
NANO Grid
Sustainable Green Energy Solution for Off-grid

SOLARIC

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SOLARIC

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SOLARIC at a glance...

Company Background

- **Founded in 2009 in Dhaka.**
- **Technology development in 2010**
- **Commercial Operation since 2011**
- **Primary Objective: Innovate appropriate technologies for off-grid**
- **Investor: IFC (20%)**

Growth & Expansion

- **350 employees , where almost 80% are technical**
- **Outlets:**
 - **600 Partner branches**
 - **100 Own branches**
- **Revenue: \$ 5 Mill. (last year) ; \$ 12 Mill. (current year est.)**



Didar Islam

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Founder

POWER IC Ltd.: First IC design company in Bangladesh (2004-2007)

SOLARIC Ltd.: First and Only R&D driven solar company in BD since 2009

Inventor

3G-SHS (Utility level solar home system)

QWIKRADIO (single chip radio)

Achievements

10 US patents (QWIKRADIO)

4 Bangladesh patent (Solar)

Background

Ph.D (incomplete) & MS from UF, Gainesville, 1996

15 years IC design experience in the US and 7 years in Solar

Design Director, power management, MAXIM-california

The Management Team

(135 yrs. Of cumulative experience)

Didar Islam, Managing Director

- **24 years in Technology development**
- **14 patents**

Fahmida Sultana, Director Finance

- **15 years in Database Management (ORACLE Corp.)**
- **B.Sc & MS in CSE**

Noor-e-Alam, CFO

- **20 years of Financial expertise**
- **CA (Inter.) with UCPDC & URC award**

Naznin Akther, Director Marketing

- **10 years in Technology business**
- **B.Sc in Chemical & MBA; Won merit award from IEB**

Enayetul Haque, COO

- **22 years in Bangladesh Army**
- **Army staff course, MDS & MBA; Won UN Peacekeeping medal**

Nasiruddin Ahmed; CTO

- **21 years in Technology company**
- **B.Sc in EEE**

Shaiful Arif, Head of HR & Admin

- **23 years in HR & Admin**
- **B.Sc (Hon's) & MBA; Awarded as Best Employee**

Off-grid Issues

Payment Collection and Service

- **Levelized Cost of grid extension: \$ 400 per home**
- **Capex of SHS too high: \$8 /Wp**
- **Monthly Installment of SHS too high: \$2 per lamp/month**
- **Cost of revenue collection: more than 40% of the Opex**
- **Standalone Irrigation too expensive: remains unused 7 months /year**
- **Not enough anchor load to support bigger size mini-grid (100KWp)**

Opportunity

60% can afford \$5 per month

- **Capex for Solar Nano grid: \$3 per Wp (\$200 per home)**
- Solar Home System too expensive: \$2 per lamp/month
- Nano grid End User cost: \$0.4 per lamp/month
- 1 fan, 1 TV and 4 lamps: \$5 per month
- Cost of irrigation: \$100 per Acre per season

SOLARIC Solution

NANO Grid

Key Features

3KWp with 36KWH Battery

Additional 5KWp (no battery)

