

Line of Credit for Solar rooftop segment for commercial, industrial, and residential housing sectors

NABARD – Committed to Rural Prosperity



Development Bank of India

- Mandated for Sustainable and Equitable Rural Prosperity

PAN India Presence

- 31 ROs, 430 District Offices, 4 Specialised Subsidiaries, 2623 Professionals

Rural Partners

(154,000 Farmers Club, 3000 FPOs, 5000 CSOs, 7.5 million SHGs)

Major Functions

- Credit & Refinance
- Developmental Initiatives
- Funding rural infrastructure
- Policy Advocacy
- Supervision of Cooperative & Rural Banks

Balance Sheet Size -
US \$- 54.41 Billion
(2016-17)

Loan Portfolio Size
- US \$ 47.65 Billion
(2016-17)



गाँव बढ़े >> तो देश बढ़े

Overview of case studies



गाँव बढ़े >> तो देश बढ़े

www.nabard.org

 [/nabardonline](https://www.youtube.com/nabardonline)

Taking Rural India >> Forward

Status of the Proposal

- Approved by 19th GCF Board Meeting
- AMA signed with GCF on 27 July 2017
- FAA & Subsidiary Agreement is under preparation

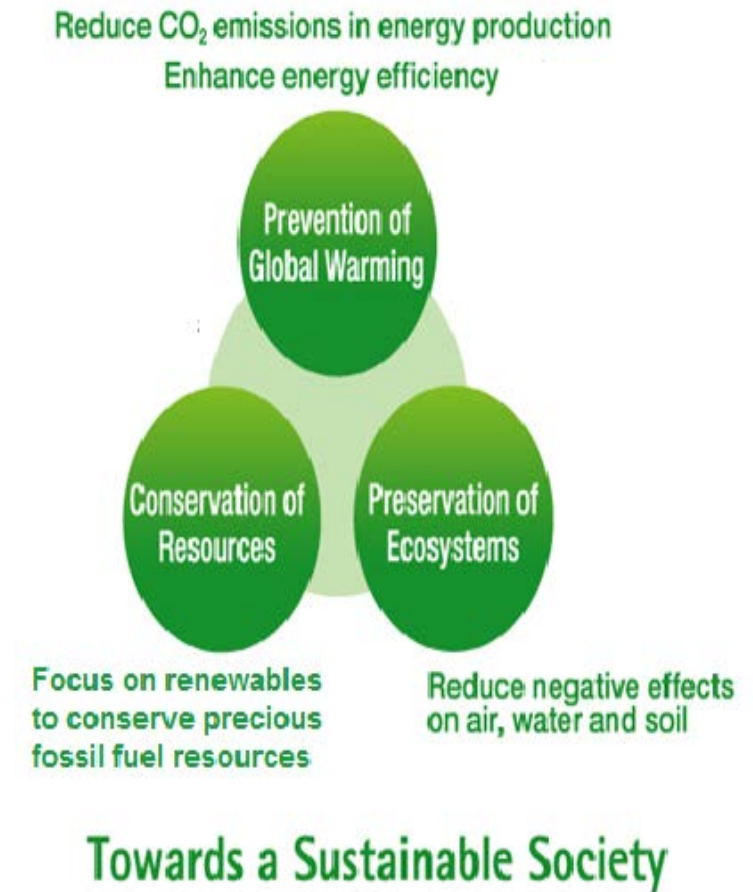


Project or programme	Programme
Country	India
National Designated Authority(NDA)	Ministry of Environment & Forests (MoEF), Govt of India
Accredited entity	National Bank for Agriculture and Rural Development (NABARD)
Executing entity / beneficiary	Executing Entity: Tata Cleantech Capital Limited Beneficiary: Commercial, Industrial & Residential housing sectors
Project size	Medium ($50 < x \leq 250$). Total programme size is USD 250 million.
Mitigation / adaptation focus	Mitigation
Public or private	Private
Results areas	Reduced emissions from Energy access and power generation
GCF Assistance	USD 100 million in the form of Senior Loans
TCCL's Co-financing	USD 100 million



