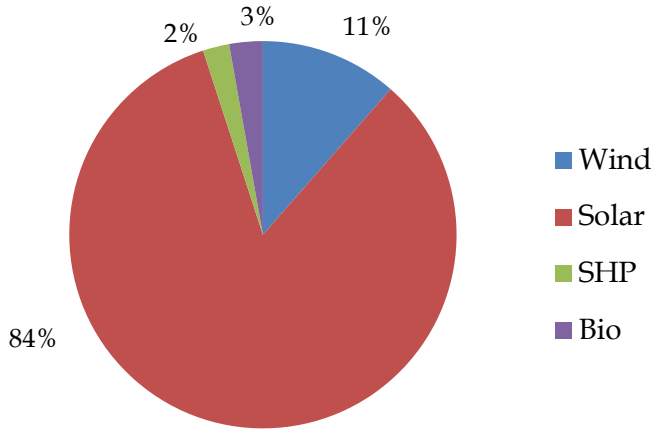
STATE BANK OF INDIA – SOLAR KNOWLEDGE EXCHANGE 2019

Energy Sector Management Assistance Program (ESMAP)

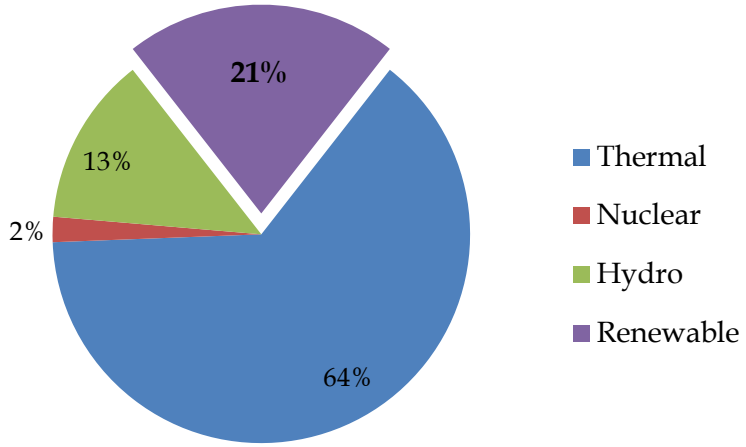
Renewable Energy in India - Current Scenario

Renewable Energy Potential ~900 GW



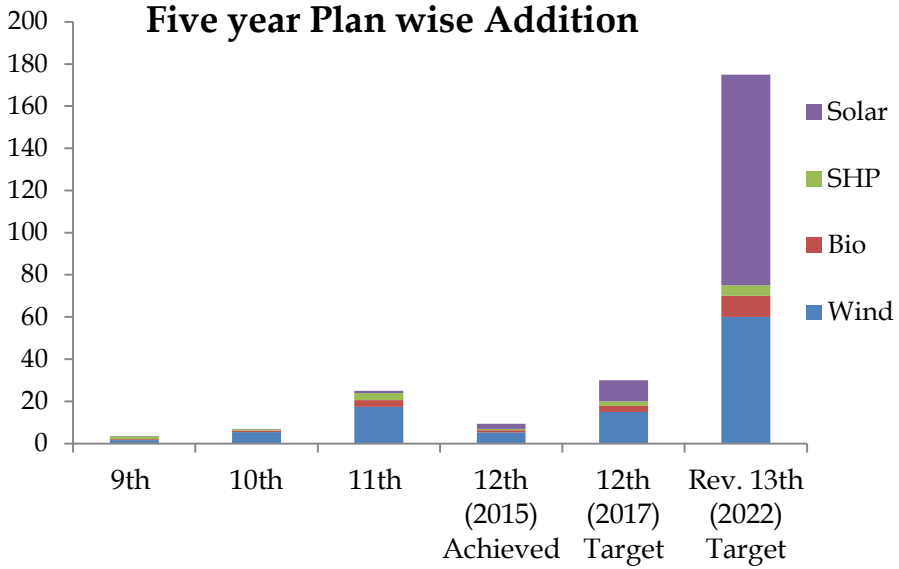
As Per Annual Report 2017, MNRE

Total Installed Capacity ~73.35 GW*



**As on October, 2018*

Renewable Energy Capacity Addition (in GW)



Increasing Share of Renewable Energy

- According to MNRE, there is a potential of ~900 GW in grid connected renewable power due to high solar irradiation, high wind velocities, significant annual production of biomass and numerous rivers.
- Reduced domestic coal supply, variation in international coal prices and need to reduce carbon footprint are compelling reasons for increased focus by the government on renewable energy sources.
- Policy and regulatory steps viz. preferential tariffs, RPO, REC, etc. have led to substantial increase in installed renewable energy capacity.

