



5. Environment

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Fujitsu Australia and New Zealand is committed to being a global leader in sustainability

From 2008-2018 – 10 years of Environmental Sustainability Journey

In 2008, Fujitsu was one of the first ICT companies in Australia and New Zealand to set sustainability targets and policies. These were developed in consultation with key stakeholders, best practice, science, and policy and are evidence of our determination to become a truly sustainable company and a leader in the local marketplace. We are proud to share our targets with you and how we've measured up to them as we forge ahead with our sustainability journey.

Table 3: Performance against 2020 sustainability targets at glance

Emission source and target on 2008 baseline	2008	FY 16/17	FY 17/18	% Change since baseline year (2008)
50% reduction office Electricity CO2e (t)	6,584	2,818	2,677	60% reduction
80% reduction travel	6,357	2,815	2,522	61% reduction
Data centre PUE of 1.5	1.94	1.58	1.55	9% improvement
20% of our energy will be from renewable sources	0%	<1%	<1%	

Celebrating 10 years of our environmental journey. Fujitsu is the first and only Data Centre Centre portfolio to have achieved the publically rated NABERS certification.

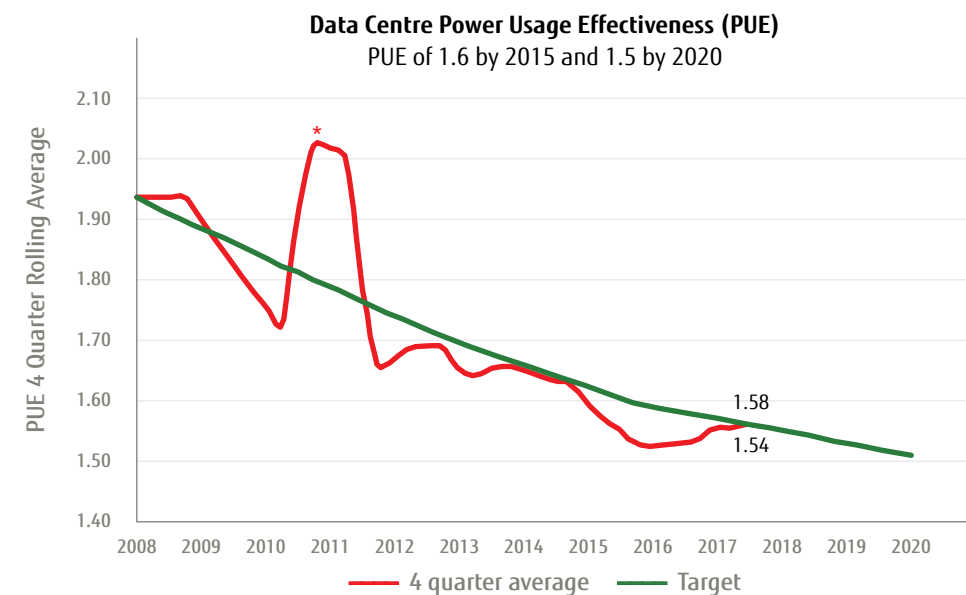
Data centre sustainability

Fujitsu has the first and only data centre portfolio in Australia to have achieved the publicly-rated NABERS certification for its data centres.

For us, sustainability begins with ensuring our own operations are sustainable by focusing on the most material aspects, which are energy and carbon emissions. Our data centres account for 97 per cent of our energy use across the region and have, therefore, been the focus of our energy reduction efforts.

The most common industry measure of data centre energy efficiency is PUE (Power Usage Effectiveness). Developed by the Green Grid, PUE is the ratio of the total amount of energy used by the facility (lighting, cooling etc) to the energy delivered to the IT equipment (servers, network switches etc) within that facility. An ideal PUE is 1.0 (theoretical).

Graph 1: Data centre PUE performance



* New data centre came online.

Data centre efficiency is measured by the percentage change to its baseline power usage effectiveness (PUE), which is an energy efficiency metric derived from the Green Grid.

We have achieved an average PUE of 1.54 across the portfolio, representing avoided costs of more than AU\$10.8M compared with consumption if it had continued at 2008 levels. This shows that we are 33 per cent more efficient than the industry average. Every year, through these efforts, we save over 34 Gigawatt hours of energy and reduce 30,611 tonnes of carbon, which is equivalent to the energy use of 1,700 homes according to the NABERS methodology.

