



# **Financing structures for Electricity Access**

## ***– Bangladesh Case Study –***

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# SE4ALL County Action in Bangladesh

- Multi-partner approach: U.S. Government, GoB, World Bank, ADB, UNDP, German Government,...
- Active and engaged: public and private sectors
- Focal areas: electricity access, clean cooking, efficiency, renewables
- Process: Aide Memoire, Investment Prospectus Framework, Project scoping workshop, Investment Prospectus
- Plans: Investor Forum (October 29 – 30)

→ Critical reason for progress: IDCOL ←

# Infrastructure Development Company Limited

## *Major Achievements*

- IDCOL spearheaded government and donor efforts to achieve:
  - Over 3 million solar home systems (SHS) installed – over 70,000 /month
  - 36,000 biogas digesters built
  - 38 solar pumps in operation; 150 approved; 1,500 targeted
  - 1 million cookstoves targeted by 2017

# The IDCOL Model

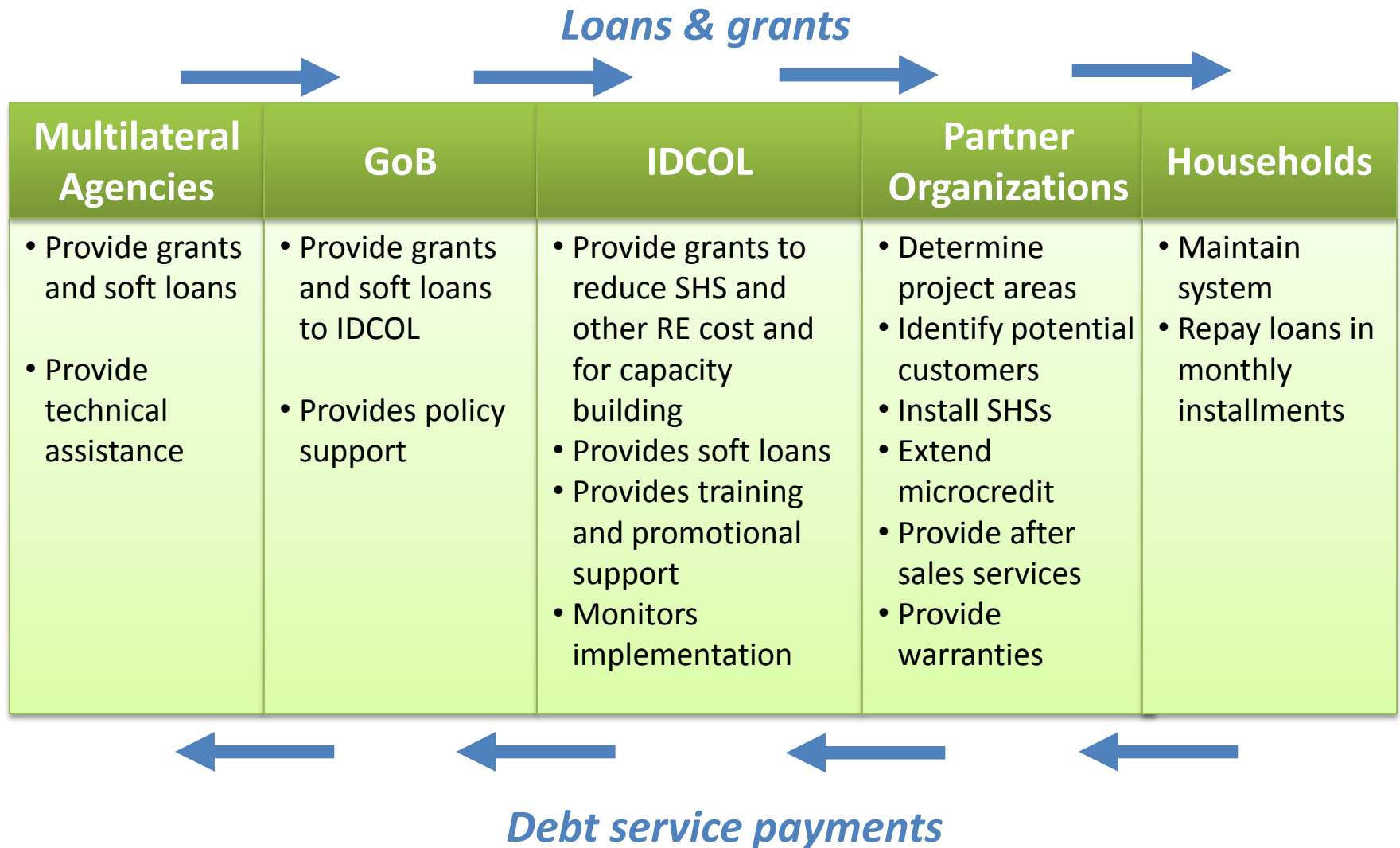
- Government-owned, independently operated, nonbank financial institution: Funds infrastructure projects and off-grid renewable energy.
- Objective: To create a market for renewable energy in off-grid areas. Supplier and end-user credit would be needed along with promotional support.
- RE program est. in 2002: World Bank and Global Environment Facility financial support.
- As the program grew: Additional funds from World Bank, ADB, USAID, KfW, Islamic Development Bank, and others.
- Structure:
  - Companies with finance and RE expertise qualify as Partner Organizations (POs)
  - An independent Technical Standards Committee sets technical standards for RE technologies and components
  - Enforce quality control
  - Monitor POs' financial performance and help build their operational capacities
- Government provides policy support (e.g., waiving duties on import of key components).

