IFC International Finance Corporation World Bank Group

GSMA Green Power for Mobile

In partnership with Netherlands

grameenphone

GSMA Green Power for Mobile Bangladesh specific Working group

16th October 2012

Agenda

Opening session

0930 – 1015

- GSMA role to promote green power, by Areef Kassam of GSMA
- Sustainable business advisory of Green Power for Telecom, by Arata Onoguchi of IFC

Operator Experience Sharing

1015 – 1100

- Greening the network, by Tanveer Mohammad of GrameenPhone
- Energy management efficiency of Operator, by Sarker Sohel of Robi

Technology development session

1115 – 1300

- Technology Development: Fuel Cell, by Alok Goel of Ballard Power systems
- Technology Development: Biogas, by Mateen Abdul of Emergence Bioenergy

Green energy outsourcing session

1400 – 1510

- Green energy outsourcing for telecom, by Kapil Kathpalia of Applied Solar Technologies
- Green energy outsourcing for telecom, by R K Caprihan of KMR Infrastructure

Break Out session

1530 – 1645

- Moderated break-out session

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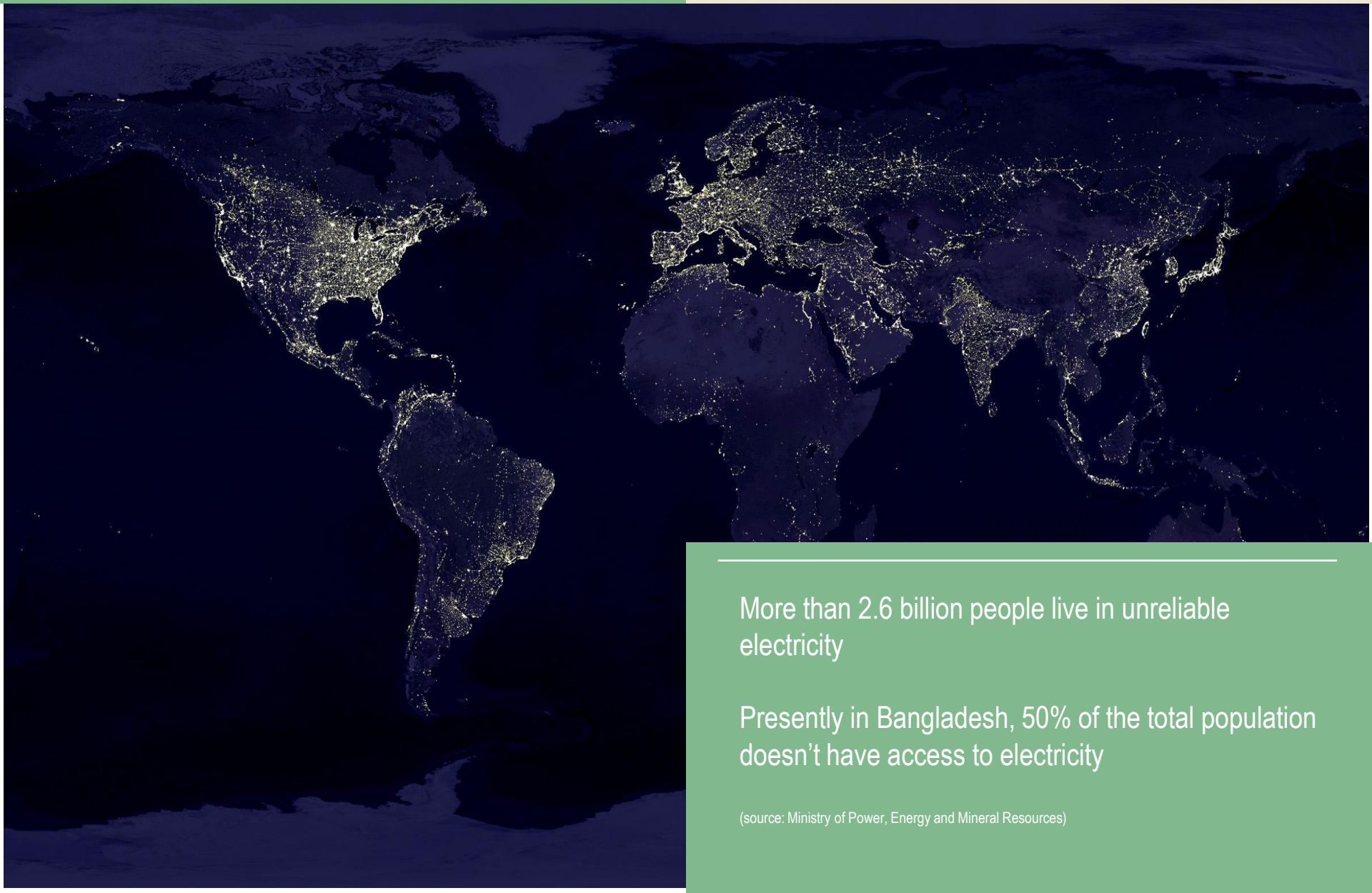
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Problem Statement