No. of HH/ Shops – 50

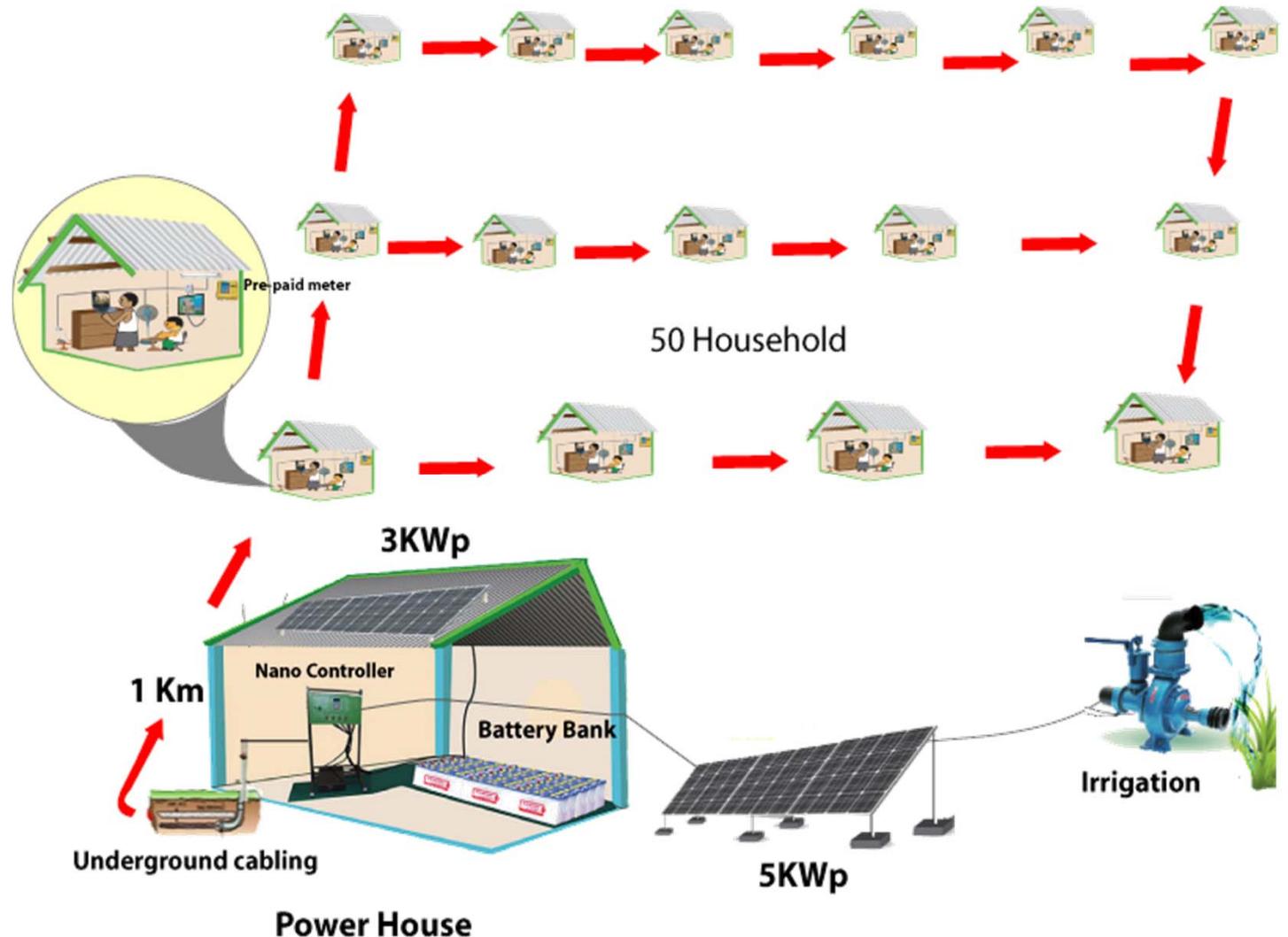
No. of Pumps – 5 (1KW)

Energy Budget:

32 unit /day (KWH)

200 WH / day/ HH

4 KWH/ day/ pump



Competitive Advantages

Inverter-less Technology

- Energy efficient by 2X (compared to Inverter solution)
- Lowest Capex (\$3 per Wp)
- Lowest end-user cost (\$0.4 per lamp/month)
- Modularized Scalable solution
- Pre-paid system reduces collection overhead
- Centralized generation eliminates end user service need
- Small pumps (DC or AC) using pre-paid energy

Efficiency

Technology, Payment collection, Service

- Inverter-less Technology- Energy Efficiency by 2X
- Pre-paid metering- Payment Collection Efficiency by 10X
- Cluster of 50 Homes- Service Efficiency by 10X

Business Model

Local Operator as Owner

- **Asset buildup:** Own the system by paying only 10% of the system cost
- **Operating Profit:** Monthly income \$125
- Investment returned in 20 months
- Bundle the Dish network with solar sharing the same PIPE



