

Wingecarribee Shire Council Greenhouse Gas Report 2020/21

This report covers greenhouse gas (GHG) emissions from Council operations for the financial year 2020/21. 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 2020/21, Council’s greenhouse gas emissions total was 24,740 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 76 per cent of the total council emissions. Table 3 provides a detailed breakdown of sources.

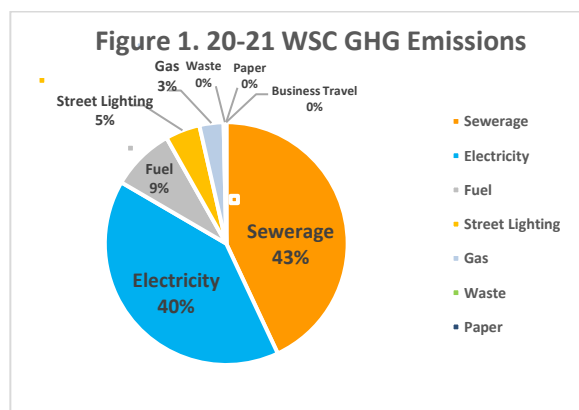
Table 1. 2020/21 Contribution (tCO ₂ -e)	
Water and Sewer - electricity and fugitive emissions	18825
All other operations	5915

Impacts to 2020/21 reporting

Several factors affected Council’s 2020/21 emissions relative to previous years. Restrictions experienced due to the COVID-19 epidemic restrictions resulted in a decrease in electricity use from administration facilities in the first half of 2020/21. This was followed by an increase in

electricity usage across community facilities like pools as they started to reopen to the public compared to the end of 2019/20.

Higher than average rainfall (39 per cent increase on the last 30-year average) has resulted in higher electricity use and subsequent greenhouse gas emissions from sewerage services. This is attributed mainly to pumps which have had to work significantly harder during multiple rainfall events. In addition, the high volumes through the sewer treatment plants have significantly increased the fugitive emissions based on the calculation method which works on a total volume through the plant.



The magnitude of weather events in 2020/21, and return to normal from COVID impacts, have produced an increase in electricity emissions. Considering this, the total emissions may not reflect the overall trend and reductions being made in other areas.

In addition, a new methodology for estimating missing electricity data was used which has resulted in one per cent difference in overall emissions compared to the previous methodology used. The methodology provides a

more accurate figure over time.

The change of methodology did not create a significant difference in overall emissions and therefore a base year recalculation has not been undertaken.

Emission reduction actions

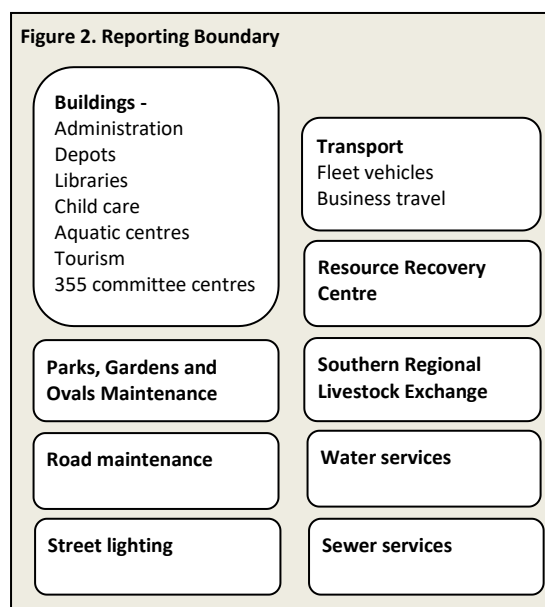
Emissions have decreased nine per cent from the FY2015/16 baseline year for Council's emissions excluding wastewater emissions. The variability of wastewater emissions is largely due to yearly differences in rainfall conditions which makes identifying trends across years more difficult. Table 2 provides an overview of emission trends since the baseline year.

Scope	Base year 2015/16	2018/19	2019/20	2020/21
Council operations (excluding wastewater)				
1	2,810	2,836	2,624	2,629
2	9,039	8,394	8,556	8992
3	3,485	2,519	2,422	2,474
Sub Total	15,334	13,749	13,602	14095
Wastewater treatment fugitive emissions				
1	7,761	6,465	7,399	10,644
Total	23,095	20,214	21,001	24,740

Council has been undertaking energy efficiency projects and switching to renewable energy since 2011. In 2020/21 planning continued for a solar system for the Civic Centre which is due to be installed in August 2021. The 99kW system will result in a significant increase of Council's renewable energy use, and subsequent decrease in Council's GHG emissions.

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 and wholly leased to third parties are not included. Community emissions, such as household waste, 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.

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 rates.

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

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

Breakdown of sources

Table 3. 2019/20 Greenhouse gas sources

Source	Activity	tCO ₂ -e
Scope 1		
Fleet vehicles – diesel	550 (KL)	1498
Fleet vehicles – petrol	233 (KL)	495
Gas	12311 (GJ)	634
Oils	720 (L)	1.3
Scope 2		
Electricity*#	11,102,096 (kWh)	8992
Scope 3		
Fleet vehicles – diesel	550 (KL)	76.5
Fleet vehicles – petrol	233 (KL)	10.3
Natural Gas	12311 (GJ)	161
Electricity *#	11,102,096 (kWh)	999
Oils	720 (L)	0.07
Street lighting	1,269,203 (kWh)	1142
Paper ^	11.6 (T)	1.6
Waste to landfill	626 (T)	82.9
Business travel - flights	0 (km)	0
Sub total		14,095
Wastewater treatment (Scope 1)	10644 tCO ₂ -e	10644
Total		24,740
*Includes 309,813kWh (equivalent to 279tCO ₂ -e avoided) from solar generation used on site. ^ 7.3 tonnes of paper were NCOS carbon neutral certified paper and treated as 0 emissions (equivalent to 9.5tCO ₂ -e avoided). Differences in total is due to rounding.		