More than 2.6 billion people live in unreliable electricity

Presently in Bangladesh, 50% of the total population doesn't have access to electricity

(source: Ministry of Power, Energy and Mineral Resources)

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Problem Statement

- Future mobile subscriber growth will be heavily **dependant on off-grid populations** (expected 50-100k new off-grid BTS per year for the next 5 years)
- Currently diesel generators are the predominant off-grid power source, however they are **costly to run**, require regular fuel distribution and maintenance and have a **negative environmental impact**
- Available grid power is often **unreliable** or it is prohibitively **expensive** to gain access



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What We Have Done?

25 feasibility studies → **11 WG** → **6 bi-annual reports** → **More than 200 people trained** → **2 GPM Database**



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Green Power for Mobile Programme: Phase 2



"To demonstrate the technical and financial viability of renewable energy as a potential option, maximise the return on investment achieved when implementing a solution and transfer of the Green Power of Mobile methodology and knowledge for analysing telecom sites" - GPM2

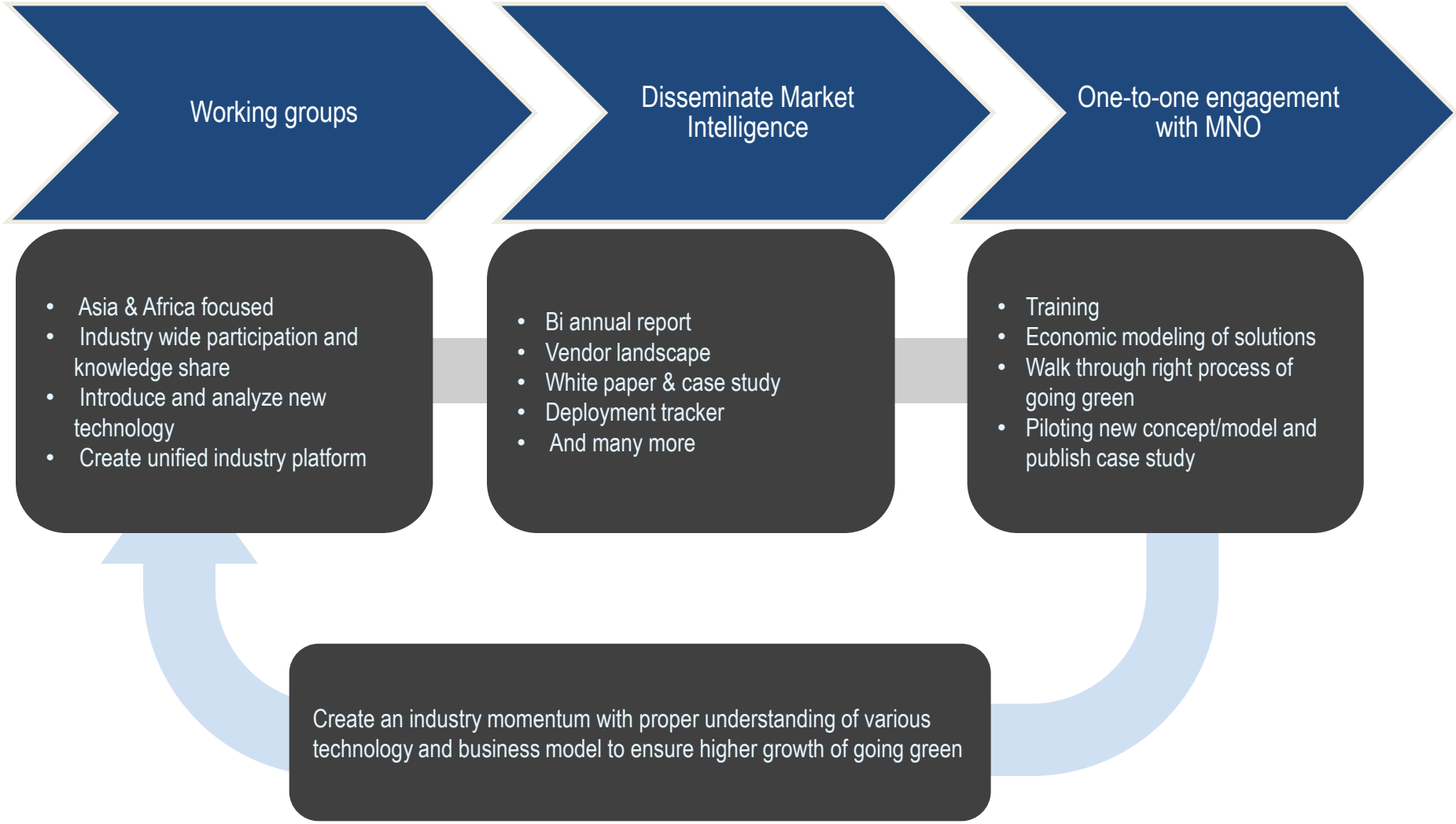
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GSMA Green Power for Mobile Programme works in 3 major areas:



