

BETTER ENVIRONMENTAL OUTCOMES

ENVIRONMENTAL STEWARDSHIP

Bigger Picture
2015 Sustainability Report

IT'S HOW WE CONNECT

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THINK SUSTAINABLY BEFORE PRINTING

CONTEXT



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As Australia's leading telecommunications company we have a responsibility to manage our environmental impacts and show we care about the environmental issues that matter most to our customers, suppliers and the wider community.

We believe that information and communications technology (ICT) has the potential to unlock significant environmental benefits, and that the ICT industry has a central role to play in enabling a low-carbon future.

At Telstra, our long term ambition is to become an Australian environmental leader. Along with managing our own impacts, the extent of our network coverage and depth of our technical expertise provide an opportunity for us to support government, businesses and customers to reduce their energy consumption, leading to considerable cost savings and positive environmental outcomes.

OUR PERFORMANCE

Reduced our carbon emissions intensity by

27%

Over

35,000

tonnes of carbon emissions savings through project initiatives

Deployed

ENTERPRISE WIDE

environmental incidents reporting system

Doubled the amount of e-waste we recycled, diverting

3,936

tonnes from landfill

Diverted

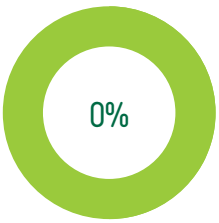
15.6

tonnes of old mobile phones and accessories from landfill, exceeding our target of 14 tonnes

Performance

Progress on FY15 commitments	Result	More info
Reduce our carbon emissions intensity by 55 per cent by FY17, against a baseline year of FY14	In progress	Page 07
Deliver an enterprise e-waste management strategy	In progress	Page 13
Release environmental standards to guide suppliers operating in key procurement categories	In progress	Page 17
Quantify the environmental benefits of cloud computing for our customers	In progress	Page 06

● Achieved ◒ In progress ✕ Not achieved



Achieved



In progress



Not achieved

ENVIRONMENT STRATEGY

We are working to minimise our environmental impacts, and help our suppliers and customers to do the same.

APPROACH

Our Environment Strategy provides a clear framework for addressing the issues most important to our company and our stakeholders, right across our value chain.

Introduced in FY14, our strategy is aligned to Telstra's purpose and values, and is aimed at minimising our most material environmental impacts across three strategic focus areas:

- **Environmental Customer Value Proposition (ECVP)** – quantifying and communicating how our products and services can enable our customers to reduce their environmental impacts, particularly energy use and carbon emissions
- **Operational Excellence** – actively identifying and minimising material environmental impacts and operating costs
- **Sustainable Supply Chain** – working with and influencing suppliers to manage and reduce the environmental and social impacts of their operations and of the products and services they provide to Telstra.

We have three-year action plans in place across each of our strategic focus areas. These are helping us to save operating costs, manage environmental risks and support our growth into new and emerging markets.

> Stakeholder engagement is critical to the success of our Environment Strategy.

We participate in industry forums committed to researching and measuring the sustainability risks and opportunities of ICT products and services, and encourage our people to get involved, sharing information and ideas across our business.

In order to embed environmental principles and minimise business risks across our operations, accountability for delivery of our Environment Strategy is shared across Telstra. Progress against the strategy is overseen by the Chief Sustainability Officer and relevant Business Unit project sponsors, and is reported to the Board twice a year.

Towards a SMARTer 2030

Through our membership with the Global e-Sustainability Initiative (GeSI) we're engaging with our global peers to conduct research into the role ICT can play in enabling low-carbon growth.

This year we participated in the development of a new GeSI study, *SMARTer 2030: ICT Solutions for 21st Century Challenges*. Released in June 2015, the study quantifies the positive social, economic and environmental benefits ICT can deliver across eight sectors by 2030. Australia was selected as one of nine countries for local analysis.

The SMARTer 2030 report found that ICT can reduce global carbon emissions by 20 per cent by 2030 – effectively reducing them to 2015 levels. Technologies such as cloud computing, broadband internet, smart devices and Wi-Fi sensors all contribute to providing positive sustainability benefits in sectors such as manufacturing, buildings and education.

In Australia, the report identified multiple ways ICT can be used to generate substantial benefits. For example, it estimates that by 2030, an additional seven million Australians could benefit from e-health services, based on projected rates of adoption, which will allow doctors and patients to save time and resources. In agriculture, sensor-based field equipment coupled with data analytics can potentially save almost 650 billion litres of water each year by 2030.

We will engage our stakeholders on the report's findings and associated opportunities in the coming year.

To view the study, visit smarter2030.gesi.org

ENVIRONMENTAL CUSTOMER VALUE PROPOSITION

There is a compelling business case for using ICT to reduce energy and carbon emissions, as well as operating costs.

APPROACH

Through our ECVP we focus on helping our customers transition to a lower carbon future using our products and services. Our activities include:

- **Communicating the environmental benefits of ICT:** Articulating the environmental benefits of the products and services we sell
- **Green ICT strategies:** Working with our largest customers to develop strategies for reducing their energy and carbon emissions through the use of ICT
- **Environmental innovation for new products and services:** Developing new products and services with environmental benefits
- **Green product design and development:** Embedding environmental considerations into existing product design and development processes.

