Harnessing the Sun and the Wind: The SMART Story

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19 November 2008

“Among the leading mobile network operators we surveyed for our Green Power for Mobile programme, SMART emerged as the operator that has most extensively deployed stand-alone wind-powered cell sites…”

- GSMA Development Fund



Points of Concentration

North Luzon:

ga, Nueva Ecija

South Luzon: Batangas

Visayas:

Mindanao:

Areas

ngas,

a, Kali

vi-Taw

for Y

SMART's desire to meet its subscribers' needs led to the increase in the usage of power-hungry equipment & technology.





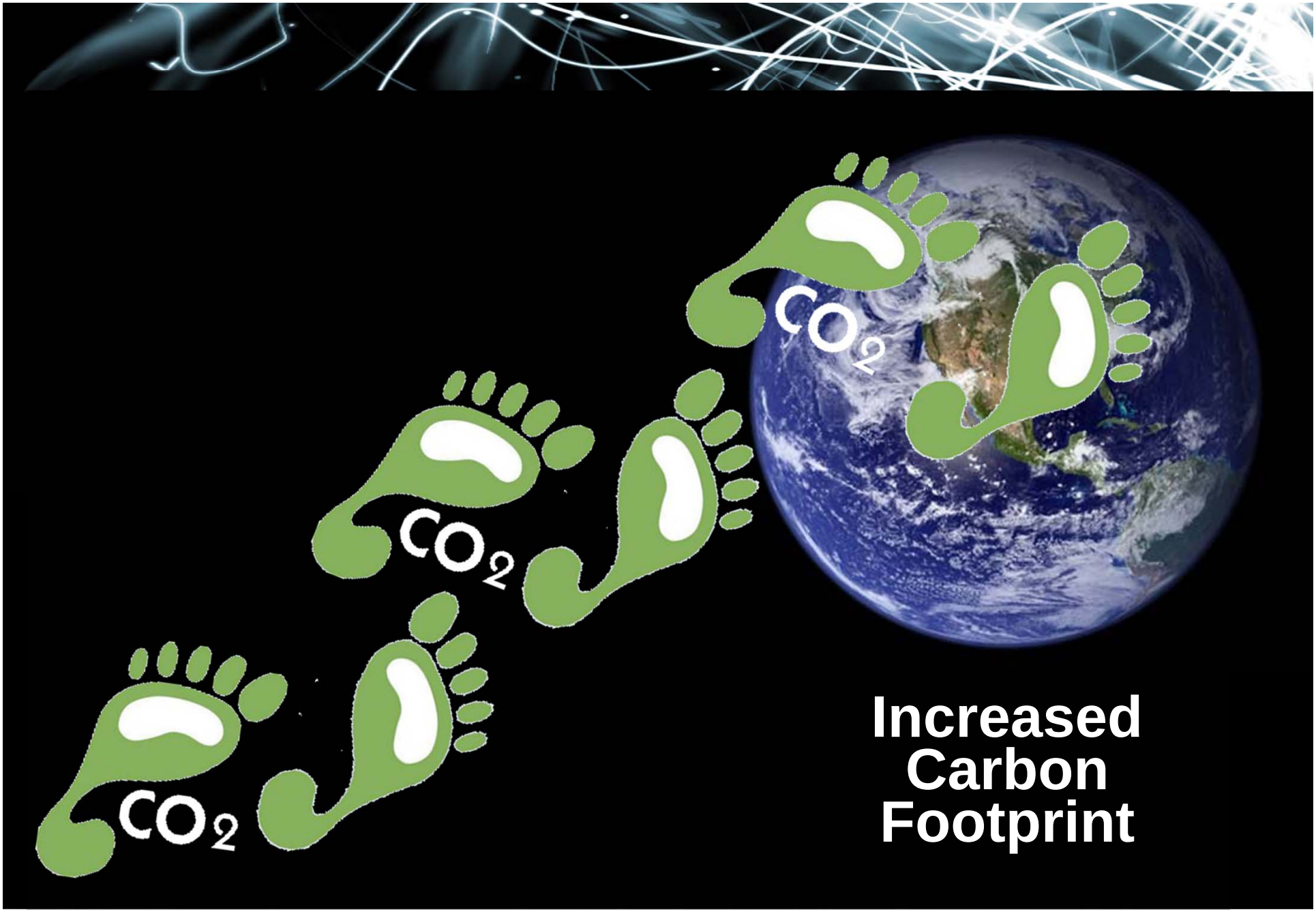


High Power Demand

Increased Operational Expenses






CO_2
CO_2
CO_2
Increased
Carbon
Footprint

SMART Env't Initiatives

Increased energy prices

Global warming







Tree Planting