Power House

Customer Benefit

- Flexible and Low Monthly bill US\$ 1-6
- Maintenance free, risk free



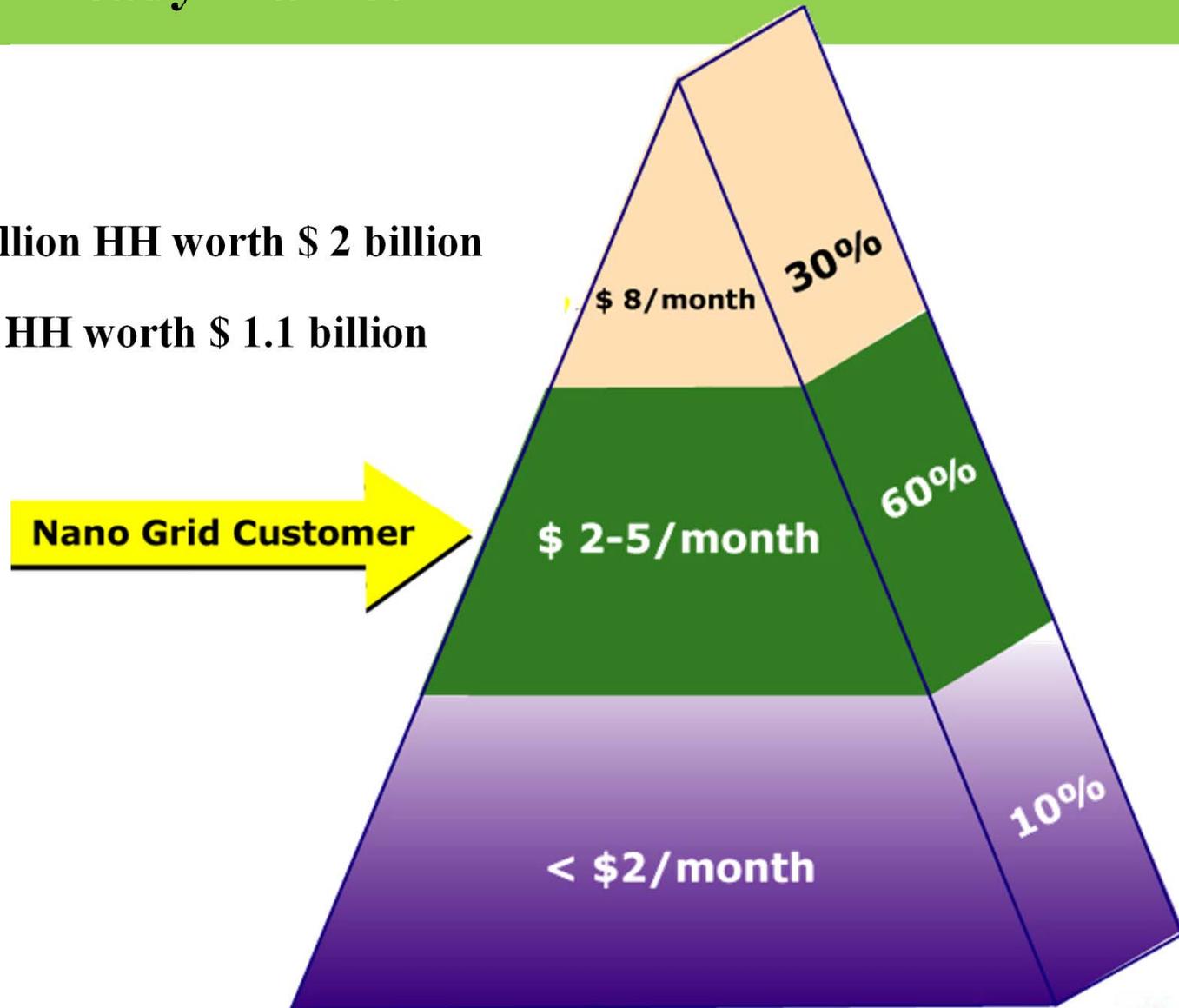
End User with Meter

Market Potential

Ready Market

Local Market (Bangladesh)

- Available Market: 20 million HH worth \$ 2 billion
- Addressable : 11 million HH worth \$ 1.1 billion



Market Potential (Cont.)

Ready Market

Foreign Market

- **Africa: 5 million HH worth \$ 1 billion**
- **Asia: 10 million HH worth \$ 2 billion**

Channel Partner Segmentation

➤ **Component Level Supply**

Supplying optimizer & controller to other partners.

➤ **Complete Package Supply:**

Combine with PV, Battery, Optimizer, LED Lamp, TV, Stand Fan.

➤ **Turn Key Solution Provider:**

Complete Nano grid installation for partners

Current Status

- **Number of NANO Grid : 5,000 over 5 years in Bangladesh**
- **Capex : 3KWp @ \$10k per site**
- **Finance: \$5k per site**
\$25 million over 5 years
- **Mode of Investment : Fixed Asset Collateral**
- **IRR (10 yrs): more than 40%**

Nano Grid : history made here in Bangladesh...

**H.E. Mr. Dan W Mozena & Dr. Robert F. Ichord; Deputy Asst. Secretary
visited NANO site at Lohadi, Kapasia**

“SOLARIC made history today at Barishab, Kapasia”

-US Ambassador Mr. Dan W Mozena



“A new way to future rural electrification”

-Dr. Robert F. Ichord, Deputy Assistant Secretary, US dept. of states



Thank You

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