PROGRESS

In FY15, we introduced a Green ICT Consulting service for our enterprise customers, designed to help identify opportunities to reduce their carbon emissions and electricity costs.

As part of this service we developed a carbon calculator to assist our customers with estimating emissions from Telstra-provided equipment on their premises.

We also undertook work to quantify the environmental impacts and benefits to our customers of Telstra's cloud computing offerings. To be released in FY16, this work will help our customers estimate the benefits of moving their IT systems to the cloud and builds upon the findings of our *Connecting with a Low-Carbon Future* report. Released in 2014, this report found that the ICT sector is in an ideal position to help government, business and consumers minimise their energy consumption and identified 'clean cloud' as a carbon reduction opportunity.

We are committed to working with our customers to build their understanding of the role ICT can play in enabling low-carbon growth. During the year, we conducted market research with global peers into the specific environmental drivers and expectations across a number of industry sectors. In FY16, we will embed the findings of our research into our environmental offering for customers, and use it to drive our approach to sustainable product design and innovation.

Adding value for our customers

In FY15 we implemented the first year of a targeted Energy Efficiency Plan (EEP) to assist NAB, one of our enterprise customers, to reduce their environmental impacts using our products and services.

The EEP's purpose is to provide a framework for driving energy efficiency opportunities and environmental improvements between NAB and Telstra.

Customer Delivery Executive David Snapp manages Telstra's relationship with NAB and is encouraged by the progress made.

"We're committed to helping our customers reduce their environmental footprint, and working with NAB has demonstrated the impact we can have when we work together."

An Energy Efficiency Working Group comprising representatives from both Telstra and NAB was formed to drive EEP activity. The group meets on a monthly basis to track progress and plan new work. In FY15, projects included:

- Updating process documents with energy efficiency criteria to guide design and delivery of our products and services
- Reviewing IT hardware configuration at NAB's data centres to identify opportunities to save space, power and infrastructure costs
- Updating our equipment disposal procedures to improve deployment rates and reduce the number of items not being utilised.

We also developed a baseline carbon footprint to estimate the energy use and associated carbon emissions from Telstra-supplied equipment on NAB's premises. We recalculate this footprint each quarter, to gain insight into any environmental improvements resulting from our project work.

Mark Welch, Manager Cross Functional Services at NAB says the partnership has presented a great opportunity for NAB.

"The EEP is helping us to meet our goal with regards to energy reduction. It's been great to see one of our major suppliers taking such a proactive approach to helping us achieve our efficiency targets."

We'll continue to work closely with NAB to further implement programs for reducing environmental impacts and support its internal business case for utilising ICT to lower energy and carbon emissions.

NEXT STEPS

REPORT on the environmental impacts and benefits of cloud computing

OPERATIONAL EXCELLENCE



APPROACH

Through our focus on operational excellence we aim to address the material environmental risks and opportunities across Telstra's operations. These include:

- Energy efficiency: Improve the energy efficiency of our network buildings, data centres, office buildings, network architecture and ICT equipment
- Renewable energy: Investigate opportunities for using renewable energy to further reduce emissions
- Electronic waste (e-waste): Minimise e-waste by maximising opportunities to reuse and recycle, while ensuring responsible disposal practices
- Environmental risks and compliance: Implement risk-based environmental management systems to maintain our licence to operate and provide for continued performance improvement.

PROGRESS

Energy efficiency

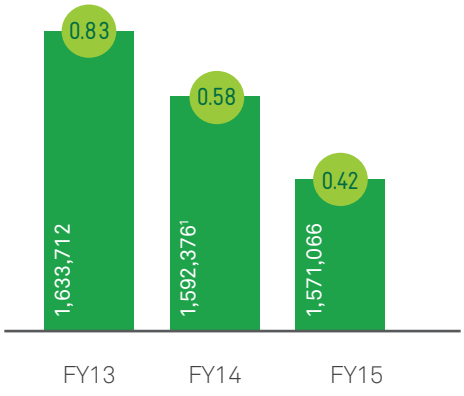
Our largest environmental impact remains the carbon emissions associated with the energy used in our network. In FY15, our network energy use represented 87 per cent of our total carbon emissions (Scope 1, 2 and 3).

In FY14 we set a long term target to reduce our carbon emissions per terabyte of data used (emissions intensity) by 55 per cent over the three year period from FY15 to FY17, from a baseline year of FY14. This year there has been a 27 per cent decrease in our emissions intensity, which puts us on track to meet our FY17 target.

While data loads carried over our network increased by 36 per cent in FY15, total carbon emissions (Scope 1, 2 and 3) decreased by 1.3 per cent, as a result both of our energy efficiency initiatives and a reduction in the emission factors published by the Australian Federal Government for the reporting period.[1]

Emissions factors, used to convert Telstra's electricity consumption into emissions, decreased in FY15 due to changes in Australia's electricity generation mix, including increased generation from natural gas and renewable energy sources. Changes in emissions factors led to a decrease in our reported emissions of approximately 41,625 tCO_2e.

