Natural Capital

At Airtel, our commitment to using Natural Resources responsibly goes beyond compliance. It is at the core of our intent to create stakeholder value, respecting what nature has provided us and staying environmentally responsible as we grow our operations.

This section includes

- Climate Change, Energy Efficiency & Emission Reduction
- Resource Efficiency & Waste Management
- Water Efficiency
- Green ICT Solution

SDGs impacted

We are committed to helping meet the goals of the Paris Accord and have identified 'Climate Change, Energy Efficiency and Emission Reduction' as a critical material issue while 'Resource Efficiency and Waste Management' and 'Water Efficiency' have been identified as high and moderate material issues respectively for our business.

We will continue our stewardship of empowering the digital world and deliver on our environmental commitments. Digital economy is a great equaliser resolving the information, resource and access asymmetry plaguing the world. It will drive greater awareness and responsibility towards climate change, circular economy and energy transition.

We endeavour to keep ourselves accountable and responsible as we help limit the global temperature increase to below 1.5°C, in line with the Paris Accord.

Our decarbonisation goals

Aligning our GHG emission reduction targets to 1.5°C emission scenarios

Setting a public goal to reach net-zero emissions by no less than 2050 in line with Science-Based Target Initiatives (SBTi) recommendations

We nurture and operate a sustainable supply chain and follow the highest standards of corporate governance and business ethics in reporting our environmental impact. We will continue to deploy sustainable solutions to reduce our environmental footprint incrementally through efficient energy use, lowering emissions, and expanding digitisation. Every year we make substantial investments in deploying environmentally responsible technologies along with our network infrastructure partners to preserve our natural capital.

Performance highlights for FY 2020-21

82,917 MWh
Renewable energy consumed

5,554.28 Tonnes
E-waste recycled

284 MWh
Energy saved at our facilities

~508 Mn
Sheets of paper saved through e-bill initiatives

A comparative evaluation

Considering FY 2018-19 as Base Year

24%
Reduction in CO_2 emission per rack in our data centres

49%
Reduction in network emission intensity for mobile (CO_2 emissions per terabyte)

28%
Reduction in CO_2 emission per square feet in our facilities

Climate change, energy efficiency and emission reduction

Climate Change

Airtel's most significant contribution to addressing the impact of climate change comes from our transformative digitisation initiatives, which in turn, helps our customers reduce their carbon footprint. Our businesses run on green energy solutions and services that are environmentally conscious.

Green energy solutions

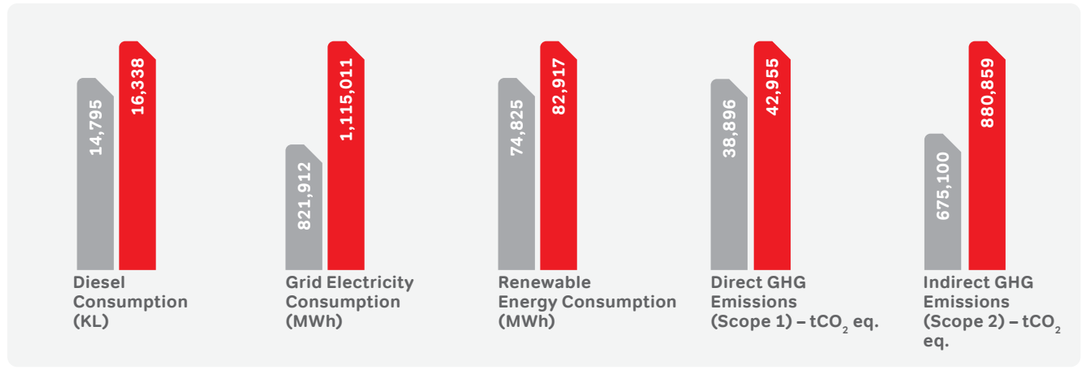
We have significantly reduced our operations' environmental footprint by investing in Solar DG hybrid systems. We have created green data centres, outdoor Base Transceiver Station (BTS) sites and green mobile tower technologies which consume less power and generate lower emissions.

At Airtel, we are cognisant of the risk presented by climate change to our business operations. We understand the potential impact of climate change related physical and transitional risks. We are taking various measures to strengthen our preparedness to address such risks. We have adopted Science-Based Targets to lower our carbon emissions. We have developed risk adaptation plans to enhance energy efficiency and emission reduction measures to lower our carbon footprint.

Energy conservation and emission reduction

Airtel, along with its partners, is increasing the use of green energy by adopting solar and biomass energy and zero-emission batteries. These energy conservation measures have strengthened our environmental stewardship, resulted in financial savings, and contributed to national and global goals. Every year we reduce our emissions intensity incrementally and increase our investments in green and clean energy solutions to power our operations.

