

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 Commonwealth 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 outlines 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 2022–23 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 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	496	0	1	13	181	166	-8%
	Central Coast	Logan					
Large	676	172	3	9	405	337	-17%
	Shoalhaven	Central Highlands Water (Vic)					
Medium	803	0.1	6	12	404	329	-19%
	MidCoast Council	Mackay					
Small	858	223	6	16	426	386	-9%
	Goulburn Mulwaree	WC (Australind/Eaton)					
All size groups (national)	858	0	16	50	360	329	-9%
	Goulburn Mulwaree	Logan					

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 9% on the national scale, 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 the median net greenhouse gas emissions from 2021–22 to 2022–23. Logan City Council reported the highest decrease (100%) due to the purchase of accredited carbon credits, making it the lowest total net greenhouse gas emitter (0 t CO₂ equivalent/1,000 properties). Central Coast Council reported the highest increase (19.5%) and was the highest total net greenhouse gas emitter with 496 t CO₂ equivalent/1,000 properties in 2022–23. While Water Corporation – Perth has been the highest emitter in previous years, a significant reduction in the median net greenhouse gas emissions (33.1% from 2021–22) brought its emissions down to 379 t CO₂ equivalent/1,000 properties in 2022–23.