Total carbon emissions and emissions intensity



- Total emissions (Scope 1, 2 and 3) tCO_2e
- Emissions intensity tCO_2e/TB

Notes: **1** – The FY14 figure in this graph was incorrectly labelled in our FY14 report as 1,592,388, instead of 1,592,376.

> **Collectively, energy efficiency initiatives have reduced carbon emissions by 35,180 tCO_2e and saved more than 33, 239 MWh of electricity in FY15.**

This year we completed the fourth year of our $41.3 million capital investment program, aimed at making our facilities more energy and carbon efficient. As part of this program we invested $6 million and implemented more than 540 energy and carbon reduction projects that delivered a collective saving of 9,000MWh. Initiatives included installing high efficiency fans and chillers, free-air cooling and lighting control systems.[2]

Along with these initiatives, our FY15 reductions can be partly attributed to a program of work decommissioning redundant equipment across a number of network sites, which reduced electricity consumption by approximately 10,000MWh. While Telstra's stationary electricity use increased by 1.1 per cent this year, we would have seen an increase of 3.4 per cent if our energy reduction program hadn't been in place.

1 Emissions arising from electricity and liquid/gas fuels are calculated using the Australian Commonwealth Government's approved guidelines, Technical Guidelines for the Estimation of Greenhouse Gas Emissions by Facilities in Australia and the National Greenhouse Account Factors.

2 Free cooling uses naturally low external air temperatures to assist in chilling water, which can then be used in air conditioning systems.

One of our key focus areas under the program is improving air-conditioning efficiency. Air-conditioning represents a significant component of our site energy use, and requires frequent monitoring and optimisation to ensure it continues to operate efficiently. By undertaking regular maintenance of our air-conditioning systems, targeting energy efficiency improvements, we reduced our energy consumption by around 7,300MWh in FY15.

Over 35,000 tonnes of carbon emissions savings through project initiatives

We also began implementing a program to improve the operating efficiency of our rectifiers and reduce power consumption. Rectifiers convert AC mains power to the DC power that is required to run our telecommunications equipment and battery back-up systems.

Working with our vendors, we have developed an innovative solution that enables us to quickly and easily install more efficient rectifiers by re-using existing equipment. Rather than replacing the entire power system, this solution reuses existing chassis units and cabling by installing special adaptor shelves, which the new rectifier units can be plugged into. This significantly reduces installation time and costs, and minimises e-waste. We invested $3.5 million in this program in FY15, and replaced 314 systems, resulting in annual savings of 5,000MWh.

Another key focus is improving the energy efficiency of data centres, commercial buildings and ICT equipment. In November 2014 we opened our newest data centre in Clayton, Victoria. Its design incorporates a free-air cooling system, which can be used to supplement air-conditioning around 65 per cent of the time.

This technology makes the site more efficient to operate than our existing data centres. As more of our cloud services are transitioned to the facility in FY16, we will see even further improvements to its energy efficiency.

We also reviewed the energy efficiency potential of our ICT equipment. We applied industry recognised criteria to assess the energy efficiency and environmental benefits of upgrading our technology, which included a review of next generation storage equipment, such as solid state storage devices, for our data centres. We will set performance improvement targets for FY16 based on this information.

Our commercial building portfolio, which includes office buildings, warehouses, depots and retail stores, accounts for around six per cent of Telstra's electricity use. To improve energy efficiency across this portfolio we upgraded lights and after hours lighting controls across several of our office buildings and warehouses this year. Lighting typically accounts for 30-40 per cent of the electricity used in high rise commercial buildings, and these initiatives will reduce Telstra's commercial electricity use by two percent, or approximately 1,400MWh which is equivalent to the electricity required to power around 255 average Australian homes.[3]

Electricity consumption increased in FY15 by 1.1 per cent. This increase is mainly due to our new data centre in Clayton, Victoria coming on line, as well as growth in wireless services, with the continued expansion of our 4G network. 0.3 per cent of this increase is due to improvements in the way we capture our energy consumption data. This year we uncovered additional data for an electricity account not previously included in our calculations. We manage over 26,000 electricity accounts and are continually working to ensure we accurately capture data for all of them.



Brian Hennessy
General Manager
Energy and Greenhouse Management

"Working with our vendors, we have developed a more cost-effective approach to installing the latest high efficiency rectifiers into a range of older units. We will continue to work with them to increase the number of rectifier types we can retrofit using this new approach, further improving the viability and scale of rectifier upgrades. This range of solutions will form an important component of our energy efficiency program in the coming years."

Our stationary diesel and ethanol use have also increased this year, by 31 and 26 per cent respectively. The observed increase in diesel is due to a reallocation of fuel types within our system. A number of generator sets were incorrectly listed as LPG, rather than diesel in FY14. This has been corrected in FY15, which also accounts for our decrease in LPG fuel use. Our use of ethanol blend fuel (E10 and E85) in stationary applications has increased due to these biofuels becoming more widely available at a number of major petrol station chains.

