IFC International Finance Corporation
World Bank Group

In partnership with the Ministry of
Foreign Affairs of the Netherlands

Green Power for Mobile – Doha Workshop

April 2012

Agenda

- Background
- International Finance Corporation
  - Who are we?
  - What do we do in Telecom sector?
  - How do we finance?
- Green Power for mobile
  - Possible financing structure along the value chain
  - Barriers & Challenges
  - Potential business models
  - Next Steps & GPM2

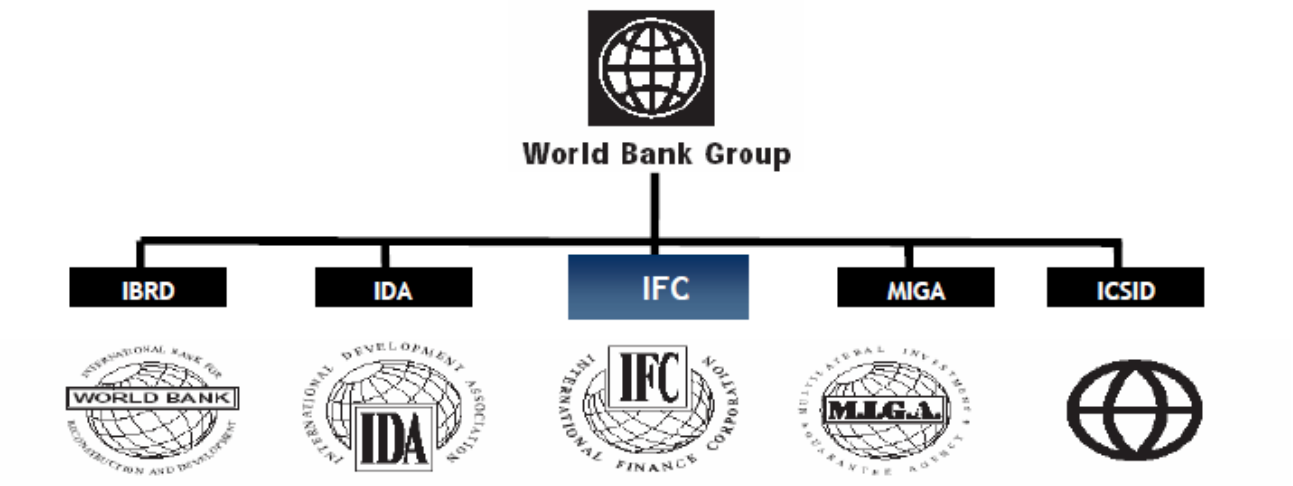
Green Power for Mobile – A GSMA / IFC Joint Program

- Background: Green power for mobile launched in 2008 with the objective to encourage mobile operators to adopt green power solutions at off-grid cell sites to reduce diesel consumption, operating cost and carbon emission through
  - Renewable energy solutions
  - Energy efficiency equipment
  - Energy optimization
- Achievements:
  - Technical feasibility study with 23 operators in countries
  - Green power design tool using "HOMER" and its training program
  - Knowledge sharing through Working Group meetings, database, publications
  - 12,070 sites by 44 MNOs in 36 countries (2011) from 8,876 sites by 27 MNOs in 25 countries (2009)
- IFC contributions:
  - GPM program co-funder through cash-contribution with developmental objectives since 2009
  - In partnership with the Ministry of Foreign Affairs of the Netherlands
  - Dedicated regional resources in India and Africa (+ East Asia Pacific planned)
  - Dedicated Advisory Service and Investment Officer at global level

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IFC Overview



- IFC, founded in 1956 with 182 member countries, is the private sector arm of World Bank
- Largest multilateral source of loan/equity financing in Emerging Markets
- Promoter of environmental, social, and corporate governance standards
- Contribute to the World Bank's mission poverty reduction through annual donation to IDA
- Takes market risk with no sovereign guarantees
- Resources and know-how of a global development bank with the flexibility of a merchant bank
- Over 102 offices worldwide in 92 countries with 55% of IFC's 3,438 staff in field offices.
- Over $97 Billion Invested Since 1956 & holds equity in 722 companies worldwide across all sectors

