



Federal Ministry  
for Economic Affairs  
and Energy



MITTELSTAND  
**GLOBAL**  
ENERGY SOLUTIONS  
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# Bangladesh: Financing options for Rooftop Solar PV projects

Trang Nguyen  
Project Development Programme



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Facilitator

**giz** Deutsche Gesellschaft  
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# Content

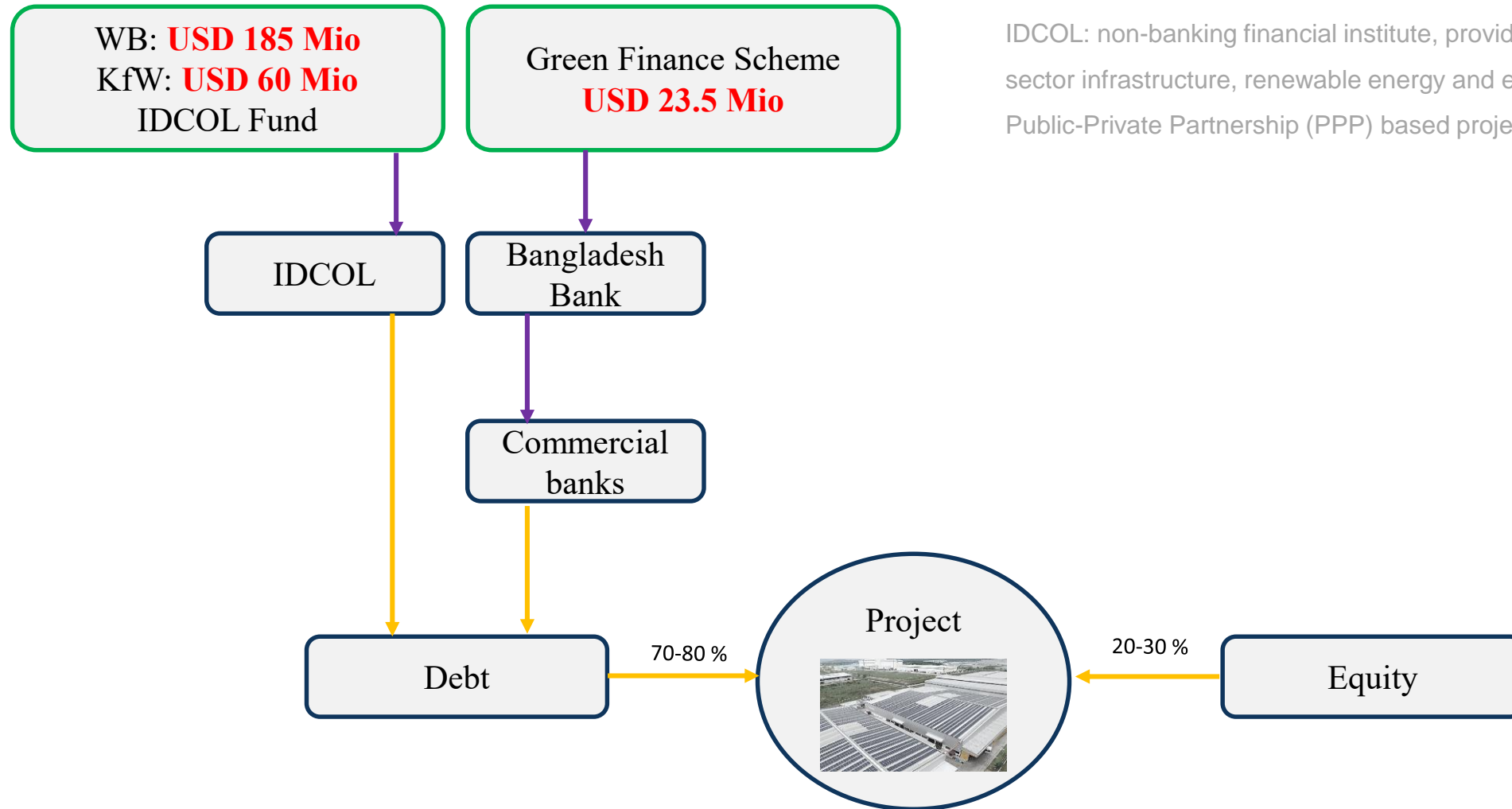
- Local financing options for rooftop solar projects
- Project opportunities and off-takers motivations
- PDP activities & events in 2020 for Bangladesh