Some of the energy efficiency projects that have helped us to achieve this are the deployment of hot/cold aisle-containment projects across the portfolio, a trial of pre-cooling atomised misting at North Ryde data centre, upgraded misting heads at Western Sydney data centre, and IoT sensor monitoring installs at Homebush and North Ryde data centres.

All of our major data centres in Australia have been rated to the NABERS for Data Centre standard. Fujitsu collaborated with NABERS, the national environmental rating system for buildings, to develop the NABERS Energy for Data Centre benchmarking tools. In a world-first, these tools have provided a platform for data centre energy efficiency to be validated against an independent standard by a qualified assessor. The space in these facilities is rented to organisations including state government departments, airlines, major banks, hospitals, healthcare providers, and universities to host their own IT equipment.

Our NABERS rating program has reached some of the largest data centre users in the country, helping to promulgate knowledge of this important rating tool. The ratings are on a six-star scale, where one star represents very poor performance, three stars represents average, and six stars represents outstanding performance.

Energy Efficiency Council CEO and member of the NABERS National Steering Committee, **Luke Menzel**, has welcomed Fujitsu's commitment to using NABERS to consistently achieve highly-efficient data centres:

"Fujitsu is the first technology company in Australia to certify all its data centres using NABERS Energy. This gives Fujitsu a robust baseline it can use to compare energy performance to the industry average, and monitor progress towards its ambitious energy efficiency targets."

"Fujitsu's leadership is to be commended, and is an example of a business acting to drive big savings, both in terms of energy costs and carbon emissions."

NABERS Energy for Data Centres – 4.5 star average across the portfolio by 2020



Homebush



Noble Park



Western Sydney



North Ryde



Malaga



Eight Mile Plains

AVERAGE
PUE OF 1.54

Gaining a NABERS accreditation for data centres and publishing it assures our customers that, by managing energy consumption, we deliver on our environmental commitments and maximise customer value.

This transparency holds us to account and gives customers a way to easily benchmark the energy efficiency of data centres. Making our NABERS ratings public demonstrates both our genuine commitment and our ambition in ensuring our facilities have market-leading performance.

Water efficiency

Water efficient fixtures have been fitted and retro-fitted across our premises. We are also in the process of installing smart meters across our data centre portfolio to assist in water management. Once we have improved the quality of our data across the portfolio we can review the targets for water reduction.

Other water efficiency measures include:

- rainwater collection for grounds and toilet facilities at the Noble Park data centre, and rainwater collection for grounds at Homebush and Western Sydney data centres
- 70,000L grey water infrastructure at Homebush data centre. The grey water is used in closed-loop chillers for cooling the data halls
- upgrades to heating, ventilation, and air conditioning (HVAC) misting nozzles were fitted at North Ryde data centre and Western Sydney data centre to reduce water consumption
- where Fujitsu buildings have landscaped surrounds, they are planted with drought-tolerant native species to support biodiversity and reduce water consumption.

Office emissions reductions

Fujitsu's energy efficiency initiatives also extend to our offices and other operational premises as part of our target to reduce office energy emissions by 50 per cent by 2020. Since 2012, our goal has been to take space, where possible, in five-star NABERS buildings or buildings with a five-star Green Star energy rating, and shift to more efficient agile workplaces.