The World Bank and IFC Work Together

World Bank TMT Policy Team

Works with Governments to facilitate:

- Investment climate policies
- Legal and regulatory policies
- Media best practice guidelines
- Selective PPPs

IFC TMT Team

Works with Private Companies to ensure:

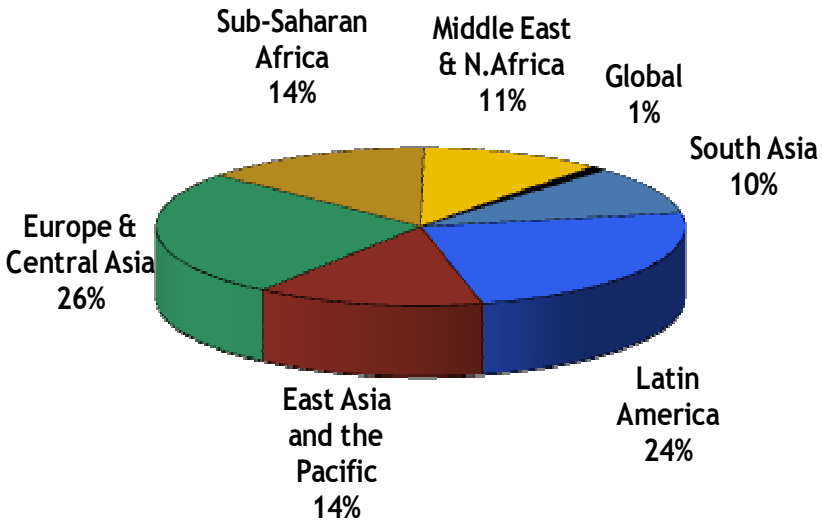
- Sound Economic fundamentals
- Sufficient Financial Strength
- Sensitivity to the Community
- Profitable Investments

IFC Investment Overview

- AAA-rated by S&P and Moody's
- Equity, quasi-equity, loans, risk management and local currency products
- Finances projects worldwide across the following sectors:

-Agriculture
-Manufacturing Service
-Infrastructure
-Telecoms, Media & Technology
-Financial Markets
-Health & Education
-Oil, Gas and Mining

IFC FY2011 Highlights	
Total Portfolio	$42.8 billion
Committed in 2011	$12.2 billion
Mobilized (3rd parties)	$6.5 billion
# of Companies	1,737
# of Countries	127



IFC Financing in TMT

Telecoms	Media	Technology
Satelitte	Infrastructure	Data Centers
Submarine Cable	Applications	e/m Payments Systems
Wireless/Cellular	Content	Information Security
Fiber Backbones	Incubators	IT Enabled Services
Broadband		Hardware/Devices
Managed Services		
Towers		
Green Power for Mobile		

Cross Cutting Venture Investments

Greenfield Projects to Corporate Expansions

IFC Financial Products

Equity

- Private Equity (including Venture Capital)
- Typically 5-20% shareholding
- Long-term investor, typically 4-8 year holding period
- Not just financial investor, adding to shareholder value
- Board position on case by case basis

Mezzanine/Quasi Equity

- Subordinated loans
- Income participating loans
- Convertibles
- Other hybrid instruments

Risk Management

- Currency & Interest Rate Swaps
- Cap, Collar and Currency Derivatives
- Commodity Derivatives

Senior Debt & Equivalents

- Senior Debt: Project Finance or Corporate Finance
- Fixed/floating rates, US$, Euro and some local currencies
- Commercial rates, repayment tailored to project/company needs
- Long maturities: up to 15 years, appropriate grace periods
- Range of security packages suited to project/country
- Islamic Financing alternatives available
- Mobilization of funds from other lenders and investors; 1. through IFC's B loan Syndication Program loan arranger role, 2. arranging parallel financing from other banks and Development Finance Institutions

How We Finance Projects

Investment Type	IFC Investment
Greenfield, total cost less than $50 million	Up to 50% of incremental investment
Greenfield, total cost more than $50 million	Up to 25% of incremental investment cost for IFC's account
Expansion or Rehabilitation	Up to 50% of incremental investment cost
Ability to mobilize funding from Banks, DFIs and PE funds	Mobilization of 3rd financing

- Total funding for own account cannot exceed 35% of total capitalization (debt & equity)
- Umbrella for participants in IFC's syndication program: IFC lender of record, immunity from taxation and provisioning requirements.