# 1. Local financing for rooftop solar projects

# Status quo: rooftop PV in commercial & industrial sectors

- ❑ Potential: 10 GWp
- ❑ Installed capacity: total ~20 MWp
- ❑ Investment models:
  - Most projects via CAPEX model
  - Only 2 projects via OPEX model realized, 2 being developed
- ❑ System size: largest system 2.66 MWp (Square textiled Ltd in Sardagonj, Kashimpur, Gazipur)

# Local financing for CAPEX model



IDCOL: non-banking financial institute, providing soft loans for private sector infrastructure, renewable energy and energy efficiency projects, Public-Private Partnership (PPP) based projects

# Financing conditions

	IDCOL	Commercial banks
Currency	BDT	BDT
Term	<ul style="list-style-type: none"> <li>Tenure 10 years</li> <li>Grace period (principal) 1 year</li> </ul>	<ul style="list-style-type: none"> <li>Tenure 10 years (<b>practice 4-5 years</b>)</li> <li>Grace period (principal) 1-2 years</li> </ul>
Interest rate	6%	5% from Bangladesh Bank 6% - <b>9%</b> to project owners
DSCR	1.2	Depending on the bank and project
Accepted security	Varies (10%~100% loan): <ul style="list-style-type: none"> <li>Fixed and floating assets</li> <li>Personal guarantee of the shareholders</li> <li>Corporate guarantee</li> <li>Lien on project account</li> <li>Lien on shares</li> </ul>	Depending on the bank and project
Project size	No formal limit, prefer projects over 500 kWp	300 kWp - 1.5 MWp
Points of financing	<ul style="list-style-type: none"> <li>Signing of the Financing Agreement and injection of necessary equity in the project</li> </ul>	<ul style="list-style-type: none"> <li>Procurements of components</li> <li>Construction of the system</li> <li>Interest during construction</li> <li>Consultancy cost</li> </ul>
Technical requirements	Technical standards set by an independent technical committee to ensure the quality of the equipment	

# Results (IDCOL projects)

Project	Capacity (kWp)
Paragon Poultry Ltd.	723.06
Power Utility Bangladesh Ltd.	950.04
Far East Spinning Industries Ltd.	1,100
Megarof Ltd.	324
Libas Textiles Ltd.	351
Square textiled Ltd	2,660
United Mymensingh Power Ltd	986
K A Design Ltd	428.22

Project	Capacity (kWp)
Sarah Resort Ltd.	340.47
Kazi Farms Ltd.	
TMSS	484.44
Bashundhara	2460.00
Habitus Fashion Ltd.	617.76
AKM Knitwear Ltd.	901.00
Fakhruddin Textile Mills Ltd.	2040.00
DPQSL	1853.00

- ❑ Commercial banks perceive rooftop solar projects as high risks and have limited information or experiences in such projects
- ❑ The country lacks a legal framework or insurance mechanism for OPEX model → non-funding by the commercial banks

# Local financing for OPEX model

	Dhaka Power Distribution Company	Debonair Group (garment manufacturer)
System size	940 kWp (Dec 2019)	324 kWp (April 2019)
Financing partners	PUBL (Bengal group) and IDCOL	Megarooft (Solaric) and IDCOL
Components	<ul style="list-style-type: none"> <li>Panel: Trina</li> <li>Inverter: ABB</li> <li>Mounting Structure: Local</li> </ul>	<ul style="list-style-type: none"> <li>Panel: Chinaland</li> <li>Inverter: SOFAR Solar</li> <li>Mounting Structure: Local</li> </ul>
ROI	<ul style="list-style-type: none"> <li>IRR: information not available</li> <li>Interest rate: 6%</li> </ul>	<ul style="list-style-type: none"> <li>IRR: 12.10%</li> <li>Interest rate: 6%</li> </ul>
PPA duration	10 years	12 years
PPA price	13.5 USct/kWh. Increased by 5% annually	Floating, 5% discount from grid price
Ownership	System handed over to off-taker after 10 years. Off-taker can purchase the system before year 10 <sup>th</sup> .	System handed over to off-taker after 12 years. Off-taker can purchase the system before year 12 <sup>th</sup> .