Energy Efficiency Measures

Alternative Energy


Climate
Change

SMART utilized renewable energy sources



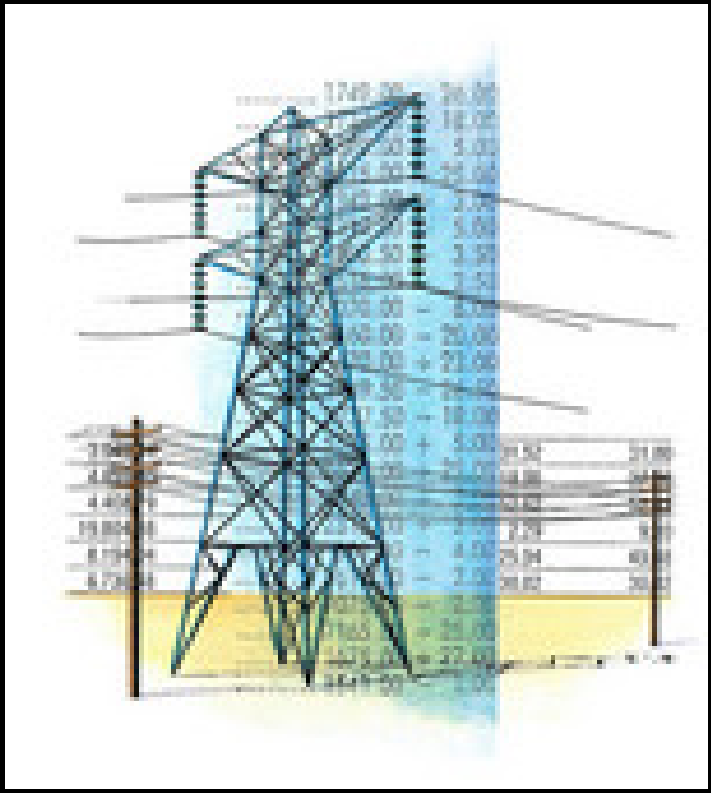
Solar Power



Wind Power

Use of renewable energy sources led to

Reduced OPEX



Reduced Carbon Emissions



Renewable Energy Systems



Reliable

Efficient

Economic

Alternative

Renewable Energy Systems







Minimal Maintenance

Very Low Electricity Cost

No More Fuel Hauling Costs to Off-Grid Sites

Diesel cost is expensive





Malapascua Cell Site



BEFORE Deployment of Wind-Powered BTS:

2,000 liters of diesel/month

Fuel Cost:

P82,000 ($1,700)

Fuel Hauling Cost:

P30,000 ($612)

Malapascua Cell Site



AFTER Deployment of Wind-Powered BTS:

P3M ($63,000) SAVINGS on first year

P41M ($800,000) SAVINGS for 2008

P103M ($2M) SAVINGS for 2009

How did we do it?

