GSMA Conference
Ghana
November 2012

High Level Energy Efficiency Strategy

Reducing cost and risk



Decrease energy consumption

Equipment & Network design

Design & optimization

- Tune/upgrade/phase out Access equipments
- Implement innovative equipments designed to be more energy efficient
- Consolidated / Phased out legacy switching equipments.

Site Environment

Energy Consumption Optimization

- Implement innovative cooling system for switching sites, data centers and Access sites
- Optimize power plant overall electrical design

Decrease energy cost

Energy Production & Storage

Optimization

- Engage substitution for fuel on off-grid & poor grid sites (deep cycle batteries, alternative energy, hybrid systems…)

Energy Processes

Planning & Optimization

- Implement Energy Operating Support System:
  - to improve energy operational processes and Carbon footprint collection
  - to plan & optimize the energy design and capacity vs. telecom traffic.

What are we doing?

- To date
  - Board of directors & executive committee commitment to reduction of no less than 50% of CO2 emissions;
  - Established global strategy;
  - Projects;
    - Solar/hybrid airflow cooling systems selected sites and operations
    - Greener and more efficient gensets
    - Cost benefit analysis study currently in progress within several operations
    - Optimization through software and equipment upgrades
    - Sale of towers and site sharing opportunities
    - Battery regeneration program for good grid sites
    - Tendering – management system for the capturing and recording of information to meet CDP requirements
    - Established e-waste management plan
  - Capturing energy efficiency programs from local operations including information of grid suppliers

OBJECTIVES

MIC Board of Directors and Executive Team committed to the reduction of business CO2 emission of no less than 50% by 2020.

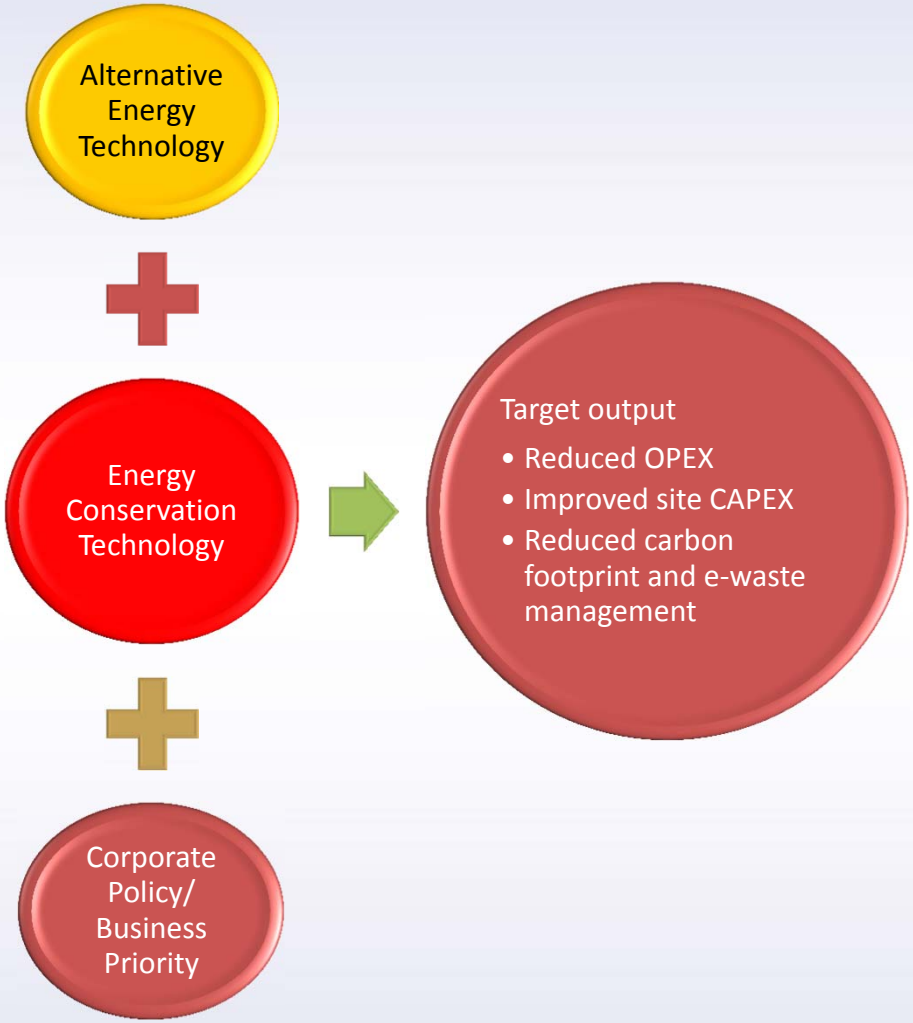
The requirements to disclose the business carbon emission annually hence the MIC CDP program.