TATA Cleantech Capital Limited (TCCL): Overview

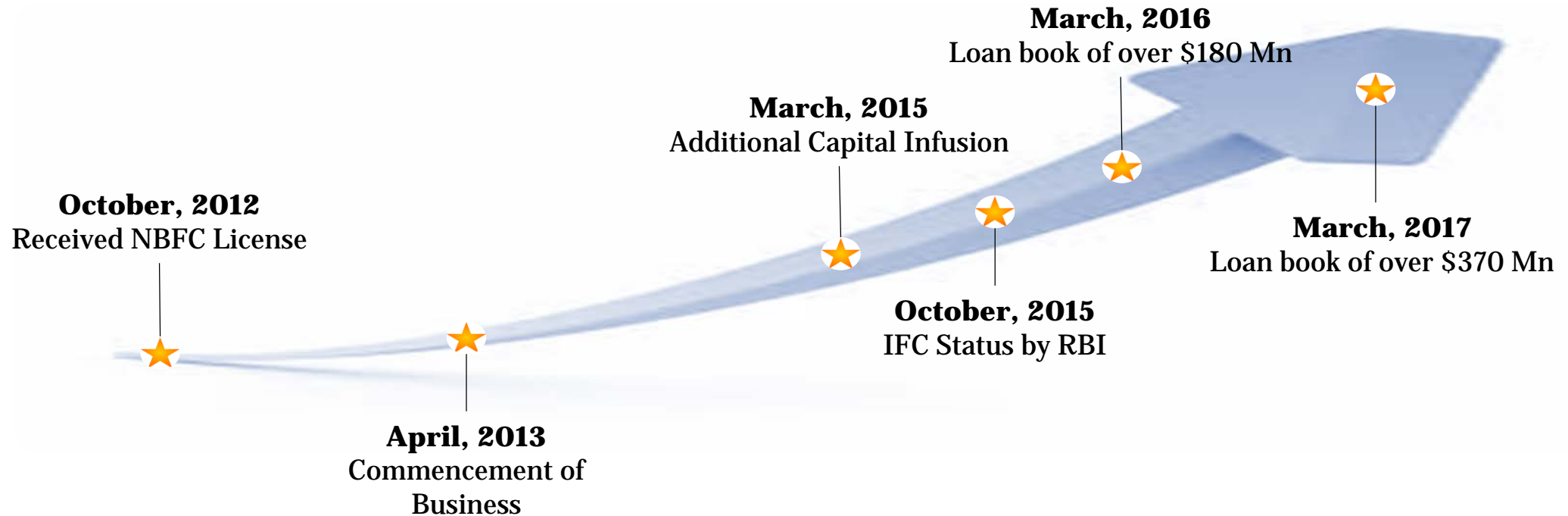
- **JV between Tata Capital Limited (TCL) and IFC(W), World Bank Group (Sept 2011).**
- **Specialized Infrastructure Finance Company - Primary focus on Cleantech funding and advisory.**
- **TCCL has successfully participated in funding of ~4.6 GW Renewable Energy Generation – saving approximately 6.8 million tons CO₂ emission annually.** We have also undertaken comprehensive **Eco-city studies** co-funded by IFC and EU.
- **TCCL is the only Indian company to feature in UN Global Compact survey on CEO's perspective on Climate Change (Nov'15), as a leader in facilitating sustainable business.**



Performance of TCCL over The Years

- Built deep industry expertise and networks in Cleantech space
- Executed over 100 transactions till date without any NPAs
- Maintains “AA+” rating by CRISIL - strong parentage and high quality assets portfolio

Journey so far:



IFC Status: Infrastructure Finance Company Status

Products and Services of TCCL

Businesses

Credit & Underwriting

Project Finance & Structured Debt Solutions:

- Clean tech – Solar, Wind, Hydro & Bio-mass
- Water, Energy Efficiency & Conservation
- Other Infrastructure (Power Transmission, Transport, Logistics, Healthcare, Education)

Financial Advisory

Full Suite Financial Solutions:

- Buy-side and Sell-side Advisory Solutions
- Mergers & Acquisitions (M&A)
- Restructuring Advisory
- Strategic Capital Raising Services

