

Figure 3:
Examples of Energy Programmes and Achievements



Retrofitting M&E equipment and energy optimisation

In Singapore, we continue to retrofit our Fan Coil Units to the type using solar thermal to absorb heat from the sun and improve efficiency of the compressor. 32 units were completed from 2017 to 2019. We also perform energy optimisation on our Heating, Ventilation and Air-Conditioning (HVAC) systems.

Estimated energy savings and emissions avoidance:

- Kim Chuan 1 Data Centre: 1,058 MWh/year (3,809 GJ/year) or 444 tCO₂e/year
- NCS Bedok Data Centre: 113 MWh/year (407 GJ/year) or 47 tCO₂e/year



Switching to energy-saving lighting

We have made progressive efforts in retrofitting physical architecture with LED lightings in Singapore.

Estimated energy savings and emissions avoidance:

- Geylang Telephone Exchange: 120 MWh/year (431 GJ/year) or 50 tCO₂e/year



Replacing Uninterruptible Power Supply (UPS)

We replaced two conventional-type UPS to modular units at our data centres in Singapore.

Estimated energy savings and emissions avoidance:

- NCS Bedok Data Centre: 126 MWh/year (454 GJ/year) or 53 tCO₂e/year



Converting to energy efficient mobile base stations

We continue to upgrade our mobile networks in Singapore and convert to energy efficient mobile base stations.

Energy efficient mobile base stations:

- 99.64%
- To achieve 100% by end-2020



Replacing, overhauling and optimising chillers and related equipment

We regularly replace and overhaul chiller units and related Mechanical and Engineering (M&E) equipment which have been in operation for 15 years and more, at our exchanges and office buildings in Singapore. Eight out of 22 chillers have been replaced last year with another six to be upgraded by end-2021.

In Australia, we have an ongoing multi-year Mobile Shelter Cooling Upgrade initiative to replace current fresh air fans with modern DC variable speed fans and larger intake units. This comes with the capability to double the air intake and reduce reliance on air conditioners. During the year, 270 sites were upgraded, bringing the total to 1,100 sites.

Estimated energy savings and emissions avoidance:

- Potential reduction of 6,141 MWh (22,108 GJ) annually when all 22 chillers are replaced
- Reduction of carbon footprint by 2,649 tCO₂e per year in Singapore
- 2,490 MWh/year (8,964 GJ/year) or 2,042 tCO₂e per year in Australia



MAKING PROGRESS WITH TCFD

We have adopted a staged approach for Task Force on Climate-related Financial Disclosures (TCFD), starting with our operations in Australia as the country is more exposed to climate risks and disasters compared to Singapore. We can then iterate the learnings for our Singapore operations. During the year, we issued a Request for Information calling for external risks modelling experts to partner us on our TCFD journey.

In FY2021, we plan to work with a consultant on a more targeted and granular assessment of a pilot geographical network location in Australia to help us refine the internal preparatory work we have done in the past two years. We will undertake financial risk modelling aligned with climate scenarios and the associated impact, as well as interdependencies of climate risks for our business operations. This will be done

concurrently with our internal sourcing of all climate-related data and validation of historical financial assessments attributed to the physical and transitional risks of climate change.

Please refer to our [website](#) to see how Singtel applies the TCFD framework against where we believe are our key physical, transition and other climate risks.