Thailand - Chut Thai Chakkri

Planet & Society

Commitment to our Planet and Society

Reducing our Carbon Emissions

Environment Management

Disaster Management & Response

Corporate Responsibility

edotco Group spearheads our efforts to reduce the Group's carbon footprint. The Group has committed to a carbon reduction of 40% by the end of 2018 against a baseline of 2013. Our efforts towards this commitment will be quantified, reviewed and reported at the end of 2018 before setting a new goal in line with industry peers.

Since 2016, the Group has conducted carbon life-cycle assessment of its towers and explored different options to reduce c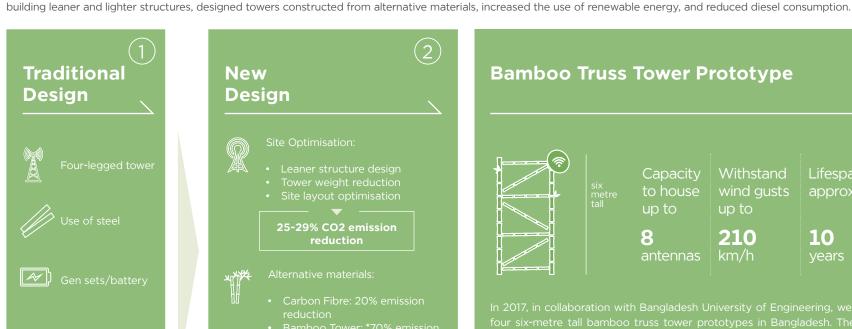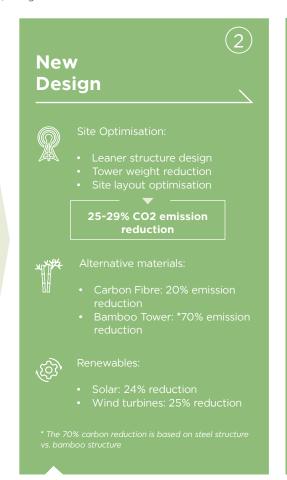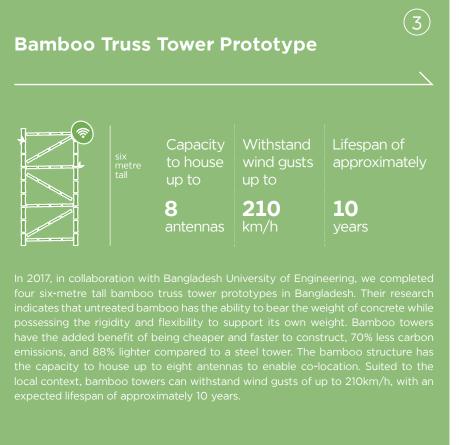arbon emissions. We have explored site optimisation by building leaner and lighter structures, designed towers constructed from alternative materials, increased the use of renewable energy, and reduced diesel consumption.

① Traditional Design

- Four-legged tower
- Use of steel
- Gen sets/battery

② New Design

Site Optimisation:

- Leaner structure design
- Tower weight reduction
- Site layout optimisation

25-29% CO2 emission reduction

Alternative materials:

- Carbon Fibre: 20% emission reduction
- Bamboo Tower: *70% emission reduction

Renewables:

- Solar: 24% reduction
- Wind turbines: 25% reduction

The 70% carbon reduction is based on steel structure vs. bamboo structure

③ Bamboo Truss Tower Prototype

six metre tall

Capacity to house up to **8** antennas

Withstand wind gusts up to **210** km/h

Lifespan of approximately **10** years

In 2017, in collaboration with Bangladesh University of Engineering, we completed four six-metre tall bamboo truss tower prototypes in Bangladesh. Their research indicates that untreated bamboo has the ability to bear the weight of concrete while possessing the rigidity and flexibility to support its own weight. Bamboo towers have the added benefit of being cheaper and faster to construct, 70% less carbon emissions, and 88% lighter compared to a steel tower. The bamboo structure has the capacity to house up to eight antennas to enable co-location. Suited to the local context, bamboo towers can withstand wind gusts of up to 210km/h, with an expected lifespan of approximately 10 years.

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Digitalising Operations

ECHO Centre at edotco Group

ECHO, our centralised monitoring system which ensures efficiency of passive infrastructure

Almost **90%** of our sites are ECHORISED

> 8,090 sites with Remote Monitoring System

> 8,600 sites with smart lock

> 9,400 sites with OSS feed

Remotely measures, analyses and optimises

- Energy load
- Battery performance
- Diesel generator performance
- Site performance
- Security monitoring

Reducing Reliance on Fossil Fuel

Installed an additional

200 solar

10 light weight wind turbine

Deployed **lithium ion batteries** at poor grid and off-grid sites

Over **696** renewable energy and alternative material sites

Deployed **free cooling systems** to completely or partially switch off air-conditioners at indoor sites

Axiata Group's Energy and Carbon Performance 2017

In 2017, our GHG emission was over 6 million tonnes CO_2e. Our largest emission is from our Indonesian operations which accounts for over 90% of total emissions. We have seen a significant increase in our annual emissions due to expansion of our network and increase in data traffic through our servers. In 2018, we will review our GHG accounting disclosure that are aligned to industry's best practices.

