

# IREDA LOAN FACILITY FOR SOLAR ROOFTOPS - PROSPECTS AND CHALLENGE



---

18<sup>th</sup> Feb, 2016

# Solar Rooftop Projects

Solar  
Rooftop  
Potential

- 124 GW

Installation  
Target  
(2022)

- 40 GW

# Rooftop Projects

---

Current Status

- Projects installed – **100 MWp (As on 31.01.2016)\***
- 

## Categories of Rooftops

Institutional ( Govt. Bldgs., hospitals, warehouses, schools etc.): **7500 MW**

Industrial & commercial sector:  
**20,000 MW**

Housing Sector:  
**12,500 MW**



\* Commissioned Rooftop projects (Pvt. Initiative) – Source MNRE

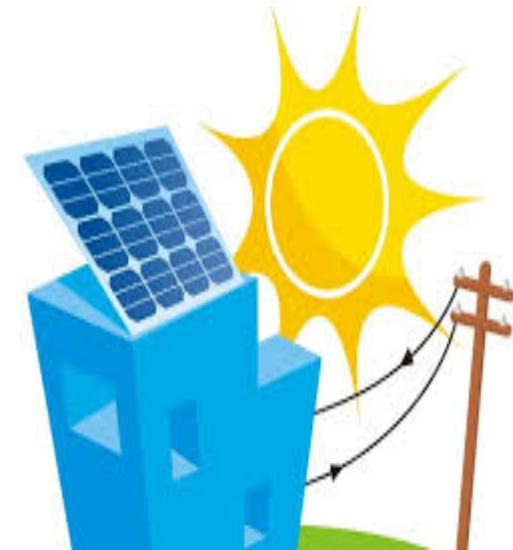
# Solar Rooftop – Game changer

- Solar Roof-top segment has a great potential in India and will be a game changer in attaining these challenging targets.
- Rooftop Solar in India has mostly revolved around govt. supported projects, although, things have changed radically in the last 2-3 years with sharp drop in prices of various components, increased support from the Government and positive regulatory regime.
- Solar can help earn money besides generating power at the place of use and in fact, a profit-making proposition for the building owners by renting their rooftops for solar installations.

# Advantages of Solar Rooftop PV

## Commercial & Technical

- Lower Average Cost of Supply of Solar Energy
- Reduction in line/T&D losses
- Demand Side Management/ Improved power quality
- No land acquisition issues
- Reduction in Transmission and distribution network congestion
- Low Gestation period



# Key Drivers of Solar Rooftop PV

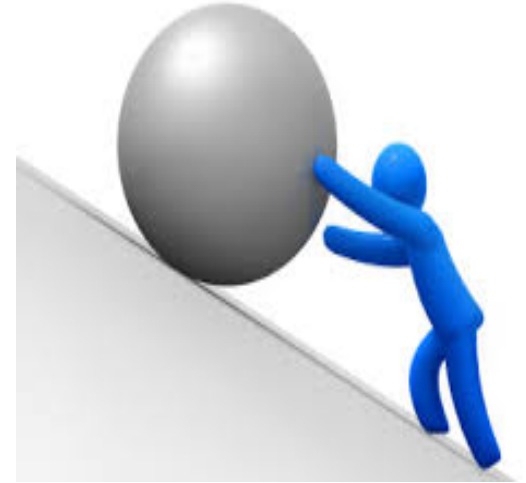
- **Direct capital subsidy**
- **Solar Specific Renewable Purchase Obligations (RPO)**
- **Financing (RBI)**
- **Tax credits/ tax benefits**
- **Net-metering/net-billing**
- **Increasing cost of electricity generated from conventional power**



# Challenges in Rooftop Solar Financing

## Commercial, Industrial & Institutions:

1. Difficulty in getting long term roof rights/ Lease
2. RESCOs yet to gain experience in rooftop solar segment
3. Absence of large corporate houses showing interest in RESCO business.
4. Performance of rooftop projects yet to be established.
5. Seasonal load requirements may lead to longer payback period (e.g. School vacations)
6. Roof structure, strength, load bearing capacity, wind resisting capacity, aesthetic issues, fire safety etc.
7. Uncertainty on future Industrial expansion which may lead to shifting of solar system
8. Intermittency and lack of predictability of generation



# Solar Rooftop policy support

- **Net Metering Policies in place in 21 states.**
  - **Small Scale Rooftops-**  
Individual Loans up to Rs 10 Lakhs (USD 20,000) for RE can be availed under Home Loan/Home improvement loan schemes covered under priority sector lending. (RE notified as priority sector lending by RBI).
  - **Medium and large scale Rooftops – (Industrial, Institutional, Commercial Sector)**  
IREDA is launching dedicated financing scheme for Rooftops with interest rate of ~ 9.9 - 10.5%.



# IREDA's loan scheme for Rooftop Solar PV Power Projects

To support Government's initiative for achieving targets, a new loan scheme launched for setting up of Solar PV Rooftop Power Projects by **Industrial, Institutional and Commercial Sectors**.

## Salient Features

1. Applications through Rooftop Solar Aggregators
2. Single or different locations
3. Minimum total size of the project  $\geq 1000$  kWp, each system capacity  $\geq 20$  kWp
4. Aggregators to provide credit rating from IREDA empanelled credit rating agencies
5. Aggregators responsible for execution & operational performance commitments.

# IREDA's loan scheme for Rooftop Solar PV Power Projects

## Eligibility conditions:

Applications to be submitted under following categories:-

### 1. **Aggregator Category:**

- a) Can submit application as borrower for either single project or multiple sub-projects as per eligibility guidelines.
- b) Minimum total project capacity  $\geq 1000$  kWp.
- c) Minimum sub-project capacity under this mode  $\geq 20$  kWp.

### 2. **Direct Category**

- a) Applicants can submit applications for a project  $\geq 1000$  kWp on a single roof /contiguous roofs
- b) Applications to be rated by IREDA empanelled Credit Rating Agencies.

# IREDA's loan scheme for Rooftop Solar PV Power Projects

## Eligibility Business Models

### Project Ownership Model

Rooftops owned by single party

Rooftops owned by multiple parties

# IREDA's loan scheme for Rooftop Solar PV Power Projects

## Eligibility Business Models

### Revenue Model

Captive power generation by roof owner

Sale to utility under Net Metering

Sale to utility under Gross Metering

Distribution licensee/ Govt. / Semi  
Government bodies/institutions

Any other viable model

# IREDA's loan scheme for Rooftop Solar PV Power Projects

## Terms & Conditions

### Interest Rate

- 9.90% to 10.75% p.a. based on the Credit Rating.

### Loan Repayment Period

- Up to 9 years

### Moratorium

- 6 to 12 months from the date of COD

### Quantum of Loan

- 70% of the total project cost with min. promoter's contribution of 30% of the project cost.

# Conclusion

- Solar Rooftop PV Systems have great potential, however, there is a need for awareness creation both about Rooftop Solar PV Systems/ technology packages as well as about the financing avenues available.
- Policy support is essential in terms of regulations for net metering, grid interconnection and energy accounting
- Need for promoting large scale, local manufacturing of dual function inverters (functionality of both grid-tied and hybrid inverters) to reduce cost.
- Need for technical innovations in storage technologies - mainly to reduce costs and improve efficiency.



**Indian Renewable Energy Development Agency Limited**

[www.ireda.gov.in](http://www.ireda.gov.in)