3 The average Australian household daily electricity usage is taken as being 15 kWh per day.



Gavin, Anthony and Dhanesh, Telstra Operations

Business travel

Our direct (Scope 1) emissions decreased in FY15, largely due to a change in the structure and increased fuel efficiency across Telstra's fleet.

While use of diesel and LPG for transport decreased by 2.3 per cent and 42.9 per cent respectively, the use of petrol and ethanol blend fuel both increased this year. As was the case in FY14, these shifts are largely due to LPG station wagon vehicles being phased out of our fleet, as they are no longer available for purchase.

Emissions from air travel increased due to growing rates of domestic and international travel. The number of domestic and international flights taken increased by 18 and 33 per cent respectively. This increase is partly due to an increase in acquisitions across the Telstra Group. In line with our long-term growth agenda, we acquired 18 new businesses this year, and invested in a further nine through Telstra Ventures both in Australia and overseas.

Renewable energy

This year we continued to investigate opportunities to use renewable energy to power our network, expanding the use of solar and wind for energy generation as well as integrated fuel cells for energy storage.

Using renewable energy sources in combination with fuel cells not only reduces our emissions, it also improves the reliability of our network's power supply.

Fuel cells have become part of Telstra's standard solution for sites that require longer periods of back-up electricity.

They enable us to provide back-up power to sites for several days, which is particularly useful in areas prone to natural disaster. During disaster events, emergency responders rely heavily on telecommunications, so maintaining electricity supply to our infrastructure is vital.

> 10,255 Telstra sites around Australia have solar panels installed, providing power to telecommunications equipment in rural and remote locations without mains power.

This year we trialled a new type of fuel cell that uses solar and wind energy to provide electricity to small-scale telecommunications sites. Hydrogen is generated from water held onsite using renewable energy, before being stored and used to generate power in the event of a mains power outage. In addition to being more efficient than diesel generators, fuel cells replace the use of batteries on site, which require frequent substitution and careful disposal.

We also explored the use of methanol based fuel cells. Replacing diesel generators, this type of fuel cell is providing back-up power to ten of our mobile phone base stations. Along with being up to 60 per cent more efficient than diesel generators, there is the potential for Telstra to explore using methanol produced by renewable biogas, when it becomes commercially available to us.



Rafiq Ali
Renewable Energy Team Lead

"We have network sites in some of the most remote corners of Australia, and it's not always possible to reach them at short notice. By using fuel cell technology, we've increased the autonomy of our sites from hours to days, meaning more reliable service for our customers. Better yet, fuel cells are a more environmentally friendly option than using traditional diesel generators, so we're really excited about what this technology could do for us."

Carbon emissions[1]

Key performance indicators

	FY15	FY14	FY13	% change FY14-FY15[2]
Scope 1 emissions[3] tCO_2e	52,003	52,537	53,645	-1.0
Scope 2 emissions[4] tCO_2e	1,298,083	1,294,248	1,331,148	+0.3
Scope 3 emissions[5] tCO_2e	220,981	245,592	248,918	-10.0
Total emissions (Scope 1, 2 and 3)[6] tCO_2e	1,571,066	1,592,376	1,633,712	-1.3
Terabytes TB	3,714,025	2,738,662	1,967,686	+34.2
Emissions intensity tCO_2e/TB	0.42	0.58	0.83	-26.5
Network related emissions[7] Percentage of total emissions	87.2	86.0	86.0	1.4
Annualised emissions savings resulting from project initiatives tCO_2e/yr	35,180	36,852	72,724	-4.1

Notes: **1** – Reported emissions reflect annualised data for the reporting year and are based on actual data wherever possible. Where metered or invoiced data was not available at 30 June 2015, estimates have been calculated based on prior actual consumption, taking into account seasonal variations, qualified assumptions and/or known business activity variations. **2** – Due to rounding, the reported percentage change may differ from that calculated using the numbers shown. **3** – Emission sources include: Scope 1 transport fuels and stationary energy use, excluding electricity. **4** – Emissions from electricity consumption. Electricity consumption from our unmetered hybrid fibre coaxial (HFC) network includes Foxtel infrastructure. **5** – Emission sources include: electricity transmission losses, fuel extraction and refining, air travel and waste disposal. **6** - Sum of 'Scope 1, 2 and 3' differs to 'total emissions' due to rounding. **7** – Network category includes all network-related sites including unmetered sites and data centre services hosted at Telstra exchanges. This consists of all Scope 1, 2 & 3 emissions allocated to the Telstra network, based on premises, vehicle or activity end use.