Cleantech Advisory

Technical Advisory Services - Climate Change & Sustainability

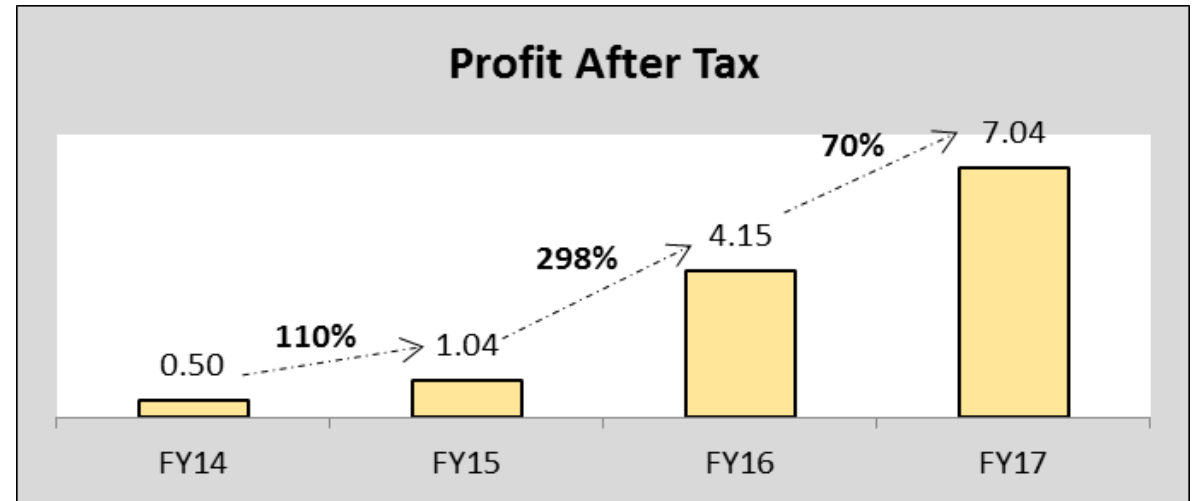
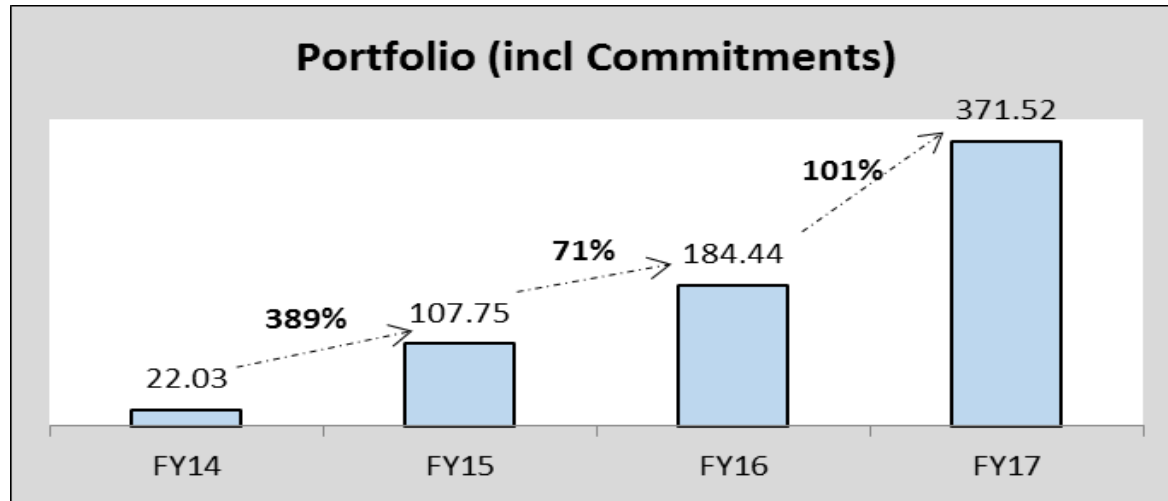
