

8 Environment

8.1 Total net greenhouse gas emissions per 1,000 properties—E12

The total net greenhouse gas (GHG) emissions per 1,000 properties indicator (E12) reports the contribution of a utility's operations to greenhouse gas emissions (t CO₂ equivalent/1,000 properties). Utilities' calculations are required to refer to the National Greenhouse Accounts (NGA) Factors issued by the Department of the Environment and Energy and must also be updated annually. Greenhouse gas emissions are reported in net terms—any quantity of carbon sequestered through activities, such as the purchase of carbon offsets, is deducted.

The NGA outline three distinct types of emissions factors that may need to be calculated to estimate the full greenhouse impact of an organisation's activities:

- direct emission factors (Scope 1), which calculate the quantity of carbon dioxide equivalent (CO₂ equivalent) emitted per unit of activity at the point of emission release;
- indirect emission factors (Scope 2), which calculate the greenhouse impact of purchasing and consuming electricity (that is, the impact of burning fuels—coal or gas—at the power station); and
- various emission factors (Scope 3), including the impact of various activities—disposal of waste, employee business travel, and the transportation of products.

Comparing different utilities' net GHG emissions is a difficult exercise and should be undertaken with caution due to the number of variables affecting emissions, including:

- sources of water;
- gravity versus pumped networks;
- geographical conditions (influencing the need for pumping);
- the number of large-volume customers;
- the extent of industry within the customer base;
- the prevailing greenhouse policy in the jurisdiction; and
- the method of calculation.

Total net GHG emissions data for 2019–20 are presented in Table A17, Appendix A.

8.1.1 Key findings

Table 8.1 presents a summary of the total net GHG emissions by utility size group.

Table 8.1 Overview of results: Total net greenhouse gas emissions per 1,000 properties (t CO₂ equivalent/1,000 properties).

Utility group	Range		No. utilities with increase/decrease from 2018–19		Median		Change in median from 2018–19 (%)
	High	Low	Increase	Decrease	2018–19	2019–20	
Major	701	28	6	9	212	228	8
	WC (Perth)	City West Water					
Large	1,290	184	3	9	405	409	1
	Goulburn Valley Water	Redland City					
Medium	739	0	6	13	433	426	-2
	Shoalhaven	Mackay					
Small	878	168	10	9	423	385	-9
	P&W (Alice Springs)	Southern Downs					
All size groups (national)	1,290	0	25	40	410	385	-6
	Goulburn Valley Water	Mackay					

Table note

The median total net GHG emissions for each year is calculated using data from all utilities supplying both water and wastewater services reporting data for E12 for that year.

The median total net GHG emissions decreased by 6 per cent for all size groups after a sudden increase last year. The notable changes from 2018–19 include a high increase (76 per cent) in net emissions by Wingecarribee Shire Council (from 416 t CO₂ equivalent/1,000 properties to 733 t CO₂ equivalent/1,000 properties) and a large decrease (55.9 per cent) by Essential Energy.

8.1.2 Results and analysis—Major utility group

The Major utility group reported an 8 per cent increase in median net GHG emissions from 2018–19 to 2019–20. Perth reported the highest percentage increase (37.5 per cent) and SA Water Corporation reported the highest percentage decrease (18.8 per cent).

As in previous years, Water Corporation – Perth was the highest net GHG emitter per property in the Major utility group (701 t CO₂ equivalent/1,000 properties) in 2019–20, and City West Water was the lowest total net GHG emitter (28 t CO₂ equivalent/1,000 properties).