Recent Investment in Telecoms and Media

WORLD REGION O3B **US$ 71,510,000** Loan, Mezzanine-Loan, Equity **US$ 190,00,000** Parallel Loans **Lender & Lead Arranger** Satellite Infrastructure	Africa Region EMC **US$ 19,500,00** Loan, Quasi-Equi **$ 10, 000,000** Parallel loan **Lender, Investor & Lead Arranger** VSAT Infrastructure	ARGENTINA TIBA **US$ 10,000,000** Mezzanine-Loan **Lender** Satellite Infrastructure	NIGERIA IHS **US$ 39,000,000** Equity **Investor** Towers
Mauritius, NIGERIA & AFRICA REGION Helios Towers **US$ 104,000,000** Loan, Mezzanine-Loan, Risk Management **US$ 44,00,000** Syndicated Loan **US$106,000,000** Parallel loans **Lender & Lead Arranger** Towers	DOMINICAN REPUBLIC Wind Telecom S.A. **US$ 23,520,000** Mezzanine-Loan, Equity & Risk Management **US$ 12,00,000** Syndicated Loan **Lender, Investor & Lead Arranger** Triple Play	WORLD REGION Altobridge **US$ 5,000,000** Equity *World Economic Forum -2012 Technology Pioneer and WSJ - 2011 Technology Innovation Award* **Co-Investor** Hardware & Software	IRAQ Zain Iraq **US$ 155,000,000** Loan **US$ 50,000,000** Syndicated Loan **US$195,000,000** Parallel loans and Loan Pool **Lender & Lead Arranger** Mobile
WEST BANK AND GAZA Wataniya Palestine **US$ 30,000,000** Loan Wataniya WB IPO **US$ 5,000,000** Equity **Investor & Lender** Mobile	GHANA Vodafone Ghana **US$ 100,000,000** Loan, Quasi-Loan **US$ 33,250,000** Syndication **US$ 81,750,000** Parrallel Loans **Lender & Lead Arranger** Mobile	AFGHANISTAN MTN **US$81,400,000** Loan and Equity **Lender & Investor** Mobile	CAMBODIA CamGSM **US$40,000,000** Loan **US$ 60,00,000** Syndicated Loan **Lender & Lead Arranger** Mobile
PACIFIC FACILITY- FIJI, KIRIBATI, SAMOA, TONGA, VANUATU **US$ 51,000,000** Loan **Lender** Mobile	Panama **US$ 50,000,000** Loan **Lender** Mobile	Honduras **US$ 70,000,000** Loan **Lender** Mobile	PAPUA NEW GUINEA **US$ 120,000,000** Loan **Lender** Mobile
GHANA Airtel **US$ 90,000,000** Mezzanine-Loan & Equity **US$ 57,500,000** Syndicated Loan **Lender & Lead Arranger** Mobile	CHAD Millicom Chad **US$ 21,200,000** Loan **Lender** Mobile	COLOMBIA Tigo Colombia **US$ 40,000,000** Loan **Lender** Mobile	DRC Millicom DRC **US$ 50,00,000** Loan **US$ 30,00,000** Syndicated Loan **Lender & Lead Arranger** Mobile

GUATEMALA Comcel S.A. **US$ 35,00,000** Loan **US$ 100,00,000** Syndicated Loan **Lender & Lead Arranger** Mobile	BURUNDI Leo Burundi **US$25,000 000** Loan **Lender** Mobile
BOLIVIA Telecel **US$ 40,000,000** Loan **Lender** Mobile	

