

8 Environment

8.1 E12—Total net greenhouse gas emissions (net tonnes CO₂ equivalents per 1,000 properties)

8.1.1 Introduction

This indicator reports the contribution of the utility's operations to greenhouse gas (GHG) emissions. Utilities' calculations are required to refer to the National Greenhouse Accounts Factors issued by the Australian Department of the Environment and updated annually. GHG emissions are reported in net terms; that is, any quantity of carbon sequestered through activities such as the purchase of carbon offsets is deducted.

The National Greenhouse Accounts 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 (i.e., the impact of burning fuels such as coal or gas at the power station); and
- various emission factors (Scope 3), which include the impact of various activities, such as the disposal of waste, employee business travel, and the transportation of products.

Comparing different utilities' net GHG emissions is a difficult exercise. It should be undertaken with caution because of the number of variables affecting emissions. Those variables include: the source of water; gravity versus pumped networks; geographical conditions (which influence the need for pumping); the number of large-volume customers and the extent of industry within the customer base; the prevailing greenhouse policy in the jurisdiction; and the method of calculation.

Total net greenhouse gas emissions by all utilities reporting Indicator E12 in 2014–15 can be found in [Table A15](#).

8.1.2 Key findings

A summary of the total net GHG emissions, by utility group, is presented in Table 8.1.

Nationwide, across all utility groups, there was a slight increase in the median emissions in 2014–15, up 2 per cent from 2013–14 (Table 8.1).

Table 8.1 Overview of results: E12—Total net greenhouse gas emissions (net tonnes CO₂ equivalents per 1,000 properties), 2013–14 to 2014–15

| Size group (connected properties) | Range | | Number of utilities with increase/decrease from 2013–14 | | Median | | Change in the median from 2013–14 % |
|---|---------------------------------|------------------------|---|-----------|------------|------------|---|
| | High | Low | Increase | Decrease | 2013–14 | 2014–15 | |
| 100,000+ | 738 | 27 | 4 | 5 | 260 | 210 | -15 |
| | WC (Perth) | City West Water | | | | | |
| 50,000– 100,000 | 872 | 165 | 5 | 3 | 421 | 491 | 17 |
| | Goulburn Valley Water | P&W Darwin | | | | | |
| 20,000– 50,000 | 838 | 119 | 7 | 7 | 419 | 416 | -1 |
| | North East Water | Clarence | | | | | |
| 10,000– 20,000 | 1,688 | 165 | 5 | 21 | 395 | 368 | -7 |
| | WC (Kal–Boulder) (W) | Aqwest–Bunbury (W) | | | | | |
| All size groups (national) | 1,688 | 27 | 21 | 36 | 385 | 392 | 2 |
| | WC (Kal–Boulder) (W) | City West Water | | | | | |

Table note

The median total net GHG emissions is calculated using data from all utilities supplying both water and sewerage services which reported data for E12 for both 2013–14 and 2014–15.

8.1.3 Results and analysis—100,000+ group

In 2014–15, the major utilities (100,000+ group) reported a 15 per cent reduction in median net GHG emissions (as tonnes of CO₂ equivalents) per 1,000 properties from 2013–14 (Table 8.1). This was a significant reduction compared with the 3 per cent reduction reported from 2012–13 to 2013–14 (2014 Urban NPR).

The notable changes from 2013–14 included a 47 per cent reduction in emissions by Hunter Water Corporation and increases by South East Water and SA Water Corporation of 13 per cent and 11 per cent respectively (Table A15).

Factors contributing to the reduction in Hunter Water Corporation's emissions were the divestment of two assets in 2014–15: the Newcastle Head Office and the consulting subsidiary Hunter Water Australia, which included a laboratory and an engineering consultancy business (Hunter Water 2015a). This resulted in, amongst other reductions, a 29 per cent reduction in contractor fuel emissions. Furthermore, the awarding of an operation contract for the water and wastewater treatment plants to Veolia in October 2014 means that fugitive emissions and electricity consumption associated with water and wastewater treatment are now reported by Veolia (Hunter Water 2015b).

The increase in emissions from 2013–14 by South East Water was due to the Pakenham treatment plant becoming operational in 2014–15 (South East Water 2015). The increase from 2013–14 by SA Water Corporation is attributable to an increase in pumping, the single greatest contributor of emissions for the utility (SA Water 2015).