
Hills Face Reserve planting: trees	381	260
Hills Face Reserve planting: shrubs, wildflowers and grasses	967	1,520
Park planting: trees	66	33
Park planting: shrubs (including roses)	1,970	335
Michael Perry Reserve Historic Garden planting (exotic plants/trees)	854	256
Subtotal: trees planted on public land	1,573	1,621
Subtotal: shrubs, wildflowers and grasses planted on public land	6,291	8,063
TOTAL: planting on public land	7,864	9,684
GRAND TOTAL: public and private planting programs	11,029	13,080

Biodiversity sites

57. The term 'Biodiversity' refers to the variety of living things on Earth. Council uses this term to describe sites where indigenous plants are the focus (i.e. "biodiversity sites"). While these sites are managed to create healthy habitat, biodiversity is not limited to these sites. Biodiversity exists in public parks and streetscapes, as well as in private gardens everywhere. Indigenous plants are those that are naturally found

in the City of Burnside and may also be found naturally in other places (eg River Red Gums, Gold Dust Wattle and Hardenbergia are indigenous).

58. Council has a focus on the management of biodiversity at numerous sites, where restoration of natural environments is prioritised, along with fire risk reduction. Examples include the hillside woodland and creekline in Michael Perry Reserve. There are also highly urban examples, such as the beds in Beaumont Common and the south-eastern end of Alan E Cousin Reserve.
59. Council restores and maintains vegetation that has existed in this area for hundreds or thousands of years. The local plants provide habitat for local native wildlife. Together, these indigenous plants and animals are distinctive and underpin the character of the City of Burnside.
60. Council's skilled biodiversity teams, specialist bushcare contractors and volunteers carefully control invasive exotic plants and encourage native plants to regenerate naturally, with supplementary planting also used to re-introduce diversity. The result is a patchwork of hills-face and urban reserves that protect, reflect and celebrate the environmental heritage of the City.
61. Numerous Hills Face Reserves are managed for biodiversity, including Gully Reserve, Heatherbank Reserve and Wyfield Reserve. **The total area under management for biodiversity at Hills Face Reserves in 2020/21 was 119 hectares**, the same area as the previous year. This total included all Hills Face Reserves but not roadsides. Further, the total does not include several trails (i.e. McBeath unmade road reserve, Old Bullock Track and Mt Osmond unmade road reserve).

Woody weed control

62. Woody weeds are a persistent issue in Hills Face Reserves. Woody weeds degrade the City's natural heritage and contribute to fuel loads (a factor in the risk of fire). Infestations of woody weeds have been mapped using aerial photography and ground truthing (on-site observations to confirm the analysis). Each year, progress in the primary clearance of woody weeds is mapped and quantified. The woody weeds mapped and managed include declared pest species such as Olives, Italian Buckthorn, Aleppo Pine, Desert Ash, and Boneseed. These plants are declared as weeds and regulated under the Landscape South Australia Act (2019) because of their threat to primary industry, the natural environment or public safety.
63. During 2020/21, **3.2 hectares of primary woody weed control was conducted** in Hills Face Reserves. To help visualise that area, consider that the grassed surface of the Adelaide Oval is 1.9 hectares. Thus, the area of weeds controlled was over one-and-a-half times the playing surface at the Adelaide Oval.
64. The area of woody weeds that can be controlled each year is highly variable because of variation in sites, weed densities and methods used. For example, some sites have difficult terrain, safety issues and poor access for machinery. **Over the last seven years, 30 hectares have undergone primary woody weed control.** Annual progress has ranged from two hectares (difficult sites) to over nine hectares (easier sites).

Urban Biodiversity Sites

65. Council's Urban Biodiversity Sites exist in reserves, or parts of reserves, and are managed to create healthy habitat. Examples include Simpson Reserve, Sydney Street Reserve, Linden Gardens Reserve and parts of Bell Yett Reserve, Kensington Park Reserve and Harris Reserve. **The total area under management**

as Urban Biodiversity Sites in 2020/21 was 11.3 hectares. There was a small increase this year, with the addition of some land at Moorcroft Reserve (871 m²).

Creeklines

66. Creeklines provide habitat and form important corridors of vegetation through urban areas. These corridors allow indigenous plants and animals to persist in the City when much of the natural habitat has been removed or fragmented.
67. **There are 6.18 kilometres of identified creeklines within the City.** The designation of creeklines is complex because creeks in the region often have intermittent flows. It can be problematic to distinguish between a creek and other areas where water flows are intermittent. In quantifying the length of creeklines in the City, Council staff have focussed on creeklines that are readily identified as such, including First, Second and Stonyfell creeks.
68. **There are 2.84 kilometres of creeklines restored and managed for conservation and habitat within the City.** This length of creekline equates to 46 per cent of the identified creeklines in the City, up one per cent from 2019/20.

Conservation trails

69. **A network of over 26 kilometres of Conservation Trails exists through the City's hills face reserves.** This network of trails has been maintained and upgraded, with over 1 kilometre actively upgraded during 2020/21. The condition of each trail is assessed annually, and works are prioritised according to this condition monitoring.

Additional biodiversity and tree matters

70. **Regulated and Significant tree fund:** the Regulated and Significant Tree Assistance Policy was updated in December 2020 (C12710), including additional funding for this initiative. During the 2020/21 financial year, Council supported 19 residents in maintaining 26 trees.
71. **Biodiversity Policy:** in February 2021, Council approved a Biodiversity Policy to replace the Environment and Biodiversity Policy (C090221/12744). The policy was rewritten with a focus on biodiversity. Environmental sustainability is now well represented and embedded within Council's policies, including the Climate Change Policy.
72. **Resourcing:** the Council's capacity to deliver robust urban tree management has recently been increased in two ways:
- 72.1. A new Urban Forestry Officer commenced in January 2021; and
- 72.2. New specialised tree management software has been purchased. The software, named 'Forestree', is being used from March 30, 2021.
73. **Tree City of the World:** For a second year, the City of Burnside has been recognised as a Tree City of the World. Council is part of a growing group of cities recognised for leading in the management and celebration of our urban forest. This recognition does not come lightly, with the organisation needing to demonstrate its commitment to tree management in several ways, including:
- 73.1. Policy commitments (eg the Urban Tree Management Policy);
- 73.2. Tree and forest assessments (eg Canopy cover reports);