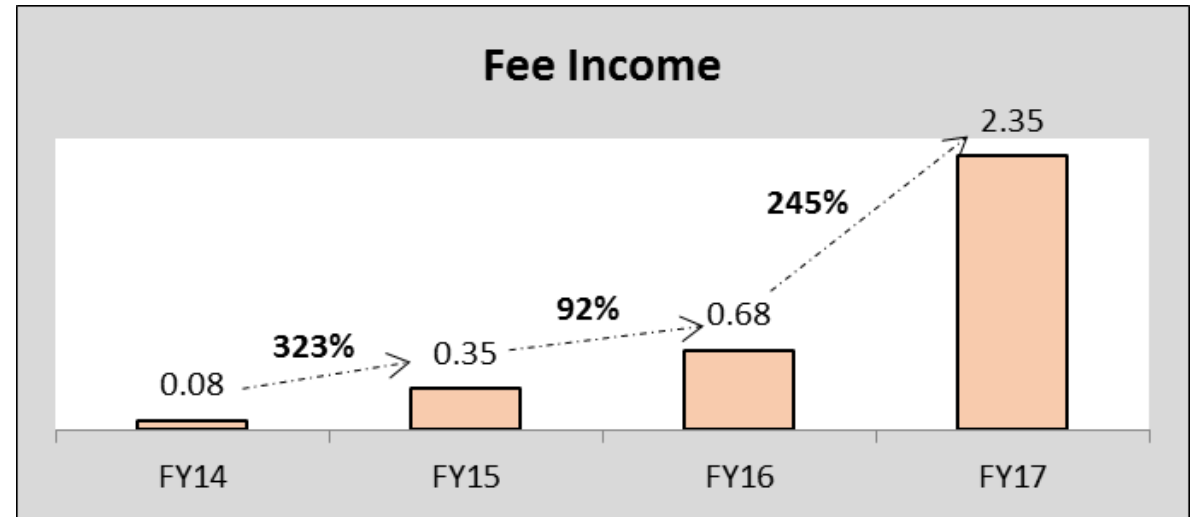
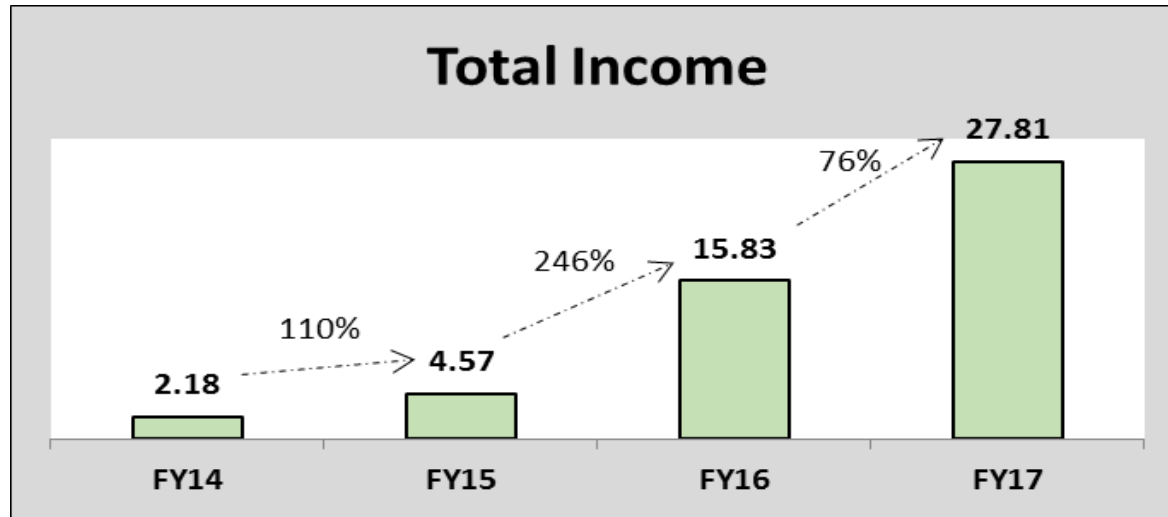
- Sustainability Strategy
- Energy / Carbon / Water Foot Printing
- Feasibility Studies

