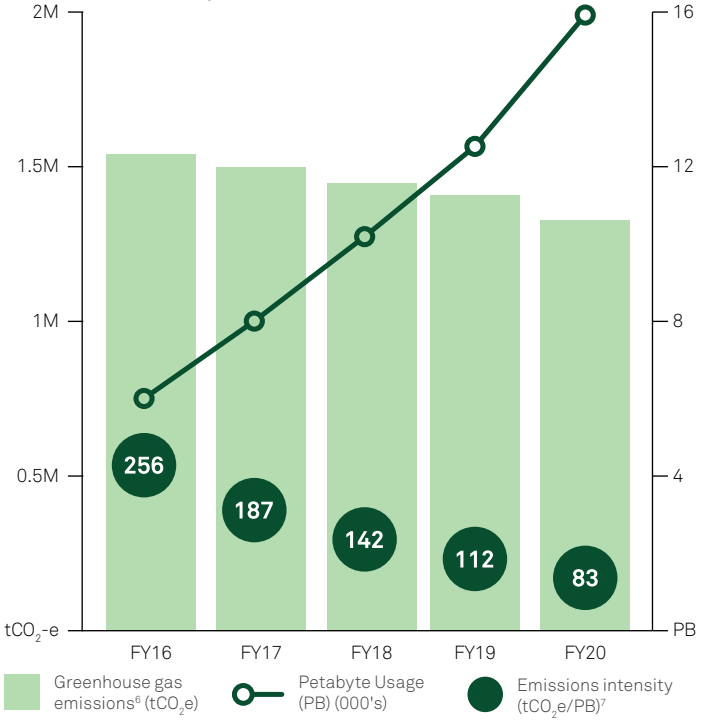
Progress
Managing our energy and emissions

We committed to reducing our GHG emissions intensity (tCO2-e per petabyte) by 50 per cent by 2020, from a baseline year of FY17. We achieved a 55 per cent reduction in emissions intensity. We also met our goal and achieved carbon neutral certification. For more information, see the Climate change and energy section of this report.

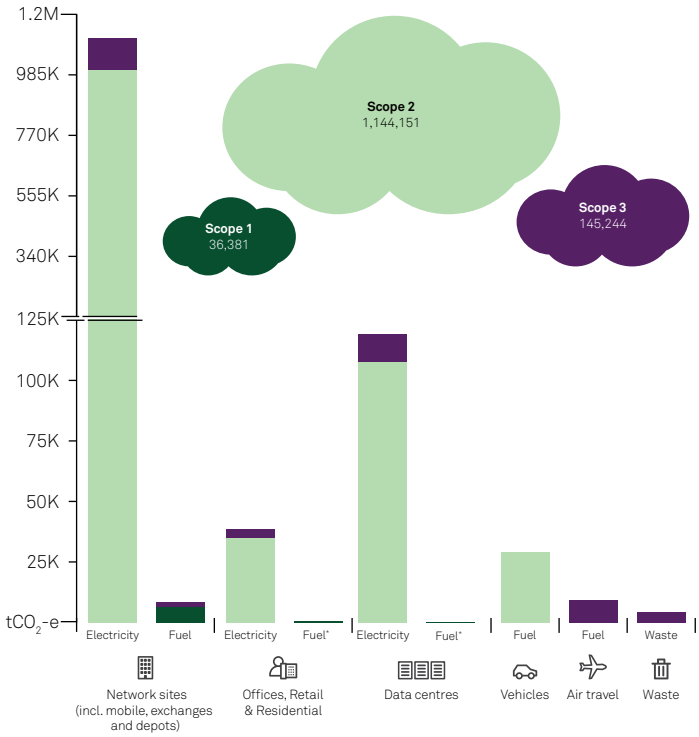
We have seen an overall increase in data traffic in FY20 due to continued increases in streaming and online gaming throughout the year. This includes a spike in usage from March 2020 onwards due to significant demand for video meetings as a result of COVID-19.

Overall, our emissions have decreased by six per cent from last year. Drivers of our emissions intensity performance include changes to state-based emission factors for electricity published by the Commonwealth Government; increased transfer of infrastructure under our operational control to NBN Co[5] throughout the year; a reduction in electricity usage in our offices and retail stores in the second half of FY20; and a reduction in the number of our fleet vehicles since FY19.

GHG emissions, petabyte usage and emissions intensity



FY20 GHG emissions (scope 1, 2 and selected 3) by category



*Note that scope 1 and 3 fuel emissions for Office, Retail & Residential and Data centres total less than 1,000 tCO_2e

Our emissions profile

We continue to disclose our FY20 scope 1 (diesel, petrol and natural gas), scope 2 (electricity) and a subset of our scope 3 (waste, air travel, electricity transmission losses and fuel extraction and refining) emissions in this report.

We recognise that these do not represent the full scope of emissions across our value chain. In accordance with the GHG Protocol we have expanded our disclosures (in the Data Pack) to include all relevant scope 3 emissions categories.