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Market Clarification

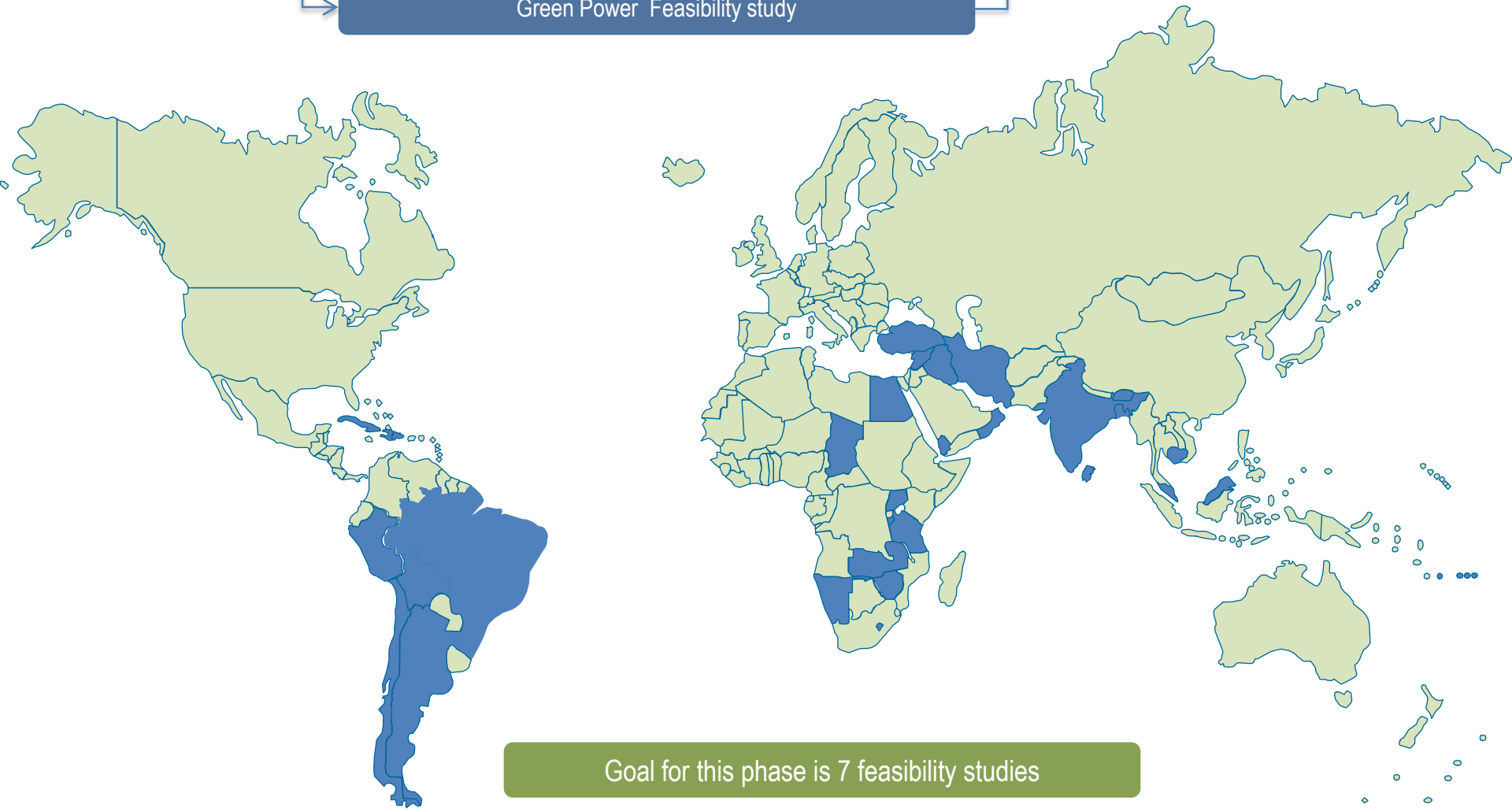


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Technical Assistance

On-Going Innovation and Industry collaboration

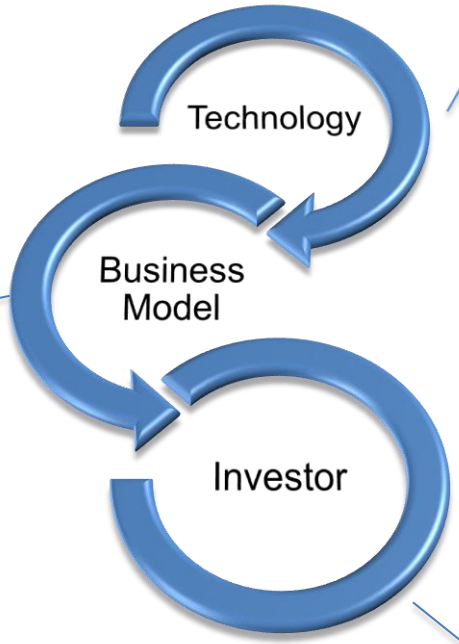
Green Power Feasibility study



Goal for this phase is 7 feasibility studies

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Business Case Development and Investor Connection



Different technologies and enormous number of solutions

Different business models and financial feasibility of each models

International Finance Corporation -IFC

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What will GSMA do in Bangladesh Market?

Market Analysis Report

Market analysis document to understand the market potential, challenges and the context. To derive strategies to address the challenges.

Nov 2012

Vendor Landscaping

To understand the supply side scenario by developing a complete list of vendors and their offerings to assist operators with reliable vendor options.

Q1 2013

Best Practice Procurement Guide

To provide operators with implementation and operational guidelines to assist in streamlining green power deployments.

Q2 2013

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Training & Knowledge Transfer

- To provide training on necessary tools and design analysis and assist operators with in-house capacity building for taking up green power designs
- Training on business modelling and business case analysis
- Green Power for Mobile methodology and process
- Comparison and assessment of technology choices for green power

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Detail engagement & Objectives

Site Selection

- Analyse the current power solutions and OPEX
- Define a site selection criteria based on geographic, operational and site specific characteristics

Site Dimensioning

- Categorize and group sites based on renewable energy resources and load characteristics
- Design analysis and solution dimensioning based on renewable potential and load analysis

Business Case Development

- Financial analysis and business case development based on existing operational costs and expected CAPEX for renewable solution
- Analyse the financial metrics for economic viability
- Prioritise potential sites based on financial, operational and network parameters for phase-wised implementation and investment planning

RFP Definition

- Assist operators in writing the technical aspects of an RFP to be distributed to vendors
- RFP to follow from site dimensioning and site selection

RFP Evaluation

- Define evaluation criteria to include technical solution, project timelines, vendor experience, payment terms, and cost
- Assist operators to objectively evaluate proposals from vendors participating in the RFP

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Contributing Operator



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