

# Bangladesh Solar Market & German / Bangladeshi Cooperation

David Wedepohl (BSW Solar | German Solar Association)



# Bangladesh: Energy Situation

- Now: More than 164 million people in Bangladesh, approaching 200 million by 2041
- By 2021: Aims to become middle-income country
- By 2041: Aims to become a developed country
- Has signed the historic Paris Climate Agreement
  - Global response to the threat of climate change by keeping the global temperature rise this century below 1.5 degrees Celsius
- Electricity Power Total Installed Capacity **22,329MW** (source: Power Cell)
- Per Capita Electricity Consumption **510 KWH** (2019)
- 10% of total capacity from Renewable Energy by 2030



# Bangladesh is a renewable success story

- Bangladesh achieved most of its Millennium Development Goals (MDGs)
- Unlike the MDGs the SDGs call for country led development and Bangladesh has already started implementing actions for its success
- Government of Bangladesh (GoB) has set the 'SDGs Implementation and Monitoring Committee', at the Prime Minister's office to oversee the SDGs Action Plan
- Implementing the SDGs will be a costly matter
  - Public funds will not be enough
  - Role of the private sector and civil society organizations is crucial



Source: BSREA



Source: BSREA

# Present RE Situation in Bangladesh (Sept. 2019)



Sector	Achievement
Solar Home System(SHS)	297.64 MW (installed over 5.5 million units)
Roof Top Solar System	30 MW
Solar Irrigation	30 MW
Utility Scale Solar	31 MW
Solar Mini grid	10 MW
Wind	2.9 MW
Biomass & Biogas based Electricity	6.5 MW
Hydro	230 MW
<b>Total</b>	<b>638.04 MW</b>



Source: BSREA





# Innovative financing schemes for Solar Home System in Bangladesh has sparked economic activities



- Solar Irrigation Pumps (SIP)  
> 2000 units
- Solar Street Lights (200k units)
- Mini & Micro Grids
- Roof Top Solar System
- Solar AC / DC system for Cyclone Centers
- Grid Tied Solar Mega Watt Program
- Solar powered Arsenic water treatment plants



Source: BSREA



## Roof-top solar could become a big market segment!

- Net Metering Policy has already been approved by Government for Solar Rooftop.
- Around 6000 MW potential
- Roof-top solar power systems in Bangladesh can provide energy for both offices and households
- Efficient alternative to supplement conventional grid energy and substitute usage of fuel run generators
- Also one of the solar solutions that do not require land, which is scarce or perceived as such



Source: BSREA



Solar irrigation pumps can potentially replace over 1.3 million shallow (diesel operated) pumps



Utilizing Project Area by Planting Trees



Traditional Diesel Pump



Solar Irrigation Pump

Source: BSREA

## Utility Scale

- Utility Scale Solar is growing
- Recently 2 Utility Scale Solar Projects have been completed
- Total of 31 MW Solar power electricity connected to the National Grid Line.
- ~ 800 MW Solar Power Plants approved by the government to be connected to the National Grid Line



Source: BSREA



# Potentials for Floating Solar

- A lot of water bodies all over the country (rivers, lakes, canals, big ponds and several other) for producing electricity
- Examples:
  - Kaptai Lake as good site for Floating Solar and the countries currently argest irrigation project
  - The Teesta Barrage project as another suitable location for Floating Solar
- Bangladesh is a land scarcity country
  - Ownership of land is not always clear
- Can utilise the unused water bodies for producing electricity through Solar
- Another possibility is the combination with fish farming



Source: BSREA

# Potentials of Solar Energy in Bangladesh



Sl	Using Space & Rooftop	Quantity	Can be Generated	
1	Primary Schools	124,948	1250 MW	
2	Secondary Schools & Colleges	30,000	970 MW	
3	Madrasas	53,000	265 MW	
4	Mosques	300,000	750 MW	
5	Commercial & Government Buildings		1200 MW	
6	Solar Irrigation Pump	6.6 KW Panel (4 Kw Pump)	500,000	3300 MW
		30 KW Panel (13 KW & 18.5 KW)	100,000	3000 MW
7	Urban Rural Houses	500,000	1500 MW	
8	Bus Stations & Railway Stations	10,000	15 MW	
9	Using unused Lands in Roads & Pond Sides, Sides of Bridges and Embankments		500 MW	
10	Solar Mini Grid		100 MW	
<b>Total Power can be Generated</b>			<b>12,850 MW</b>	

