



## Grid-Connected Rooftop Solar Program (P155007)

SOUTH ASIA | India | Energy & Extractives Global Practice | Requesting Unit: SACIN | Responsible Unit: ISAE1  
IBRD/IDA | Program-for-Results Financing | FY 2016 | Team Leader(s): Amit Jain, Mani Khurana

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### Program Development Objectives

Program Development Objective (from Program Appraisal Document)

The PDO is to increase installed capacity of Grid-connected Rooftop Solar Photovoltaic (GRPV) and to strengthen the capacity of relevant institutions for GRPV. The Program Environmental Objective (PEO) is to achieve reductions in GHG emissions through the displacement of thermal energy with solar energy.

### Overall Ratings

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	<input type="checkbox"/> Highly Satisfactory	<input type="checkbox"/> Highly Satisfactory
Overall Implementation Progress (IP)	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Satisfactory

### Implementation Status and Key Decisions

Between July 1, 2022 and March 31, 2022, State Bank of India (SBI) has sanctioned \$90.7 million of loans to the solar rooftop developers and end-consumers, directly mobilizing \$38.84 million of equity. Since the launch of the Program, cumulatively, SBI has sanctioned \$417 million of loans mobilizing \$178.6 million equity from private sources and signing 606.48 MW of GRPV orders.

The technical assistance (TA) program is engaging with the distribution utilities in 17 states for implementing the Government of India Phase-II of the grid-connected rooftop solar scheme, which targets 4000 MW of rooftop solar capacity addition in the residential sector by December 31, 2022.

The TA program is supporting the states on several aspects:

- Digitalizing the rooftop solar application and subsidy processes,
- Bid process management,
- Demand aggregation for both the residential sector and solarization of government buildings,
- Devising innovative business models
- Capacity building, among others

### Data on Financial Performance

#### Disbursements (by loan)






Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P155007	IBRD-86110	Effective	USD	500.00	500.00	0.00	500.00	0.00	100%
P155007	TF-A2023	Effective	USD	5.00	5.00	0.00	5.00	0.00	100%
P155007	TF-A2401	Effective	USD	120.00	120.00	0.00	100.00	20.00	83%
P160018	TF-A3753	Effective	USD	22.94	22.94	0.00	18.67	4.27	81%



**Key Dates (by loan)**

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P155007	IBRD-86110	Effective	13-May-2016	30-Jun-2016	28-Sep-2016	30-Nov-2021	30-Nov-2022
P155007	TF-A2023	Effective	13-May-2016	30-Jun-2016	28-Sep-2016	30-Nov-2021	30-Nov-2022
P155007	TF-A2401	Effective	13-May-2016	30-Jun-2016	28-Sep-2016	30-Nov-2021	30-Nov-2022
P160018	TF-A3753	Effective	19-Jan-2017	19-Jan-2017	19-Jan-2017	30-Nov-2021	30-Nov-2022

**DLI Disbursement**

DLI ID	DLI Type	Description	Coc	DLI Amount	Achievement Status	Disbursed amount in Coc	Disbursement % for DLI
<b>Loan: TFA2023-001</b>							
1	Regular	Establishing GRPVs program at SBI	USD	5,000,000.00	Fully Achieved	5,000,000.00	 100 %
<b>Loan: IBRD86110-001</b>							
2	Regular	Agg amt loan for GRPVs power gen sch	USD	198,750,000.00	Partially Achieved	102,293,000.00	 51 %
3	Regular	MW solar PV rooftop ins commi	USD	300,000,000.00	Partially Achieved	271,456,750.00	 90 %
<b>Loan: TFA2401-001</b>							
2	Regular	Aggr amt for finan GRPV power gen sch	USD	100,000,000.00	Partially Achieved	70,000,000.00	 70 %
4	Regular	Sustainability of GRPV program	USD	20,000,000.00	Not Achieved	0.00	
<b>Loan: TFA3753-001</b>							
1	Regular	Tech assis for impl MNRE GRPV prg	USD	12,935,780.00	Partially Achieved	2,936,000.00	 23 %
2	Regular	Piloting New Business Models	USD	10,000,000.00	Fully Achieved	10,000,000.00	 100 %

**Program Action Plan**

<b>Action Description</b>	Monitor compliance with MNRE's Quality Assurance and Quality Control requirements, as basic standards applicable to the market.				
<b>Source</b>	<b>DLI#</b>	<b>Responsibility</b>	<b>Timing</b>	<b>Timing Value</b>	<b>Status</b>
Other		Client	Due Date	31-Dec-2019	Completed
<b>Completion Measurement</b>	SBI to (i) prepare and share report on the implementation of MNRE's QA/QC requirements with Bank during the mid-term review of the project; and (ii) share the report with MNRE				
<b>Comments</b>	In all the loan agreements between SBI and sub-borrower, there is standard clause for the borrower to ensure the quality standards established by MNRE/Gol.				



<b>Action Description</b>	Include the Grid Connected Solar Rooftop Program in the existing complaints handling mechanism of SBI.				
<b>Source</b>	<b>DLI#</b>	<b>Responsibility</b>	<b>Timing</b>	<b>Timing Value</b>	<b>Status</b>
Other		Client	Due Date	02-Apr-2018	Completed
<b>Completion Measurement</b>	Information on how to access the grievance mechanism for Grid Connected Solar Rooftop Program publicized on SBI's website				
<b>Comments</b>					

<b>Action Description</b>	Implement the procedures identified in the ESSA to manage environmental and social issues and risks.				
<b>Source</b>	<b>DLI#</b>	<b>Responsibility</b>	<b>Timing</b>	<b>Timing Value</b>	<b>Status</b>
Environmental and Social Systems		Client	Due Date	30-Nov-2022	In Progress
<b>Completion Measurement</b>	SBI to share information with Bank during the first review mission of the program				
<b>Comments</b>	SBI has shared some information, however it is identified that the reporting of ESSA requirements need to be strengthened – to be confirmed through mutually agreed actions.				