Energy consumption in own operations



Note: Boundary expanded to Include Airtel Owned Stores and Fixed Line Networks

Enhancing the use of green energy across our operations

We are implementing several strategies to improve our energy usage patterns and increase the share of renewable energy in the mix to enhance efficiencies

Rooftop solar plants

Over the last few years, we have installed 28 rooftop solar plants at our data centers and main switching centres with the total installed capacity of 1.57 MWp, estimated saving of **1,214 tonnes of CO_2 emission. Rooftop solar plants have also been installed in our facilities, which led to energy savings of 140.57 MWh in FY 2020-21.**

Green power wheeling agreements

During the reporting year, we signed open access contracts or power wheeling agreements for procuring **26,172 MWh** of green energy in Main Switching Centres (MSCs) and **55,143 MWh** for our data centres, significantly reducing our carbon emissions. This has led to 83.14% increase in renewable energy deployment in our MSCs from FY 2019-20.

Solar-DG hybrid solution

We implemented 64 Solar-DG hybrid sets across our operations. This unique solution uses 5.2 kW capacity solar panels optimised by hybrid solar controllers along with a battery bank, which has reduced our DG running hours to one-third.

Energy conservation in network infrastructure

We have undertaken various energy conservation and emission reduction measures across our network infrastructure to reduce dependence on fossil fuels.

Maximising outdoor BTS – In FY 2020-21, we converted 2,247 indoor BTS sites to outdoor sites and reducing BTS energy consumption by 25%.

Site sharing – Our strategy of site sharing with partners has optimised our resource consumption and reduced carbon emissions significantly through higher utilisation of passive infrastructure. In FY 2020-21, 26% of sites were deployed as shared sites reducing energy consumption compared to standalone sites.

Lean Towers – In FY 2020-21, we deployed 9,823 towers as Lean Towers, i.e., towers that do not operate on diesel, thereby reducing emissions by 40%.

Project Green City – We are transforming our sites into green sites by collaborating with our network infrastructure partners. Over 73,609 sites, including Airtel owned and partner sites have been tagged as green sites, consuming less than 100 litres of diesel per quarter kWh of energy usage through the reporting year.

Hybrid battery bank solutions – In FY 2020-21, we installed 121 advanced VRLA (Valve-Regulated Lead-Acid) batteries and lithium-ion batteries to optimise energy consumption and reduce our reliance on diesel to 100 Litres per site per quarter. A total of 41,462 VRLA and Li-ion batteries were installed by March 2021.

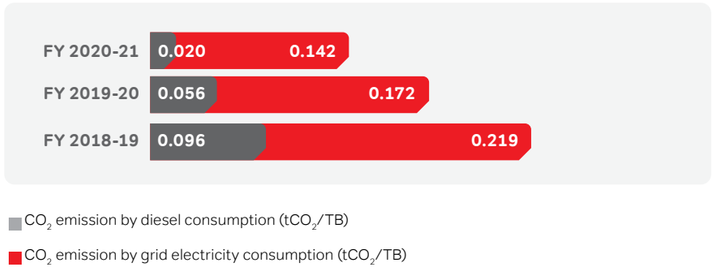
Auto-shutdown in non-peak hours – An auto-resource shutdown feature at 153,019 sites, including all 4G sites, has reduced energy requirement at non-peak hours.

Electrification of non-electricity board sites – We have electrified our network towers to reduce diesel consumption, which has also improved our network uptime at BTS tower sites. In FY 2020-21, we electrified 2,722 telecom towers.

Installation of DC air conditioners – DC air conditioners of 48 volts is an optimal cooling solution for telecom shelters by using less energy compared to rudimentary cooling solutions. In FY 2020-21, we installed these air conditioners at 50 temperature-sensitive sites.

Other Main Switching Centre initiatives – We installed LED lights, motion sensors, air diverters, active tiles and blanking panels in our Main Switching Centre sites. In addition, we installed solutions for temperature, rack, UPS and SMPS optimisation, cold aisle containment and natural cooling to reduce energy consumption. These measures saved 4,138,608 kWh of energy usage through the reporting year.

Emission trends in our network infrastructure



49%

Reduction in network emission intensity for mobile (CO_2 emissions per terabyte) compared to FY 2018-19

Energy conservation in data centres

We have undertaken various energy conservation and emission reduction measures covering our data centres to reduce our dependence on fossil fuels.