Air travel emissions by source

Tonnes of carbon dioxide equivalent (tCO_2e)

	FY15	FY14	FY13	% change FY14-FY15
Air travel[1]	28,628	20,627	24,328	+38.8

Notes: **1** – Total kilometres travelled: 119,209,019 (FY15); 94,890,792 (FY14); 92,007,373 (FY13)

Total carbon emissions by source

Total (Scope 1, 2, and 3) tonnes of carbon dioxide equivalent (tCO_2e)

	FY15	FY14	FY13	% change FY14-FY15[1]
Stationary energy				
Electricity[2]	1,480,848	1,509,136	1,544,466	-1.9
Natural gas	1,819	1,913	1,366	-4.9
Diesel	5,594	4,281	4,424	+30.7
LPG	25	128	83	-80.7
Ethanol	<1	<1	<1	-
Petrol	283	291	293	-2.9
Transport fuels				
Diesel	39,628	40,555	41,292	-2.3
Petrol	6,089	4,939	4,148	+23.3
LPG	2,585	4,522	6,265	-42.8
Ethanol[3]	10.3	0.5	0.36	+1,978.9
Waste	5,556	5,984	7,047	-7.1

Notes: **1** – Due to rounding, the reported percentage change may differ from that calculated using the numbers shown. **2** – Electricity consumption from our unmetered HFC network includes Foxtel infrastructure. **3** – Year on year our ethanol use increased from half a tonne to 10.3 tonnes, resulting in a very large percentage change.

Change in number of flights by type[1]

% change in FY15



- Domestic flights
- International flights
- Overall

Notes: **1** – This graph has been updated to reflect the number of domestic and international flights taken in FY15. This table was previously reported as a year-on-year percentage change in emissions by flight type (short, medium and long haul).

Energy consumption by source

Gigajoules (GJ)

Key performance indicators	FY15	FY14	FY13	% change FY14-FY15[1]
Total energy use[2] (stationary + transport)	6,009,922	5,962,543	5,988,603	+0.8
Stationary energy (total)	5,353,838	5,283,608	5,284,560	+1.3
Electricity[3]	5,214,988	5,159,497	5,170,889	+1.1
Solar energy (generated by Telstra)[4]	27,795	27,255	26,208	+2.0
Natural gas	31,982	33,623	22,994	-4.9
Diesel	74,781	57,232	59,145	+30.7
LPG	380	1,975	1,274	-80.8
Petrol	3,911	4,026	4,049	-2.9
Ethanol	0.8	0.6	0.7	+25.7
Transport fuels (total)	656,084	678,935	704,043	-3.4
Diesel	527,402	539,961	549,758	-2.3
Petrol	83,075	68,381	57,296	+21.5
Ethanol	6,013	1,242	904	+384.1
LPG	39,594	69,350	96,085	-42.9
Annualised network energy savings resulting from project initiatives	114,593	127,679	228,067	-10.2
Annualised commercial energy savings resulting from project initiatives	5,065	76	1,462	+6,549.6

Notes: **1** – Due to rounding, the reported percentage change may differ from that calculated using the numbers shown. **2** – Sum of 'stationary energy' and 'transport energy' differs to 'total energy use' due to rounding. Consistent with previous reporting periods stationary energy use and transport energy respectively contribute 89 per cent and 11 per cent of overall use. **3** – Electricity consumption as part of our unmetered HFC network includes Foxtel infrastructure. **4** – Telstra has approximately 10,255 sites with solar panels installed, providing power to telecommunications equipment in rural and remote locations where the power grid does not reach. The number of Telstra sites with solar panels installed was misstated in FY14 as 13,850 sites. **5** – More petrol was used this year as LPG vehicles exited our fleet and were replaced with petrol variants. **6** – Ethanol blend fuels (E10 and E85) have become more widely available and are now offered as the default fuel at major service station chains. **7** – The large increase in annualised commercial energy savings this year is a result of an expanded program of works.



Waste management

The amount of waste we generate and manage each year is dependent on the type and timing of specific projects undertaken, making it difficult to compare performance year-on-year.

In FY15, total waste produced decreased by 13 per cent, primarily as a result of a reduction in construction and demolition activities.

We also worked closely with our waste service providers to divert more construction and demolition waste from landfill, and to improve the accuracy of our general waste data.

Our overall recycling rate decreased by 2.5 per cent this year, from 72 to 70 per cent. This change is primarily due to the end of the national copper replacement program, which last year accounted for 63 per cent of our recycled waste. Outside of this program we diverted 11,982 tonnes of waste from landfill this year.

Waste and recycling[1]

Tonnes (t)

	FY15	FY14	FY13	% change FY14-FY15[2]
Total waste[3]	17,033	19,520	24,929	-12.7
Waste recycled	11,982	14,080	18,523	-14.9
Waste to landfill	5,051	5,440	6,406	-7.1
Recycling rate (%)[4]	70.3	72.1	74.3	-2.5
Total e-waste[5]	3,940	1,993	2,070	+97.7
E-waste recycled	3,936	1,989	2,061	+97.8
Mobile phones recycled[6]	15.6	15.3	14.0	+1.7
Other e-waste recycled	3,920	1,974	2,047	+98.6
E-waste to landfill	4.2	3.9	8.5	+8.2

Notes: **1** – This table has been updated to more clearly convey the overall amounts of waste produced and the division between waste recycled and waste to landfill. As such some figures from prior years have been restated. **2** – Due to rounding, the reported totals and percentage change may differ from that calculated using the numbers shown. **3** – FY15 Total waste includes 104 tonnes of hazardous waste and 4,947 tonnes of non-hazardous waste. Asbestos containing materials are included in our hazardous waste definition for FY15. Hazardous wastes are disposed to prescribed landfill. Total waste does not include waste disposed of at sites managed by third parties. **4** – Recycling rate is the amount of waste recycled as a percentage of total waste produced. **5** – E-waste is a subset of total waste. **6** – Option to return phones to MobileMuster by 'pre-paid satchel' did not exist prior to FY14.

