

Greenhouse Gas Report - 2022/2023

This report covers greenhouse gas (GHG) emissions from Council operations for the financial year 2022/23. It has been prepared with reference to the GHG Protocol and the Australian Government’s Climate Active Carbon Neutral Standard for Organisations. The greenhouse gases included are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF₃) and Sulphur hexafluoride (SF₆) sources.

Emissions summary

For the period 2022/23, Council’s greenhouse gas emissions total was 14,028 tCO₂-e (tonnes of carbon dioxide equivalent). Electricity, wastewater treatment and fuel were the highest sources of greenhouse gas emissions as seen in Figure 1. Emissions attributable to providing water and sewer (electricity and fugitive emissions) account for 69 per cent of the total council emissions. Table 3 provides a detailed breakdown of sources.

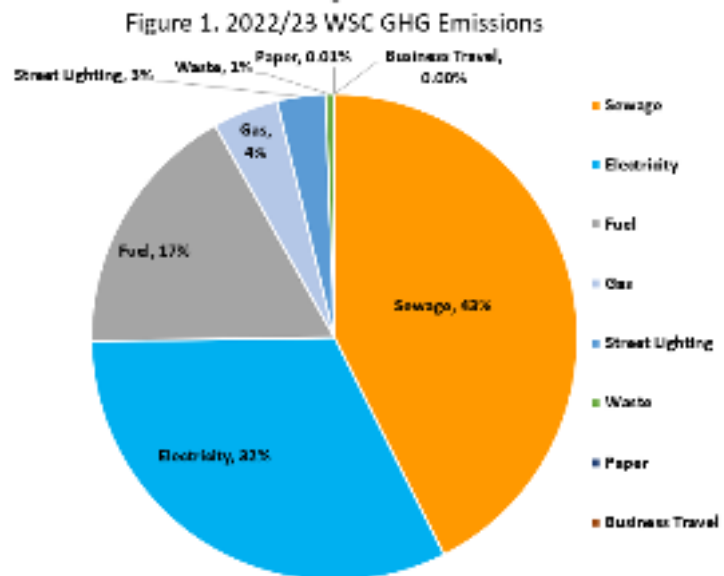
Table 1. 2022/23 Contribution (tCO ₂ -e)	
Water and Sewer - electricity and fugitive emissions	9,676
All other operations	4,352

Impacts to 2022/23 reporting.

Several factors affected Council’s 2022/23 emissions relative to previous years. Council signed a Power Purchase Agreement with Red Energy to purchase 100% renewable electricity over a 10-year period as

part of a consortium of 6 other NSW Councils in this deal. The contract commenced on 1/1/2023 meaning that Council used renewable electricity for most of its sites for the second six months of the reporting year. This saw a significant reduction of emissions from electricity.

Council improved monitoring of fugitive emissions generated from its sewerage treatment plants which has provided more accurate and realistic emissions figures for this sector. This was achieved by monitoring chemical oxygen demand at each of the plants. Fugitive emission from our STPs were calculated as 5969 tCO₂-e, a reduction of 8500 tCO₂-e from last year’s figures.



Emission reduction actions

Emissions have decreased by fifty percent from 2021/2022 amounts, and a reduced by thirty-nine per

cent from the FY2015/16 baseline year for Council’s emissions excluding wastewater emissions. Improved monitoring of wastewater quality has provided more accurate emission data for the fugitive emissions from our sewerage treatment plants. On 1/1/2023 Council commenced a contract with Red Energy to supply 100% renewable electricity to the majority of its sites. This means that for half of the year Council sites under the supply arrangement created zero emissions from electricity consumption. Council has been undertaking energy efficiency projects and switching to renewable energy since 2011.