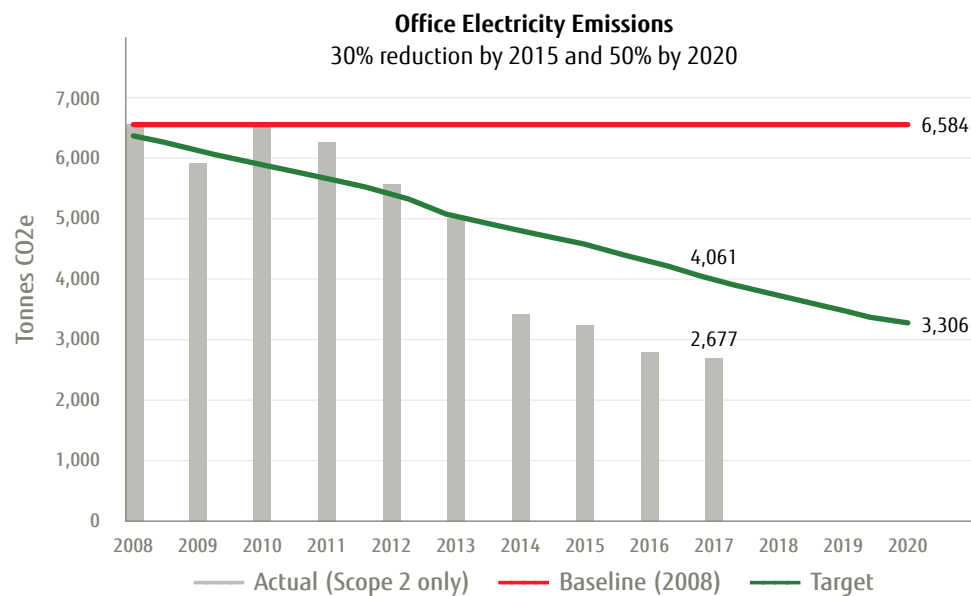
In 2018, we implemented a significant lighting upgrade within our main Australian warehouse and distribution centre based in Lidcombe. 119 metal halide high bay lights were replaced with new high-efficiency LED fittings with smart sensors. This will reduce emissions by more than 349,000kg of CO₂e every year.

We have achieved a 60 percent reduction in total emissions, which is ahead of the 2020 target. This represents a 53% reduction in lighting energy

**60%
REDUCTION
IN OFFICE
EMISSIONS**

(measured in kWh) per full-time equivalent (FTE). This represents an avoided energy cost of more than AU\$950k had consumption continued at 2008 levels. We use FTE as our intensity measure as it takes into account changes in business size.

Graph 2: Office electricity emissions target performance





Travel emissions reductions

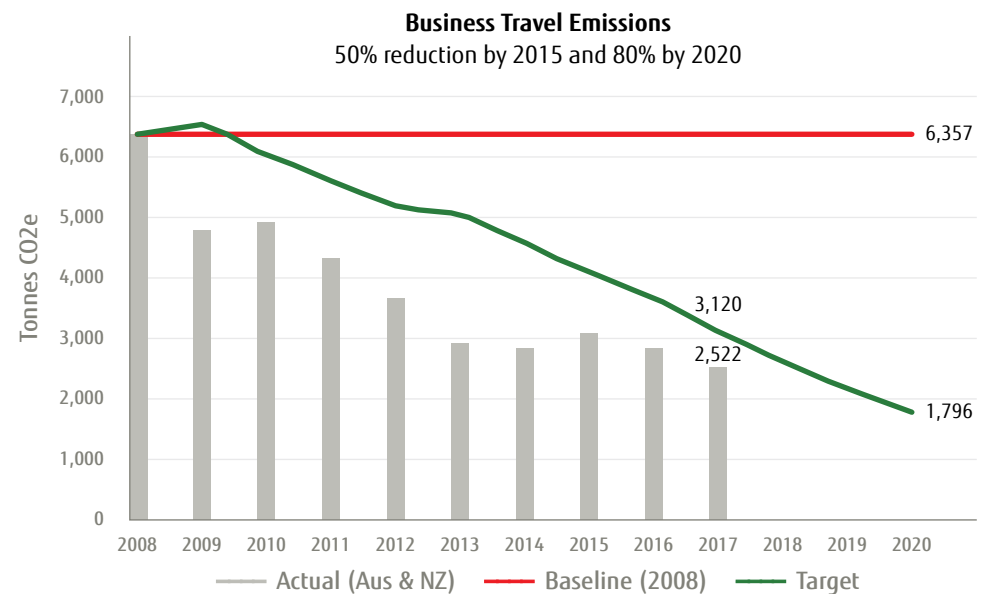
Fujitsu recognises that travel is essential for business but that alternatives and ICT solutions can facilitate good business outcomes while reducing environmental impacts. Reducing travel emissions is one of the fundamental ways each Fujitsu employee can make a significant, positive, and lasting impact.