- 73.3. Annual budget (i.e. for tree management); and
- 73.4. Celebrating achievements (eg Nature Festival activities).
74. Council has conducted several educational engagement activities for biodiversity and trees during 2020/21, including:
- 74.1. **Discover the trees of Hazelwood Park** (conducted and booked out on 25/9/2020 and 20/5/2021): *“Discover wildlife apartments, the wood-wide-web, and visit trees that existed before Adelaide. Discover the trees that inspired May Gibbs to create Snugglepoot and Cuddlepoot! Join a guided walk to discuss the environmental, cultural and economic significance of the park's trees.”*
- 74.2. **Discover Michael Perry Reserve** (conducted and booked out on 28/9/2020 and 3/5/2021): *“Michael Perry Reserve in Stonyfell is one of City of Burnside's most interesting reserves. This park contains three distinct elements, the riparian zone of Second Creek, a restored hillside woodland and the historic garden dating from the 1860s. Join Dr Mark Ellis for a guided walk through the reserve to learn about how the City of Burnside has been restoring the indigenous vegetation of the creek line and woodland and more recently, bringing back the historic garden to life with a range of botanically interesting species.”*
75. **National Tree Day:** this event was promoted, and schools were supported with the distribution of 21 trees from Council among seven schools within the City of Burnside.
76. **Promotion of Council's Native Tree Giveaway:** a new approach for promoting the Native Tree Giveaway was trialled. For the trial, Council's GIS Officer identified 'tree ready' households in three suburbs, and data from the LiDAR canopy assessment project, detailed in last year's environment report, was used to determine tree-ready households. Using the tree canopy and building footprint data, households were identified as tree-ready if they had over 300m² of open space on their block. Council telephoned these households directly to inform them about the Native Tree Giveaway. For the trial, 45 residents were called, 10 of whom requested a tree voucher, a favourable success rate of 22 per cent. Additional benefits may also occur, including increased goodwill for Council and flow on promotion through word of mouth. Several of the residents who were called said they would mention the program to their neighbours. This approach was successful enough to be expanded next year for the Native Tree Giveaway.
77. **Tree guards:** new, paper tree guards are now being used for many planting programs, along with re-used corflute (plastic) tree guards. This initiative will reduce the quantity of plastic consumed by Council.
78. **Tree stories:** Council received a small grant from Amongst It to collect and share residents' stories about trees. The project was designed to promote connection to trees. A selection of stories has been published on a council webpage. In addition, the grant funding was used to place stories and associated photographs on local bus shelters during October 2020 (Figure 10).



Figure 10. A 'Tree Story' from a resident of Burnside displayed at a local bus shelter.

79. **Conservation volunteers:** Despite ongoing COVID-19 restrictions, the year saw a continuation of successful conservation volunteering programs. Volunteers contributed 2,733 hours, a similar contribution to the prior year. Volunteer contributions included:
- 79.1. City of Burnside volunteers conducted conservation, nursery and monitoring work at the biodiversity nursery, Karra Tartu (Waterfall Gully Reserve) restoration site, urban biodiversity sites, and along conservation trails;
 - 79.2. Trees for Life volunteers conducted work at nine Bush for Life sites on Burnside Hills Face Reserves; and
 - 79.3. Conservation Volunteers Australia teams worked on a range of Council reserves, including Michael Perry Reserve and Chambers Gully Reserve.
80. **Burnside Urban Foresters:** through this volunteer program, Council provides opportunities for residents to learn about and participate in urban forestry activities. The Burnside Urban Foresters program allows council volunteers to participate in workshops to learn about the urban forest. Urban Foresters can also participate in monitoring activities through this citizen science initiative. The program was put on hold during COVID-19 restrictions. A reboot was trialled, but participation rates were low while some COVID-19 restrictions persisted and COVID-19 immunisation rates were low. A second reboot will be tried during 2021-22.
81. **Vegetation Management Framework:** Following its development in 2019, the Hills Face Vegetation Management Framework 2019-2024 continues to be implemented with programs of revegetation, woody weed control, ecological management and fuel reduction. Sitting within that framework, several additional Reserve Vegetation Management Plans were completed during 2020/21, including plans for Auldana North Reserve, Auldana Drainage Reserve and Wattle Park Reserve. Further Vegetation Management Plans will be developed for Council reserves during 2021/22.

82. **Grey Box trees:** Council continues to monitor and support numerous environmentally and culturally significant grey box (*Eucalyptus microcarpa*) throughout the City. Some of these trees are displaying signs of premature decline. This concern has been noted at Beaumont Common. Council has taken several actions to support the trees and is monitoring the health of the trees in the long-term (with support from the Burnside Urban Foresters). Actions have included: supplementary watering, soil treatment to reduce compaction, and the use of possum guards on several trees to reduce pressure on the trees.
83. **Bushfire support:** During the summer of 2019/20, large areas of both the Adelaide Hills and Kangaroo Island were devastated by bushfires. The City of Burnside contributed resources to the emergency response and cleanup of both areas through the contribution of staff, equipment and expertise. The City of Burnside Biodiversity Nursery has also been utilised to grow 500 indigenous trees to give to landholders to assist in the replanting programs:
- 83.1. This work was conducted as part of a coordinated response to landscape restoration, in partnership with non-government organisation, Trees For Life, through their Bushfire Recovery project.
- 83.2. A team of dedicated Council volunteers assisted in growing the trees. The 500 trees were delivered to the Trees For Life distribution depot in March 2021.
- 83.3. Trees For Life managed the program to distribute the trees to landholders, assist with preparation works, and plant and maintain the trees.
84. **BSUD grant:** Council received a 'Biodiversity Sensitive Urban Design' (BSUD) grant from Green Adelaide for planning work, with a focus on how habitat can be developed to support wildlife in the City of Burnside. Preliminary work has included workshops with wildlife experts and Kurna representatives. The project is progressing with further Kurna engagement being planned and a GIS-based analysis of habitat hotspots and potential wildlife corridors. Results of this work will be reported when the work has been completed.
85. **Demonstration verge project:** During 2020, a group of Burnside residents requested a practical example of a verge planted with attractive, mainly native species that conform to Council's Verge Planting Guidelines. The project received funding through Council's "Your Neighbourhood" program. The Demonstration Verge is at The Shed, 6 Conyngham Street, Glenside. A planting list is available on the Council website, at: <https://www.burnside.sa.gov.au/Planning-Business/Parking-Roads-Footpaths/The-Shed-Demonstration-Verge>
86. **Canopy Action Plan:** an update on the Canopy Action Plan is presented as Attachment A of this report.