# The IDCOL Model

## (cont...)

- Initially SHSs – Subsequently a wide variety of technologies (e.g., biogas, cookstoves, mini-grids, and solar irrigation)
- Initially NGOs – Subsequently opened to private sector companies
- POs select the project areas and potential customers, extend loans, install solar systems , train customers, and provide after-sales services.
- Financially supports POs with long-term loans on concessional terms, output based grants, and capital buy-down grants.
- Reduces its funds to POs over time. POs are expected to graduate from donor funds.
- IDCOL grants have been reduced over time to focus on and incentivize POs to target poorer populations.

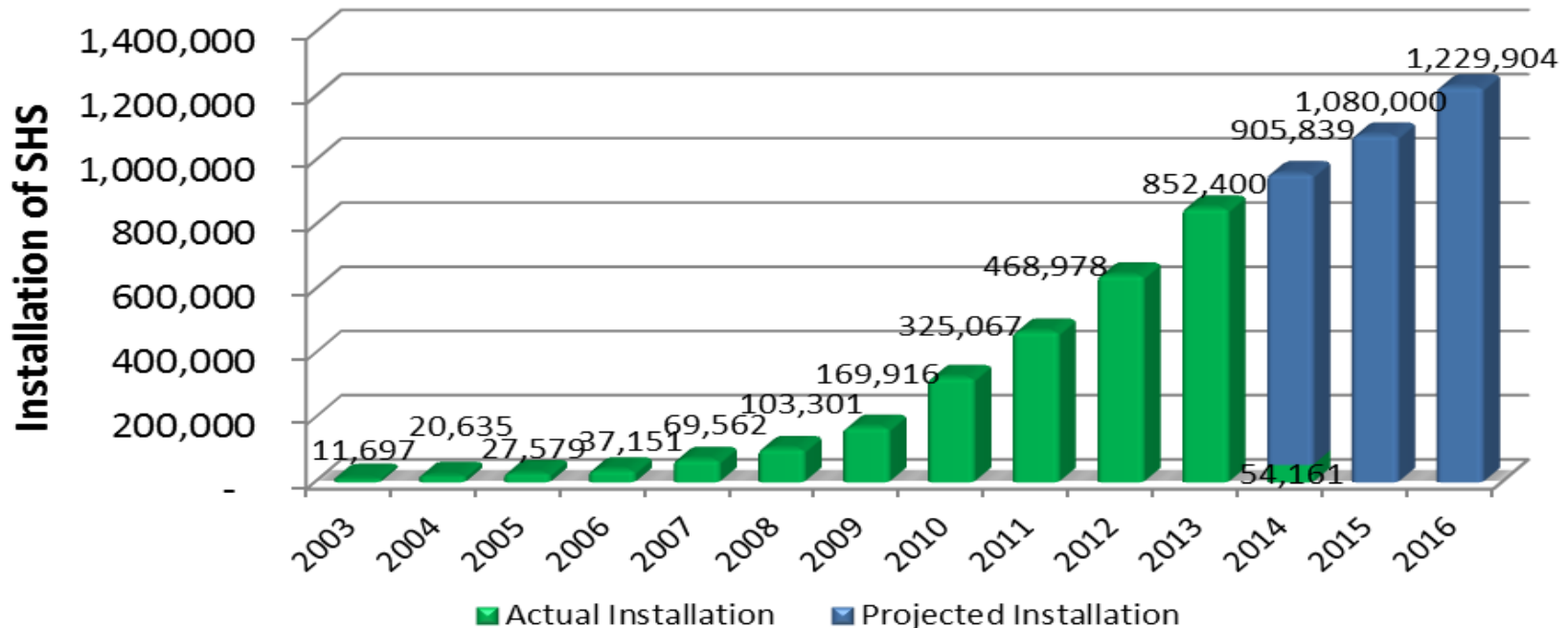
# Fund Flow and Role of Partners



# IDCOL SHS Program Progress

	Installation up to March 2014	Installation in 2014 (Apr-Jun)	Installation in 2014-15	Installation in 2015-16	Installation in 2016-17
Average Monthly Installation		65,000	71,500	78,650	86,515
Yearly Installation		195,000	858,000	943,800	1,100,440
Cumulative Installation	2,902,760	3,097,760	3,955,760	4,899,560	6,000,000

Annual Rate of New Installations



# Requirements for Replication

*Every market has its own unique needs, but the following are critical for a successful result:*

- Technically and financially independent project implementing institution
- Micro-credit experience of NGOs and private companies
- Adequate donor agency grant support to initially build capacity
- Availability of concessional loans, preferably with IDA terms
- Strict quality control of products and services
- Active government support
- Flexibility in encouraging different technologies, finance modalities, and different types of POs

→ IDCOL has an international division to assist other countries ←



# Common elements of IDCOL and ElectriFi

*Different structures of IDCOL and the Electrification Financing Initiative, but common elements and lessons can be applied:*

- External support can successfully build capacity and ultimately sustainable markets at significant scale for RE
- Support for multiple technologies rather than a one-size fits all approach works best
- Private sector – including civil society, private companies and FIs – can be effective channels
- A variety of financial mechanisms and concessional support is needed to help ensure success
- A lean and highly responsive management structure is critical.

# SAVE THE DATE



Photo credit: Daniel Schnitzer

## Mini-grids: Experience from Commercially Viable Systems

October 16-17, 2014  
Washington D.C.

For further information, please email: [ENRMiniGrid@state.gov](mailto:ENRMiniGrid@state.gov)

A **Workshop** hosted by



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ENERGY ACCESS  
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# Thank you

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# **Additional Slides**

# Selected List of Stakeholders Met

## Government

- Ministry of Power, Energy and Mineral Resources
- Ministry of Finance
- Bangladesh Power Development Board
- Rural Electrification Board
- Bangladesh Energy Regulatory Commission
- Infrastructure Development Company Limited (IDCOL)