Syndication

Debt Syndication Across Renewable & Other Infra Sectors



Robust Growth during the last 4 years



***All Figures in USD Million**

***Respective Year End Exchange Rates Employed**

Major Rooftop Projects in TCCL's portfolio



- ❖ **Largest solar rooftop project in Mumbai:** at National Centre for Performing Arts (NCPA), by Avesta Solar Private Limited, in Mumbai.
- ❖ **Rooftop project with Indian Railways:** 2.4 MWp on rooftops of Rail Wheel Factory installation in Bangalore, Karnataka.
- ❖ **Institutional presence - Rooftop projects across 27 locations in 7 states:** ~10 MWp rooftop solar Projects across 27 locations in 7 states in India under the Solar Energy Corporation of India (SECI) Bid. Projects are installed on the roofs of various educational institutions and hospitals.
- ❖ **Rooftop project with leading auto component company in India:** 400 KW of rooftop solar project on rooftop of Gabriel India Limited in Pune, Maharashtra



What motivated this intervention?



गाँव बढ़े >> तो देश बढ़े

www.nabard.org

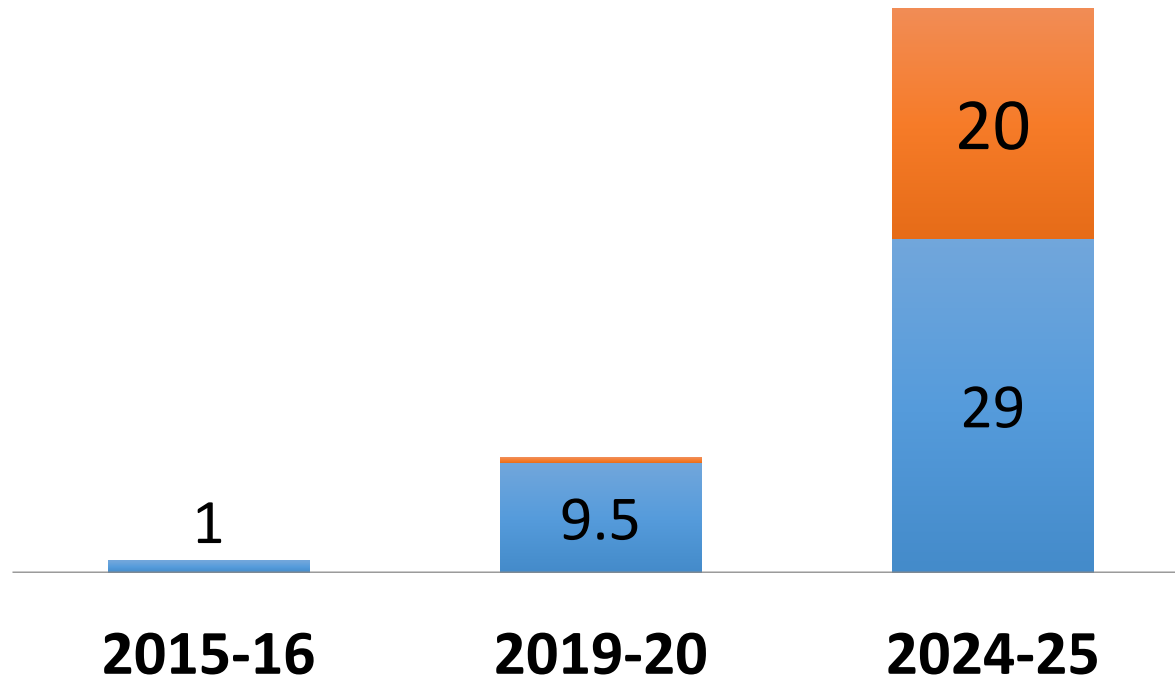
 [/nabardonline](https://www.youtube.com/nabardonline)

Taking Rural India >> Forward

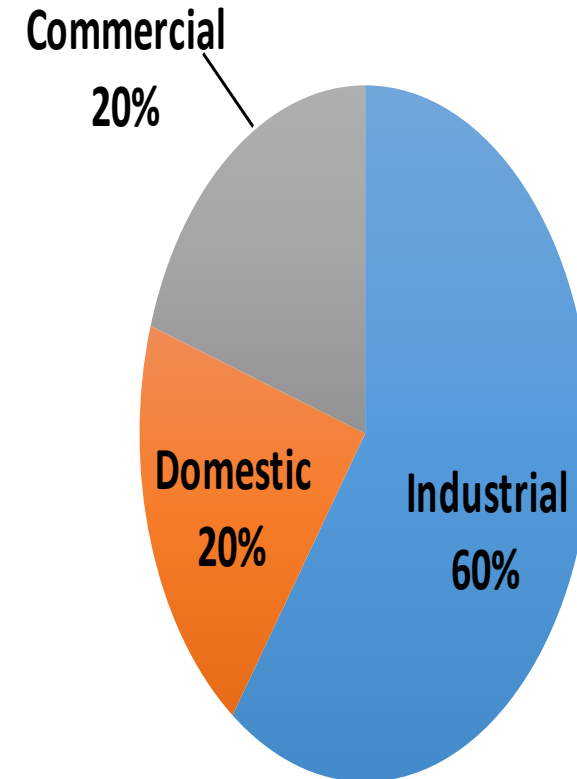
Solar Rooftop Potential in India – “Game Changer”

Cumulative Solar Rooftop Potential in India (GW)