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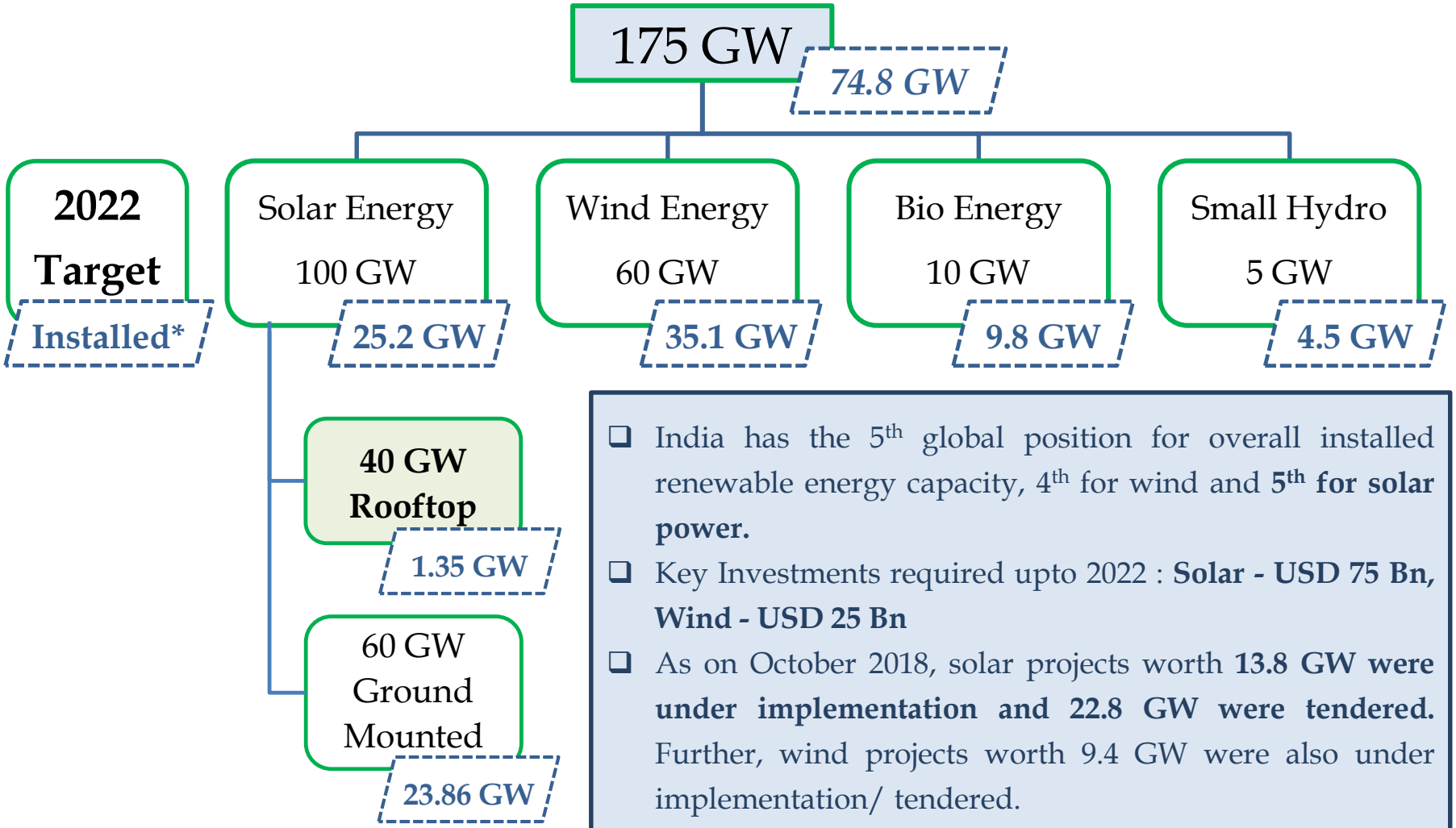
Renewable Energy in India - Targets

