

8 Environment

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

The total net greenhouse gas 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 Climate Change, Energy, the Environment and Water 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 greenhouse gas 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 greenhouse gas emissions data for 2021–22 is presented in Table A17, Appendix A.

8.1.1 Key findings

Table 8.1 presents a summary of the total net greenhouse gas 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 2020–21		Median		Change from previous year (%)
	High	Low	Increase	Decrease	2020–21	2021–22	
Major	567	20	3	10	196	181	-8
	WC (Perth)	Yarra Valley Water					
Large	831	180	4	8	364	405	11
	Shoalhaven	Redland City					
Medium	1,064	140	8	9	404	404	0
	Wingecarribee	Queanbeyan					
Small	1,096	124	10	11	406	426	5
	Snowy Monaro	Armidale					
All size groups (national)	1,096	20	25	38	370	343	-6
	Snowy Monaro	Yarra Valley Water					

Note: The median total net greenhouse gas 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 greenhouse gas emissions decreased by 6% for all size groups, which was a similar result to the previous few years.

8.1.2 Results and analysis – Major utility group

The Major utility group reported an 8% decrease in median net greenhouse gas emissions from 2020–21 to 2021–22. SA Water Corporation reported the highest percentage decrease (31.5%) and Logan City Council reported the highest percentage increase (7.2%).

As in previous years, Water Corporation – Perth is the highest net greenhouse gas emitter per property in the Major utility group with 567 t CO₂ equivalent/1,000 properties in 2021–22 (this is after reporting a decrease of 18.5%), and Yarra Valley Water is the lowest total net greenhouse gas emitter with 20 t CO₂ equivalent/1,000 properties in 2021–22.