



# Innovative Financing of Renewable Energy Projects

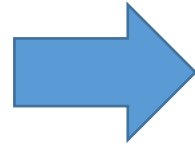
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*August 21, 2017*



# GOI Goals and re-aligning of the World Bank's Engagement

India's NDC Targets relevant to RE sector include to achieve below by 2030:

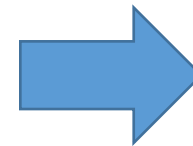
1. Reduce emissions intensity of its GDP by 33-35% (from 2005 levels)
2. 40% cumulative electric power installed capacity from non-fossil fuel based energy sources



175 GW of Installed Capacity of Renewable Energy by 2022



US\$120-150 billion investments



Innovative Strategies to Deploy our limited funds



US\$1 billion investments in RE Sector

# Innovations through Business Models being Deployed

Supporting where  
Public Sector has  
Comparative  
Advantage

Financing  
Shared  
Infrastructure  
Facilities of  
Solar Parks  
through IREDA

Grid-Connected  
Solar Rooftop  
project is  
helping set up a  
new business  
line in SBI

Building Ecosystem  
through supporting  
right institutions

Driving Results  
through  
Customized  
Investment Models

Disbursements  
linked to results  
achieved  
wherever  
applicable

# Innovations through Scaling-Up New Technologies

Twin Goal of the World Bank Group is 'Alleviating Poverty' and 'Boosting Shared Prosperity'

Optimum Utilization of Available Resources

Ensuring Sustainability

- ❑ Solar Wind Hybrid
  - Better utilization of evacuation transmission infrastructure
  - More MWh generated per unit of land
- ❑ Energy Storage Solutions
  - Improved Grid Reliability and RE integration
  - Use Case – what capacity? What objective?
  - Preceding investments with thorough analytical work
- ❑ Floating Solar
  - High opportunity cost of land
  - Utilize available reservoirs
  - Better CUF

# Innovations through Financing Arrangements

Project Preparation

Thorough due diligence of the project – includes technical as well as site specific aspects

Supported by various Trust Funds including facilitating learnings from experiences of other countries

Project Implementation

Includes:

- Investment
- Technical Assistance

IBRD along with concessional financing (like Clean Technology Fund)

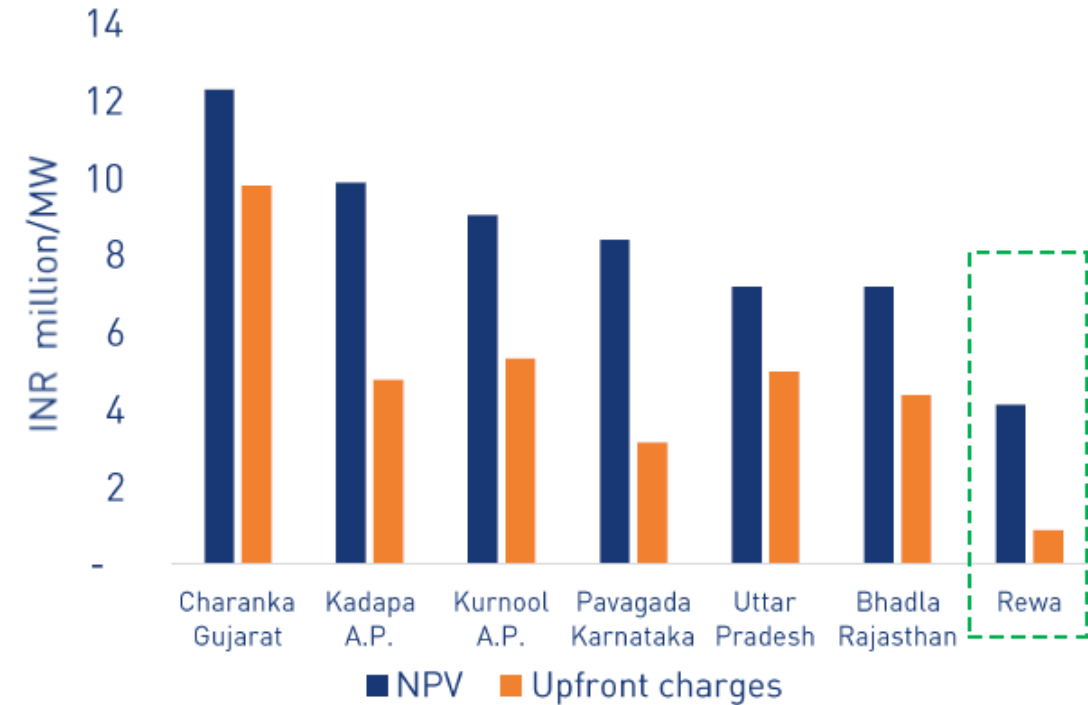
- Reduces Cost of Borrowing
- Grants available – US\$20 m CTF for Storage
- TA promotes self-sustaining mechanisms after project closes

# Numbers Support the Strategy, for instance...

The World Bank funding has brought in the following:

1. More than 30x times leveraging (US\$18 m of World Bank supporting 750 MW Rewa solar park, about US\$600 m of investments)
2. Longer tenor of the loan for RUMSL (solar park developer) enabled to spread the user charges over the longer period, contributing to lower upfront fee (18-30% of cost of other solar parks) as well as lower NPV of user charges.
3. Support to RUMSL in identifying the site area with minimal social and environment impacts. Amongst others, land plays an equally important factor in attracting investors.
4. IFC worked to make deal bankable
5. 'Halo' effect of the World Bank Group – World Bank funding in the common facilities while IFC as a transaction advisor

### Net Present Value (NPV) and upfront charges



Note: NPV is calculated at the discounting rate of 12%

# Finance Plus Initiatives

- GEF funds available for addressing barriers in rooftop sector (capacity development of SNAs etc., creating awareness)
- Communications campaign for floating solar technology
- Undertook a study of Educational Institutions around Rewa Solar Park to foster solar sector skillset – Study completed but recommendations yet to be adopted.
- Supporting System Operator through production cost modeling and other measures such as review of commercial arrangements to integrate VRE
- Working with the Government regarding enhancement of Payment Security Mechanism in RE sector
- Option of take-out financing to absorb pre-commissioning risks and hence able to leverage more from scarce IBRD funds



**Thank You!**