



**FY23
CARBON EMISSIONS
PERFORMANCE REPORT**

Summary

This report provides a consolidated overview of Ausgrid's carbon emissions targets and performance for the financial year from 1 July 2022 to 30 June 2023

Our emissions targets

Ausgrid recognises that climate change poses a significant risk to the community. Accordingly, a key component of Ausgrid's refreshed business strategy is to pursue net-zero emissions in our operations and enable our customers to reduce their own emissions.

Ausgrid has set verifiable, science-based targets through the [Science Based Targets initiative](#) (SBTi).

SBTi independently assesses corporate emissions reduction targets against what climate science says is required to meet the goals of the Paris Agreement.

Ausgrid's¹ current² targets are as follows:

- Near-Term Target: Ausgrid Group commits to reduce absolute scope 1 and 2 GHG emissions 50% by 2030.
- Long-Term Target: Ausgrid Group commits to reduce absolute scope 1 and 2 GHG emissions 97% by 2045 and absolute scope 3 GHG emissions 90% by 2045.
- Overall Net-Zero Target: Ausgrid Group commits to reach net-zero GHG emissions across the value chain by 2045.

Some of the key features of these targets include:

- Scope 1 and 2 emissions are baselined to FY20 and scope 3 to FY21.
- The targets are 'absolute'. This means that they measure the total decrease in emissions over a given period. The alternative would be to use intensity-based targets to measure the decrease in emissions relative to another activity (e.g. emissions reduced per kW of electricity distributed).
- The targets are inclusive of line losses.
- The targets include all of our supply chain scope 3 emissions per the [Greenhouse Gas Protocol](#).

A key barrier to achieving our long-term targets is the difficulty of capturing scope 3 data.

It is challenging to obtain verifiable data from numerous suppliers across the supply chain. There is also a lack of primary data and no consistent data exchange framework between suppliers and vendors.

For more information, see our FY23 [Sustainability Report](#) and [Task Force on Climate-Related Financial Disclosures](#).

1. These targets relate to the Ausgrid Group which includes Ausgrid & PLUS ES. This report relates to **Ausgrid only**.
2. The SBTi validated Ausgrid's targets in FY24.

FY23 performance

Scope 1 emissions

Reduced 50.67% from FY20 due to a marked reduction in sulphur hexafluoride (SF₆) emissions.

The biggest driver underpinning this decrease was a shift towards more precise SF₆ reporting measures. We continue to promote SF₆ alternatives, and in FY23 Ausgrid installed Australia's first Clean Air SF₆-free distribution type high-voltage switchgear.

Scope 2 emissions

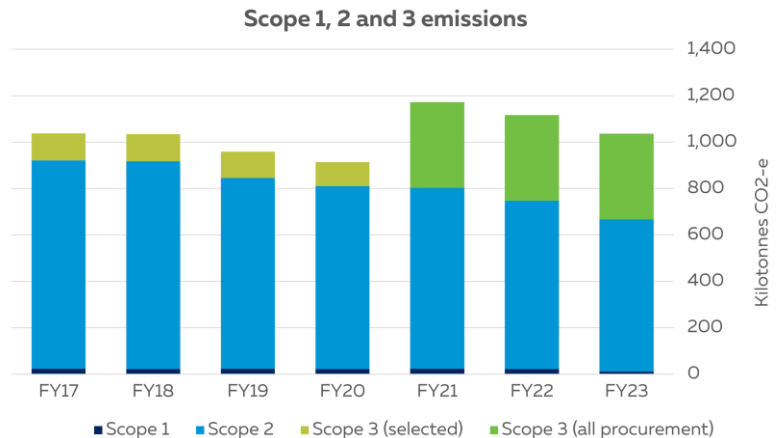
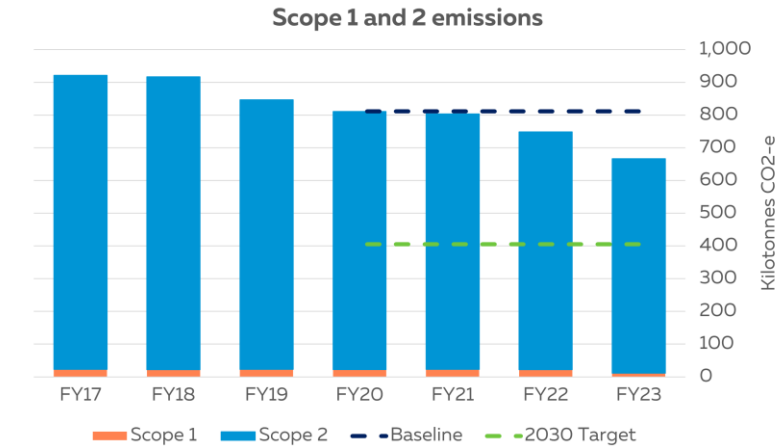
Reduced 16.88% from FY20. This was mostly driven by the increase of renewables in the grid, which reduces the emissions intensity of line losses that occur when we distribute electricity.