Looking forward: biodiversity and trees

87. **Ongoing tree planting and habitat creation:** Council will continue to plant trees and create habitat through its well-established and well-supported tree planting and reserve management programs.
88. **Canopy assessment:** a detailed report on canopy cover was presented in Council's 2020 Environmental Sustainability Report. The canopy cover reported for the City of Burnside was 37.7%, using data collected during 2018 and 2019. Council is working with Green Adelaide and other councils to conduct a second canopy analysis across metropolitan Adelaide. This project will involve a new LiDAR-based analysis to determine a more current percentage of canopy coverage in the City of Burnside.

This second analysis is likely to occur during 2022 and will allow councils to assess change over time (a comparison of the first and second analyses).

89. **Kensington Gardens Reserve:** work continues on the new wetland at Kensington Gardens Reserve. Most of the plantings around the wetland and community facilities will be indigenous, with over 15,000 wetland and terrestrial plants to be planted.
90. **Chambers Gully Reserve:** an opportunity to improve conservation outcomes at Chambers Gully Reserve exists as the former rifle range, and clubrooms building is returned to open space (Council Resolution C12605). This project will proceed when the budget is approved, anticipated to be during the 2022/23 financial year.
91. **Grants:** two tree or biodiversity-related grant submissions were made during 2021. If the grants are awarded, work will commence during 2021/22 on:
 - 91.1. **Bandicoot Grassroots Project:** this *Grassroots Grant* application was submitted to Green Adelaide by the University of Adelaide (Councils were not eligible to apply). The City of Burnside is a partner on the grant, which, if successful, will explore how bandicoot populations can be bolstered along creeklines. Southern Brown Bandicoots are a threatened species that persist in Burnside in the Waterfall Gully area. First Creek and Brownhill Creek will be the focus areas if the grant is successful. The project team from the university plan to partner with communities to understand bandicoot distribution and habitat hubs along local creeklines.
 - 91.2. **Iconic Trees Project:** this *Greener Neighbourhoods Grant* application was submitted to Green Adelaide by the Council. If the grant is awarded, an Iconic Tree planting program will be established. Council has identified locations across the City that can accommodate large trees. The grant funds will be used to purchase, plant and care for trees that will be iconic in years to come. These landmark trees will provide character and shade, cooling the urban area and providing many wellbeing benefits for residents and visitors. The selected locations are mostly in the hottest suburbs within the City of Burnside and in the suburbs with less than 30% canopy coverage. Trees have been selected to provide habitat for wildlife and for their amenity value. They are trees that will inspire current and future generations. They will be memorable trees.

Water

92. Water is a valuable resource used by Council to maintain parks and reserves and supply buildings, pools and other services. Parks and reserves account for most of Council's water use.
93. There are two important elements to water management contained in Council's Environmental Sustainability Strategy:
 - 93.1. Manage water for best value to the environment and community, recognising the multiple sources and uses of water; and
 - 93.2. Strategic approach to water management, incorporating WSUD.

Water use

94. Council utilises water from various sources, including:
 - 94.1. **Mains water:** provided by SA Water and used in reserves and buildings around the City.

- 94.2. **Bore water:** Council has bores in two reserves, Hazelwood Park and Kensington Park Reserve. The bores provide water at a very low cost (relative to mains water), but there are new limits on how much can be used. The two bores are now limited to 74 Megalitres per annum (combined). There is also a cost in pumping the water from the bore. The pumping of water from the bores was responsible for over 70 megawatt-hours of electricity during 2020/21.
- 94.3. **Recycled Water:** the Glenelg to Adelaide Parklands Recycled Water Project is commonly known as GAP water. The GAP scheme provides for the reuse of treated wastewater from the Glenelg wastewater treatment plant. The project is designed to reduce Adelaide's reliance on River Murray water, reduce wastewater being pumped into Gulf St Vincent, and increase water availability to support urban greening. Wastewater is filtered and disinfected before being pumped to the Adelaide Parklands. The City of Burnside has access to this water near Fullarton Road, and the water is used to water the reserve along Alexandra Avenue.
- 94.4. **ERA Water:** ERA Water is a regional subsidiary of three councils: Burnside, Walkerville and NPSP (Norwood, Payneham & St Peters). The ERA Water scheme provides Aquifer Storage and Recovery (ASR) capacity to Council. The scheme diverts creek water during high flows (eg winter) into Felixtow Wetlands. The Wetlands are designed to clean the water. After flowing through the wetlands, the clean water is pumped underground and stored in a natural aquifer. The water is then pumped out of the aquifer when it is required to water parks and reserves during the drier months. An extensive network of pipes and pumps has been installed to deliver ERA water to parks and reserves across the City of Burnside and other collaborating Councils. The water may also be sold to other users (eg other councils and industry). In the long-term, this scheme should provide water to Council at a lower cost than mains water and increase water security.
95. Figure 11 depicts Council's water use from various sources. **With 311 megalitres of water consumed, there was a 1 per cent increase from the previous year.** Bore water consumption (now capped) was down, as was mains water consumption. ERA Water consumption was up. An increase in water usage should be expected in rainfall if annual rainfall reduces. Figure 12 depicts the relationship between rainfall and Council's water consumption. There is lower water consumption in wet years and higher water consumption in dry years, indicating appropriate management of water resources.
96. Community expectations are also a driver of water use. Keeping parks and reserves well-watered has both environmental and cost implications. Environmentally, there may be benefits where water is used (eg urban greening and the associated cooling), but an environmental cost at the location of the water extraction. For example, the use of mains water in the City has an environmental impact on the Murray River system, particularly during drought years. Therefore, the use of alternative water sources (eg ERA Water or GAP water) has broad environmental benefits beyond to City. Council also saves substantial water resources by maintaining indigenous and drought-tolerant vegetation in many Hills Face Reserves and Urban Biodiversity Sites.