## International donors

- World Bank
- Asian Development Bank
- UNDP
- USAID
- BMZ, KfW and GIZ

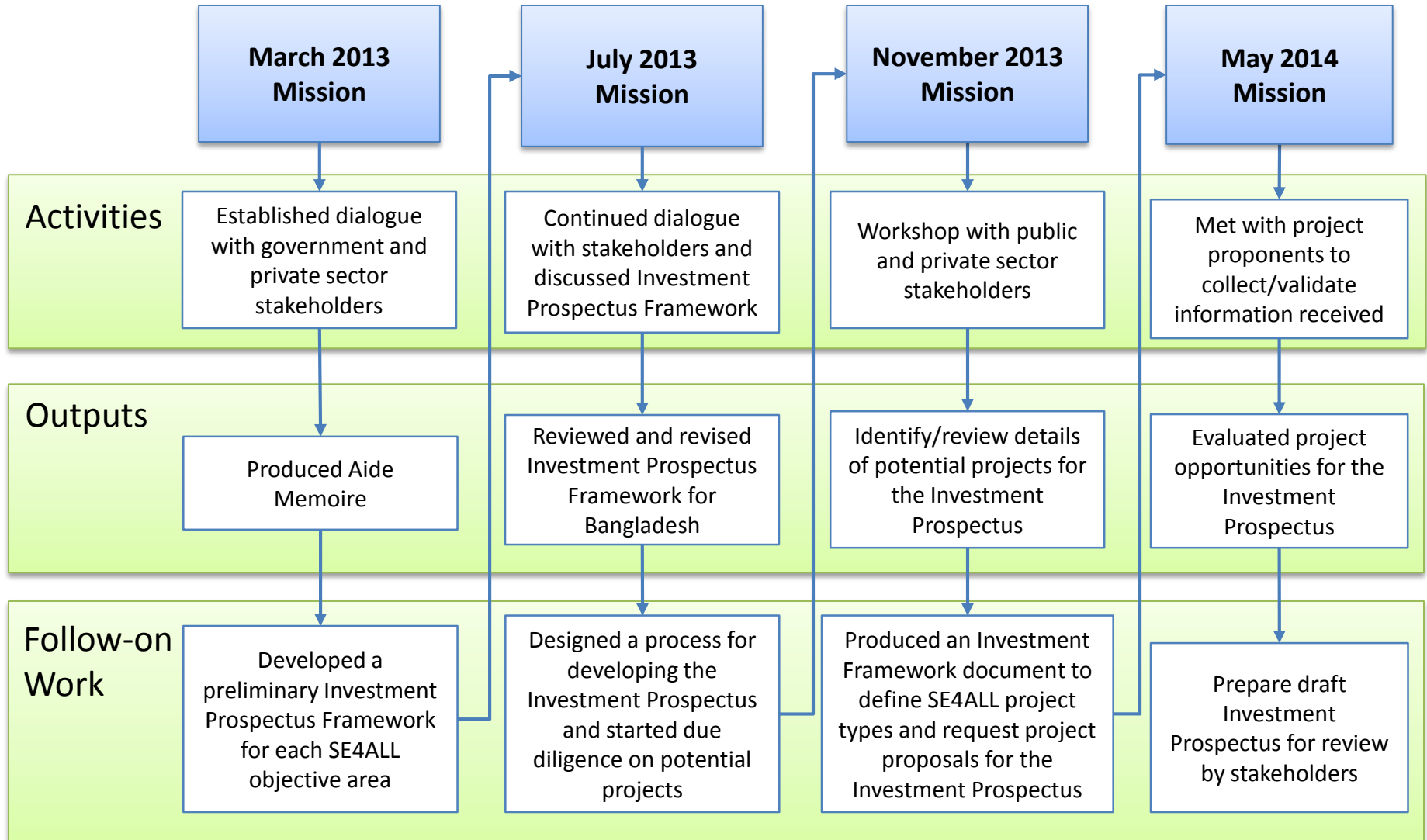
## Businesses

- Dhaka Chamber of Commerce
- BRAC Solar
- East Coast Group
- EnergyPac Electronics
- Rahimafrooz
- Soleric