Initiate and lead business energy efficiency program which can deliver former as well as reduce CAPEX and OPEX for business functions.

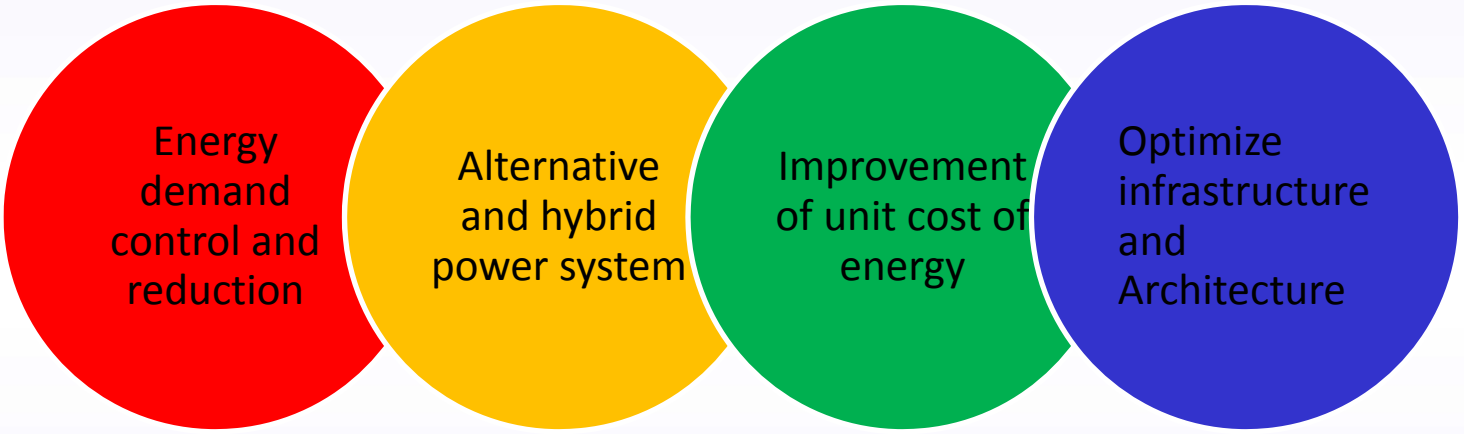
A bottom approach to solution initiation and implementation of the program under the leadership of the Global office.

Collection and disclosure of Carbon Emission in 2012 business year by February 2013 for the Group end of year report.

