

# CLIMATE CHANGE GREEN ENDEAVOR FOR GREEN BUSINESS OPERATION

Our Climate is changing very fast and affecting the earth adversely with its consequences. As a responsible business entity, Grameenphone is highly focused on the continuous deployment of enhanced sustainable solutions for energy efficient and environment friendly networks. The Company has an environmental roadmap which aims to promote a low-carbon society, and the first priority is to take responsibility for the CO<sub>2</sub> emission generated by its own operations. Grameenphone has set a target of reducing 30% carbon emission intensity (CO<sub>2</sub>) within 2017 from the business considering 2011 as the baseline. In this regard, Grameenphone has deployed solar power solutions in large scale which is contributing to achieve that target. With the growing trend of increased price of grid electricity and diesel, Grameenphone has now focused on deploying solar in the grid connected sites also. The Green Door of Green Energy is open now for the Green revolution by 'Building a Greener Network' with a business viable mode to gain long term sustainability. To build a low carbon sustainable network, Grameenphone swapped its core and base station equipment with more energy efficient modern equipment; approx. 43% energy and emission savings over previous systems along with more space efficiency.

As a continuation of this environmental roadmap, in the year 2015, Grameenphone took the below major climate change initiatives:

## Green Initiatives:

### A. Carbon (CO<sub>2</sub>) emission reduction

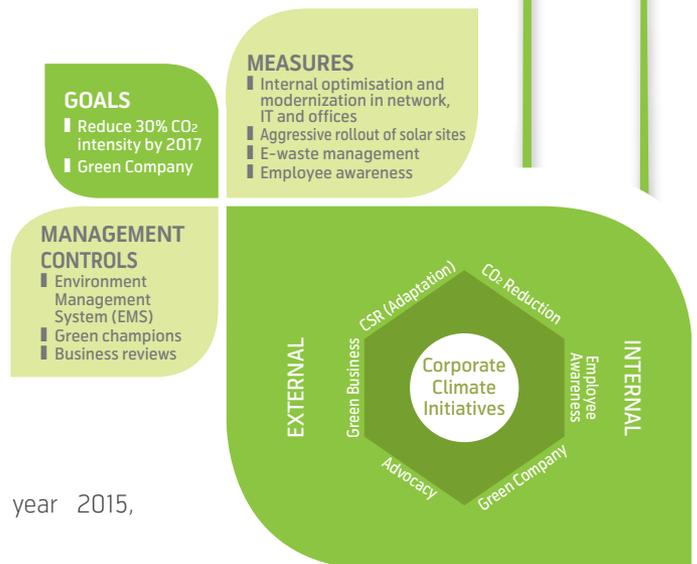
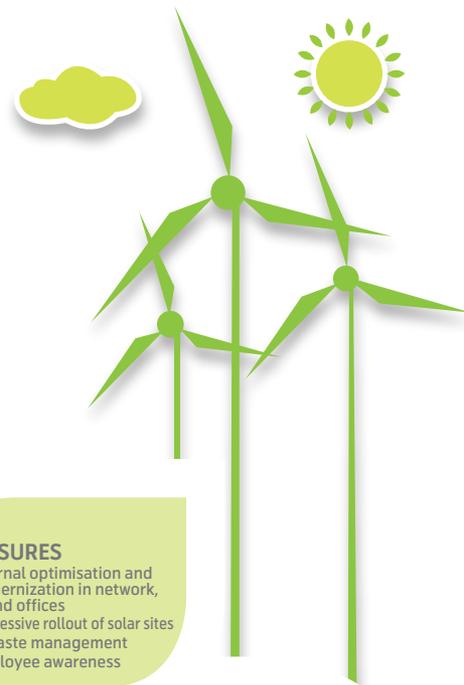
#### Core Site Consolidation and Optimisation Project (NANO Project)

The NANO project started with the aim of consolidating and optimising the core locations to reduce power and fuel consumption and thus achieve significant carbon reduction. Replacing 22 locations with 9 that are energy-efficient, have higher capacity and a smaller footprint using modern equipment has saved approximately 11 GWh of electricity and 369,000 liters of fossil fuel, which translates to a reduction of around 5,960 tons of CO<sub>2</sub> per year. In the past years we have consolidated and optimised 12 sites. In 2015, we have vacated 1 more switch site under this NANO project, which has saved 4,368 liters of fossil fuel, 1.65 GWh of electricity and more than 1 thousand tons of CO<sub>2</sub> emission.