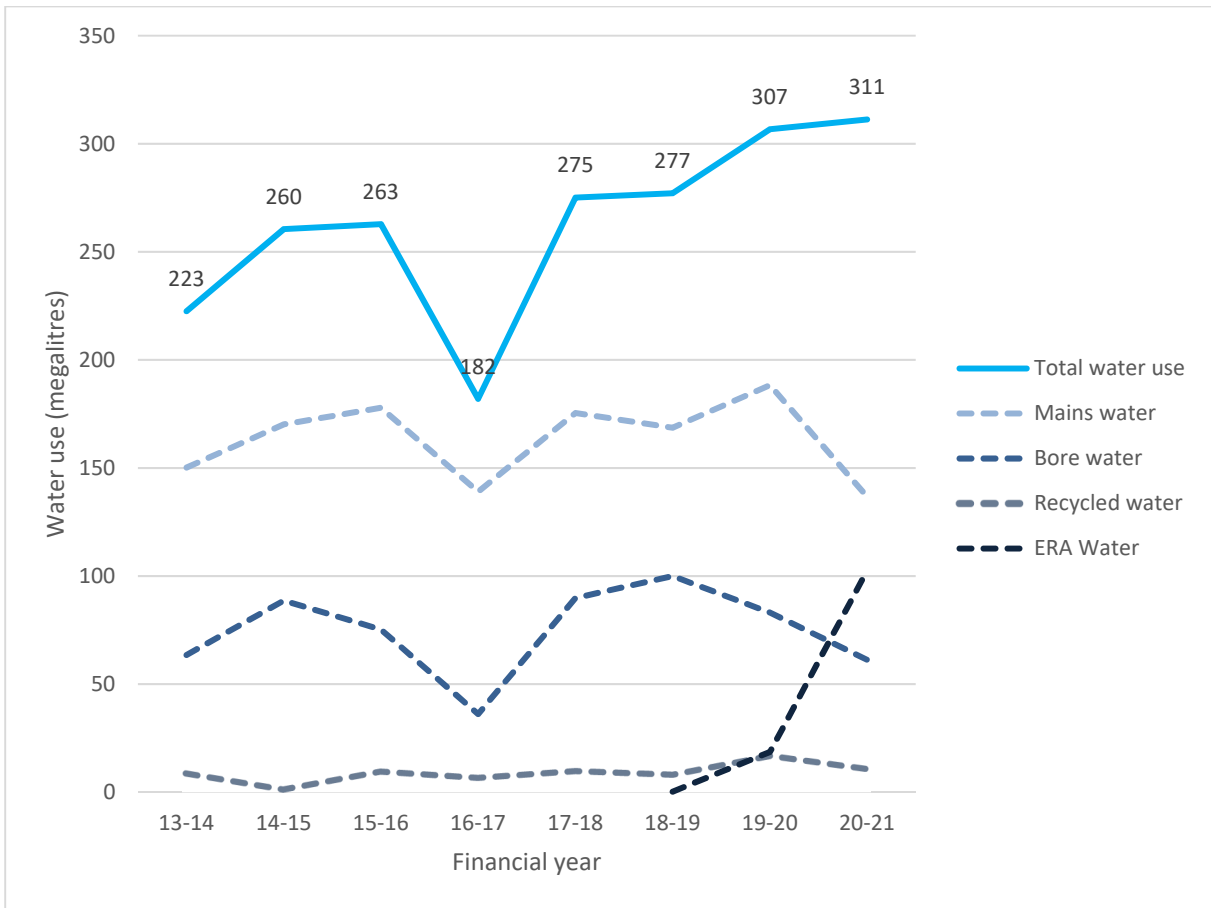


Figure 11. City of Burnside water use (megalitres)

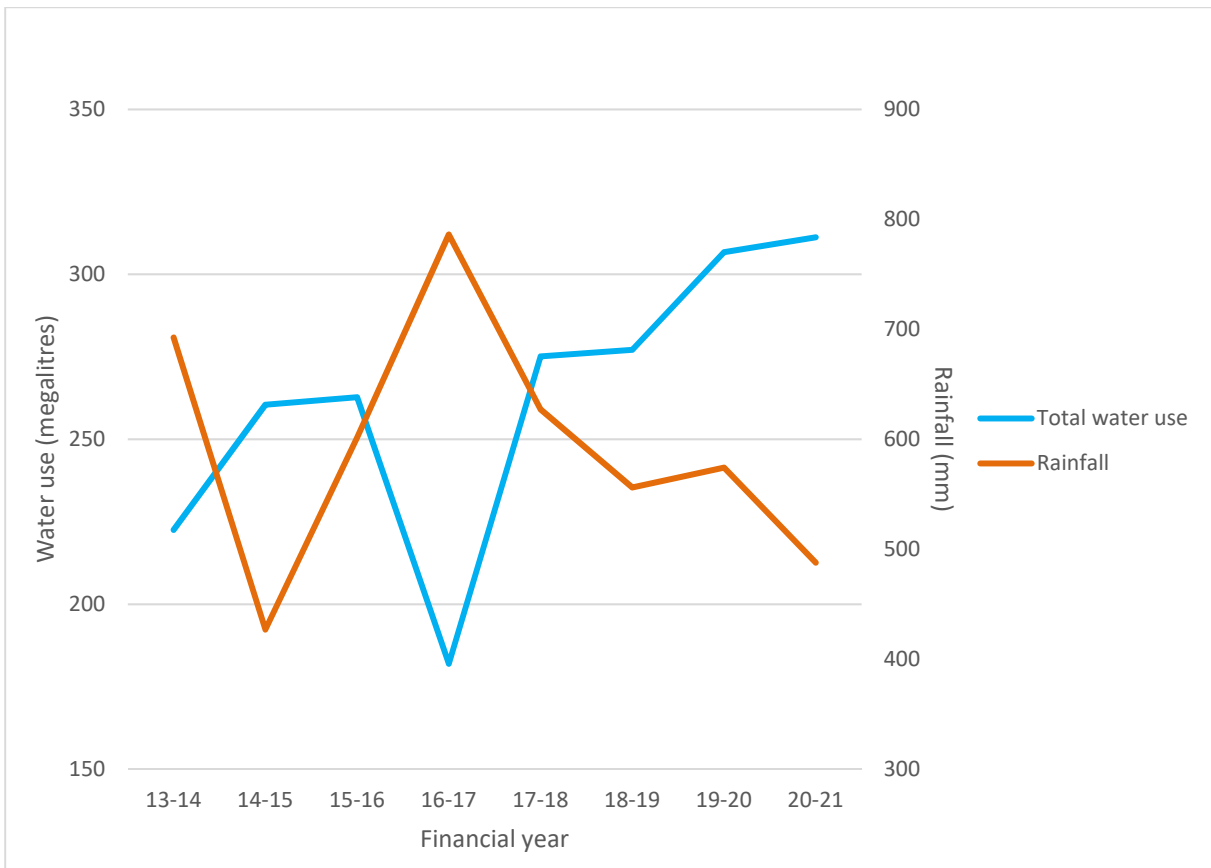


Figure 12. City of Burnside water use (megalitres) vs rainfall (mm; Burnside weather station)