BURKINA FASO Onatel IPO **US$ 20,220,000** Loan $ Equity **Investor** Fixed Telephony	LEBANON Mobinets **US$ 2,000,000** Equity **Investor** Telecom Services
TURKEY AVEA **US$ 120,000,000** Bridge & Senior Loan **Arranger & Lender** Mobile	*Trade Finance magazine "ECA Backed Deal of the Year"*

Recent Investments in the Technology Sector

Brazil Softwell **US$ 4,800,000** Equity **Investor** Software	CHINA CDV **US$ 11,000,000** Equity, Quasi-Equity **Investor** Software and IT Services	CHINA GDS **US$5,714,000** Equity, Follow-On Equity **Investor** Data Center	Russia Asteros Group **US$ 22,500,000** Equity, Loan Warrants for $10.6 million **Investor and Lender** Data Center
CHINA EDC **US$ 20,000,000** Quasi-Equity **Investor** Data Center	SOUTH AFRICA Teraco **US$ 4,980,000** Equity, Mezzanine Loan **Investor and Lender** Data Center	UKRAINE DeNovo **US$ 3,500,000** Equity **Investor** Data Center	ARGENTINA Grupo ASSA **US$ 10,000,000** Equity, Mezzanine Loan **Investor and Lender** IT Services
GHANA Esoko **US$ 1,250,000** Equity **Investor** IT Services	MEXICO Nasoft **US$ 8,000,000** Equity **Investor** IT Services	INDIA Lifetree **US$ 19,800,000** Equity **Investor** IT Services	CHINA HiSoft Technology International **US$ 11,840,000** Equity, Follow-on Equity **Investor** IT Services
WORLD Voxiva **US$ 2,500,000** Equity **Investor** Health Information Services	INDIA Suvidhaa **US$ 5,000,000** Equity **Investor** E-payments	LATIN AMERICA YellowPepper **US$ 3,000,000** Equity **Investor** E-payments	LATIN AMERICA DineroMail **US$ 5,000,000** Equity **Investor** E-payments
CHINA Neophotonics **US$ 17,000,000** Quasi-Equity, Follow-On Equity **Investor** Hardware Products	CHINA Shuoren **US$ 6,500,000** Equity & Mezzanine Loan **Investor and Lender** CleanTech	WORLD Altobridge **US$ 5,000,000** Equity **Co-Investor** Hardware & Software *World Economic Forum - 2012 Technology Pioneer and WSJ - 2011 Technology Innovation Award*	INDIA FINO **US$ 7,300,000** Equity, Quasi-Equity & Follow on equity **Founding Investor** E-payments