We undertook energy efficiency upgrades in several of our properties, which also contributed to the reduction.



Our targets

In FY18, Ausgrid became the first Australian electricity distributor to set emissions reduction targets



*FY22 and FY23 scope 3 emissions are based on FY21 data as full FY22 and FY23 data is not available.

Near-Term Targets

Reduce absolute scope 1 and 2 GHG emissions 50% by 2030 (from a 2020 base year).

Scope 1 and scope 2 emissions have reduced by 17.79% from FY20.

The main factor driving this decrease is the increased proportion of grid power generated by renewables, as this reduces the emissions intensity of the electricity we distribute and, by extension, the emissions associated with line losses.

Ausgrid has also contributed to the decrease by undertaking energy efficiency upgrades and installing solar PV at Ausgrid properties.

Long-Term Targets

Reduce absolute scope 1 and 2 GHG emissions 97% (from a 2020 base year) and absolute scope 3 GHG emissions 90% by 2045 (from a 2021 base year).

Although Ausgrid's scope 1 and 2 emissions are decreasing, achieving our long-term targets will be challenging.

For example, even if scope 2 emissions from line losses are significantly reduced, some scope 2 line loss emissions are likely to persist due to a small quantity of gas-peaking power in the generation mix.

Until FY20, Ausgrid reported on selected scope 3 emissions; travel, waste and streetlights.

To set SBTi targets, we analysed our scope 3 emissions according to the Greenhouse Gas Protocol and SBTi guidelines. This analysis, conducted on FY21 data, identified fifteen individual sources of scope 3 emissions from across our supply chain.

Ausgrid does not have full scope 3 emissions data for FY22 or FY23.

We now need to engage with our suppliers and collect data so that we have a reliable annual stream of scope 3 emissions data, and to create meaningful emissions reduction plans for each of our scope 3 sources.

The Ausgrid Group is committed to reaching net-zero GHG emissions across the value chain by FY45.

In recent years, total emissions have trended downwards. Relative to FY21, total emissions have decreased by 11.63%.