India has set a target of 175 GW from Renewable Energy (RE) sources by 2022



- India has the 5th global position for overall installed renewable energy capacity, 4th for wind and **5th for solar power.**
- Key Investments required upto 2022 : **Solar - USD 75 Bn, Wind - USD 25 Bn**
- As on October 2018, solar projects worth **13.8 GW were under implementation and 22.8 GW were tendered.** Further, wind projects worth 9.4 GW were also under implementation/ tendered.

**Installed capacity as on December 31, 2018*

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SBI – India's Largest Commercial Bank

Among the **Top 50** Global Banks

Present across **206 offices** in **35 countries**

Over **1,00,000** pan-India **village coverage**

US$ 516 bn
Total Assets

Domestic Loan exposure:
US$ 235.1 bn

424 mn+
Customer accounts

9.68%
CET 1 CAR
12.60%
Total CAR

2,64,041
employees
spread across **35**
countries

59,541
ATMs
22,414
Branches

Note: As on March 2018

SBI's Green Initiatives

- In line with the Government's target of 175 GW of renewable power capacity by 2022, SBI has committed to **finance viable renewable energy projects of ~15 GW** (~USD 11.5 Billion) from 2015 to 2020
- As on Mar 2018: Loans of USD 3.5 Bn sanctioned to finance 512 renewable energy projects of ~10.3 GW:
  - ✓ Wind: USD 1.8 bn
  - ✓ Solar: USD 1.7 bn

INTERNATIONAL PARTNERSHIPS

SBI is partnering with various multilaterals, bilateral agencies and ECAs like **World Bank, KFW, EIB, JBIC** for green financing at concessional rates to support renewable energy projects by making loans more affordable.

Exploring financing of **climate smart cities** under the Smart Cities Mission of the Government via issuance of municipal bonds, etc.

Smart City
MISSION TRANSFORM-NATION

INTERNAL MEASURES

- **Green building certification** for many of its premises;
- **Rainwater harvesting**, **waste management**, replacing use of paper through **digitization;**
- For captive consumption at offices:
  - **Windmills** (10 since 2010),
  - **Solar panels** (2.85 MW till date)
- Installation of **solar ATMs** (~1,200 on 31-Mar-18)
- **Energy efficiency** – LED lights, efficient ACs, solar water heaters, energy conservation tools in IT operations, etc.;
- SBI's **Green Marathon** to spread awareness on climate related issues.

SBI's Green Initiatives

1st Sustainability Report: 2016

First by any Indian public sector bank

2nd Sustainability Report: 2017

based on the **Global Reporting Initiative [(GR)I-G4] guidelines**

3rd Sustainability Report: 2018

Aligned to **UN's Sustainable Development Goals (SDGs)**

- SBI has a philosophy of **"Integrated Sustainability"** that seeks to leverage the synergy between Social, Environmental and Economic aspects of business.
- To pursue sustainability throughout the organization, SBI has conducted **capacity building exercise** at its Corporate Centre and all Circles (local head offices).
- **Corporate Centre Sustainability Committee and Circle Sustainability Committee** constituted for effective monitoring and deliverance of sustainability initiatives.
- SBI has also associated itself with the likes of ***CII, FICCI, ASSOCHAM, GIZ, GRI***, etc. for showcasing its initiatives as well as aiding in internal capacity building & knowledge sharing.

SBI's MEMBERSHIPS

Member of The Science and Technology in Society (STS) forum

Signatory member to Carbon Disclosure Project (CDP) in India

- Gold Community member of Global Reporting Initiative (GRI);
- Corporate member of GRI Sustainable Development Goals Agenda 2030 South Asia.

Member of ISA's Global Leadership Task Force of Corporates on Innovation, Chair of the Financial Innovation Mission of the ISA

FURTHER INITIATIVES

- SBI's **Carbon Neutrality Project** for attaining "Carbon Neutral" status is slated to start soon.
- Completion of **100 solar power installations at SBI's own premises** expected shortly.
- Member of The Climate Grups-EV-100: transitioning to Electrical Vehicle.