Resource-rich Country



The Philippines is in a strategic location

7,100 islands

Thousands of kilometers of coastlines

Several areas with high potential wind density







Resource-rich Country



Malapascua Island

A small Philippine island rich in wind resource

White sand beach resorts

Famous dive spot







Resource-rich Country



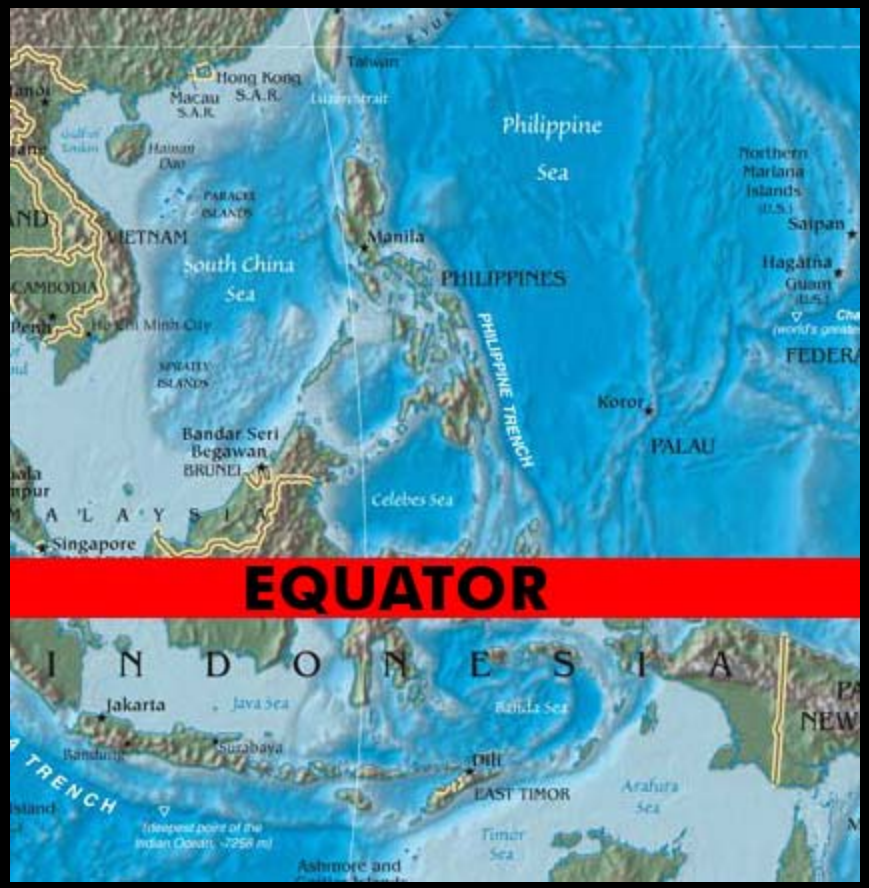
Malapascua Island





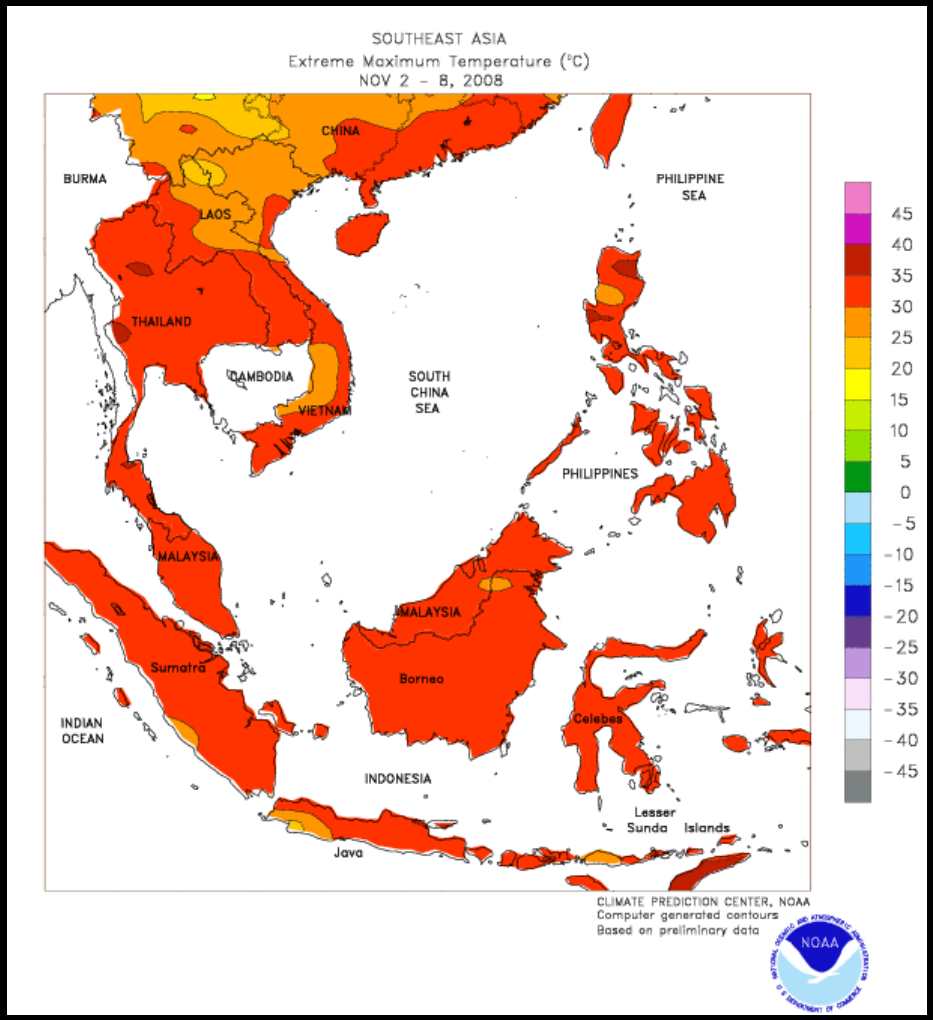
Home of the FIRST wind-powered cell site in the Philippines

Resource-rich Country



The Philippines gets an average daily insolation of around 5-kilowatt hour per square meter per day

Resource-rich Country



Nov. 2 -8, 2008

Extreme Maximum Temperature (° c)

PHILIPPINES:

30-35° c



It was



necessary to find alternative power solutions.