■ Rooftop ■ Rooftop with Storage



Rooftop Potential Contribution 2019-20



National Solar Mission

- **Aims to promote the development and use of solar energy for power generation and other uses and making solar energy compete with fossil-based energy options.**
- **Focus on rooftop solar, target - 40 GW by 2022**



Motivational Factors



- National Priority & NDC commitments
- Supportive policies (At Federal & Provinces level)
- Roof top Solar Energy Target – 40 GW (by 2022)
- Huge Financial Requirement (> 34 Billion USD)
- Financing to Roof Top Solar projects is in nascent stage
- Financial barriers observed



Approach Followed



- ❖ Call for proposals of Private Sector by NDA (i.e. MoEF&CC, Govt of India)
- ❖ Scrutiny of Proposals by DAE (i.e. NABARD)
- ❖ Ranking of Proposals
- ❖ Approval of proposals by NDA
- ❖ Submission of Proposal to GCF
- ❖ Time Taken (June 2017 to February 2018)



Nature of Financial Instrument



❖ Programme Size – USD 250 Million

- ✓ USD 100 Million loan from GCF
- ✓ USD 100 Million –mobilisation of resources by TCCL
- ✓ USD 50 Million – Contribution from Promoters

❖ Loan to Roof top Solar Promoters by TCCL

❖ Tenor of Loan – 20 Years



Why did you select this instrument?

- Co-existence of Public and Private Sector
- Public Sector - Limited resources and access
- Private Sector investment – Key Contributor
- Few MSMEs qualify as eligible borrowers under the existing lending programme.
- Blending of financial resources (Concessional & Higher Cost)
 - Need of the hour



Are there challenges or opportunities to scale up and replicate the intervention?



Solar power in India -Opportunities



- Target set up by Govt of India - 100 GW (including 40 GW from rooftop solar) by 2022
- Investment requirements - US\$100 billion
- Solar installed capacity - 20 GW in February 2018
- Daily average [solar-power-plant generation capacity](#) in India -0.20 kWh per m² of used land area



Opportunities & Challenges



- Business opportunities are enormous (including Rural areas)
- Promotion of Rural Entrepreneurs – Scope exists
- Improvement in Quality of Life/ Standard of Living

Challenges

- Technology & Financial Requirement
- Credit & Forex Risk
- Formulation of Supportive Policies (Particularly for Rural areas)