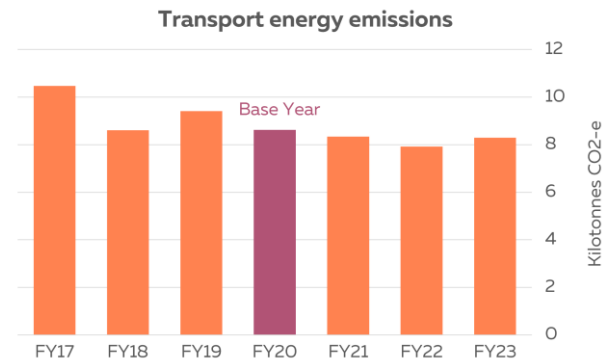
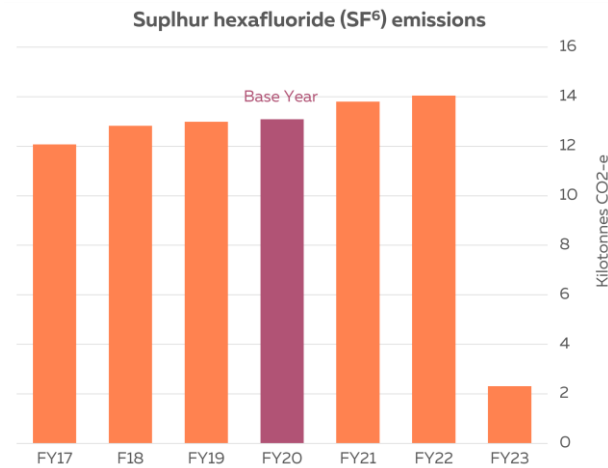
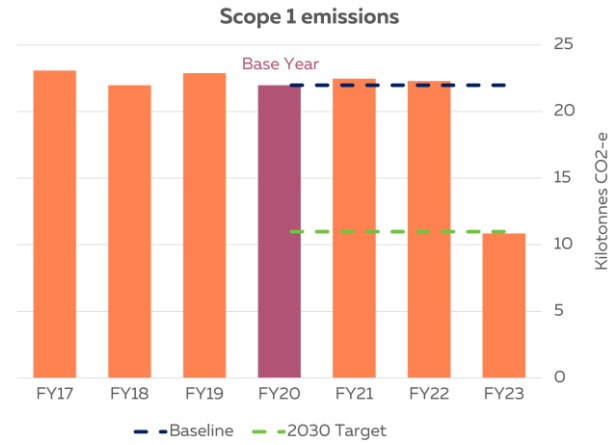
Scope 3 emissions explained

Scope 3 emissions are an indirect by-product of our business conduct. They are the scope 1 and 2 emissions from other businesses in our supply chain.

Scope 1 emissions

(liquid fuels, oils and gases)

Improvements in SF₆ reporting measures have provided large benefits



Total scope 1 emissions were reduced by 50.67% relative to FY20.

The biggest driver underpinning this decrease was the shift towards more precise SF₆ reporting measures.

Owing to technical properties like non-toxicity and non-flammability, SF₆ is commonly used in electrical equipment.

However, it is also an incredibly potent greenhouse gas – roughly 23,500 times more potent than carbon dioxide.

Our enhanced SF₆ reporting measures include using an app to note any leakages or top-ups.

Eliminating SF₆ emissions entirely remains a challenge that is common among all electricity distributors, but innovative technologies are emerging. In FY23, Ausgrid installed Australia’s first Clean Air SF₆-free distribution type high-voltage switchgear.

Ausgrid has reduced its transport energy emissions by 3.84% from FY20.

Transport energy emissions fluctuate year on year, dictated by factors such as major capital works programs and storm responses. However, our transport emission reduction programs are working to create a long-term downward trend.

In FY23, Ausgrid purchased 49 EVs to replace internal combustion engine vehicles and installed 5 EV chargers at our properties.

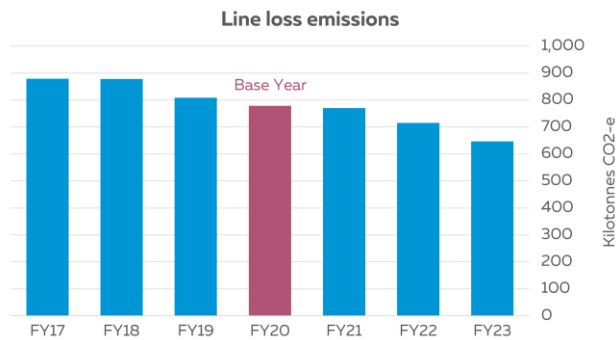
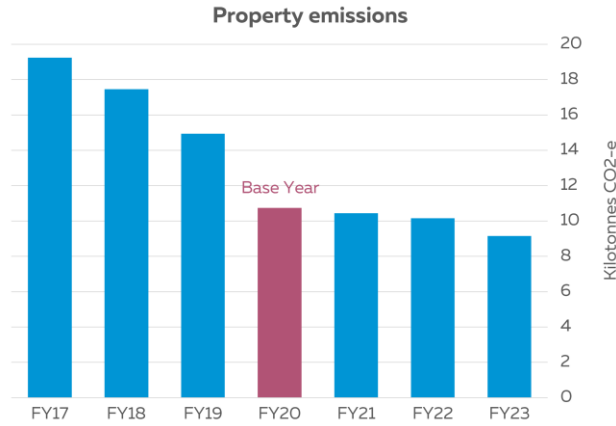
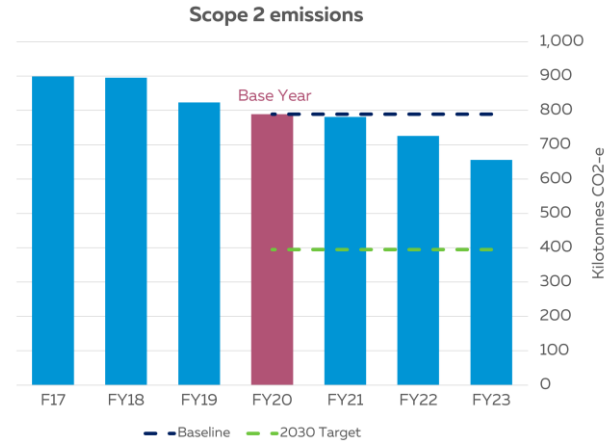
Ausgrid plans to significantly expand its EV fleet and charging infrastructure. This will drive deeper reductions in transport emissions.