We are committed to minimising e-waste by maximising opportunities to reuse and recycle end-of-life equipment.

Electronic waste

Australia is one of the highest per capita producers of electronic waste (e-waste) in the world. As a population, we generate more than 25 kilograms of e-waste per person each year.[4]

We've already put a number of initiatives in place that respond to the e-waste challenge. These include our support for MobileMuster, establishing internal e-waste recycling infrastructure at key locations, and offering business and retail customers mobile device reuse, trade-in and recycling programs.

> In 2014 41.8 million tonnes of electronic waste was generated around the world, and less than a sixth was recycled.[5]

In 2014 we committed to developing a more strategic approach to e-waste management for Telstra. We partnered with the University of Technology, Sydney to establish an external advisory committee, and are now preparing an Electronics Reuse and Recycling Strategy.

The short-term focus of this strategy is to harness the benefits of electronics reuse and recycling, while ensuring responsible disposal practices.

Longer term, we will continue to pursue a product stewardship approach that recognises that manufacturers, importers, retailers, governments and consumers have shared responsibility for the environmental impacts of electronic products throughout their full life cycles.

We've demonstrated responsible action on electronics stewardship though MobileMuster for over 15 years. We helped establish MobileMuster, Australia's only government-accredited voluntary mobile phone recycling program, in partnership with industry manufacturers, carriers and partners.

In FY15 we diverted 15.6 tonnes of mobile phones and accessories from landfill through the MobileMuster program, exceeding our target of 14 tonnes. Through this activity, we avoided 125 tonnes of CO_2e, or the equivalent of planting 758 trees. We also continued to support Keep Australia Beautiful by donating $10,000 to help improve and promote mobile phone recycling within remote Australian communities.

Overall during FY15 we collected 3,940 tonnes of e-waste, doubling our FY14 collection volume. This increase is mainly due to scheduled end-of-life battery replacements at our network sites.

What is e-waste?

E-waste is a term used to cover specific items of electrical and electronic equipment, and their parts, that have been discarded by the owner as waste without the intention of re-use. Telstra's e-waste includes: information technology and telecommunications equipment; telecommunication carrier and commercial equipment; consumer communications devices and lighting equipment.

We also sought to engage employees in electronics removal and recycling through our annual e-waste collection campaign. During National Recycling Week in November 2014 we collected 21 tonnes of e-waste across 29 corporate offices and 38 exchange buildings.

4 Global e-waste systems, Insights for Australia from other developed countries, The Economist Intelligence Unit, 2014, page 4

5 Baldé, C.P., Wang, F., Kuehr, R., Huisman, J. (2015), The global e-waste monitor – 2014, United Nations University, IAS – SCYCLE, Bonn, Germany

Paper use

In overall terms, our paper consumption decreased by 0.6 per cent in FY15.

While billing paper use decreased by 11.2 per cent (as more customers opted for online bills) and office paper use decreased by 23.6 per cent (as a result of the continued rollout of our 'follow-me' printing initiative across our corporate offices), we saw a 21.8 per cent spike in the use of printing paper. This increase was due to a one off print run undertaken in October 2014 to produce materials for our shareholders regarding our share buyback offer. Printing these materials was an ASIC statutory requirement and we worked with the regulator to minimise this impact, securing permission not to provide hardcopies to any shareholders who had previously opted in to receive electronic communications from Telstra. This meant we were only required to print 900,000 of a possible 1.4 million packs.

This year we also trialled using lower grams per square metre (gsm) billing paper, which will be introduced across Telstra in early FY16. By switching to 85gsm paper, down from 92gsm we will save 2,100 trees and close to $400,000 each year.

Water use

In FY15, we used 1,083 megalitres (ML) of water, equivalent to 433 Olympic-sized swimming pools,[6] in our network exchanges, data centres and corporate offices.

This is an 11 per cent increase on FY14 and continues the upward trend in water usage observed over the last four years. This is due to more water being used in our cooling systems in response to increasing electricity consumption, especially at our largest network sites. Wastewater disposal decreased by 64 per cent, as less water was used in the removal and remediation of asbestos containing telecommunication pits and ducts.