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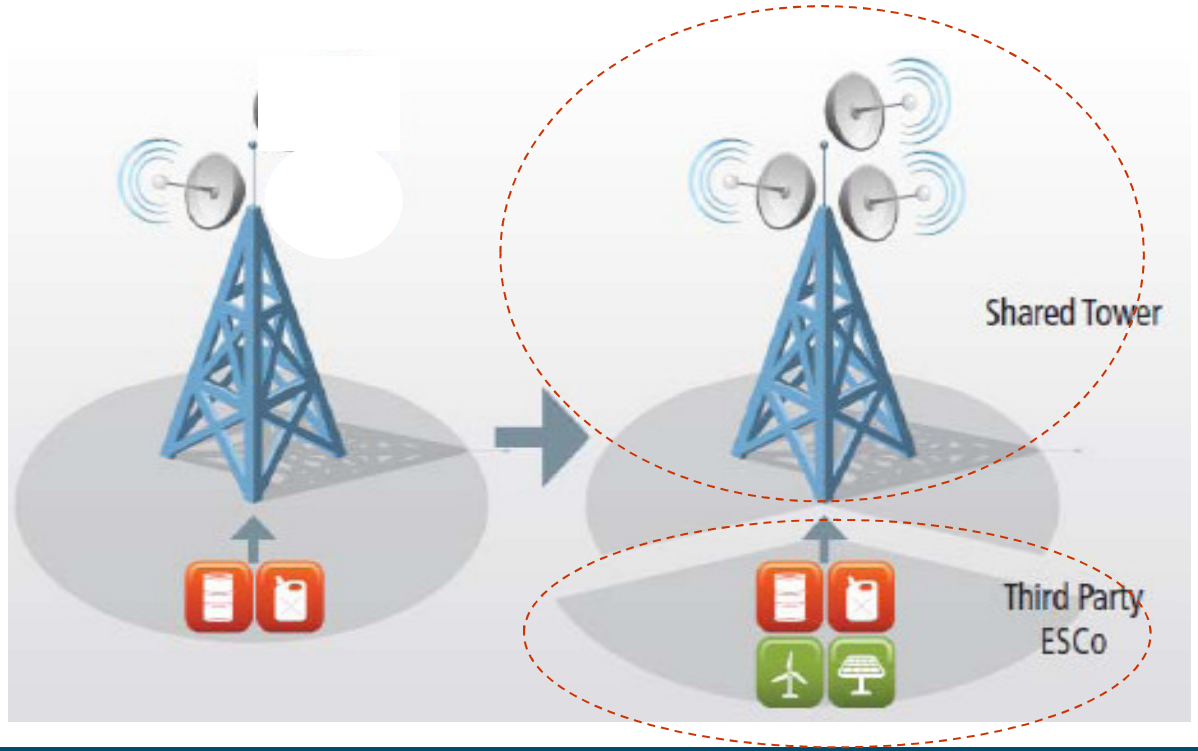
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IFC can finance the entire GPM value chain