Scope 2 emissions

(property and line losses)

As more renewable generation is being deployed, the emissions intensity of distributing electricity is decreasing



Scope 2 emissions, inclusive of line loss emissions, were reduced by 16.88% from FY20.

This reduction can be attributed to grid decarbonisation and enhancements in Ausgrid’s property.

Property emissions fell by 14.76% relative to FY20. This decrease was the result of various energy-efficient initiatives at Ausgrid properties.

Ausgrid’s property emissions will decrease further in the future as Ausgrid seeks to purchase green power electricity for its properties through a Power Purchase Agreement (purchasing electricity from a renewable energy generator). This will result in Ausgrid’s operational power being supplied with 100% renewable energy.

Line losses are a major contributor to the emissions we are responsible for as, on average, 3.5% of the electricity we carry is lost in distribution throughout the year. As the proportion of renewables in the grid increases, these emissions drop.

In FY23, emissions associated with line losses declined by 16.91% relative to FY20.

Key initiatives implemented by Ausgrid to reduce line losses include:

- Decommissioning and replacing large oil-filled cables that were installed in Ausgrid’s underground network during the 1960s and 70s.
- Facilitating the uptake of customer energy resources (e.g. rooftop solar) on Ausgrid’s network. Locally generated electricity decreases line losses as electricity is required to travel a smaller distance on the distribution network.
- Investigating alternative equipment such as larger distribution transformers which generate lower line losses.

Line losses explained

Distribution network losses are the difference between the electrical energy that enters our distribution network and the energy that is delivered to our end customers. As energy passes through our network, a small proportion of it is lost as heat during transportation.

Although line losses are an unavoidable consequence of transferring electricity across the network, they can be minimised using appropriate technologies and assets.

To minimise emissions and energy costs to consumers, we undertake activities to reduce these line losses.

Scope 3 emissions

(all supply chain & inventory)

We are striving to better understand our scope 3 footprint

Scope 3 – total (tonnes CO2-e)	368,999 ¹
Purchased goods and services ¹	16,147
Capital goods ¹	188,478
Fuel-and energy-related ^{1,2}	158,450
Upstream transport	-
Waste generated in operations	1,552
Business travel	474
Employee commuting ¹	1,775
Upstream leased assets	-
Downstream transport	-
Processing of sold products	-
Use of sold products	-
End-of-life treatment of sold products	-
Downstream leased assets	-
Franchises	-
Investments	-

1. FY21 data.
2. Not already recorded in scope 1 or 2 reporting.

In line with the Greenhouse Gas Protocol, Ausgrid’s scope 3 emissions target covers our entire supply chain inventory.

However, while Ausgrid has refined its methodology for measuring scope 3 emissions, obtaining data to inform this methodology remains an area for improvement.

Consequently, the table on the left includes figures from FY21, with many data points unavailable for FY23. Capital goods are a major driver of our scope 3 emissions, as are lifecycle emissions from fuel.

