

# Case study: Airtel's Green Data Centers



## BACKGROUND

Bharti Airtel (“Airtel”) with its subsidiary Nxtra Data Limited (“Nxtra”) currently operates 10 large and 120 edge Data Centers across India. We as a group 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.

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## CHALLENGES

Exponential growth and change in the usage pattern of Internet users has increased the demand of power consumption in data centers. The creation of sustainable Data Centers has become essential in an environmental and a business sense. But the renewable energy market for C&I consumers in India has become very competitive and onboarding is wrestling with many challenges like state wise separate & complex regulatory policies, lengthy approval processes, policies uncertainty etc. The challenge for Airtel was to maintain renewable energy share in the energy mix of Data Centers with the increase power consumption demand and improvements in energy efficiency to reduce energy usage.

## INITIATIVES UNDERTAKEN AND BENEFITS

To overcome these challenges, Airtel has chosen state wise strategies in India for reducing Scope 2 emissions for its Data Centers.



### **Commissioned photovoltaic asset via partnership with Amp Energy in Uttar Pradesh Data Centers:**

For Data Centers in the state of Uttar Pradesh, Airtel has partnered with Amp Energy via acquiring 26% equity stake in one of the SPV formed by Amp Energy and commissioned photovoltaic asset with an installed capacity of 28 MW.



**Sourced electricity from hydro power plant for Delhi Data Centers:** Airtel has negotiated and signed Power Purchase Agreement (PPA) for sourcing the electricity from 9 MW hydro power plant to its Data Centers in Delhi.



### **Leverages wind and hydro renewable energy for Karnataka and Tamil Nadu Data Centers:**

The group relies on sourcing ~ 6.5 MW round the clock renewable energy from Wind and Hydro assets in Karnataka and Tamil Nadu. Nxtra has acquired some stakes in the power generating companies to source this power.



**Partnered with Avaada Energy to source solar power:** Airtel has also joined with Avaada Energy, the leading developer of renewable energy for sourcing solar power from 65 MW photovoltaic asset.



All these contracts are long terms contracts with long term commitments by project developers on renewable energy supply at fixed generation price to Airtel.

Airtel has decided to install on-site captive generating plants at Data Center facilities in the states where policies are not favorable for renewable energy sourcing. Over the last few years, airtel has installed 28 rooftop solar PV plants at Data Center locations with the total installed capacity of 1.57 MW.

Airtel has also explored an option of redemption of I-REC certificates against the electricity consumption at Data Center facilities to reinforce renewable energy sourcing program. Purchased 14,752 certificates in FY 2020-21 representing 14,752 MWh of electricity generated from renewable energy sources.

Airtel constantly aims to ensure optimal energy utilization across the entire life cycle of its Data Centers, from design to operations. Airtel had identified PUE (Power Usage Effectiveness) as the measure to check the energy effectiveness for our Data Centers. Continual improvement in Average PUE is visible from last 3 years.

Airtel has made substantial investment on energy efficient products/services in order to promote and adopt new technologies & services in operations as part of Energy Conservation Measures to improve energy efficiency.

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**Airtel's initiatives for energy efficiency and use of renewable energy are aligned with Sustainable Development Goals.**

**SDGs impacted:**



**Supporting information (images, videos, infographics, links to websites etc.):**

- Building a sustainable environment for a better tomorrow: [Watch here](#)
- Airtel to acquire 7.48% stake in Sandhya Hydro: [Read here](#)
- Bharti Airtel to acquire 5.2% stake in Avaada MHBuldhana for Rs 4.55 cr: [Read here](#)
- Airtel to acquire 3.33% additional stake in Avaada MHBuldhana: [Read here](#)
- Bharti Airtel to acquire 26 per cent stake in AMPSolar for Rs 8.4 crore: [Read here](#)