## 2. Project opportunities and off-takers motivations

# Facts - Bangladesh textile & garment sector

## RMG Industry: Lifeline to Bangladesh Economy



BANGLADESH is **2<sup>nd</sup>** largest apparel exporting country in the world

**83.5%** of the country's total export earnings come from RMG

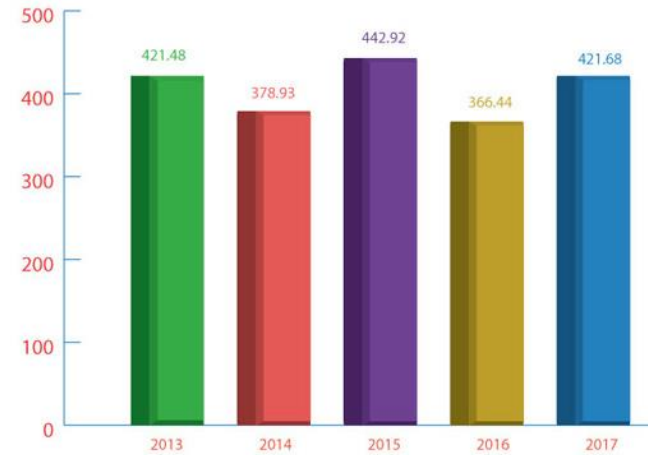
**4.4** Million workers earn their livelihood from the industry

**20%** Of GDP of Bangladesh is contributed by the RMG  
**36.67** billion USD in 2018

The industry indirectly supports livelihood of **40** Million people of the country



FDI trends in Bangladesh's textile industry (in \$million)



TextileToday

- Garment and textile is the backbone industry of Bangladesh, nearly 5,000 factories.
- The major production “site” of many global fashion brands
- Targeting 50 billion USD export value in 2021

# Drives towards RE – Electricity security and price

## Government Targets

- Power System Master Plan (PSMP) 2016 proposed increase the tariff for gas, coal and oil products due to expensive imported fuel

19.3% annually  
until 2041

- Grid e-tariff to be increased due to expansion of power infrastructure

10.3% annually  
until 2041

- Renewable Energy Policy

10% electricity  
generation until  
2020

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## “Reality” for private enterprises

Current energy price:

- Average LNG price: 4 – 6 USct/kWh
- Average grid price: 9 – 11 USct/kWh
- Diesel: 20 – 25 USct/kWh

*Annual grid  
tariff increase  
in the last 7  
years*

**5.01%**  
for industrial  
use

*Annual gas price  
increase in the  
last 10 years*

**5.63%**  
for industrial  
use

**8.40%**  
for  
commercial  
use

- 2017: 22.7%
- 2019: 38%
- 2020: 23.28% (planned)

# Drives towards RE – Climate change mitigation targets



CERTIFIED

- ❑ Bangladesh has the most LEED certified factories in the world!
- 112 certified including 28 rated platinum (highest level)
- 519 have registered for LEED certification