SBI's International Partnerships for Climate Finance

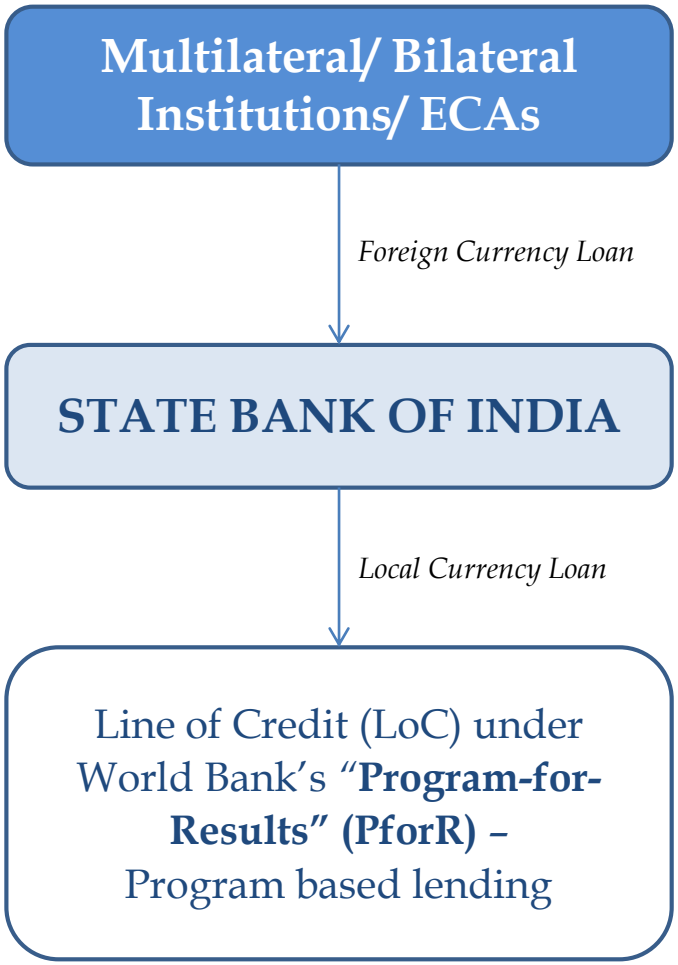
Name	Category	Purpose	Amount (USD mn)
The World Bank	Rooftop Solar	Supporting Grid Connected Rooftop Solar PV in India	648.0*
KfW German Development Bank	Solar PV	Solar Projects under the Indo-German Solar Partnership	177.0#
	Affordable Housing	Affordable housing loan portfolio of SBI	274.0
	Microfinance, Agrifinance	Microfinance and Agrifinance (Priority Sector Lending)	300.0
European Investment Bank	Solar PV	Supporting Grid Connected Solar Photovoltaic (PV) Projects in India	214.3
	Renewable	Supporting projects of small/ mid-sized corporates and projects involving climate change mitigation & adaptation	220.0
Japan Bank for International Cooperation	Climate Conservation	Projects contributing to preservation of global environment i.e. significant reduction of greenhouse gas emissions	90.0

* The facility includes an **IBRD** and **CTF loan facility** for debt-funding, a **CTF Grant** for meeting program expenditure and a **GEF Grant** for bad debt reserve & capacity building.

In addition to this, a **Technical Assistance Package** has been provided primarily for setting up an **Environmental and Social Management System (ESMS)** by SBI.

SBI – World Bank LoC: Structure

Two-Step Financing for Program Lending



Advantage to the Foreign Lender

- Gives foreign lenders an opportunity to participate in small climate projects while taking the counterparty risk of SBI (quasi – sovereign)
- Avoids concentration of risk on an individual project
- Aggregation possible (due to intermediary bank like SBI) to support such climate initiatives on a large scale

SBI – World Bank LoC: Facility

USD 648 mn facility

Sanctioned by World Bank to SBI for funding grid connected rooftop solar PV projects for a five year period ending November 2021.

Program-for-Results

Funded under WB's relatively new financing instrument, **PforR,** that disbursement directly to achieving specific program results.