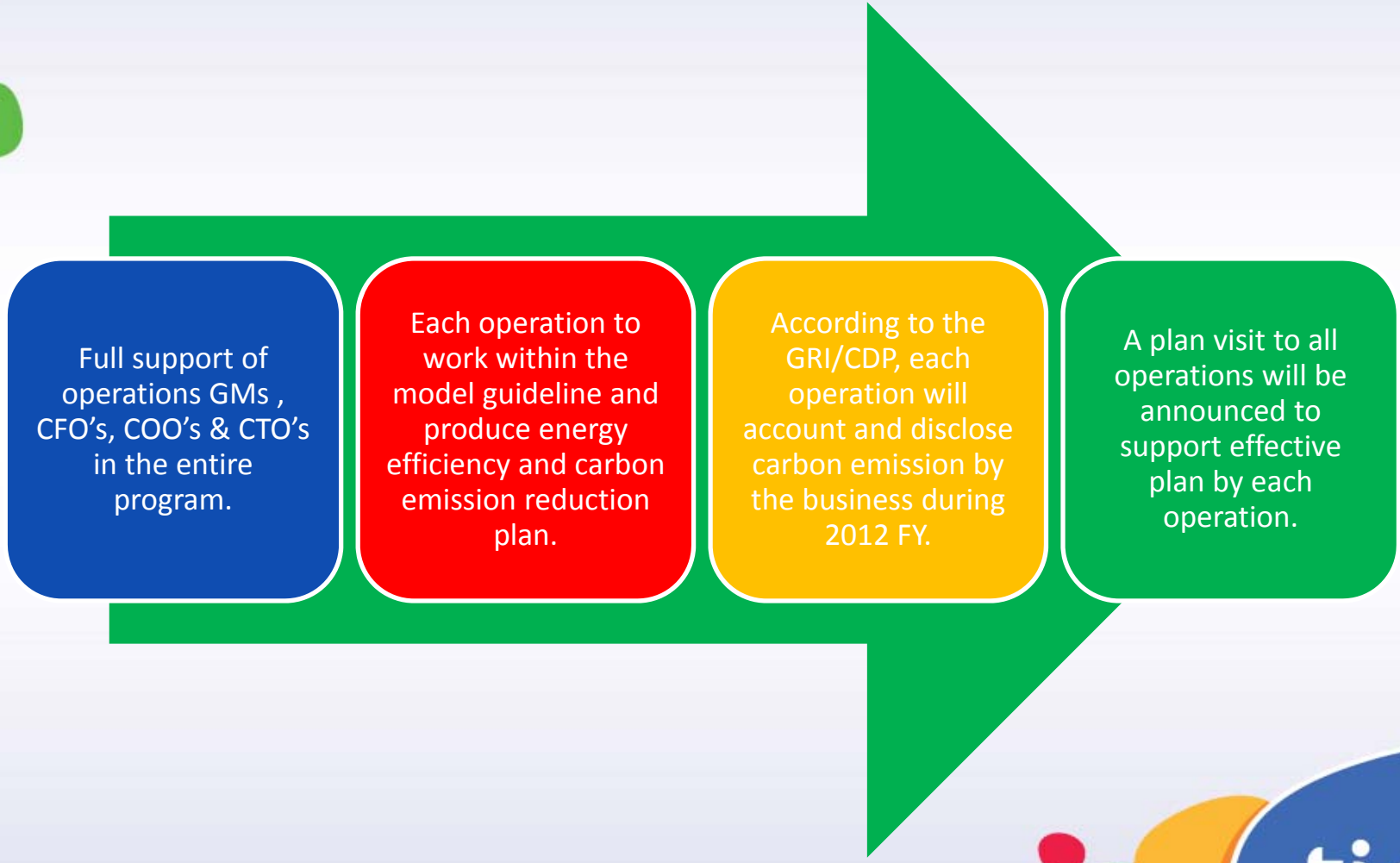
GOVERNANCE MODEL OF NETWORK ENERGY



CONCEPTUAL MODEL FOR IMPROVEMENT



WHAT WE EXPECT



What are we doing?

- To future
  - Identify realistic approach and program of energy reduction & CO2 across all entities of business operations;
  - Network upgrades;
  - Site sharing and potential for future tower sales;
  - Work with our tower providers
  - Tie in e-waste equipment with suppliers global & regional operations;
  - Continue to view alternative solutions working with suitable vendors;
  - Benchmarking;
  - Carbon offsetting:
    - Community projects with payback seen as a biproduct.

Questions