To meet our scope 3 and overall net-zero targets, Ausgrid must continue to enhance the quality of scope 3 data captured.

Ausgrid plans to collaborate with our suppliers to better understand how scope 3 emissions can be decreased through improved procurement practices and employ strategies to decrease these emissions to net-zero.



Data tables – Ausgrid

Our emissions are reducing, and we are continuing to investigate ways to reduce them further

Emissions	Unit	FY23	FY22	FY21	FY20	FY19	FY18	FY17
Greenhouse gas emissions								
Total carbon emissions (scope 1 and 2)	tCO ₂ -e	666,910	748,185	803,282	811,237	846,358	917,310	921,693
Total carbon emissions (scope 1, 2 and 3)	tCO ₂ -e	1,035,909	1,117,184	1,172,281	914,279	959,125	1,033,714	1,037,443
		Applying FY21 GHG protocol scope 3 emissions	Applying FY21 GHG protocol scope 3 emissions					
Carbon footprint scope 1								
Carbon footprint scope 1	tCO ₂ -e	10,827	22,263	22,438	21,950	22,855	21,958	23,047
Carbon footprint scope 1 component parts								
Stationary energy use	tCO ₂ -e	164	227	218	180	415	396	335
Transport energy use	tCO ₂ -e	8,290	7,921	8,343	8,621	9,409	8,614	10,474
Sulphur Hexafluoride (SF ₆)	tCO ₂ -e	2,305	14,049	13,804	13,088	12,987	12,829	12,068
Other	tCO ₂ -e	67	66	73	61	44	119	170
Carbon footprint scope 2								
Carbon footprint scope 2	tCO ₂ -e	656,083	725,921	780,844	789,287	823,503	895,352	898,646
Carbon footprint scope 2 component parts								
Property electricity emissions	tCO ₂ -e	9,156	10,159	10,444	10,741	14,937	17,449	19,241
Line losses during distribution of electricity on our network	tCO ₂ -e	646,927	715,762	770,400	778,546	808,566	877,903	879,405
Average line losses on our network	%	3.5	3.6	3.7	3.7	3.7	4.0	3.9
Carbon footprint scope 3								
Carbon footprint scope 3 – Total GHG protocol categories	tCO ₂ -e	Not available	Not available	368,999	-	-	-	-

Data tables – Ausgrid

	Unit	FY23	FY22	FY21	FY20	FY19	FY18	FY17
Carbon footprint scope 3 GHG protocol categories								
Category 1: Purchased goods and services	tCO ₂ -e	Not available	Not available	16,147	-	-	-	-
Category 2: Capital goods	tCO ₂ -e	Not available	Not available	188,478	-	-	-	-
Category 3: Fuel and energy related	tCO ₂ -e	Not available	Not available	158,450	-	-	-	-
Category 4: Upstream transport	tCO ₂ -e	-	-	-	Not material	-	-	-
Category 5: Waste	tCO ₂ -e	1,552	1,160	4,039	-	-	-	-
Category 6: Business travel	tCO ₂ -e	474	142	110	-	-	-	-
Category 7: Employee commuting	tCO ₂ -e	Not available	Not available	1,775	-	-	-	-
Category 8: Upstream leased assets	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Category 9: Downstream transport	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Category 10: Processing of sold products	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Category 11: Use of sold products	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Category 12: End-of-life treatment of sold products	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Category 13: Downstream leased assets	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Category 14: Franchises	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Category 15: Investments	tCO ₂ -e	-	-	-	Not relevant	-	-	-
Categories total		Not available	Not available	368,999	-	-	-	-

Data tables - Ausgrid

Energy use and efficiency

	Unit	FY23	FY22	FY21	FY20	FY19	FY18	FY17
Energy consumed								
Energy use (scope 1 and 2)	GJ	3,361,037	3,429,254	3,598,012	3,637,838	3,759,806	4,024,722	4,019,237
Percentage reduction in scope 1 and 2 emissions from FY20								
Percentage reduction in scope 1 and 2 emissions from FY20	%	-17.8	-7.8	-1.0	-	-	-	-



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