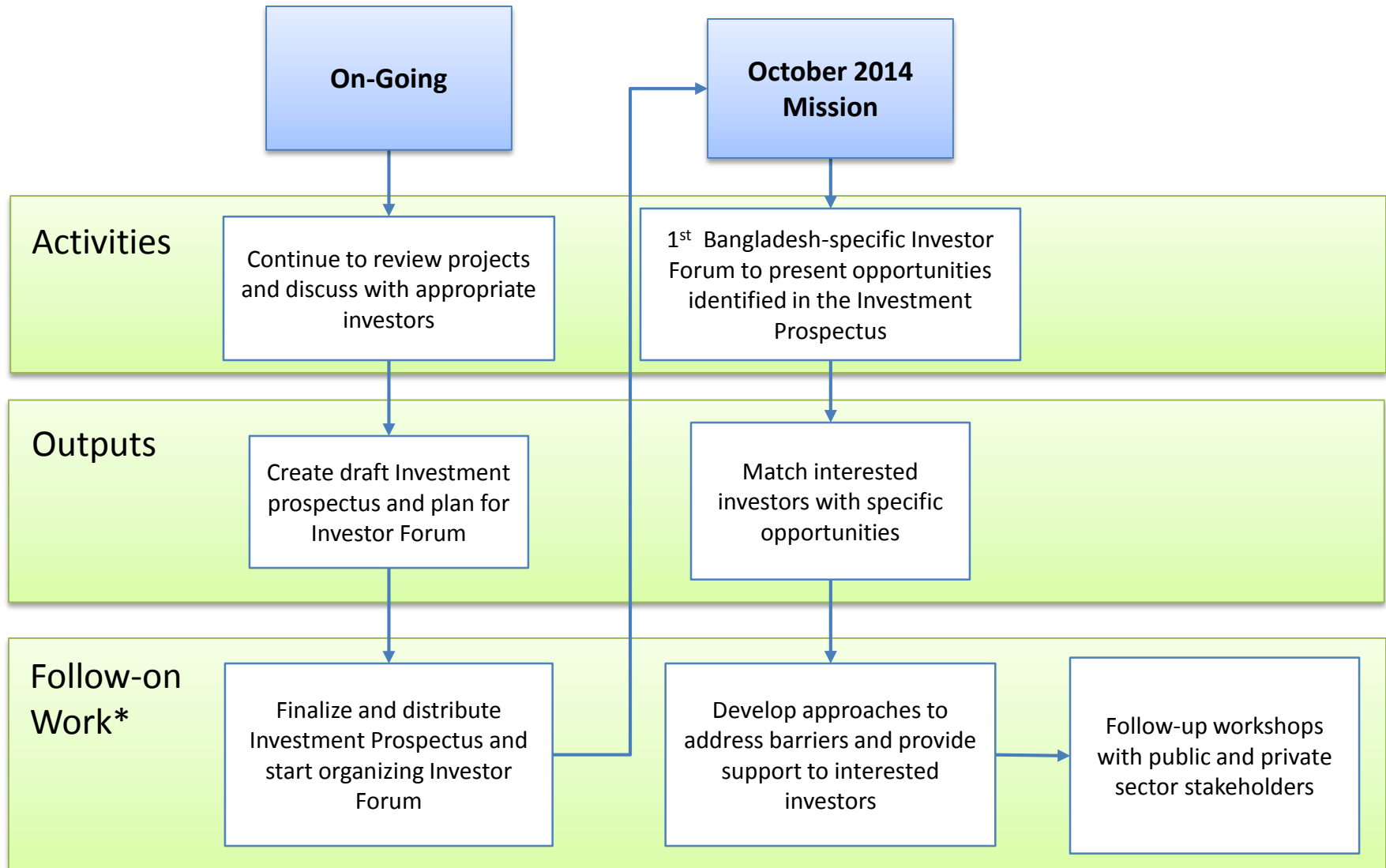
## Civil Society and Academia

- Grameen Shakti
- Rural Services Foundation
- Bangladesh Solar and Renewable Energy Association
- Bangladesh University of Engineering and Technology
- United International University

# SE4ALL Development Process



# SE4ALL Development Process – Going Forward



# First Round of Projects

Twenty projects were submitted – all are in the due diligence stage – the furthest along are:

- *Clean Cooking* – two projects that are first of their kind in the country
- *Third Generation SHS upgrades* – expansion of successful program
- *Mini-grids* – three projects ranging from 3kw to 100kw
- *Waste to Energy* and organic fertilizer
- *LED* manufacturing facility
- *Brick kiln* technology upgrade



# Overview of First Round Projects

- 17 projects were submitted by the private sector, 2 by NGOs, and 1 by an independent state owned non-bank financial institution
- Financing requirements range from \$750,000 to \$120,000 million
- Targeted investors are venture capitalists, impact investors, development finance institutions, commercial banks and program related investment of foundations.

The diagram illustrates the organizational structure of the Off-Grid Finance Facility Project Administrative Unit. At the top, four boxes represent funding sources: External Loans, Subsidies, Grant Aid, and Credit Guarantees. These all point to a central box labeled "Off-Grid Finance Facility Project Administrative Unit". A dashed arrow also points from the "Off-Grid Clean Energy Alliance Resource Base" to this central unit. Below the central unit, a horizontal line