6 Where one Olympic sized Swimming Pool contains 2.5 million litres of water.



Office, billing and printing paper

Tonnes (t)

	FY15	FY14	FY13	% change FY14-FY15[1]
Total	2,707	2,723	3,215	-0.6
Office paper[2]	226	296	336	-23.6
Printing paper	1,199	984	1,180	+21.8
Billing paper	1,281	1,443	1,699	-11.2

Notes: **1** – Due to rounding, the reported percentage change may differ from that calculated using the numbers shown. **2** – Sensis office paper is included in the FY14 figure only, for the period of 1 July 2013 - 28 February 2014, when Sensis was sold.

Water

	FY15	FY14	FY13	% change FY14-FY15
Water consumption[1] (ML)	1,083	975	953	+11.1
Wastewater[2] (kL)	3,057	8,582	1,740	-64.4

Notes: **1** – This metric does not include water consumption from sites where water is paid for by third parties **2** – Wastewater includes pit pump outs and asbestos pit remediation.

We're committed to ensuring compliance with our Environment Policy and continually achieving our stated policy commitments.



Environmental risks and compliance

Telstra performs a range of business activities which, by virtue of their nature, scale and geographical locations, have inherent environmental challenges.

We're committed to ensuring compliance with our Environment Policy and continually achieving our stated policy commitments. Having robust environmental management systems in place is key to achieving this.

Environmental management systems have existed within Telstra for over 15 years. Our work this year has involved developing and realigning some of our corporate systems to enable us to more effectively deploy new initiatives, communicate important information, manage change, assess and prioritise risks, motivate and engage employees and stakeholders, as well as build workforce competency.

As part of our continuous improvement agenda we introduced a new online tool for reporting work-related health, safety and environmental incidents, HIRO (Hazard Incident Reporting Online). This tool provides us with improved oversight of environmental incidents and enables timely corrective and preventative actions to be implemented, to avoid issues reoccurring.

We also updated Telstra's annual mandatory refresher compliance training module – Business Essentials II – to include information on our Environment Strategy, environment management systems and frameworks, and compliance. Approximately 62,000 people, including industry partners who work closely with Telstra, completed this training in FY15.

Telstra, as a minimum, seeks to be compliant with all applicable environmental laws and regulatory permissions relevant to its operations. Where instances of non-compliance may occur, Telstra has procedures requiring that internal investigations are conducted to determine the cause of the non-compliance and to ensure that any risk of recurrence is minimised.

Telstra procedures further require that the relevant governmental authorities are notified of any environmental incidents (where applicable) in compliance with statutory requirements.

Telstra has not been prosecuted for, or convicted of, any significant breaches of environmental regulation during the financial year.

On 6 July 2015, Telstra received an infringement notice penalty of $8,538 for contravention of the Environmental Protection Act 1994 (Qld) as a result of a diesel spill from a fuel storage tank at a Telstra site in Cape Kimberley that occurred in April 2015. Telstra subsequently undertook clean-up work to remediate the site.

NEXT STEPS

LAUNCH
electronics reuse and recycling strategy

EXTEND
ISO 140012004 certification of our environmental management systems to Telstra's corporate business units

REDUCE
our carbon emissions intensity by 55 per cent by FY17, against a baseline year of FY14

SUSTAINABLE SUPPLY CHAIN

This year the Telstra Group purchased $6.8 billion in goods and services from 4,800 suppliers.



APPROACH

Telstra's approach to sustainable procurement has been developed to encompass both social and environmental considerations.

Within our Environment Strategy, we embrace the following key principles:

- **Responsible sourcing:** Ensuring products and services are sourced and produced under acceptable environmental, social and ethical standards
- **Maximising resource efficiency:** Maximising use of materials with reused and recycled content, minimising packaging and designing products that can be either reused or recycled
- **Minimising embodied carbon and operational energy use:** Maximising resource and energy efficiency in the manufacturing and supply process in order to minimise environmental impacts
- **Pollution prevention:** Ensuring appropriate materials are used, and manufacturing and processing take place in a way that protects human health and the environment.

The key principles of our approach to sustainable supply chain management are reflected within our Supplier Code of Conduct, as well as other key procurement policies and processes, such as the Master Sourcing Agreement we have in place with our suppliers of mobile handsets, tablets and data devices.

PROGRESS

In FY15 we continued to work with our suppliers to embed our sustainable procurement principles within their operations.

Following the identification of our high risk suppliers in FY14, we have focused on refining our processes for identifying, assessing and treating risk within our supply chain. We developed a sustainability risk evaluation framework, underpinned by a sustainability risk questionnaire, to assess suppliers' compliance with our Code of Conduct.

> We are committed to engaging and influencing our suppliers to minimise the environmental and social impacts of the products and services they deliver to us.

We sent the questionnaire to all 24 high risk suppliers in two waves. From the first wave of nine suppliers we have received eight responses to date. We expect to receive the ninth response, as well as 15 second wave responses in early FY16.

Subsequent engagement processes are underway with four suppliers, and we will engage with all remaining suppliers in FY16. We are taking a thorough, time-intensive approach to engagement, with the aim of building strong supplier relationships that will enable us to manage sustainability risks and opportunities for mutual benefit.

