Reducing our Carbon footprint

An Overview of initiatives.

GSMA green power working group. Cairo. March 2010

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Contents

- Mobinil's Environmental Management System;
  History. Scope. Aspects and impacts.
- Reducing our carbon footprint;
  Egypt's carbon credit projects. Mobinil's initiatives
- Focus on Ras Mohamed Site; a success story
- Executive summary

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About Us.. The leading mobile operator in Egypt

Mobinil.. facts and figures

- Established May 1998
- Over 25 Million subscribers… the largest customer base in the Mideast.
- Offering 2G and 3G voice and data
- Roaming agreements w 140 countries

Egypt Telco Facts

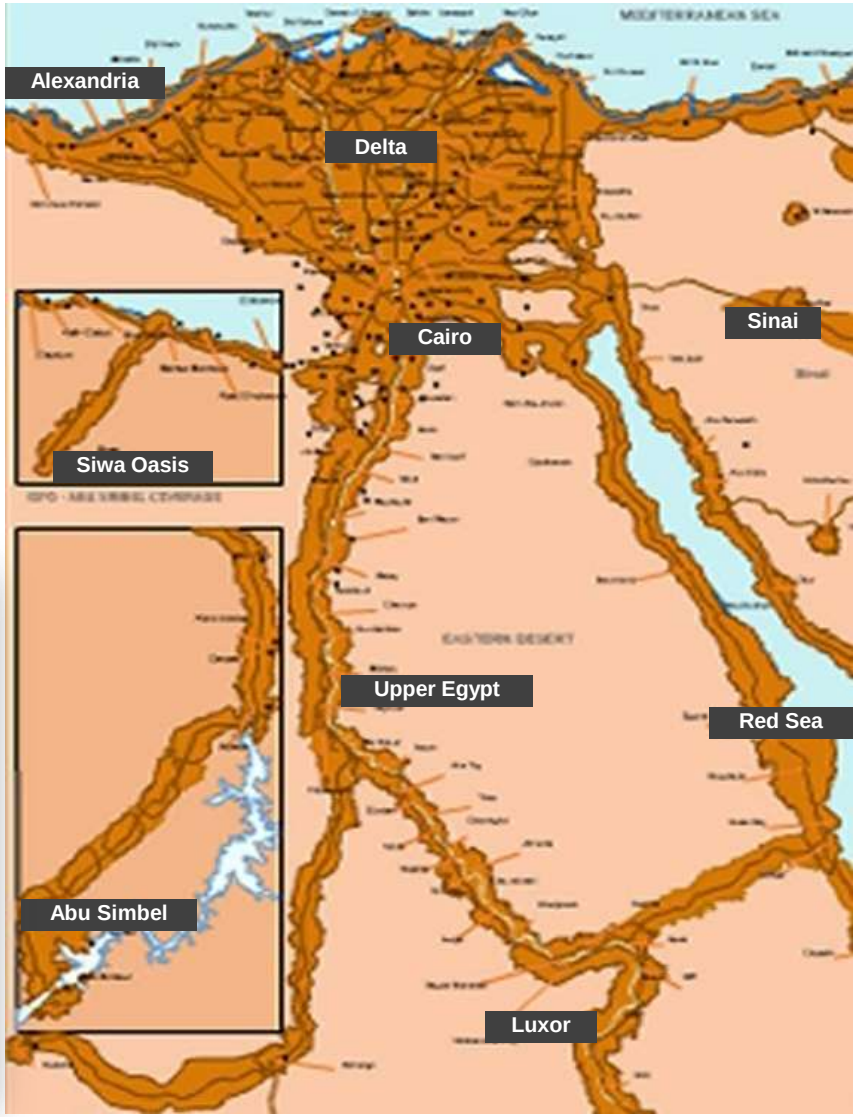
Mobile:
Penetration: 65%
Subscribers: 51M

Fixed phone:
Penetration: 17%
Subscribers: 14 M

Internet:
Penetration: 16%
Subscribers: 12 M

Population (in Egypt)	78M
Population distribution	43% urban; 57% rural
< 25 years of age	58%
Adult literacy rate (%age 10+)	57%
Area (km^2)	997,739
Inhabitants	around 97% of inhabitants live on 4% of land area
GDP (2007 est.)	$142.8billion
GDP per capita (nominal)	$ 1,870

Macro indicators. EOY 09



Mobinil coverage reaches 99% of populated areas

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Mobinil's ISO 14001.

- Implemented a structured EMS [Environmental Management System] since inception in May of 1998.
- EMS successfully audited by TUV Bayern. ISO 14001 certificate awarded in 2001
- A yearly review was made since then in addition to two major audits in 2004 and 2007 to ensure compliance.