Water Sensitive Urban Design (WSUD)

97. WSUD involves integrating the sustainable use of water into urban areas. This approach to planning and urban design can include the management of rainwater, stormwater, groundwater, mains water and wastewater. Implementing WSUD typically involves measures to slow water flows, allow water to infiltrate, or capture water for later use. WSUD is often implemented to support urban greening. In practice, WSUD can be as simple as installing rainwater tanks to collect water or swales to slow water flows. At the other end of the spectrum, WSUD can be complex and involve multiple treatments, such as the construction of artificial wetlands to clean water for aquifer storage for subsequent use. There are many benefits of WSUD, including the support for urban greening (i.e. water management to support trees and vegetation). Urban greening has many associated benefits, such as urban cooling and the maintenance or improvement of neighbourhood character. WSUD features can also improve water quality and reduce downstream pollution (eg by reducing freshwater pulses into the Gulf St Vincent).
98. Council utilises water from two large-scale WSUD sources, ERA Water (an Aquifer Storage and Recovery scheme) and the GAP scheme (treated wastewater).
99. Council also implements many smaller-scale WSUD systems. Table 6 lists the small-scale WSUD systems within the Council by financial year, with 139 systems installed during 2020/21.

Table 6. Water Sensitive Urban Design installed in the City of Burnside
(cumulative totals at end of each financial year)

System	Pre-2019	2018/19	2019/20	2020/21
Verge soakers (B-Pods)	184	188	196	234
Verge soakers (Kerbside inlets)	25	79	157	247
Creepline WSUD (eg weirs, pollutant traps)	49	64	77	77
Permeable paving	5	14	26	37
Rainwater tanks	21	21	24	24
Rain Gardens	8	8	8	8
Swales	22	22	22	22
Detention basins	5	5	5	5
Soakage pits	5	5	5	5
TOTALS	324	406	520	659

100. City of Burnside continues to partner with Water Sensitive SA to support the development of a water sensitive city.

Looking forward: water plans for 2021/22

101. Council will continue to install small-scale WSUD systems and promote WSUD during 2021/22.
102. A map of WSUD installations across the council is almost complete and will be released publicly during 2021. The map's purpose is to share information about WSUD in Burnside, a topic of great community interest. This project has been developed as a collaboration between expert staff in Geographic Information Systems (GIS), Asset Management and Environmental Sustainability teams.

Corporate Action

103. There are three important elements related to corporate action in Council's Environmental Sustainability Strategy:
- 103.1. Promote environmental sustainability through advocacy, community engagement and education;
 - 103.2. Environmental sustainability is embedded within decision-making, resource allocation, processes and operations; and
 - 103.3. Increase Council and community resilience and preparedness for the impacts of climate change.

Promotion of environmental sustainability

104. The Family Fun Day at Glenunga Hub on 15 November 2020 had an environmental theme, focussed on waste management; both East Waste and KESAB conducted activities.
105. The Sustainability Series, a collaboration between the Burnside Library, the Community Connections and Environmental Sustainability teams, provided engagement and education in key areas of environmental sustainability, with session topics including:
- 105.1. Is your waste really being recycled? (4/2/21);
 - 105.2. Discover water-sensitive Burnside (4/3/21);
 - 105.3. Discover the wildlife of Burnside (25/3/21);
 - 105.4. Calculate your carbon footprint (6/5/21); and
 - 105.5. Discover the circular economy (3/6/21).
106. South Australia's inaugural 'Nature Festival' was held from 25 September to 4 October 2020. Over 8,000 participants attended 183 events around South Australia, including several events in the City of Burnside. Council conducted a walk in Michael Perry Reserve and a walk in Hazelwood Park (reported earlier). Council has a greater presence at the 2021 SA Nature Festival, including an art exhibition entitled, 'Inspired by Trees' at the Burnside Civic Centre.
107. Council hosted its inaugural Environment Day at Beaumont House on Sunday, 11 April 2021. The day was supported by ZEN Energy and hosted by Farlie Taylor and Philip Roetman. Community awards were presented in the following categories:
- 107.1. Local Sustainability: Andrew Crompton;
 - 107.2. Unsung Heroes: Rotary Club of Burnside Inc;
 - 107.3. Waste Innovation: Leabrook Quality Meats;
 - 107.4. Climate Change Challenge: Dr Susan Marsden & Michael Szwarcbord.
108. Council's Focus Newsletter regularly includes articles on Environmental Sustainability. The Summer 2020 edition included an article on sustainability at Christmas time. The Autumn 2021 edition featured Council's action to be carbon neutral by 2030 (Figure 13).