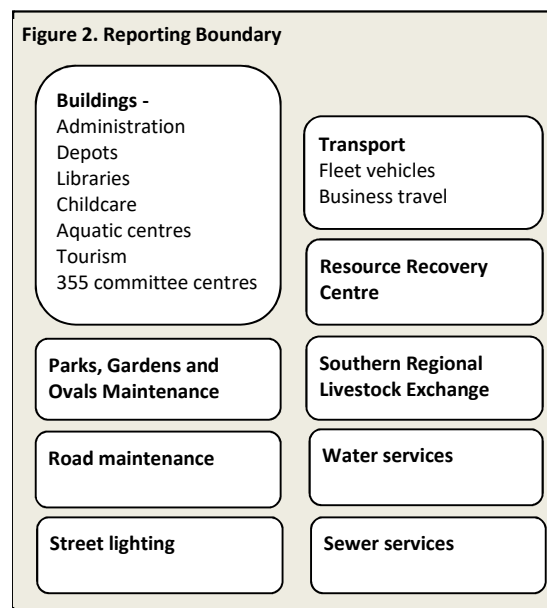
Table 2. Greenhouse gas emissions compared to 2015/16 base year (tCO ₂ -e)				
Scope	Base year 2015/16	2020/21	2021/22	2022/23
Council operations (excluding sewage treatment)				
1	2,810	2,629	2,446	2,408
2	9,039	8,992	8,641	4,209
3	3,485	2,474	2,463	1,442,
Sub Total	15,334	14,095	13,551	8,059
Sewage treatment fugitive emissions				
1	7,761	10,644	14,517	5,969
Total	23,095	24,740	28,068	14,028

Scope 1 – Direct combustion e.g., fuel, gas, waste, fugitive emissions.
 Scope 2 – Grid electricity.
 Scope 3 – Street lighting, upstream/downstream sources e.g., waste & paper.

Reporting Boundary

Council’s organisational greenhouse gas boundary has been established in line with the international Greenhouse Gas Protocol standard, using an operational control test for business unit activities and facilities. **Figure 2.** shows the activities and assets within the organisational reporting boundary. Facilities owned by Council but wholly leased to third parties are not included. Community emissions, such as emissions from household waste in landfill, are beyond the scope of Council’s reporting of greenhouse gas emissions from its operations.

Complete activity data for all the emission sources within the reporting boundary is not currently available. Data quality management plans are in place for priority sources identified. Sources will progressively be included based on their relevance, materiality, and measurability.



In 2022/23 a new method for calculating sewer fugitive emissions was introduced for better accuracy and to remove the impact of flooding from the calculation method.

Sources not quantified.

The following relevant sources have not been quantified, as quantification is not currently technically feasible, practicable or cost effective relative to its significance:

- Catering and events.
- Road making materials.
- Fuel use from outsourced works.
- Staff commuting to work in personal vehicles or public transport.
- Outsourced printing other than rate notices.

The following relevant sources are estimated to not be material and are not quantified in line with the Climate Active Carbon Neutral Standard for Organisations:

- Refrigerants from heating and cooling.
- Embodied emissions of equipment.
- Business taxis, rental vehicles, public transport and accommodation.
- Freight and couriers.

Breakdown of sources

Table 3. 2021/22 Greenhouse gas sources

Source	Activity	tCO ₂ -e
Scope 1		
Fleet vehicles – diesel	534 (KL)	1451
Fleet vehicles – petrol	219 (KL)	465
Gas	9331 (GJ)	488
Oils	820 (L)	2.23
Scope 2		
Electricity*	10,931,721 (kWh)	4208
Scope 3		
Fleet vehicles – diesel	534 (KL)	356
Fleet vehicles – petrol	175 (KL)	118
Natural Gas	9331 (GJ)	124
Electricity *	10,931,721 (kWh)	309
Oils	820 (L)	0.55
Street lighting	1248030 (kWh)	451
Paper ^	4.13 (T)	1.6
Waste to landfill	542 (T)	79
Business travel - flights	1623 (km)	0.16
Sub total		8,059
Wastewater treatment (Scope 1)		5969
Total		14,028
<p>*Includes 383,068kWh (equivalent to 337tCO₂-e avoided) from solar generation used on site, and 474,563 kwh (equivalent to 3699 tCO₂-e avoided)From 100% renewable electricity from Red energy. ^ 2.59 tonnes of paper were NCOS carbon neutral certified paper and treated as 0 emissions (equivalent to 3.37 tCO₂-e avoided). Differences in total is due to rounding.</p>		

