Greenhouse Gas Report 2019/20

This report covers greenhouse gas emissions from Council operations for 2019/20. 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), hydro-fluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF3) and sulphur hexafluoride (SF6) sources.

Emissions summary

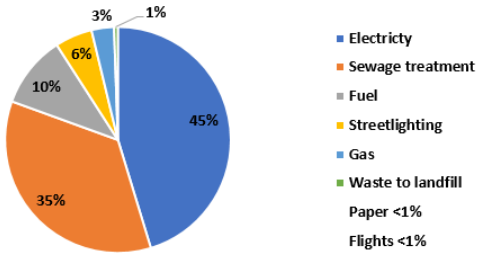
For the period 2019/20, Council's greenhouse gas emissions total was 20,346 tCO_2-e (tonnes of carbon dioxide equivalent). Electricity, wastewater treatment and fuel were the highest sources of greenhouse gas emissions as seen in Figure 1. Emissions attributable to providing water and sewer (electricity and fugitive emissions) account for 72 percent of the total emissions. Table 3 provides a detailed breakdown of sources.

Table 1. 2019/20 Contribution (tCO_2-e)	
Water and Sewer - electricity and fugitive emissions	15,070
All other operations	5,930

Impacts to 2019/20 reporting

A number of factors affected Council's 2019/20 emissions. There was a short-term increase in energy use from water supply during the bushfires in the summer of 2019/20. This was followed by a reduction in emissions from the closure of some community assets and changes to Council operations due to COVID.

Figure 1. 2019/20 Greenhouse Gas Emissions



These two events had a significant impact the March and June quarters compared to previous years. While the trend of overall emissions remains downward, the magnitude of the change for 2019/20 may not reflect the true trend over time due to these events.

In addition, a new calculation method was used for fugitive emissions from an additional part of the wastewater treatment system. Due to the simplified calculation method, wastewater emissions will be reported separately until further refinement of the method can be made to improve accuracy.

The change to the wastewater calculation method created a significant difference in overall emissions and a base year recalculation was undertaken.

Emission reduction actions

Emissions have reduced 11 percent from 2015/16 for Councils 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 emissions trend since the base year.

Council has been undertaking energy efficiency

projects and switching to renewable energy since 2011. In 2019/20 planning began for a solar system for the Civic Centre. Planning is also underway for development of a Greenhouse Gas Reduction Plan.

Table 2. Greenhouse gas emissions compared to 2015/16 base year (tCO_2-e)

Scope	Base year 2015/16	2017/18	2018/19	2019/20
Council operations (excluding waste water)				
1	2,810	2,834	2,836	2,624
2	9,039	8,518	8,394	8,556
3	3,485	3,077	2,519	2,422
Sub Total	**15,334**	**14,429**	**13,749**	**13,602**
Waste water treatment fugitive emissions				
1	7,761	6,685	6,465	7,399
Total	**23,095**	**21,113**	**20,214**	**21,001**

Reporting Boundary

Council's greenhouse gas organisational boundary has been established in line with the Greenhouse Gas Protocol 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.

Breakdown of sources

Table 3. 2019/20 Greenhouse gas sources

Source	Activity	tCO_2-e
Scope 1		
Fleet vehicles – diesel	640 (KL)	1,559
Fleet vehicles – petrol	249 (KL)	523
Gas	10,515 (GJ)	542
Oils	15 (L)	0.008
Scope 2		
Electricity*#	10,884,016 (kWh)	8,556
Scope 3		
Fleet vehicles – diesel	640 (KL)	80
Fleet vehicles – petrol	249 (KL)	10
Natural Gas	10,515 (GJ)	135
Electricity *#	10,884,016 (kWh)	951
Oils	15 (L)	0.002
Street lighting	1,247,312 (kWh)	1,123
Paper ^	12	7
Waste to landfill	713 (T)	115
Business travel - flights	15,074 (km)	2
Sub total		**13,602**
Wastewater treatment (Scope 1)	n/a	7,399
Total		**21,001**

*Includes 321,582kWh (equivalent to 289tCO_2-e avoided) from solar generation used on site.
#The Scope 2 location and product electricity total are the same as no green electricity product is purchased.
^ 7tonnes of paper was NCOS carbon neutral certified paper and treated as 0 emissions (equivalent to 12tCO_2-e avoided).
Differences in total is due to rounding.

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 and Wingecarribee Today.

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 dation
- Freight and couriers.

Figure 2. Reporting Boundary