Hard work



Our engineers collaborated with our vendors and contractors in the deployment of wind-powered and hybrid sites











Hard work

Built internal expertise on deploying wind- and hybrid-powered cell sites

Optimized existing infrastructure to reduce CAPEX

Customized wind turbine tower placements

Pushed for hybrid solution

Hard work





Our vendor continues to look for ways to improve the performance of the wind- and hybrid-powered cell sites

Our engineering team and our vendor work together to address operations issues experienced

Management support



Management support was critical in the success of the implementation of use of renewable energy sources to power cell sites

Management support





Philippine media took note of the positive impact of wind-powered cell sites

We at SMART believe that protecting the environment is everyone's business.











Next Steps

Areas Recommended for Installation:

Catanduanes, Appari, Masbate, Batangas, Zambales, Palawan, Aklan, Aurora, Batangas, Cagayan, Cebu, Ilocos, Iloilo, Isabela, Kalinga, Palawan, Romblon, Sulu, Tawi-Tawi, Davao, Surigao

No. of Alternative Power Systems to be Deployed:

Y2009 – 45 Sites

Y2010 – 45 Sites

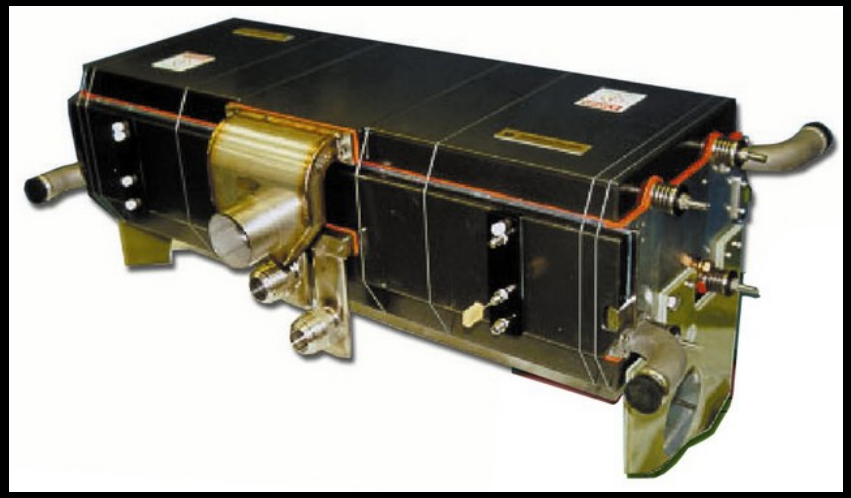
Y2011 – 30 Sites

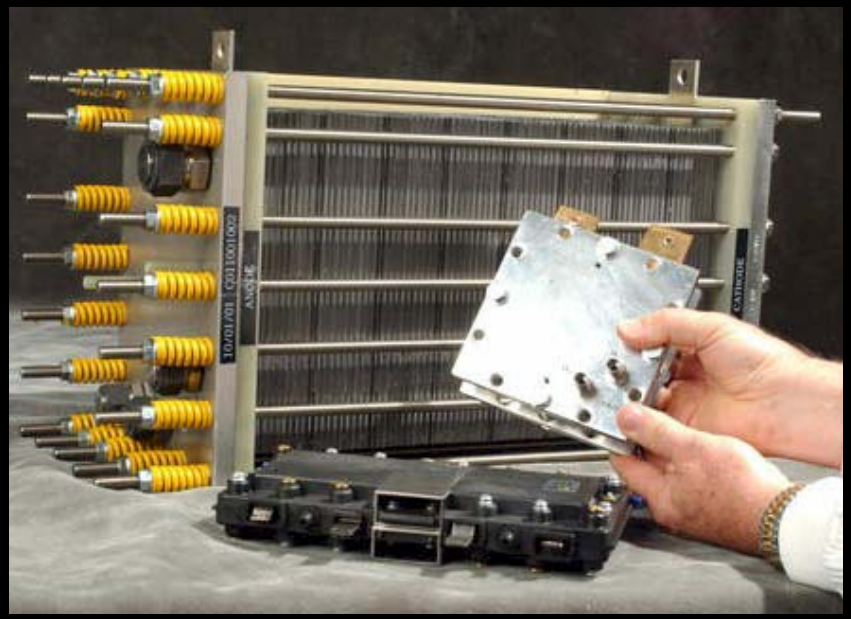
Next Steps



Parent company PLDT is also now adopting renewable energy solutions for 50 of its engineering sites

Next Steps





Fuel cell technology experiments are being conducted by the SMART engineering team

The implementation of hybrid wind- and solar-powered cell sites is one of SMART's response to the global call to help the environment.








Thank you

The Sundance Promise

If you will open yourself to the natural environment, the people around you, the timeless principles, you will find personal and simple life with it, to work in harmony with it, to influence it, even to cultivate it.