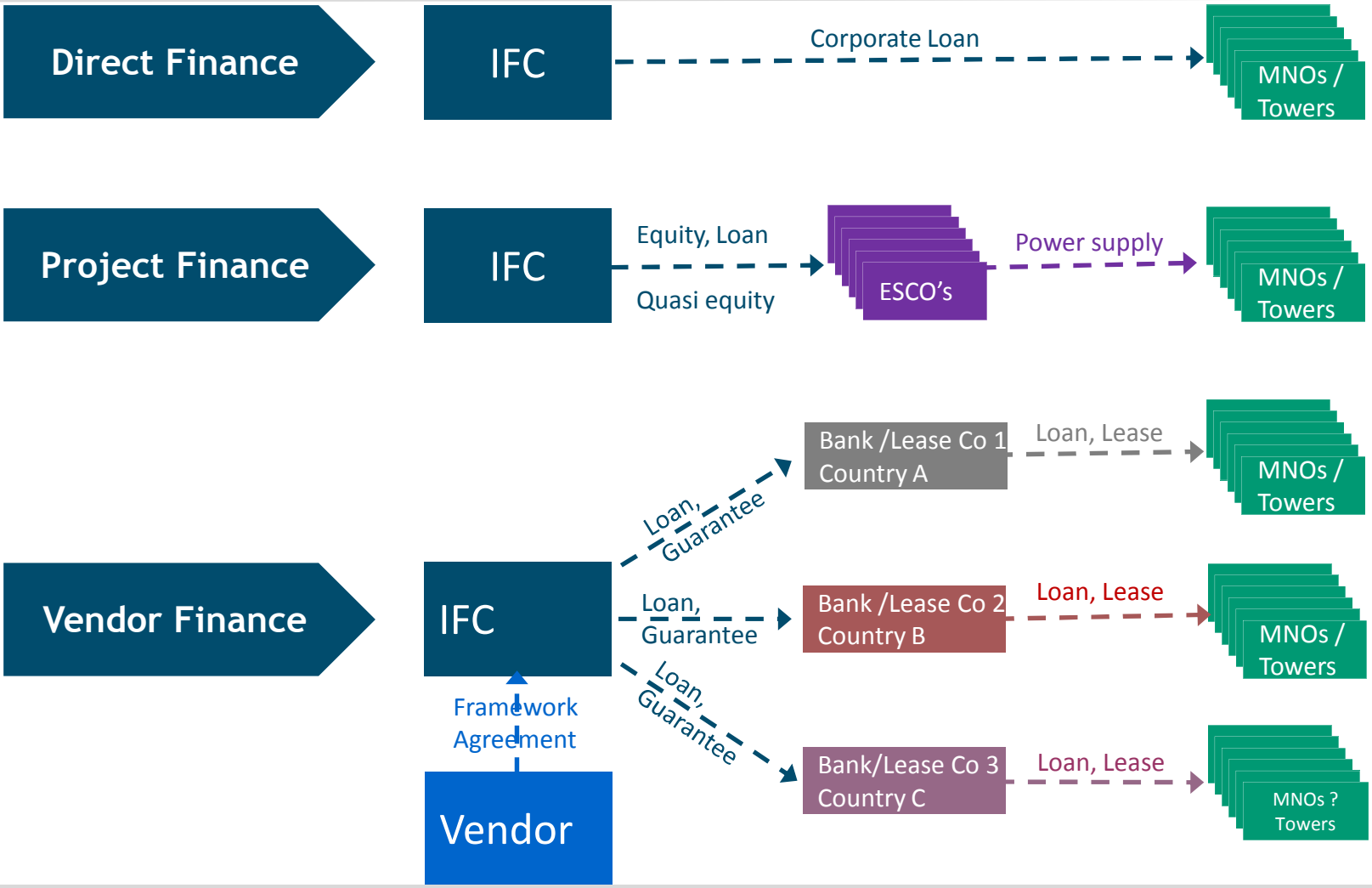
Equipment Vendors / Contractors → Mobile operators (MNO) → Tower companies → 3rd party energy services co (ESCO)