Ensuring energy efficiency – We installed energy-efficient equipment and improvised processes across our data centres to optimise costs, save power and reduce GHG emissions.

Optimum lighting – Lighting optimisation through LED lights and motion sensors across various data centres saved 53,930 kWh of energy.

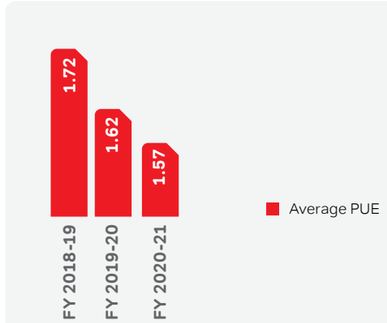
Optimum cooling – Cooling optimisation through the installation of active tiles, set points management, and air diverters saved 1,758,108 kWh of energy.

Cold aisle/Hot aisle containment – Cold aisle/hot aisle containment at different locations saved 112,979 kWh of energy.

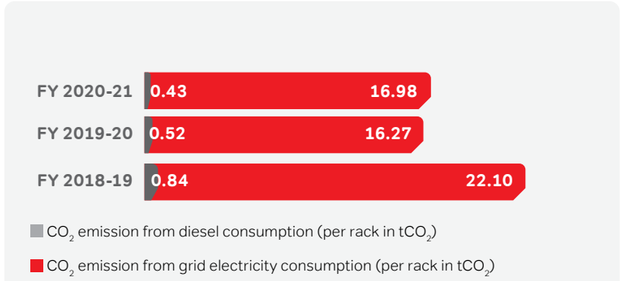
UPS optimisation – UPS and SPMS optimisation at various locations saved 2,232,458 kWh of energy.

Power Usage Effectiveness (PUE) – PUE helps us to track the energy efficiency of data centres, specifically. It is the metric that illustrates how efficiently data centers utilise their power resources. We improved PUE from 1.72 in FY 2018-19 to 1.57 in FY 2020-21.

Average PUE



Emission trends in our data centres



55,348 MWH

Procured from renewable energy sources in FY 2020-21

24%

Reduction in CO_2 emission per rack in our data centres from FY 2018-19

35%

Renewable energy consumption in data centres as a percentage of total energy consumption

Energy conservation in our facilities

We have undertaken various energy conservation measures in our facilities and ensure installation of best rated energy efficient equipment and LEDs in AOR, to reduce the overall environmental footprint. These measures included UPS optimisation, demand rationalisatiion, HVAC upgradation among others.

UPS optimisation

In FY 2020-21, we replaced two UPS sets at our facilities in Splendid Tower, Hyderabad, with new 80 kVA systems resulting in a saving of 5,592 kWh in six months.

Demand surrender

We surrendered access load at selected locations to rationalise energy consumption. While this initiative did not contribute to direct energy savings, it impacted our overall energy costs. It delivered operational savings of ₹1.2 million at Indore and Mumbai locations and ₹1 million at sites located in the National Capital Region (NCR).

UPS room HVAC system upgradation

With the help of duct extension, a total of 3 TR (Ton of Refrigeration) were switched off and 1.5 TR were replaced with new machine from the UPS room in offices located at Kundannoor, Kerala, which resulted in energy savings of 4,698 kWh.

HVAC air duct cleaning

A complete HVAC air duct was cleaned at our premises in Interface, Mumbai. This resulted in better airflow, reduced hot and cold pocket complaints, and improved the chilled water setpoint (reset from 7°C to 9°C), resulting in energy savings of 19,845 kWh.

Replacement of ductable units

Replacement of ductable units at our Jodhpur and Udaipur offices resulted in energy savings of 23,881 kWh. We will roll out similar implementations at other offices as well.

Emission trends in our facilities

CO_2 emission by diesel consumption (Kgs/sq.ft.)

CO_2 emission by grid electricity consumption (Kgs/sq.ft.)

26%

Reduction in diesel emissions per square feet compared to FY 2018-19

28.4%

Reduction in Grid CO_2 emissions per square feet in our facilities compared to FY 2018-19

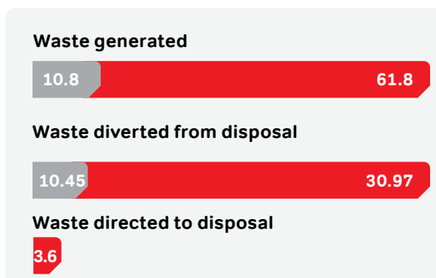
Resource efficiency and waste management

We reduce and recycle natural resources wherever possible and replenish what is feasible as we pivot to a new future to meet the needs of a new generation. We have adopted several measures to manage our water usage, improve waste management and increase the use of renewable resources.