ISO 14001 Perimeter

1. **Network structures** [cell sites, switching centres, other]
2. **Headquarter offices**
3. **Shops and POS**
4. **Warehouses, admin buildings and fleet cars**



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Aspects and impacts

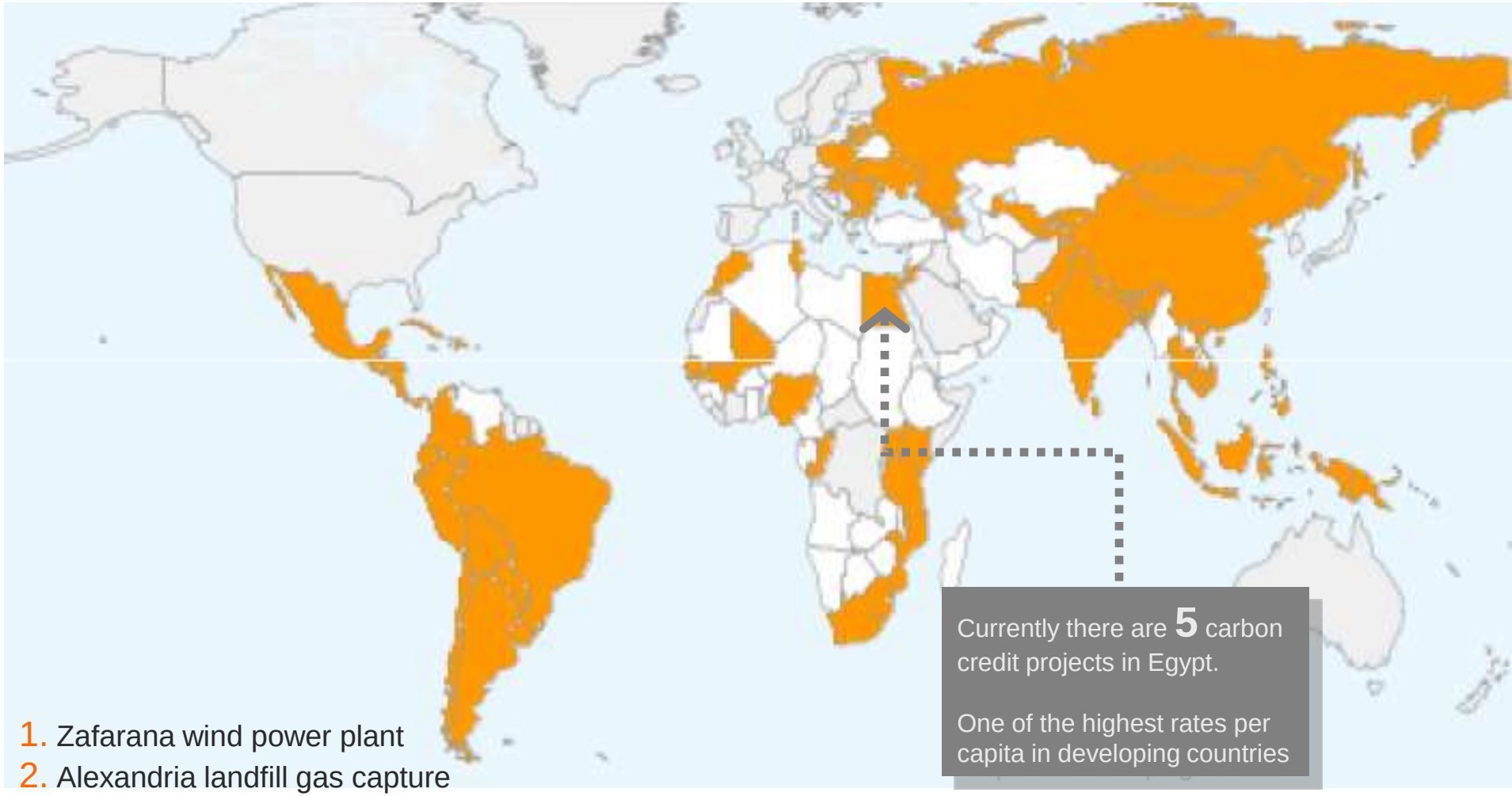
mobinil

What do we do?	How does it impact the environment?	
Running and maintaining a cellular network	Emissions	Electro-magnetic fields
		CO, CO2, CH4, NO2 and chlorofluorocarbons
		Noise
		Ozone depleting gases
		Visual impact
Selling airtime, products, services, and handsets	Solid waste	Electric and electronic equipment
		Shredded paper and cardboard
		General [plastic, glass, aluminum]
Billing and charging customers	Resource consumption	Water
		Fuel
		Power
		Raw materials
Standard office activities		

We have established *sustainable* programs to reduce or eliminate EACH of the above environmental impacts… some have been running for 10 years already.

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Carbon credit projects.



Currently there are **5** carbon credit projects in Egypt.