Project Impln Unit

A separate internal unit in SBI housed within its Credit Policy & Procedures Department; acts as an overall coordinator and nodal point.

USD 500 Mn	USD 120 Mn	USD 5 Mn	USD 10 Mn	USD 12.94 Mn
IBRD Loan	CTF Loan	CTF Grant	GEF Grant	GEF Grant
Debt funding Grid Connected Rooftop Solar PV Projects		Meeting program expenditure	Creating a Reserve Fund for bad debts	Capacity building of key stakeholders

Current Utilisation: **USD 258.5 MN**			
USD 188.6 Mn	**USD 45.8 Mn**	**USD 5 Mn**	**USD 8.7 Mn**

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SBI – World Bank LoC: Facility

Benchmark Parameters	Details
Target Group	Sole Proprietorships, Partnership Firms / LLPs, and Companies
Purpose	To finance GC-RSPV projects at Commercial, Industrial and Institutional Buildings
Business Models	OPEX (RESCO) and CAPEX
D:E Ratio	Maximum 75:25
ROI	1 Year MCLR + 20 bps to 50 bps based on borrower's creditworthiness # current 1yr MCLR is 8.55% p.a., hence, 8.75% p.a. to 9.05% p.a.
Loan Tenor (Max.)	15 Years including a moratorium of up to 1 year post DCCO*, OR 80% of PPA tenor, whichever is lower
Type of Offtaker	Commercial, Industrial & Institutional Customers

Financial Covenants	• FACR : 1.25 (Minimum)
	• Avg Gross DSCR at:
	  ○ P75: 1.35 or
	  ○ P90: 1.15

World Bank Conditions	Compliance with conditions stipulated by World Bank with respect to • Environment, Health, Safety and Social (EHSS) measures, • Procurement, • Anti-corruption guidelines, etc.

**DCCO - Date of commencement of commercial operations*

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SBI – World Bank LoC: Borrower Models

CAPEX	RESCO
The borrower sets up rooftop solar project with the intent to reduce his own power costs. Residual power, if any, can be fed to the grid.	RESCO will develop the rooftop solar projects for its clients on the agreed terms and conditions.
The Borrower would approach an EPC contractor for installation of the project. O&M contract may be given to the same EPC contractor or some other person.	RESCO would enter into a long term legally binding lease, right to use or similar agreement for the roof on which solar project will be installed.
Debt servicing is dependent on the main business activity of the Borrower.	RESCO will also enter into a PPA for the supply of power. The same RESCO is likely to take up multiple projects across different locations.
Financial appraisal would be like any other asset (e.g. machinery) financing proposal.	RESCO would be borrower in Bank's books and liable for repayment of loan

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SBI – World Bank LoC: Unique Features

Advantage Rooftop

- Makes use of unused space, **avoids need for additional land** dedicated to energy production. Also, doesn't face challenges associated with land acquisition/ conversion that is a major cause of delays in implementation in utility scale solar projects;
- Makes use of **existing grid infrastructure**;
- Produces power near point of consumption, resulting in **reduction in transmission & distribution losses**

Focus on Commercial & Industrial Customers

- Commercial and industrial (C&I) customers **pay higher tariffs** for electricity through the grid, vis-à-vis residential customers. Hence, generation of power via GC-RSPV is more economically attractive to the C&I segment.
- **Industries** such as textile, automobile, food processing, manufacturing units, hospitals, hotels, educational institutions, etc. have large **unutilized roof space**, can be used for GC-RSPV installation.

Technical Soundness & Quality Assurance

- Program conforms to **international experience and good practice in GRPV** including technical standards; grid integration of RSPV and business models. Established **quality assurance and control systems**.
- Modules and other equipment procured must meet **MNRE's minimum technical specifications**, such as BSI/IEC certification for modules.
- SBI will engage an **Independent Engineer (LIE)** for investments >INR 100 crore (~USD 14 mn) to ensure investments meet the minimum technical standards.

Compliance with international EHSS benchmarks

- The Program helps achieve the dual objectives of reducing **Greenhouse Gas (GHG) emissions** as well as increasing **access to electricity**. Other **social benefits** include air quality improvement, employment opportunities to local communities, etc.
- Specific EHSS requirements by World Bank ensures adoption of **best international practices for EHSS**; also **enhances capacity** of all stakeholders (including SBI) to effectively identify, assess, manage and mitigate environmental and social issues.