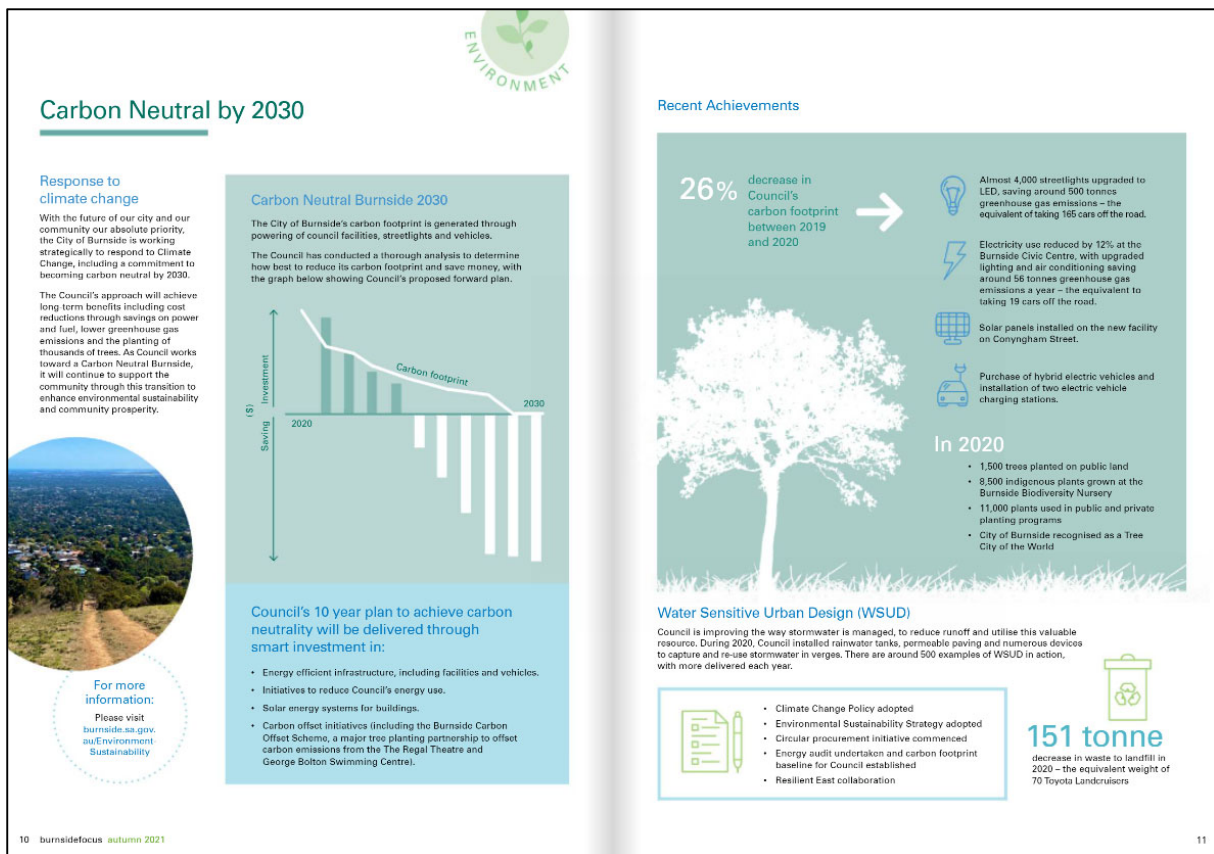


Figure 13. The Autumn 2021 edition of the Focus newsletter included a feature on Council's action to be Carbon Neutral by 2030.

109. **Burnside Neutral 2030:** Council has developed a monthly video series entitled 'Burnside Neutral 2030'. These videos are available through social media and at: <https://engage.burnside.sa.gov.au/carbon-neutral-burnside-2030>. Topics covered thus far include:

- 109.1. B-Pods (WSUD devices);
- 109.2. LED streetlights;
- 109.3. Tree planting;
- 109.4. Organic waste for apartments;
- 109.5. Circular procurement; and
- 109.6. Energy efficiency.

Embedding environmental sustainability within decision-making, resource allocation, processes and operations

110. **Council reports:** in line with Council's Climate Change Policy (C12516), all Council reports now have a section dedicated to environmental sustainability. This addition to Council Reports was made when the Council Report template was updated in March 2021. Council staff who write reports have been provided with support on how to address this section.
111. **Sustainable Procurement** is an area of importance for the City of Burnside, particularly Circular Procurement (purchasing materials that include recycled content). During 2020/21, there was substantial work in this space, including

- 111.1. Further integration of Circular Procurement into procurement documentation;
 - 111.2. New contracts awarded for asphalt and stationery, both with potential to increase the quantities of recycled materials being purchased and both with new requirements for the suppliers to Council on the quantities of recycled materials in the goods supplied;
 - 111.3. Council's procurement policy was updated, with a strengthened section on Procurement Governance Principles. The policy was endorsed on 23 February 2021 (Council Resolution C230221/12759); and
 - 111.4. Ongoing collaboration with the Local Government Association SA and eight other Councils on the Buying it Back (circular procurement) project (Council Resolution C12251): <https://www.lga.sa.gov.au/buyingitback>
112. **Monitoring of Circular Procurement:** Council's commitment to Circular Procurement includes monitoring the quantity of recycled materials that are purchased. Monitoring commenced during 2020/21 to establish a baseline (Table 7). Key outcomes were:
- 112.1. **A total of 1,104 tonnes of recycled materials were purchased;**
 - 112.2. **Asphalt was the highest quantity of recycled material.** Looking forward, the quantity of recycled product used in asphalt will increase in 2021/22 under the new asphalt contract.
 - 112.3. Thirteen tonnes of recycled plastic was used through several projects, including:
 - 112.3.1. Garden beds in the Laurel Avenue Pirkurna Wirra / Peter Bennett Organic Community Garden;
 - 112.3.2. New bins (Mobile Garbage Bins) supplied to residents for kerbside waste collection;
 - 112.3.3. 'Greenwells' used with Council's planting of street trees;
 - 112.3.4. Bollards and post-and-rail projects in Hazelwood Park Reserve and at Andrew's Walk;
 - 112.3.5. Kitchen Caddies supplied to residents (a new 100% recycled plastic unit was available this year);
 - 112.3.6. Plastic crates used underground to construct WSUD verge soakers; and
 - 112.3.7. Office chairs for the Linden and Tusmore rooms at the Burnside Civic Centre.

Table 7. Quantities of recycled materials purchased by the City of Burnside during 2020/21
(these totals only include the recycled material; for example, over 10,250 tonnes of asphalt were purchased and 10% of it was recycled material, so 1025 tonnes are recorded as recycled material)

Categories and products	Tonnes of recycled material
Construction Materials	
Asphalt (10% Recycled Asphalt Product)	1,025
Sand (100% recycled product made from crushed concrete)	60
SUBTOTAL: construction materials	1,085
Plastics	
Planks, bollards, rails and posts (47.5% recycled plastic)	7
Bins (kerbside bins were 30-40% recycled plastic)	4
Greenwells (100% recycled, used with street tree planting)	1
Verge-soaker crates (WSUD devices; 100% recycled plastic)	1
Office chairs (100% recycled materials)	< 1
SUBTOTAL: plastics	13
Compost	
Organic soil mix (25% recycled material)	4
SUBTOTAL: compost	4
Paper	
Office paper (100% recycled)	2
SUBTOTAL: paper	2
TOTAL RECYCLED CONTENT PURCHASED	1,104

112.4. Some items could not be included in the calculations because suppliers did not provide enough details to determine the weight of recycled content in the goods they supplied. However, while these items are important, their impact on the overall results would not be substantial. Council will continue improving systems and working with suppliers to ensure that their recycled materials can be properly recognised. Examples of materials not included are:

112.4.1. The new playground in Holmes Reserve included recycled plastic and rubber; and

112.4.2. Some stationery items purchased, such as pens, have recycled content.

Increase Council and community resilience and preparedness for the impacts of climate change

113. **Resilient East:** City of Burnside is a member of Resilient East, a partnership between state and local government organisations in eastern Adelaide. Resilient East is about making sure the eastern region remains a vibrant, desirable and productive place to live, work and visit, and that our businesses, communities and

environments can respond positively to the challenges and opportunities presented by a changing climate. Highlights from Resilient East during 2020/21 include:

- 113.1. Development and enactment of a communications strategy, including the commencement of an e-newsletter;
- 113.2. Completion of Heat Mapping Fact Sheets – available online: <https://www.resilienteast.com/map-viewer>;
- 113.3. Completion of Street Tree Species Guidelines for 100 local species, available online: <https://bit.ly/street-tree-guide>;
- 113.4. Advocacy over State Government Planning Reforms, including written submissions and high-level meetings with key stakeholders. Written submissions can be found on the Resilient East website at the bottom of this page: <https://www.resilienteast.com/resources>;
- 113.5. An invited presentation to the Natural Resource Committee Parliamentary inquiry into urban green spaces;
- 113.6. A Climate Risk Governance workshop was held for CEOs and key staff during October 2020; and
- 113.7. Participation in the development of Green Adelaide's Regional Plan.