Direct energy consumption

766,291 GJ

Scope 1 - GHG from fuel

53,852 tonnes CO_2e

Indirect energy consumption

27,169,204 GJ

Scope 2 - GHG from grid

6,079,552 tonnes CO_2e

Commitment to our Planet and Society

Developing Effective Disaster Management and Response

Mobile networks are a vital lifeline during times of disasters and emergencies. Our network connects displaced communities, reconnect families, and provide vital situational updates for government agencies and non-government organisations.

We are signatory to the GSMA Humanitarian Connectivity Charter. The Charter aims to strengthen access to communication and information for people affected by disasters in order to reduce the loss of life and positively contribute to humanitarian response. We are committed to supporting the three principles of the Charter where we operate.

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1 Disaster Response Readiness

BCM Policy & Plans

Emergency Response

IT & Network Recovery

Annual Simulation Exercise

Business Continuity Management (BCM) policy and plan in all OpCos

2 Early Warning System

Ncell and Dialog sent over **8 million** early warning SMS to warn of impending floods in 2017

Over **1,000** weather alerts and updates on Dialog's Disaster Early Warning System

Over **16.6 million** free SMS sent by Ncell customers post-disaster

Ncell activated the **9008** emergency contact number to support customers by relaying messages to their loved ones during the disaster

Ncell increased the credit limit and opened free balance transfer for 'Saapati' customers to support emergency communications during disaster

3 Disaster Relief Partnerships

RM 300,000 over three years. Axiata Group's sponsorship of Mercy Malaysia's humanitarian missions to countries where we have a presence

Launched relief and medical missions to Bangladesh and Sri Lanka post Cyclone Mona

edotco Group's humanitarian mission Installed **69** hand-water pumps which supplied water to over **3,000** individuals living in Jamalpur and Nilphamari districts in Bangladesh

Dialog matched donations by customers to the Seneha Siyapatha Fund. The **LKR 57.5 million** collected was channeled towards construction of **37** homes

Commitment to our Planet and Society

Partnering for Sustainable Development

With our significant presence in ASEAN and South Asia, we recognise the responsibility we have to support local communities above and beyond our core services. In each of our operations, we support many causes and needs based on the national context. Our support drives a broader mission of being a partner to Advancing Asia to meet the United Nation Sustainable Development Goals. Below are highlights of some of our projects with partners.

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edotco Group's "Tower to Community"

"Tower to Community" is edotco Group's commitment to improving the lives of communities living near our towers. In 2016, a pilot project was launched in Bangladesh to provide electricity to communities living near five of our towers.

Supplied electricity from

15 tower sites to local communities

Impacted

355 families
13 mosques
12 schools
30 water purification pumps installed for families

Commitment to connect

1,000 families by 2018

Investment in Scholarship

Dialog's Merit Scholarship provides monthly bursaries to top-performing students in the General Certificate of Education Ordinary Level and Advanced Level Examinations, from all **25** districts.

The annual SmartEdu Scholarship awards Cambodia's **20** most talented students with a bursary of **USD15,000** per scholar to cover university and living allowances. Ten scholarships are awarded to students studying ICT. Since 2014, the Ncell Scholarship and the Ncell Excellence Awards recognise **16** top students studying Electronics, Electrical and Computer Engineering.

Each scholarship awarded carries a purse of **NPR100,000**.

Ncell's partnership with Gham Power Nepal Pvt. Ltd

In 2016, Ncell undertook the anchor load of solar power generated by three micro-grids of Gham Power to power two base stations in two rural villages of Okhaldhunga and Khotang districts. Excess power from the micro-grids has been used for electrification of rural communities, creating new economic opportunities and social benefits for the people.

Impact of Project Reported by GSMA

44% increase in smartphone ownership

32% increase in mobile internet usage

32% increase in refrigerator ownership by small restaurants, leading to direct and indirect economic benefits

Dialog's Dengue Reporting App

Dialog partnered with Veta (Pvt) Ltd to launch an app in response to Sri Lanka's worst dengue outbreak. The app provides real-time information for authorities and communities to mitigate and manage the spread of the dengue virus. Customers can use the app to report dengue breeding sites, suspected cases, or to confirm a case. There are over **12,000** registered users across Sri Lanka contributing to the platform.