We are engaging and influencing our suppliers to minimise the environmental and social impacts of the products and services they deliver to us.



We also worked with suppliers of our network and data centre equipment, including Hewlett Packard (HP) and Ericsson to explore opportunities to improve the energy efficiency of the products they supply. HP identified an opportunity to achieve energy savings using a new, more efficient power supply technology, which uses 35 per cent less energy than the previous model. This technology is now being used across our network.

To extend this work to a broader base of our network and data centre equipment providers, we developed a set of environmental standards this year, aimed at helping our suppliers to consider and improve the energy efficiency of their products and services. Currently in review, this program of work will be implemented within relevant procurement categories in FY16.

We are currently scoping a program of work for auditing suppliers found not to be in compliance with the Supplier Code of Conduct. Pending the full roll-out of the program, on-site audits are conducted on a case by case basis by an independent third party.

For more information, please see the Responsible business chapter of this sustainability report.

NEXT STEPS

INTRODUCE

energy efficiency metrics and targets for our suppliers of selected categories of network equipment



Emilio Romeo
Director, Telstra Customer Unit
Ericsson

"We know that energy efficiency is a key priority for the telecommunications industry. The radio access network (RAN) is one of the largest consumers of energy in a mobile network, and is therefore an important focus area for energy-efficiency improvements.

We are working closely with Telstra to find opportunities to manage their RAN operations dynamically. This means that equipment is only powered on when it's needed, rather than around the clock. By doing this, we're helping Telstra achieve energy efficiency through reduced electricity use, while still delivering superior network performance and customer service."

ABOUT OUR REPORTING

Our business

Telstra is Australia's leading telecommunications and information services company, offering a full range of communications services and competing in all telecommunications markets. We employ over 36,000 people directly, facilitate access to more than 2,000 network points of presence across the globe and have one of Australia's largest shareholder bases, with around 1.4 million shareholders.

We have a diverse range of customers, including consumer, small business, large enterprise and government organisations, and we strive to put them at the centre of everything we do. In Australia, our services are offered through 371 Telstra-branded retail stores, 84 Telstra Business Centres, 137 Telstra business and enterprise partners and are distributed by over 18,700 retail points of presence managed by our partners.

In Australia we provide approximately 16.7 million retail mobile services, 6.0 million retail fixed voice services and 3.1 million retail fixed data services. Telstra's international businesses operate in 20 countries around the world and include Telstra's global networks and managed services business, as well as Telstra's China-based search and advertising business, Autohome Inc.

We understand our customers want technology and content solutions that are simple and easy to use – that's why we have built networks like Australia's largest fully integrated internet protocol (IP) network and Australia's largest mobile network.

United Nations Global Compact

You will find the icon below throughout the Bigger Picture 2015 Sustainability Report. It indicates where we are providing information on our progress in implementing the ten principles of the United Nations Global Compact.

About our sustainability reporting

Our sustainability reporting comprises the Bigger Picture 2015 Sustainability Report, our sustainability website and a concise summary of our approach and performance in our 2015 Annual Report. Through our reporting we aim to provide information on sustainability issues relevant to our business and of importance to our stakeholders, as defined through our annual materiality process. The material topics addressed within each chapter of this report are outlined in Sustainability at Telstra, and on the context page of each corresponding chapter.

We develop our sustainability reporting in accordance with industry and sustainability standards including the United Nations Global Compact Communication on Progress and the Global Reporting Initiative (GRI) G4 Core Sustainability Reporting Guidelines, and with reference to AccountAbility's AA1000 Principles Standard 2008.

For more information visit www.telstra.com/sustainability/report

Scope

Our sustainability reporting covers the financial year 1 July 2014 to 30 June 2015 (FY15) for Telstra Corporation Limited. This includes relevant Australian subsidiaries, joint ventures and partnerships as set out in the National Greenhouse and Energy Reporting Act 2011.

As our international operations expand we are committed to developing a global framework for sustainability data collection and reporting. Starting with our most material operations overseas we will continue to expand on the scope of our reporting over time.

Wherever possible and relevant under the G4 guidelines we have extended the scope of this report to include our operations across the Telstra Group, as well as a discussion of any broader impacts across our value chain.

Information regarding the controlled entities in the Telstra Group can be found in Note 25 to the Financial Statements in the 2015 Annual Report.

Assurance

Independent assurance supports our commitment to transparency and accountability. To provide confidence for our stakeholders in our reporting Ernst & Young provides limited assurance, in accordance with the ISAE 3000 standard, over specified data and related performance disclosures in our 2015 Annual Report and Bigger Picture 2015 Sustainability Report, as well as an assessment of Telstra's application of the principle of materiality, as outlined in the Global Reporting Initiative G4 guidelines.

You can access Ernst & Young's assurance statement at www.telstra.com/sustainability/report/about

Feedback

We welcome your feedback on our sustainability reporting, approach and performance. Please email Tim O'Leary, Chief Sustainability Officer at sustainability@team.telstra.com

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