Looking Forward: Corporate Action

- 114. **Review of Environmental Sustainability policy space:** during 2022, Council will conduct an internal audit of its environmental sustainability policies and strategies. This audit will help ensure that the City of Burnside remains a leader in environmental sustainability.
- 115. **BEAT:** Council staff are developing an internal group, the Burnside Environmental Action Team (BEAT), to improve the internal management of waste, power and water. This project has been delayed because of limitations in staff capacity. With a new Environmental Sustainability Officer commencing during March 2020, the project is now being planned for commencement late in 2021.
- 116. **Citizen Science Grant with the University of South Australia:** the university has been awarded a grant of \$280,000 from the Federal Government to develop a new program focussed on environmental sustainability for the Community. The university will develop the program over the coming three years with two council partners: City of Burnside and Mount Barker District Council. This collaboration will provide an excellent opportunity to engage the community in environmental sustainability.
- 117. **National Park City:** Green Adelaide is developing a bid to have the metropolitan area of Adelaide declared the world's second National Park City, following London. A charter has been developed, and Green Adelaide have supplied answers to Frequently Asked Questions (both provided as Attachment B). It is recommended that Council endorses Green Adelaide's charter and supports the bid for Adelaide to become a National Park City. This initiative aligns strongly with the work of the City of Burnside to improve Environmental Sustainability and the wellbeing of residents.

Conclusion

- 118. Council continues to invest significant resources into environmental sustainability.

119. Progress has been strong in most areas of Council's Environmental Sustainability Roadmap. Areas where progress has been delayed are limited and correctable.
120. Regular updates will be provided to Council in relation to environmental sustainability, with additional reports provided to Council on specific initiatives as required.

Attachment A: Canopy Action Plan update

Objective	Action Item	Target	KPI	Detailed Progress / Actions
Education	1.1	Urban Forest Interactive	Update and maintain website to include contemporary information on trees and urban forestry research to provide a source of community information.	The current Urban Forest Interactive website has limited functionality and is difficult to update. An overhaul of the website is underway. A new, more advanced version will be launched when completed (expected during 2022).
			Develop a mobile online reporting functions to support community led Citizen Science projects that help support environmental education and awareness	This item is complete – the Burnside Urban Foresters volunteers are using the BioCollect app for data collection and storage.
	1.2	Tree Week	New Initiative: Undertake an event to promote and celebrate trees within the City of Burnside	The need for an internally-funded Tree Week was superseded by the development of the SA Nature Festival in 2020. In 2021, Council is increasing its delivery of events during the Nature Festival, with a focus on Trees (e.g. Tree Walks and a tree exhibition). Council will continue to expand its delivery of activities and support of the SA Nature Festival. Additionally, Council will continue to conduct promotional activities focused on trees throughout the year.
	1.3	Collaborate with local schools to enhance educational outcomes regarding the urban forest	Continue support of local schools to raise awareness and the importance of trees.	Council is actively engaging with and supporting schools in environmental education. This work will be expanded during 2021/22, including a trial of citizen science activities with schools.
			New Initiative: Support National Tree Day and School Tree Day 2020.	Council continues to support schools during National Tree Day. During the 2021 event, schools were supported with the distribution of 21 trees from the Council among seven schools within the City of Burnside. Links to lesson plan resources were also provided.
1.4	Promote the Urban Forest	Continue with a marketing strategy to strategically promote the urban forest and engage the community.	Strategic promotion of trees by Council is ongoing, with support from Resilient East.	
Protection	2.1	Continue to promote and educate internal and external stakeholders in regards to AS4970-2009	Continue to provide training program for internal departments, including an online induction process	Education of staff is ongoing.

Objective	Action Item	Target	KPI	Detailed Progress / Actions
		Protection of Trees on Development Sites		
	2.2	Continue the development of public educational material regarding tree protection during development	Develop educational materials for public	<ul style="list-style-type: none"> • Council is conducting ongoing work with landowners and developers, providing education and advice on tree protection in response to development applications. • Council is developing resources for new residents that emphasise the benefits of trees and promote Council programs to support trees and biodiversity. • Development of education materials is ongoing, including: <ul style="list-style-type: none"> ○ Tree-focussed walks (eg Hazelwood Park Tree Walk, conducted three times during 2020/21) ○ Updating the Urban Forest Interactive website ○ Developing a relationship with the Kaurna community to enrich education programs
	2.3	Identify those trees to be included within the local development plan through an Audit of public trees, utilising existing data where possible	Undertake Audit Include trees identified in asset register	This work is ongoing. Council has committed extensive resources to ensure that audits of the street tree stock are ongoing. Data are now stored in the new urban tree management database, Forestree.
	2.4	Apply Australian Standard 4970-2009 protection of trees on Development Sites to all Council works and contractors working on	Continue to improve training and develop systems to apply standards to all projects	This work is ongoing. Council has committed extensive resources to ensure that development applications involving trees can be thoroughly reviewed and action can be taken to protect trees in accordance with South Australian laws and regulations. The City of Burnside and Resilient East continue to advocate to the State Government for stronger protections for trees.