Given that the majority of the expanded scope 3 data is based on spend in our supply chain, there is a lag in reporting as it takes time to extract, manipulate and verify this data. We continue to partner with our suppliers to improve the data quality of our supply chain emissions to better manage and reduce our overall scope 3 emissions footprint. For more information, please refer to the Managing our Supply Chain section of this report.

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[6] GHG emissions are calculated using the latest emission factors at the time of reporting. Our emissions intensity target includes scope 1, 2 and the following scope 3 emissions: waste, air travel, electricity transmission losses, and fuel extraction and refining.

[7] We have re-stated our FY19 total GHG emissions to account for a change in the operational boundary with NBN and the treatment of contractor fuel data. This decreased our scope 1 and 3 GHG emissions by 4,275 tCO_2e (-8.0% change in Scope 1, -0.1% change in Scope 3 and -0.3% change in total GHG emissions) from what was previously reported.

Energy efficiency

Electricity consumption accounts for around 86 per cent of our total FY20 GHG emissions (scope 1, 2 and a selection of 3). We strive to reduce energy consumption across every aspect of our business through a careful program of planning, equipment monitoring, and energy productivity optimisation.

Our network sites, including exchanges and data centres, are our largest consumers of electricity. This year, we continued to enhance the efficiency of these facilities, upgrading fluorescent lights to LED technology with integrated motion sensing, upgrading air-conditioning control systems and programming them with the latest energy efficient strategies, improving our approach to fault detection and repair, and optimising facility design. Since 2011, we have invested $64.9 million in improving the energy efficiency of our facilities. This year we invested $3.7 million in energy reduction projects that delivered a collective saving of 10,407 tCO_2e and more than 11,217 MWh of electricity per annum.

For a detailed breakdown of our GHG emissions and energy consumption, see the 2020 Sustainability Report Data Pack.

Initiative	Description	Annual savings (MWh)
HVAC optimisation	We conduct physical inspections of our network sites to identify faults affecting power consumption and review equipment performance to identify optimisation opportunities.	5,601
Building services energy efficiency upgrades	Our capital works program includes the installation of fresh air cooling systems, high efficiency chillers, electronically commutated fans and lighting upgrades.	5304
Upgrading rectifiers	Rectifiers convert electricity from AC mains power to DC power, which is required to run our telecommunications equipment. We continue to upgrade older inefficient units to more modern, high efficiency rectifiers. These are now achieving efficiency levels of 96 to 98 per cent.	312
Total		**11,217**

A focus on the efficiency of our largest energy consuming facilities has resulted in several key projects. At Windsor Exchange in Victoria we have increased the use of fresh air cooling when it is cold outside, and implemented new air-conditioning control strategies to achieve energy savings of 300 MWh per annum. Additionally, at three of our largest energy consuming sites (Clayton Datacentre, Chatswood Exchange and Pitt Street Exchange) we have implemented projects to install Internet of Things (IoT) energy metering on our major energy consuming plant. This has enabled us to identify and implement energy efficiency opportunities including optimising the speed of many of the fans in our air-conditioning system and has delivered annual energy savings of 858 MWh, 1,173 MWh and 644 MWh respectively.

We have also established a Networks and IT Energy Reduction Forum. Each month, key stakeholders including both executives and subject matter experts from across the business meet to identify and review key energy reduction initiatives with the aim of reducing energy consumption, driving and tracking the implementation of these initiatives, and removing any blockers. Through this forum, we have reduced over 3.2MW of equipment power through the implementation of power saving features, the migration of services to more efficient equipment, and the powering down of low usage older generation equipment.

Managing our transport emissions

This year, several new initiatives have been conducted to reduce the emissions profile of our operational fleet. We continue to transition to more fuel-efficient vehicles, with 20 per cent of our operational fleet now being hybrid vehicles, and replaced six-cylinder station wagons with smaller four-cylinder SUVs. When comparing the fuel consumed by our operational fleet to FY19, we have reduced fuel usage by 22 per cent and will continue working to reduce our fuel consumption in coming years.

Renewable energy

Telstra is currently engaged in two power purchasing agreements (PPAs) at the Emerald Solar Park in Queensland and Murra Warra Wind Farm in Victoria. Telstra is the sole consortium member of Emerald Solar Park, which commenced generation in September 2018 and reached full commercial operations in February 2019 with a generation capacity of 70MW. Telstra led the establishment of an offtake consortium (one of six offtake partners) in the Murra Warra Wind Farm, which commenced generation in March 2019 and reached full commercial operations in February 2020 with a generation capacity of 226MW.

Emerald Solar Park has enough renewable generation to power approximately 35,000 Queensland households each year and the Murra Warra Wind Farm supplies enough renewable generation to support almost 220,000 Victorian households.

Given the success with these PPAs, Telstra continues to engage the market to seek well supported renewable generation projects to provide competitive long-term supply, and to help assist us in achieving our goal to enable renewable energy generation equivalent to 100 per cent of the energy Telstra consumes by 2025.

We have made 75 MW of capacity in fast-start standby generation available to serve at times of high electricity system demand. This enhances the ability to reliably integrate further renewables into the electricity market and support the transition to renewables.