Waste management

We segregate organic, hazardous, and e-waste collected across our warehouses and dismantle them for recycling or repurposing. Our recyclers are authorised by the Central and State Pollution Control Boards. Most of our facilities are designed to be 'zero discharge' spaces.

We significantly reduced the amount of waste generated in FY 2020-21, primarily on account of shutdown of many of our facilities due to nationwide lockdown amid the pandemic.



Hazardous in Tonnes Non-hazardous in Tonnes

1. That waste diverted from disposal includes recycled as well as the waste sold
2. This excludes e-waste
3. Hazardous waste directed to disposal is 0 Tonnes.

Towards a paperless future

We reuse and recycle paper across our operations.
The increasing adoption of digital practices across business processes has helped us reduce paper consumption. We have replaced physical copies of customer bills with electronic statements and online payment methods. In FY 2020-21, we sent 169 million e-bills to our customers, which helped us save 508 million sheets of paper, weighing 667 tonnes.

36.3 Tonnes

Paper used

~ 508 Mn

Sheets of paper saved through e-bill initiatives

3%

Paper used was recycled through partners

667.1 Tonnes

Tonnes of paper saved through e-bill initiatives

e-waste management

At Airtel, we adopt the 3R approach of Reduce, Reuse and Recycle to manage our environmental footprint. We stringently follow the Waste Electrical and Electronic Equipment (WEEE) guidelines to treat and reuse e-waste generated from technological upgradations, capacity augmentation and other business processes.

e-waste collected at warehouses is segregated and dismantled for recycling. e-waste recycling helps to recover valuable materials from electronic products, which conserve natural resources and help manufacturers obtain raw materials from recycled waste. We use chemical decomposition processes wherever necessary to facilitate reusability and repurposing of e-waste. All the non-reusable hazardous e-waste, including lead batteries, are disposed of through authorised recyclers approved by Central and State Pollution Control Boards.

In FY 2020-21, total e-waste generated by our operations was estimated to be 5,554.28 tonnes. The waste was sent to third-party recyclers for further retrieval through decomposition processes.

We undertook various initiatives during the reporting year to reduce e-waste, including:

- Testing and repairing faulty modules at in-house facilities and repair centres.
- Double validation of non-repairable modules, first by a strategic partner and followed by a local agency.
- Inter-circle movement of materials to reuse obsolete material from one circle into another circle.
- Material handling and packaging capabilities to minimise damage during transit from sites to warehouses.
- Before declaring any material as scrap, we seek approval from relevant stakeholders. Once approved, we auction such material on the Metal Scrap Trade Corporation Limited (MSTC) portal, an Indian state-owned that provides e-auction services.
- We sell our scrap to vendors selected through a fair and open auction for repurposing.

Water efficiency

At Airtel, we are cognisant of our water usage and ensure used water is recycled and reused wherever possible. All our facilities have water-efficient faucets. We reuse treated wastewater for gardening and in our washrooms.

We are working on water conservation projects like waterless urinals, water monitoring and reusing water via Wastewater Treatment Plant (WTP). We have introduced sensor-based water taps across most of our circle offices, reducing water wastage and leakage.

Most of Airtel's facilities work on the 'Zero Discharge' principle, where wastewater is treated through Sewage Treatment Plants (STP) and recycled for reuse.

38,043 KL

Total water consumption in our facilities

10,536 KL

Water Recycled

28%

Water consumed from recycled and harvested sources

Green ICT solution

The IoT-enabled services provided by Airtel to enterprise customers reduce the need for customer mobility and enhance energy efficiency. Airtel IoT is a connectivity or a full end-to end platform that has been built to provide cloud and video-conferencing services. These services prevent greenhouse gas emissions by improving connectivity and reducing fuel usage associated with travel.

Green data centre solution

Nxtra by Airtel offers secure data centre services to leading Indian and global enterprises, hyperscalers, start-ups, SMEs and governments. By FY 2021-22, Nxtra aims to meet over 50% of its power requirements for its data centres located in Uttar Pradesh, through renewable sources. As part of its mission to rapidly grow its green energy footprint, Airtel has commissioned a 14 MWp captive solar power plant to meet the energy requirements of its core and edge data centres in Uttar Pradesh. The facility in Tilhar is the first of the two solar plants being set up by Airtel in partnership with AMP Energy. The second plant at Begampur is expected to start functioning in the current financal year. Additionally, Airtel had acquired 26% equity stake in AMP Solar Evolution as part of its commitment to green energy-based solutions.