Fujitsu has established policies and supporting programs that include:

- unified communications with desktop sharing, audio conference, instant messaging, and live meeting functions
- telepresence and video conferencing facilities
- company car hire policy specifies and favours fuel-efficient models

- travel reduction policies informing and educating people on alternatives
- support for active transport with end-of-trip change and storage facilities for cyclists and walkers
- a hybrid fleet in New Zealand, with 68 per cent of our vehicles being hybrid
- rail subsidies
- trial of car fleet technology that provides feedback for drivers when they are driving inefficiently.

Graph 3: Travel emissions target performance



This has enabled us to achieve a 61 per cent reduction in total emissions since the baseline year. This represents a 44 per cent reduction in kilometer's traveled per FTE over the same period.

In 2008 when we set our strategy the average employee travelled the equivalent of 6,357 CO2 for work trips, today it is now 1,796.

Renewable energy purchase and generation

We are increasing our generation capacity and procurement of renewable energy in line with our 2020 renewable energy target for ANZ and our global 2050 carbon neutral commitment.

In New Zealand we procure our power from Meridian Energy who only generates energy from renewable sources such as wind and hydro power.

We are currently investigating the purchase of renewable energy through Power Purchase Agreements (PPAs) for our Australian operations to increase the percentage of renewable energy procured to at least 20 per cent by 2020. We also continue to explore the generation of renewable energy on our sites where feasible.

In 2018, Fujitsu Group announced an ambitious program, the “Fujitsu Climate and Energy Vision” where we will aim to become a zero-emissions organisation by 2050.

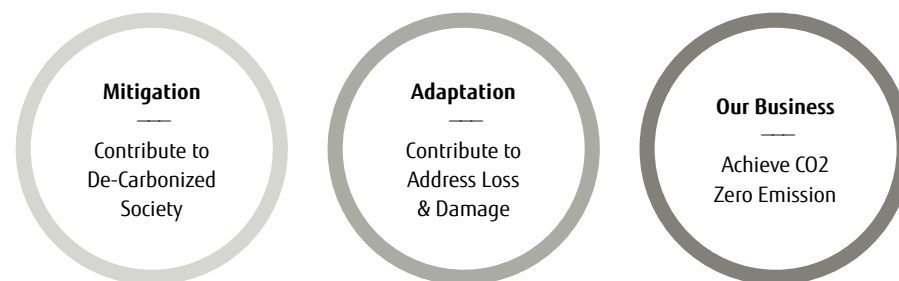
For a company of Fujitsu’s scale, with more than 140,000 employees worldwide, along with manufacturing, offices, data centres, vehicle fleets, and different maturities in different countries, this is no small undertaking.

The strategy is based on Fujitsu taking on challenges in three areas:

- bringing Fujitsu’s CO2 emissions down to zero
- contributing to a decarbonised society
- contributing to adaptation to climate change.

Along with the thorough implementation of energy-saving measures to achieve zero emissions by 2050, expanding our use of renewable energy is critical to achieving this goal. Fujitsu has joined RE100, an international initiative led by the Climate Group in partnership with CDP, as Japan’s first Gold Member. RE100 strives to significantly expand the adoption of renewable electricity on a global scale, and will further strengthen efforts to boost use of renewable electricity across the Fujitsu Group.

Fujitsu Climate and Energy Vision 2050



RE100 aims to have companies use 100 per cent renewable energy for the electricity they consume. In line with this, Fujitsu will expand its use of renewable energy with the goal of sourcing 100 per cent of the electricity consumed at Group locations, both in and outside of Japan, from renewable sources by 2050. Fujitsu will also undertake R&D and technology trials in areas such as energy management and storage, contributing to the spread of renewable energy throughout society.

To support Fujitsu’s global goal of 100 per cent renewable energy electricity usage by 2050, the Fujitsu Group has established an intermediate global goal to achieve 40 per cent renewable energy electricity usage by 2030.

Environmental management system (EMS)

Fujitsu’s environmental management system (EMS) is certified to ISO 14001 covering 13 premises and 97 per cent of our impacts in ANZ.

As part of our ISO 140001 certification, all environmental impacts including hazards have been assessed. Any significant impacts have targets around their management and reduction. We also have control procedures and appropriate training where elevated risk occurs, e.g. safe handling of dangerous goods, diesel spill containment, and emergency response procedures.