One of the highest rates per capita in developing countries

1. Zafarana wind power plant
2. Alexandria landfill gas capture
3. Analytic N2O destruction
4. Egyptian brick factory GHG reduction
5. Waste gas based co-generation

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1. Actions: Network and IT

Solar power in cell sites

- Photovoltaic cells deployed to 70 sites across Egypt.
- **Generated renewable power:**
  … In 2008: 220MW..
  … In 2009: 380MW





- Plans to reach 100 sites in [600MW] generated by end of year
- Experimenting with hybrid solutions.

GSMA Green Power Working Group

Ambitious targets. But we'll get there…

- Reduce CO2 emissions by: 6 M T
- Cut diesel consumption by: 2.5 M L





Regional Green Sites DB

www.wirelessintelligence.com/green-power

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2. Actions: Travel

Video conferencing and Content sharing

- **Tele-Presence. Video conferencing**





- **Content sharing:**

… E-Learning tools

… FT Coop|Net. Others.



Voluntary Emissions Reduction VER

- Reducing effect of company carbon emissions through investment in green projects.
- Equivalent offset CO2 in 2008 and 2009: 1500 Tons





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3. Actions: Properties

Energy efficiency

- Building management software for AC and lighting conservation.
- Energy saving lighting systems and fixtures.
- Using Photovoltaic cells to power Smart Village building banners.
- Preventive fleet maintenance



- **Energy efficiency programs in all headquarters.**

Smart Village



Mobinil increases efficiency of energy consumption in SV

As part of Mobinil's continuous efforts to ensure that energy is efficiently utilized, we are pleased to announce that as of Thursday February 11, 2010, Smart Village lighting arrangement will run on an automated schedule where 75% of the current installed light fixtures will be switched off daily from 10:00 pm to 07:00 am.

Nile City



Mobinil increases efficiency of energy consumption in NC

As part of Mobinil's continuous efforts to ensure that energy is efficiently utilized, we are

Awareness

- Participating in national drives
- Spreading awareness. Internally and externally.



- Supporting key projects aiming to reduce energy consumption …like **Universal Charging Solution**



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A success story.. Ras Mohamed. Sinai: 1 of 2

Summary:

- Ras [or Cape] Mohamed; world famous scuba diving spot.. an area with diverse marine life, one of its kind.
- Declared national park in 1983.
- Key tourist spot with thousands of roaming visitors

Business drivers:

- Location off the power grid. Fossil fuel generators not feasible had to think of a solution with minimal impact.
- Less than 25 mm of rain a year, abundance of sunshine
- Solar technologies became available.
- Economic and socially responsible.



Site name	Ras Mohamed.
Location	South Sinai, Egypt
Coordinates	UTM 36X: 620437
	UTM 36Y: 3070768
Date of implementation	May, 2005
Power generated from PV system	1100 KWH
Saved carbon emissions per year	50 Tons each year since then.. Totals: 250 Tons since start

A success story.. Ras Mohamed. Sinai: 2 of 2

Challenges:

- Severe limitations on construction, licensing and site accessibility were serious issues.
- High start-up cost of PV solution



Benefits:

- 50 Tons of carbon emissions eliminated every year. 250 Tons since start
- Very secure solution with zero downtime and low OPEX.
- Gained autonomy on power supply and encouraged local employment.
- Enhanced company image as a good corporate citizen.

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Executive summary

- Solar and other renewable energy solutions are very economic considering the following points:
  1. In areas that are off the power grid
  2. In light of rising [or at least unstable] fuel cost
  3. With the ability of selling carbon credits. Earned by green projects in developing countries.
- Solar solutions are much more appealing with smaller power loads [1100 Watts and less]
- Process of registering projects for carbon credits is costly, complex and not worthwhile for one operator.
- Member operators [in GSMA's green power] should team up and make a collaborative application.

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The ORYX project

A comprehensive solution for arid regions



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What about ORYX?

1. Compliant to E-ventilated outdoor cabinets supplied by Huawei, Alcatel and Ericsson TSI standards
   - Temperature range: -33°C to +50°C
   - Hygrometry range: 5% to 100%

2. Ventilated transmission racks

1. 100% solar power plants or with genset back-up.
   - Guarded 24h / 24
   - Sized. Truly low cost solution
   - Equipped with anti-theft device
   - Monitored via GPRS or network
   - Scalable
   - Serviced by supplier under SLA

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1. **OPEX**
   - Simpler maintenance
   - Refueling costs removed or drastically cut down
   - Remote monitoring

2. **Energy autonomy**
   - Faster rollout
   - Flexibility
   - Grid connection saving
   - Reliability and quality of power supply

3. **Extended guarantee on equipment.**
   - 5 years for batteries
   - 4 years on control units
   - 25 years on solar panels

4. **QoS Improvement**

5. **Scalability**

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Thank you

Questions?

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