

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 Industry, Science, Energy and Resources 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 3 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)
- 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
- the method of calculation.

Total net GHG emissions data for 2020–21 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 2019–20		Median		Change in median from 2019–20 (%)
	High	Low	Increase	Decrease	2019–20	2020–21	
Major	695	23	6	9	228	196	-14
	WC (Perth)	City West Water					
Large	1,170	165	5	8	433	387	-11
	Goulburn Valley Water	Townsville					
Medium	913	0	5	14	428	404	-6
	Wingecarribee	Mackay					
Small	882	255	15	7	385	406	5
	P&W (Alice Springs)	Lismore					
All size groups (national)	1,170	0	31	38	385	370	-4
	Goulburn Valley Water	Mackay					

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 4% for all size groups, which was a similar result to the previous year.

8.1.2 Results and analysis – Major utility group

The Major utility group reported a 14% decrease in median net GHG emissions from 2019–20 to 2020–21. Icon Water Limited reported the highest percentage decrease (40.9%) and TasWater reported the highest percentage increase (15.6%).

As in previous years, Water Corporation – Perth is the highest net GHG emitter per property in the Major utility group with 695 t CO₂ equivalent/1,000 properties in 2020–21, and City West Water is the lowest total net GHG emitter with 23 t CO₂ equivalent/1,000 properties in 2020–21.