- 100% RE by 2030



- Reduce 55% GHG emission by 2030



- 100% RE by 2026



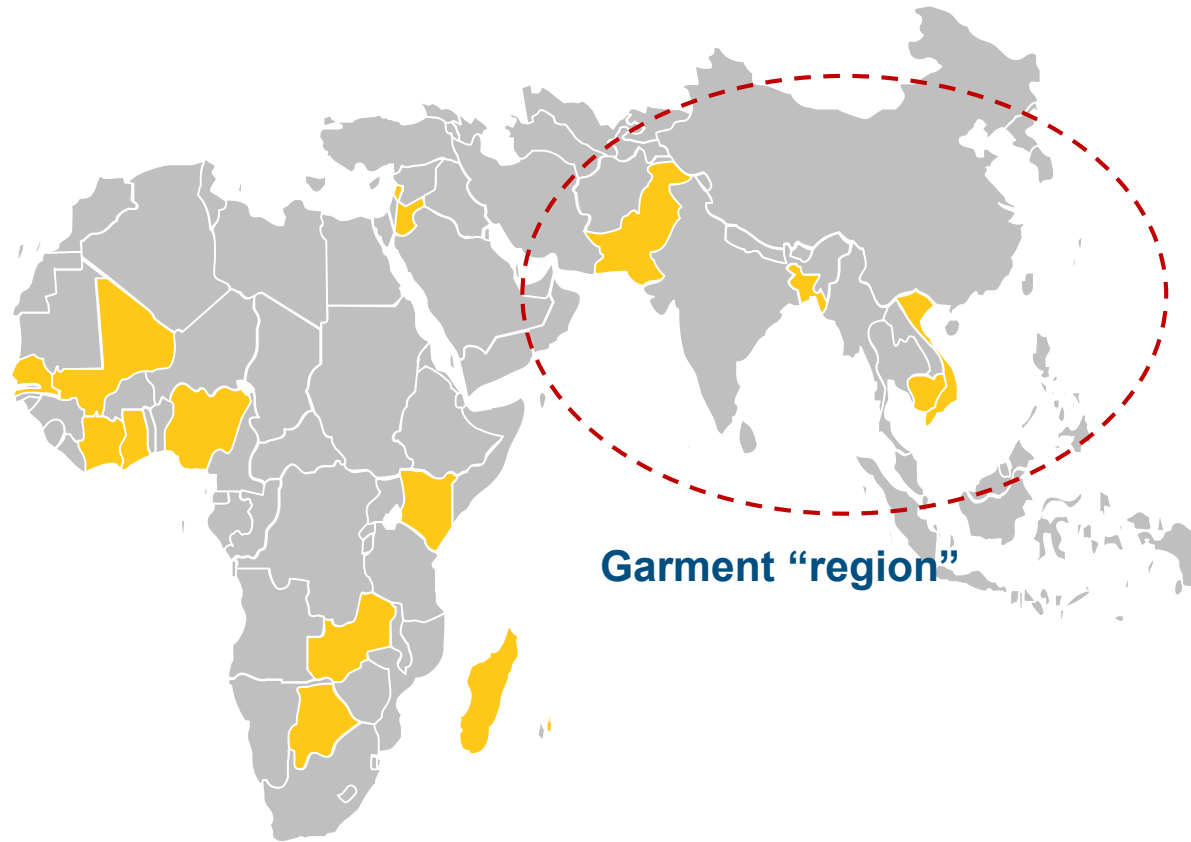
- 50% RE by 2025
- 100% RE by 2030



- Reduce 35% CO<sub>2</sub> emission by 2030

- ❑ Rooftop solar is an effective measure to achieve LEED certificate and climate change targets!
- ❑ More business opportunities!

# PDP supporting the brands and their manufacturers



- ❑ Various brands in 4 countries
  - ❑ Assessing RTS business case of the factories
  - ❑ Project development
  - ❑ Match-making with German solar companies
- „Screening“ the top 10% bankable projects.

# 3. PDP activities & events in 2020 for Bangladesh

# Market insight and promotion events

- Match-making events in April in Dhaka with potential projects
- Target Market Analysis: to be published in April/ May
- German Training Week in September
- Delegation trip for German SMEs to Dhaka 06.09.2020 bis 10.09.2020

# Thank you for your attention!

**Project Development Programme (PDP)**

Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH

**Trang Nguyen – Southeast Asia Advisor**

trang.nguyen1@giz.de  
+49 15 2900 47107