indicates the flow of "Loans, Subsidies, Grants, Credit Guarantees and general support" to four parallel vertical paths. Each path starts with a box labeled "Partners Responsible for Local Delivery", which lists three categories: Finance, Technology, and Service. Below each of these partner boxes are various icons representing different types of local projects or activities, such as small squares, circles, and larger rectangles.

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graph TD; EL[External Loans] --> OGFFPUA[Off-Grid Finance Facility Project Administrative Unit]; S[Subsidies] --> OGFFPUA; GA[Grant Aid] --> OGFFPUA; CG[Credit Guarantees] --> OGFFPUA; OGCERA[Off-Grid Clean Energy Alliance Resource Base] -.-> OGFFPUA; OGFFPUA -- "Loans, Subsidies, Grants, Credit Guarantees and general support" --> P1[Partners Responsible for Local Delivery]; OGFFPUA -- "Loans, Subsidies, Grants, Credit Guarantees and general support" --> P2[Partners Responsible for Local Delivery]; OGFFPUA -- "Loans, Subsidies, Grants, Credit Guarantees and general support" --> P3[Partners Responsible for Local Delivery]; OGFFPUA -- "Loans, Subsidies, Grants, Credit Guarantees and general support" --> P4[Partners Responsible for Local Delivery];
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**External Loans**

**Subsidies**

**Grant Aid**

**Credit Guarantees**

**Off-Grid Finance Facility Project Administrative Unit**

**Off-Grid Clean Energy Alliance Resource Base**

**Loans, Subsidies, Grants, Credit Guarantees and general support**

**Partners Responsible for Local Delivery**

- Finance
- Technology
- Service

**Local Project**