Objective	Action Item	Target	KPI	Detailed Progress / Actions
		Council land where these activities may affect tree viability		
	2.5	Advocacy	New Initiatives: Advocate state government to increase protection of tree to achieve Target 5 30-year Plan for greater Adelaide	This item is being addressed through regional partnerships (eg Resilient East has a Canopy Working Group who have made submissions to State Government regarding canopy cover) and through support of Water Sensitive SA.
Planning	3.1	Draft Tree Planting Master Plan based on ERA Heat Mapping and verge impact study	Draft Tree Planting Master Plan	The Tree Planting Master Plan is scheduled to be delivered during 2022.
	3.2	Revise the Urban Tree Strategy 2014-2024	Commence the review and revision of the strategy	The Urban Tree Strategy is redundant with the development of the Environmental Sustainability Strategy, Urban Forest Asset Management Plan, Urban Tree Management Policy, Climate Change Policy and the ongoing maintenance of the Canopy Action Plan. From a strategic perspective, these documents will provide effective coverage of urban tree management. Council is in the process of updating the tree strategy's operational aspects and developing new technical guidelines for urban tree management during 2021/22. This work will be presented with the Asset Management Plan for Trees is presented to Council.
	3.3	Tree Planting	Continue planting a minimum of 1,000 new trees throughout the City's verges, reserves and Hills Face and report progress to Council annually	The 2021 planting season saw a total of 1,621 trees planted on Council land.
Monitoring	4.1	Extend assessment of historical land cover to include entire Council area (over and above what was included in the	Present findings to Council	This item was superseded by the collaborative LiDAR canopy assessment project, presented in Council's 2020 Environmental Sustainability Report. Council is working with Green Adelaide and other councils to conduct a second canopy analysis across metropolitan Adelaide. A second analysis is likely to occur during 2022 and will allow councils to assess change over time (a comparison of the first and second analyses). This assessment will be revised and updated in future revisions of the Canopy Action Plan.

Objective	Action Item	Target	KPI	Detailed Progress / Actions
		2010-2015 assessment)		
	4.2	Undertake assessment of canopy change at 5 year intervals. Next review due 2020	Present findings to Council	Explained in item 4.1, directly above.

ADELAIDE NATIONAL PARK CITY* CHARTER



Adelaide National Park City is a movement to improve greater Adelaide's liveability through a better connection between people and nature. It extends across the northern plains, eastern hills, southern vales and out into the marine environment.

Let's all work together to create a cooler, greener and wilder Adelaide and beyond.

Let's create a city that is rich with nature, and a place where people take action to be better connected with the environment and each other.

We are working together for better:

- ✦ Thriving urban spaces for nature and people
- ✦ Collective decision-making, learning and local action
- ✦ Air, land, freshwater and marine habitats for plants and animals
- ✦ Connections between people and nature, Kaurna Yarta (Country) and community
- ✦ Health and wellbeing, diversity and inclusion
- ✦ Climate resilience
- ✦ Shared stories and celebrations

Sign the Charter

Sign this Charter to show your commitment to working together for Adelaide National Park City.

PRINT NAME: _____ ORGANISATION: _____



SIGN HERE

DATE: _____

Marni ngadlu tampinthi ngadlu Kaurna yartanga inparrintheta

It is good that we all acknowledge we are living on Kaurna Country.

✦ What if we restored nature wherever we can? ✦ What if everybody could lose themselves in nature without leaving the city? ✦ What if we shared more knowledge, ideas, tools and experiences to connect with nature? ✦ What if there was more space for reconciliation with Kaurna Miyurna (Kaurna People) and recognition that all living things are a part of Kaurna Yarta (Country)? ✦ What if more people grew their own food? ✦ What if there were more beautiful sights and sounds in the city? ✦ What if we thought more about those who will be living in the city seven generations from now? ✦ What if there was more celebration and spontaneity? ✦ What if we did more to care for the people, places and nature we are interdependent with? ✦ What if we had more balance and harmony within ourselves, our city and our world? ✦ What if there was better communication and collaboration between all levels of government and community?



Frequently Asked Questions:

What is a National Park City?

It's a place, a vision and a community that is working together to make life better for people and nature. A National Park City recognises the value of urban life, habitats, landscapes, people and culture, and seeks to apply appropriate National Park principles to whole cities.

This is part of a timely global initiative designed to inspire action at all levels to improve the nature and well-being of cities, their people and their places. The first National Park City is London, and while Adelaide is likely to become the second, many other cities are also working towards this goal.

How does a city become a National Park City?

To become a National Park City, a submission must be made to the National Park City Foundation which responds to the 23 criteria included in the *National Park City Journeybook*. This submission then goes through an assessment process, before a decision is made.

Who is behind making Adelaide a National Park City?

Green Adelaide is leading the campaign to make Adelaide a National Park City, and will be presenting its submission to the National Park City Foundation in November 2021.

Is this just for the Adelaide CBD?

The proposed Adelaide National Park City covers all of greater Adelaide. This includes the northern plains, eastern hills, southern vales and marine environment, plus the city centre.

What is a National Park City Charter?

The Charter is a short document that sets out Adelaide's vision, aims and values as a National Park City. By signing the Charter, you are demonstrating your support for an Adelaide National Park City. This is a key step required by the National Park City Foundation.

What can I do to help?

One of the first steps to become an Adelaide National Park City is demonstrating support to the international National Park City Foundation. Please sign the Charter and share it with your friends, family, and colleagues.

What is my (organisation's) obligation if I sign the Charter?

Signing the Charter shows that you support Adelaide becoming a National Park City. There is no expectation or obligation that you must do anything after you've signed the Charter. However, if you'd like to take further action to contribute to making Adelaide a National Park City, you can find some ideas on our website: <https://www.adelaidenationalparkcity.org/get-involved>

What will happen if Adelaide becomes a National Park City?

Green Adelaide will continue to provide governance and resourcing for Adelaide National Park City as awareness and support grows. This will be done through the implementation of an action plan currently in development.

When the time is right, there will be a process whereby individuals, as representatives from a diverse range of sectors and organisations, will be invited to be part of the ongoing Adelaide National Park City leadership group or alliance. There is no strict timeframe for this to happen.

Adelaide National Park City is designed to have a long life. This is a global movement to improve the health and wellbeing of cities around the world.

Will Adelaide becoming a National Park City duplicate work already happening?

There is no intention for Adelaide National Park City to duplicate or replace work already happening. Rather, success for Adelaide National Park City is about showcasing and encouraging action to connect people with nature in our city. This will involve identifying both new and current projects and programs that could further increase the liveability of greater Adelaide if multiplied or scaled-up across the landscape, and encourage community and organisations to make this to happen.

Adelaide National Park City will recognise and champion great work already being done by local governments and their communities.

Will local government continue to be involved?

Green Adelaide is committed to continuing to engage with local government once Adelaide has become a National Park City. Some of this will be through existing partnerships and projects, and there will also be a local government network established which will include nominated staff from your organisation. This network will help to determine opportunities for further involvement.