





## SOLAR GREEN ENERGY













### Solar Green Energy

1<sup>st</sup> Cambodian solar company providing affordable quality energy solutions for both residential, commercial, industrial and public sector

2014-2017

28

2,000

5/24

3,500

0.33 M\$

production capacity / yr

provinces

products sold / yr

revenue / yr









### Overview

#### Journey

- 2008: Start as an NGO 10 staffs 2 provinces
- 2014: Company registration 28 staffs 2 provinces
- 2017: Improve operations 28 staff 5 provinces

#### Women

- Woman CEO
- 40% of women

#### **2018: Scale Up**

#### **Project**

- Increase our factory production capacity
- Expand our distribution network in all Cambodia
- Start exporting

#### Investment

ask

Secured: US\$ 360k in equity

Debt: US\$ 300k – average DSCR: 8









### **Market Opportunity**

Strong economic development

Electricity demand growth

Very high price of electricity

High sun irradiation

Electricity Import from neighbours

**+7%** / year

**+20%** since 2010

\$0.5-0.6/kWh

in rural areas

**+6.2** KWh/m<sup>2</sup>/day

11% imported













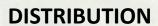
**IMPORT** 





**ASSEMBLE** 







**INSTALLATION** 



**MAINTENANCE** 

- Wholesale
- Retail
- Export









# Turning quality solar products affordable

ASSEMBLING SOLAR PRODUCTS



Only solar assembling unit in Cambodia



#### **IMPORTED**

Solar panel
Solar battery
Solar inverter
Motor pump



#### **MANUFACTURED**

LED Light
Solar charge controller
Sun Tracker
Street light pole









# Designing & Installing Tailored Solar Systems

### SOLAR ON/OFF GRID SYSTEMS



#### **SOLAR PUMPING**



#### **SOLAR STREET LIGHTS**



Leader in Cambodia



#### **PEPPER FARM**





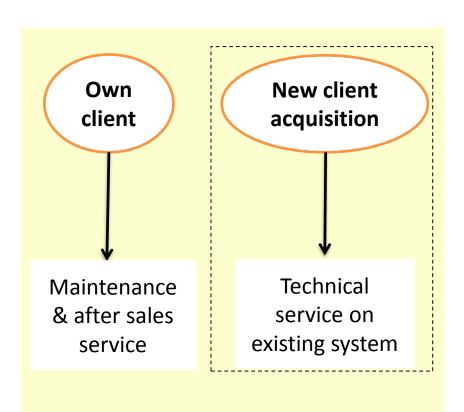








# Providing Quality Aftersale Service



- 90% of repeating customers
- Most customers acquired by word of mouth
- Agent training center for
   1st level of maintenance in provinces









### Development Timeline

Start as an NGO





**Solar Water Pumping Systems** 



+60 clients

HQ to Phnom Penh +
start assembling

products

Distribution of SHS in provinces

+2,000 SHS



**Heath Centres** 

+180

**Street Lights** 





+500 installed

2008

2014

2015

2016

2017















### Scale Up

PHASE 1 PHASE 2 PHASE 3

2018 - 2019 2020 - 2022 2023 - 2028

### Building the factory

- Product range diversification
- Higher added
   value product:
   Solar & Pump
   Inverter
- Fine tuning of production lines
  - Scale up on Cambodian market

- Reach full production capacity
- Expand on international market









### Woman in Energy

#### **Motivations**

- Solving the issues of people in rural areas
- 1<sup>st</sup> Cambodian Woman Energy Entrepreneur
- Inspiring young women to work in energy



#### Challenges in business

- Compete with low quality and cheap products on the market
- Product feature
- Quality process
- Efficient operations
- Access to financing









### Support required

Debt

US\$ 300k

End-user Financing

End user financing or credit lines to finance projects

Technical Assistance

Activity piloting (KPI), Set up factory, Quality management

Technology transfer

For high added value products: Solar & Pump Inverter, Data Monitoring

Regulation

Cambodian solar regulation not an incentive for ON-Grid solar







### Solar Green Energy

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