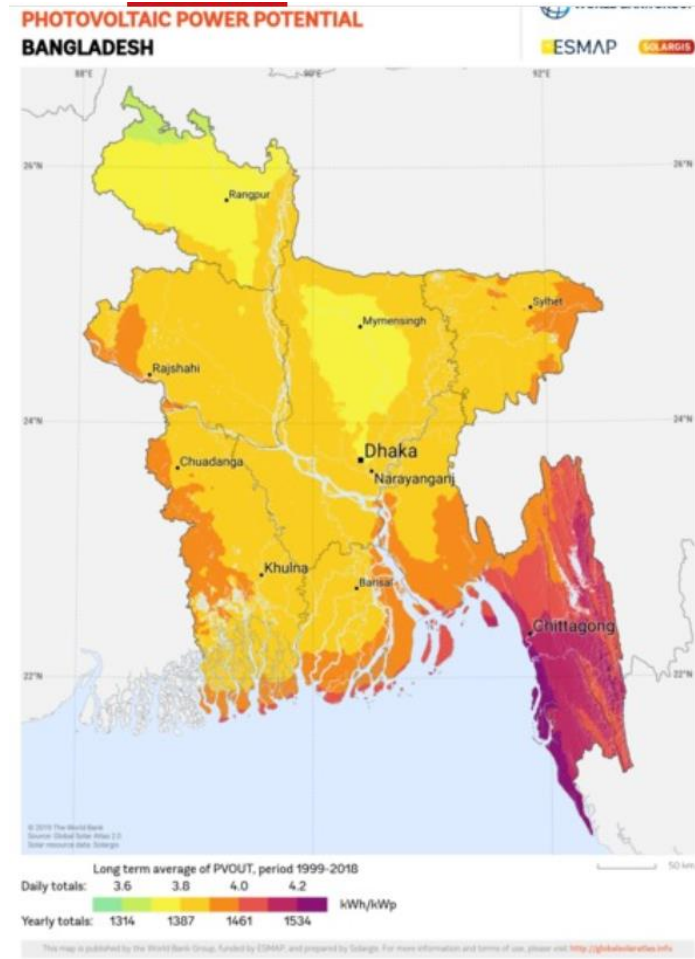
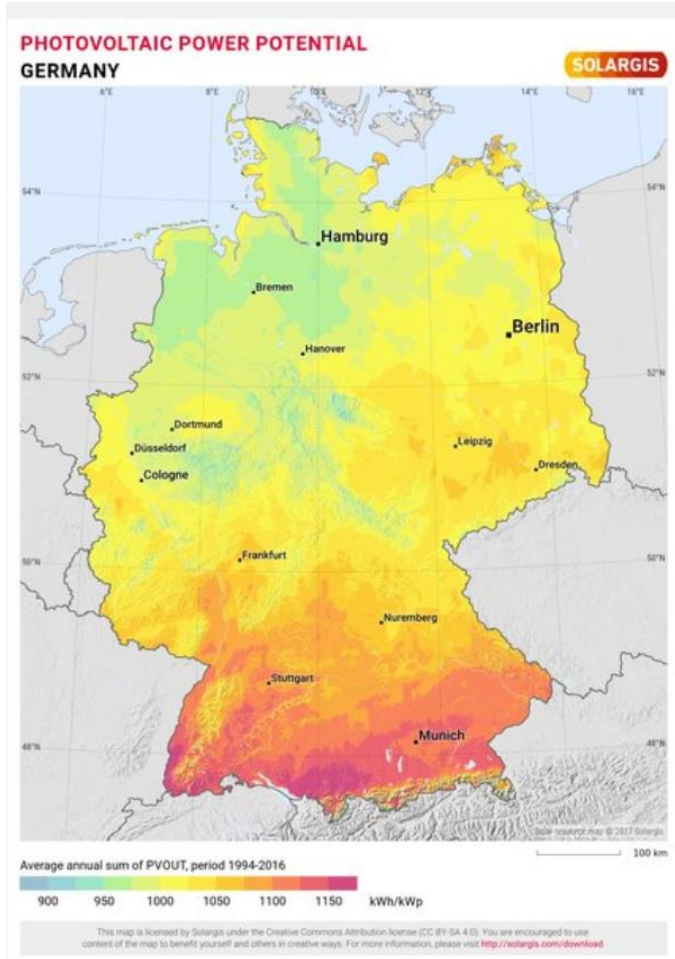
# Challenges for renewables in Bangladesh