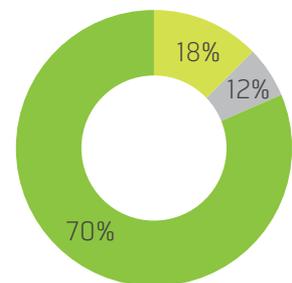
#### Solar Powered BTS

To deal with the energy crisis in Bangladesh, Grameenphone initiated the renewable energy project in 2007 to ensure uninterrupted voice and data communication services to its customers.

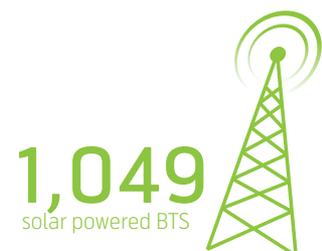
As of now, total 1,049 Grameenphone base station sites are running on solar power. In 2015 alone, Grameenphone has deployed solar power at 447 sites. These solar powered base station sites reduce consumption of around 800,000 liters of fossil fuel and more than 2,400 tons of CO<sub>2</sub> emission annually.



### Use of Energy



■ Networks ■ Transport ■ Office



### Site Management Unit (SMU)

Site Management Unit is a device invented by two Grameenphone engineers, primarily to control access at base station sites, however, the SMU letter became a smart solution to control all passive elements remotely located at large number of base station sites across the country. As an outcome of this solution, in addition to other different operational efficiency gains, physical site visits for various activities like generator health checkup, battery condition checkup etc. can be avoided significantly. In 2015, Grameenphone has installed SMU in more than 7,000 sites in its network, which has helped eliminate 907,360 KM of travel and 181 tons of CO<sub>2</sub> emissions annually.

### Project LED Lights

The first phase of the Project LED Lights was to replace all CFL lights by LED lights at Nitol Niloy Tower (Call Center). Total 850 CFL lights have been replaced with LED lights which will save around 96.80 MWh electricity and 58 tons of CO<sub>2</sub> emission annually. The target is to cover all regional offices and GPHouse by 2016.

### MoU with RenCat Aps, Denmark for fuel cell solution

In July 2015, Grameenphone signed a Memorandum of Understanding (MoU) with Denmark-based RenCat Aps that is developing a patent pending fuel processing technology to process Ammonia to Proton Exchange Fuel Cell grade hydrogen without using a palladium membrane. Under this MoU, Grameenphone will help RenCat to further develop and mature its unique energy efficient solution which will reduce Carbon emission significantly, compared to existing diesel generator based solutions.

### B. Green Company

#### E-waste management: Agreement signed and recycling started

To recycle all the e-wastes generated since the inception of the Company, a project titled "Eraser" has been initiated in 2015. In this regard, a tri-party agreement has been signed on 31<sup>st</sup> March'15 and handover of e-waste started from 1<sup>st</sup> August'15. As of today more than 179 tons of e-waste (GSM and microwave antennas and other electronic accessories) have been handed over to the recycle partners. As part of this recycling process, all hardware, except the circuit boards have been recycled to recover the constituent iron, aluminum, stainless steel, copper, and plastic for reuse. The circuit boards have been exported to vendor facilities to recycle through electronic waste treatment.

The materials are being recycled in Bangladesh and abroad in accordance to ISO 14000, OSHAS 18000, and R2 standards.

### Secondary Containment Solution for Generator Fuel Tank

As a part of preserving the natural resources and prevent water & soil pollution from petroleum contamination, Grameenphone has initiated a project 'Secondary Containment Solution' for generators' fuel tanks in 2015. A secondary containment system provides an essential line of defense in the event of a failure of the primary containment and eliminates the risk of environmental contamination. This solution has been implemented in all the 1,802 generator sites all over the country.

### C. Green Services

#### Paper savings through e-bill

Grameenphone introduced electronic bill service in 2009. Starting with only 4,000 subscribers, it has gained popularity over the years. Recently, the total e-bill subscriber base reached the 100 thousand milestone. The e-bill service provides various advantages. It is the fastest and most secure way for subscribers to receive monthly mobile bills. It also enhances efficient operation in bill distribution by Grameenphone. Most importantly, approximately 250 trees have been saved per year since this service was initiated.

### D. Initiatives undertaken for awareness/consciousness purposes

#### Awareness Programs

Grameenphone always encourages and promotes various internal awareness programs as well as advocacy programs with many external stakeholders. A few such initiatives, held in 2015, are: Sponsorship National Environment fair, Celebration of Earth Hour 2015, participation in a round table discussion arranged by French Embassy in Dhaka etc.

Overview

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