Managed services



Potential Financing Structure



Barriers to GPM Scale Up

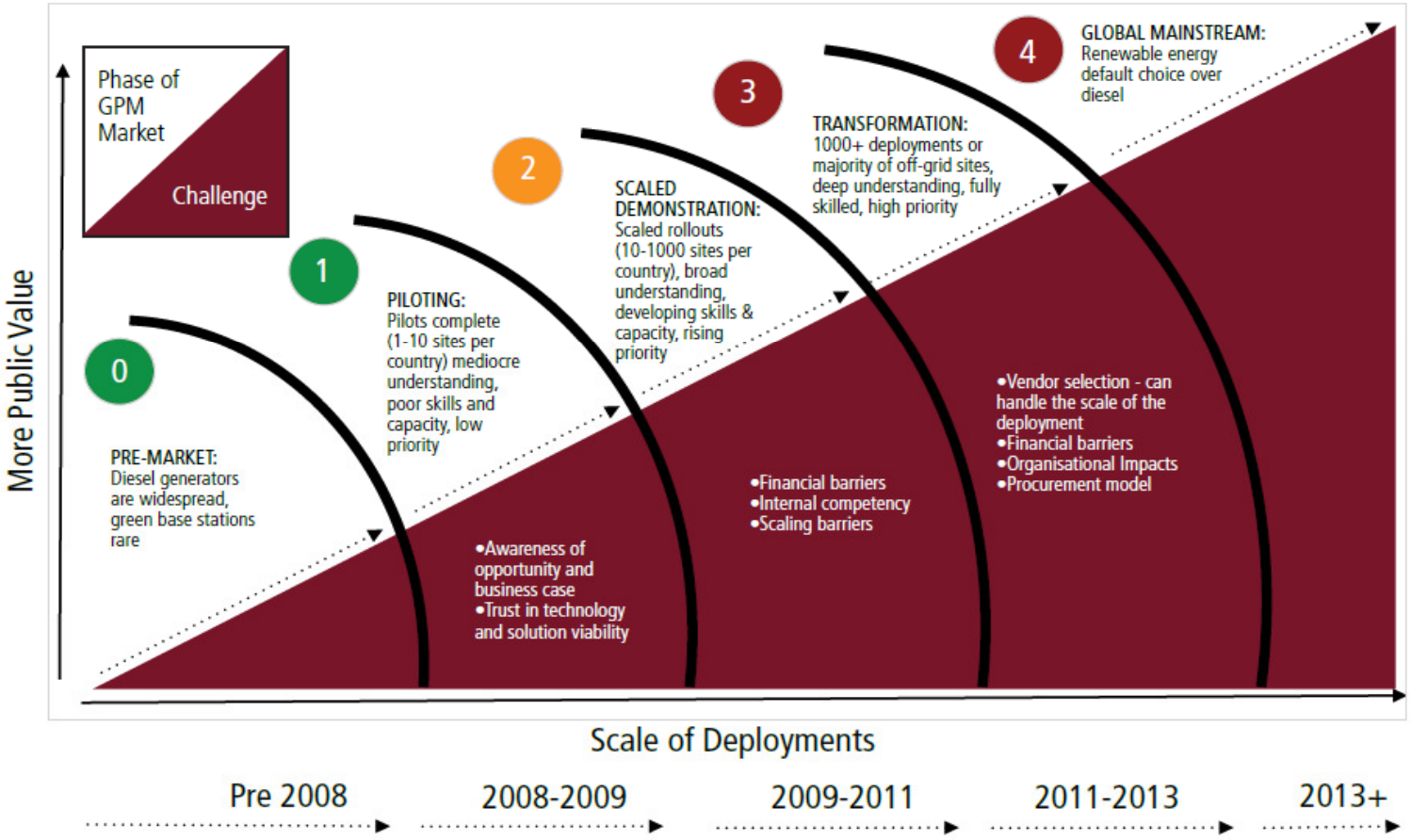
	Business model	Green Power Incentives	Barriers
MNO	• Outsource network management • Focuses on marketing • Focuses on energy cost saving	• Operating cost saving • Regulatory requirement / political pressure • Corporate social responsibility	• Too small to get CFO attention for capital budgeting on Capex model • Need to build trust on RE technical reliability for Opex model
Tower Co's	• Boost top line through tower co-location & cut bottom line by reducing energy cost	• Operating cost saving	• Capital prioritization • Needs to build trust on RE reliability due to stringent SLA
ESCO	• Captive power supplier to mobile tower sites either through PPA, shared savings or fixed leasing payment • ESCOs own GPM assets	• Entrepreneurial venture • Value creation	• Limited balance sheet • High cost of capital • Local deployment footprint • Captive nature
Equip't Vendor	• Services have an increasing revenue share • Provide service for active equipment , subcontracts tower sites management to local service providers	• MNOs' request for one point of contact for active and passive asset management	• Ownership of non-core GPM on Balance sheet • Lack of financially strong local contractors or existing ESCO who can carry GPM asset on balance sheet and fulfill stringent SLA

Examples of recent emerging GPM models

- MNO targeted ESCO selling excess power to local community
  - MNO is the only industrial off-taker
  - Captive ESCO
  - Challenging to scale up excess power distribution in rural area
- MNO and other industrial companies targeted utility type of community power
  - Power supply based on pre-negotiated PPA in kwh and rates
  - ESCO is no longer captive
  - Power management requires a different set of skill and competence
- Utility type IPP selling power to MNO and other industrial players
  - Geography based rather than industry specific
  - Professional power project developer
  - Need local partners for site deployment

Moving Forward

Figure 1: Evolution of the Sector



GPM2 Milestones expected in 2012-2013

- Regional working group meetings & technical training x 6
  (Africa x 4, East Asia Pacific x 2)
- National working group meetings & technical training x 6
  (Bangladesh, Indonesia, Nigeria, Ghana, Afghanistan, Pakistan)
- Market analysis, vendor landscaping, best practice procurement guide x 6
  (Kenya, Tanzania & Uganda, Nigeria & Ghana, Francophone Africa, Bangladesh, Indonesia, Pakistan & Afghanistan)
- GPM solution specification task team work
- Feasibility studies & technical training x 7
  (in regions other than above)
- Managed power business model task team work
- Bi-annual reports
- Online database

Ideas? Feedback? Investment Proposals?

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