- Lack of technical capability and skilled workforce
- Knowledge gap between private sector and financial institutions
- Lack of variety of financial instruments
- Lack of quality equipment
- Lack of proper business models (Solar Rooftop & Solar Irrigation)
- Lack of awareness (Policy & Private sector)
- Conventional myths about Renewable Energy
- Air pollution causes soiling of installations and lowering yield by shielding the sun





# How can very different partners learn from each other?



# German Solar Association (BSW-Solar)

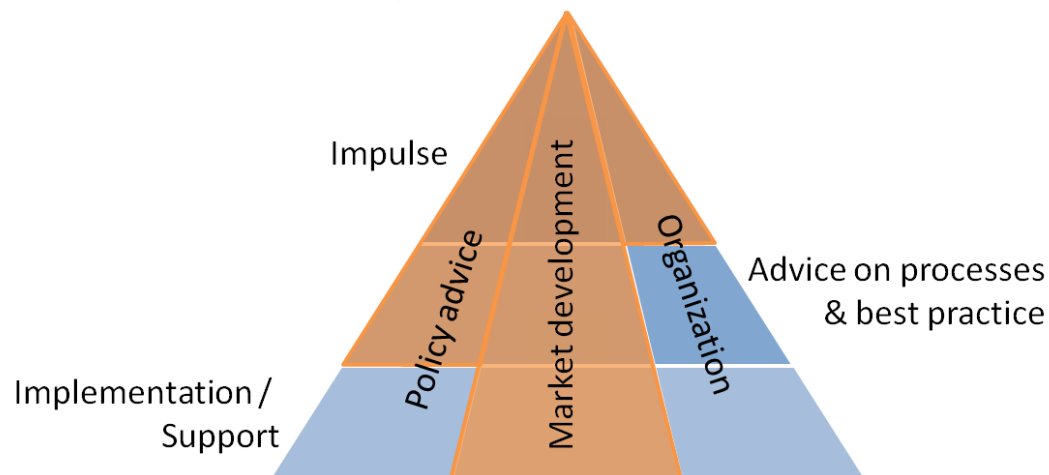
## Peer-to-Peer cooperation



**Impulse:** Situation identification, exploration and evaluation of strategic options for action

**Advice:** Process analysis, implementation, process facilitation

**Implementation:** Implementation of specific (cooperative) projects and support of projects



BSW-Solar's areas of expertise within the framework of association partnerships (red)

# Goals of the Project

- Exchange with BSREA to become an even better acknowledged advocacy group
- Analyze stakeholder expectations (internal / external)
- Identify services / products with added value for members / stakeholders
- Describe and develop first steps to create such quality services in a sustainable way (create net cash flows)
- Mutual learning for technical, financing and marketing solutions from Bangladesh and German
- Inform German companies about opportunities in Bangladesh and match them with local companies





## Contacts for further Information on the Project

Jan Knaack

Sen. Project Manager  
German Solar Association  
Email: [knaack@bsw-solar.de](mailto:knaack@bsw-solar.de)

Dipal Chandra Barua

President, Bangladesh Solar & Renewable  
Energy Association (BSREA)  
E-mail: [dipal@dipalbarua.com](mailto:dipal@dipalbarua.com)