## Risks

### Systematic Operations Risk-rating Tool

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	<input type="checkbox"/> Low	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Macroeconomic	<input type="checkbox"/> Low	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Sector Strategies and Policies	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Technical Design of Project or Program	<input type="checkbox"/> Substantial	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Institutional Capacity for Implementation and Sustainability	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Fiduciary	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Environment and Social	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Stakeholders	<input type="checkbox"/> Substantial	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Other	--	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Overall	<input type="checkbox"/> Substantial	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate

## Results



**PDO Indicators by Objectives / Outcomes**

Capacity of GRPV connected to the grid (Megawatt, Custom)				
▶ Capacity of GRPV connected to the grid (Megawatt, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	322.66	365.51	250.00
Date	30-Sep-2016	30-Jun-2021	31-Mar-2022	30-Nov-2022
Comments				
Reduction of Carbon emissions				
▶ GHG emissions (Tones/year, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	1,200.00
Date	19-Sep-2016	30-Jun-2021	23-Mar-2022	30-Nov-2022
Comments	GHG emissions will be reported at the end of the program			

**Intermediate Results Indicators by Results Areas**

Launch of Rooftop Solar PV program at SBI and development of internal procedures for the identification, risk assessment, appraisal and approval of rooftop solar projects.				
▶ Launch of Rooftop Solar PV program at SBI and development of internal procedures for the identification, risk assessment, appraisal and approval of rooftop solar projects (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	Done	Done	One time
Date	13-May-2016	21-Jul-2016	21-Jul-2016	30-Nov-2022
Comments				

Implementation of TA and capacity building program for discoms, SNAs, SERCs etc.				
▶ Implementation of TA and capacity building program for discoms, SNAs, SERCs etc. (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	work ongoing in 17 States on demand aggregation, policy and regulatory matter	work ongoing in 17 States on demand aggregation, policy and regulatory matter	TA completed
Date	13-May-2016	30-Jun-2021	31-Mar-2022	30-Nov-2022



Comments

Amount rooftop solar loans approved by SBI				
▶ Amount rooftop solar loans approved by SBI (Amount(USD), Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	326,300,000.00	417,000,000.00	625,000,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	30-Nov-2022
Comments				

Amount of additional equity financing from private sources mobilized by SBI				
▶ Amount of additional equity financing from private sources mobilized by SBI (Amount(USD), Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	139.76	178,600,000.00	265,000,000.00
Date	13-May-2016	30-Jun-2021	23-Mar-2022	30-Nov-2022
Comments				

Capacity (MW) of GRPV orders				
▶ Capacity (MW) of GRPV orders (Megawatt, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	606.48	606.48	600.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	30-Nov-2022
Comments				

Phase 2 of SBI's Rooftop Solar PV program launched				
▶ Phase 2 of SBI's Rooftop Solar PV program launched (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	Not yet due	Not yet due	Completed
Date	13-May-2016	02-Dec-2020	31-Mar-2022	30-Nov-2022
Comments				



Capacity of rooftop solar installed and commissioned under the program (MW)

► Capacity of rooftop solar installed and commissioned under the program (MW) (Megawatt, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	322.67	365.51	500.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	30-Nov-2022
Comments				

Disbursement Linked Indicators

► DLI 1 DLI 1: Establishing a Rooftop Solar PV Program at the State Bank of India. (Intermediate Outcome, 5,000,000.00, 100%)

	Baseline	Actual (Previous)	Actual (Current)	till Nov 30, 2021
Value	0.00	5,000,000.00	5,000,000.00	5,000,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	--
Comments				

► DLI 2 DLI 2: Technical assistance to key stakeholders for the implementation of MNRE's GRPV program (Intermediate Outcome, 13,000,000.00, 67%)

	Baseline	Actual (Previous)	Actual (Current)	till Nov 30, 2021
Value	0.00	8,670,000.00	8,670,000.00	13,000,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	--
Comments				

► DLI 3 DL3: Aggregate amounts of loans signed by SBI for the financing of solar (PV) rooftop power generation schemes. (Intermediate Outcome, 298,750,000.00, 0%)

	Baseline	Actual (Previous)	Actual (Current)	till Nov 30, 2021
Value	0.00	205,710,000.00	251,969,000.00	298,750,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	--
Comments				

► DLI 4 DLI 4: Piloting new business models (Outcome, 10,000,000.00, 0%)

	Baseline	Actual (Previous)	Actual (Current)	till Nov 30, 2021
Value	0.00	0.00	0.00	10,000,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	--
Comments				



Value	0.00	10,000,000.00	10,000,000.00	10,000,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	--
<b>Comments</b>				

<b>► DLI 5 DLI 5: Megawatts of solar (PV) rooftop power generation installed and commissioned under SBI financing (Output, 300,000,000.00, 8%)</b>				
	Baseline	Actual (Previous)	Actual (Current)	till Nov 30, 2021
Value	0.00	316,990,000.00	346,450,000.00	300,000,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	--
<b>Comments</b>				

<b>► DLI 6 DLI 6: Sustainability of GRPV program (Outcome, 20,000,000.00, 0%)</b>				
	Baseline	Actual (Previous)	Actual (Current)	till Nov 30, 2021
Value	0.00	0.00	0.00	20,000,000.00
Date	13-May-2016	30-Jun-2021	31-Mar-2022	--
<b>Comments</b>				