Features of the GCF Facility



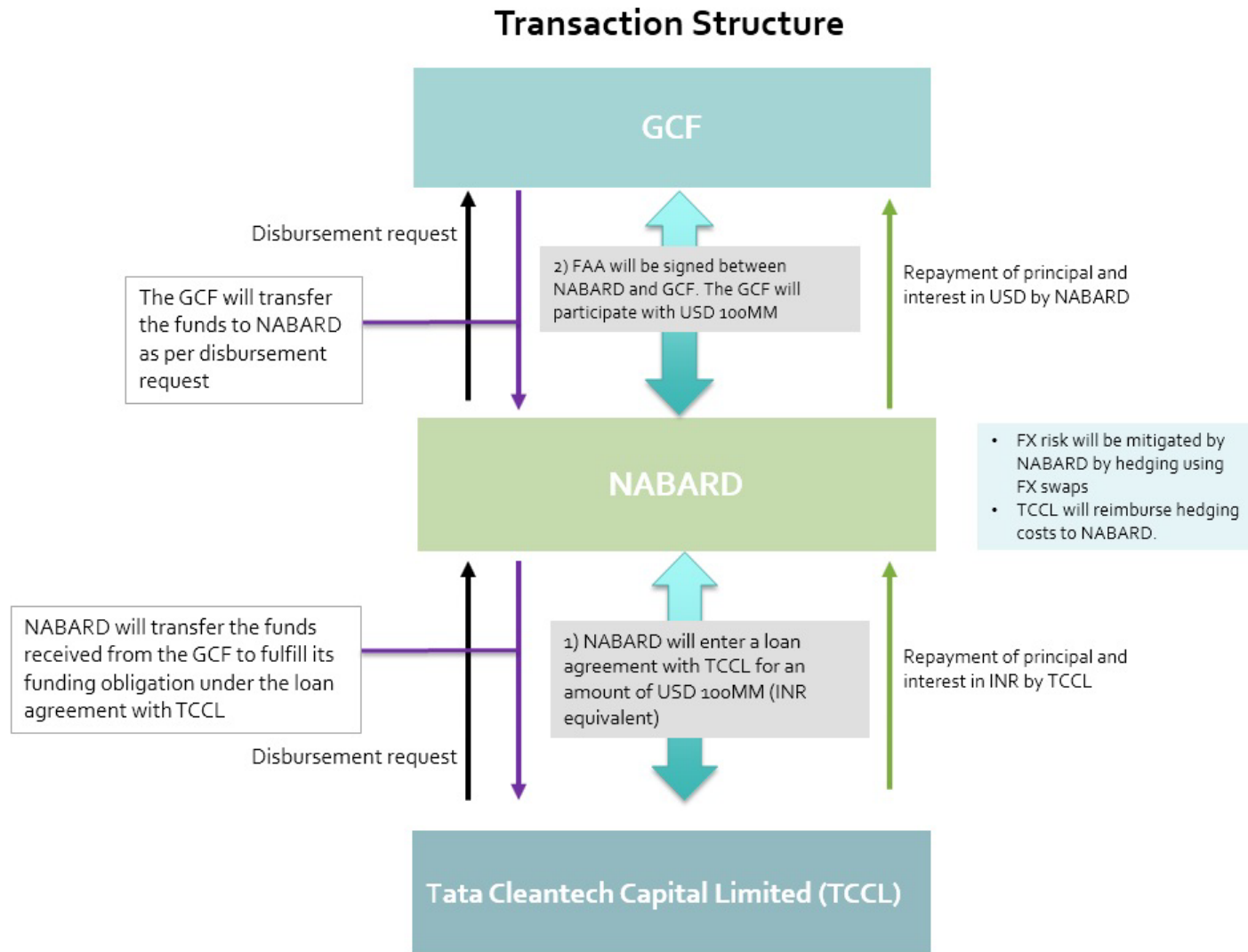
गाँव बढे >> तो देश बढे

www.nabard.org

 [/nabardonline](https://www.youtube.com/nabardonline)

Taking Rural India >> Forward

Implementation Arrangements



- GCF's financial assistance routed through NABARD (in USD)
- NABARD shall on-lend the same to TCCL in local currency (Indian Rupees)
- NABARD shall assume the Forex Risk on repayment of USD funds - to be covered fully through suitable hedging products
- Cost of hedging - reimbursed by TCCL.
- TCCL shall provide Project Loans / Master Line of Credit to various solar rooftop developers
- TCCL assumes credit risk on the ultimate Borrowers

Component wise Break Down

Component	Sub-component (if applicable)	Amount (for entire project)	Currency	Amount (for entire project)	Local currency	GCF funding amount	Currency of disbursement to recipient
Operating Assets	PV modules	112.5	<u>million USD (\$)</u>	7,312.5	Million INR	45.00	INR
	Inverters	75.0	<u>million USD (\$)</u>	4,875.0	Million INR	30.00	INR
Supporting Infrastructure	Mounting Structures	37.5	<u>million USD (\$)</u>	2,437.5	Million INR	15.00	INR
	Other BOS (Junction box, cables, meters etc)	12.5	<u>million USD (\$)</u>	812.5	Million INR	5.00	INR
Others	Soft Costs	12.5	<u>million USD (\$)</u>	812.5	Million INR	5.00	INR
Total project financing		250.0		16,250.0		100.00	

Sustainable Development Potential

Climate Impact Potential

Environmental co-benefits

- Expected lifetime emission reductions overtime:
379,600 tCO₂eq
- Improved air quality via reduction diesel-based generation solutions.

Social co-benefits

- Significant improvement in power availability at reduced costs to the consumers
- Improvement in grid stability
- Easy availability of long-term finance spread over economic life of the project

Gender-sensitive development impact

- Program shall offer support for implementation of various type of activities aimed at improving job opportunities for women.

(a) Total project financing	US\$250 million
(b) Requested GCF amount	US\$ 100 million
(c) Expected lifetime emission reductions overtime	5,212,200 tCO ₂ eq
(d) Estimated cost per tCO₂eq (d = a / c)	US\$ 47.96 / tCO ₂ eq
(e) Estimated GCF cost per tCO₂eq removed (e = b / c)	US\$ 19.19 / tCO ₂ eq

Thank You

Climate.change@nabard.org

www.nabard.org



गाँव बढ़े >> तो देश बढ़े

www.nabard.org

 /nabardonline

Taking Rural India >> Forward