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SBI – World Bank LoC: Progress

PROGRESS SINCE INCEPTION OF THE PROGRAM

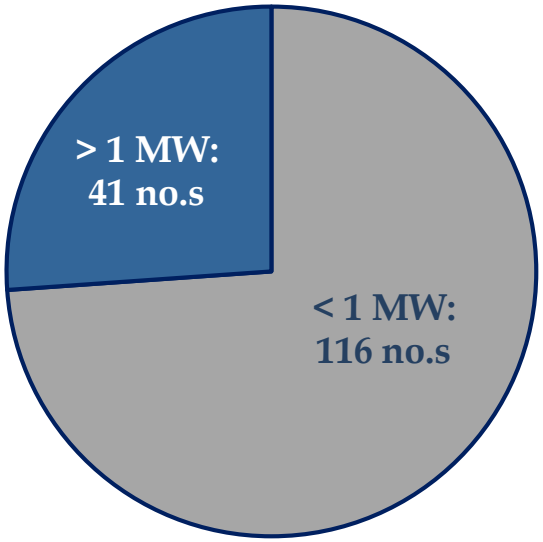
Sanctioned Amount: USD 170 mn+

Sanctioned Projects: 150+

342+ MW

Across 15 states

Number of small projects (upto 1 MW) Sanctioned



Out of the 150+ sanctions, SBI has sanctioned maximum loans (116 loans) in the < 1 MW category which shows its efforts to reach smaller customers helping them implement the rooftop solar project successfully.

Further Measures to Boost the Program

External Capacity Building	
External Capacity Building initiatives	• A Technical Assistance (TA) program funded by the grant funds provided by World Bank is underway for the capacity building of all stakeholders including DISCOMS, SNAs, SERCs. A Project Management Consultant (PMC) viz. E&Y Consortium has been appointed for managing the TA program • An MNRE-led sub-steering committee oversees the implementation and progress of the TA program.
Internal Capacity Building	
Trainings for SBI staff	• As a part of training to financial institutions, PMC (E&Y) in collaboration with SBI periodically conducts training programs on solar rooftop financing for SBI officials. These trainings cover various aspects of financing rooftop solar projects such as structure of the sector, the business models, financing opportunities, risks and mitigation strategies, costing and project feasibility evaluation, environmental and social considerations, etc. • SBI officials are also regularly encouraged and nominated for attending trainings on technical and financial appraisal of rooftop solar projects by external sector specialists.
Campaign launched	• SBI has started a Reward and Recognition (R&R) scheme campaign for its officials for financing rooftop solar projects from October 2018 till March 2019.

SBI

Further Measures to Boost the Program

Facilitating Loans to Small Scale Industries

Contributing ~38% of India's GDP, the MSME sector represents widely untapped demand in the solar rooftop C&I segment. However, MSME players face various challenges in arranging long term financing due to lack of an established credit history (mostly unrated) and lack of adequate collateral. Also, the sector lacks awareness of the significant potential of cost savings that a rooftop solar arrangement can offer. Steps taken by SBI to tap financing opportunities with small scale borrowers are -

Outreach program with MSMEs	Solar awareness workshops are being conducted in various SME clusters – Pune (automobile), Hyderabad (pharma), Surat (textile) & Vizag (food processing), to increase policy, benefit and financing related awareness among SMEs. This should help in encouraging more SMEs to approach bank for rooftop solar lending
1 MW Scheme	A customized product for projects up to 1 MW has been drawn up for small borrowing units that can be targeted for setting up rooftop solar PV systems on their factory/ godown/ office buildings to save their cost on electricity charges. ▪ Loan upto 80% of project cost ▪ Repayment period upto 10 years ▪ Int. Rate MCLR (1Y) plus 20 to 50 bps spread
E-DFS Scheme	A customised product for providing additional funding to petrol pump dealers (existing e-DFS borrowers-IOCL/BPCL/HPC) for setting up solar panel on their retail outlet building's rooftop under the Program to save on their electricity costs.

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THANK YOU