



## 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, Simon J. Stolp

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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  | <span style="color: green;">□</span> Satisfactory | <span style="color: green;">□</span> Highly Satisfactory |
| Overall Implementation Progress (IP) | <span style="color: green;">□</span> Satisfactory | <span style="color: green;">□</span> Satisfactory        |

### Implementation Status and Key Decisions

During FY 21, SBI has sanctioned \$37.83 million of loans to the solar rooftop developers and end-consumers, directly mobilizing \$15 million of equity. This corresponds to 114 MW of solar rooftop capacity orders. Since the launch of the Program, cumulatively, SBI has sanctioned \$265.92 million of loans mobilizing \$112.75 million equity from private sources and signing 546 MW of GRPV orders.

The technical assistance (TA) program is engaging with the distribution utilities in 17 states for implementing the GoI 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.

Further, the TA program is cooperating with the Ministry of New and Renewable Energy, Government of India, for establishing a National Renewable Energy Data Centre (NREDC) to provide renewable energy installed and generation data in real-time for informing policy measures.

### 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      | 375.92    | 124.08      | <div style="width: 75%; background-color: green; height: 10px;"></div> 75%   |
| P155007 | TF-A2023       | Effective | USD      | 5.00     | 5.00    | 0.00      | 5.00      | 0.00        | <div style="width: 100%; background-color: green; height: 10px;"></div> 100% |
| P155007 | TF-A2401       | Effective | USD      | 120.00   | 120.00  | 0.00      | 75.11     | 44.90       | <div style="width: 63%; background-color: green; height: 10px;"></div> 63%   |



### 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-2021       |
| P155007 | TF-A2023       | Effective | 13-May-2016   | 30-Jun-2016  | 28-Sep-2016        | 30-Nov-2021        | 30-Nov-2021       |
| P155007 | TF-A2401       | Effective | 13-May-2016   | 30-Jun-2016  | 28-Sep-2016        | 30-Nov-2021        | 30-Nov-2021       |

### 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 | 65,807,000.00           |  33 %   |
| 3                          | Regular  | MW solar PV rooftop ins commi         | USD | 300,000,000.00 | Partially Achieved | 198,137,750.00          |  66 %  |
| <b>Loan: TFA2401-001</b>   |          |                                       |     |                |                    |                         |  |
| 2                          | Regular  | Aggr amt for finan GRPV power gen sch | USD | 100,000,000.00 | Partially Achieved | 53,262,000.00           |  53 % |
| 4                          | Regular  | Sustainability of GRPV program        | USD | 20,000,000.00  | Not Achieved       | 0.00                    |       |

### 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      | 31-Dec-2020         | 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 conformed 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        | 264.19            | 264.19           | 250.00      |
| Date                                 | 30-Sep-2016 | 30-Jun-2020       | 02-Dec-2020      | 30-Nov-2021 |
| Comments                             |             |                   |                  |             |
| <b>Reduction of Carbon emissions</b> |             |                   |                  |             |
| ▶ 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-2020       | 02-Dec-2020      | 30-Nov-2021 |
| Comments                             |             |                   |                  |             |

### 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-2021 |
| 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-2020   | 02-Dec-2020   | 30-Nov-2021  |
| Comments  | Year 1: Contract signed with consultant. Year 2: Phase 1 of TA completed. Year 3: Phase 2 of TA completed. |   |   |              |

|  |          |                   |                  |            |
|--|----------|-------------------|------------------|------------|
| 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  | 228,090,000.00 | 228,090,000.00 | 625,000,000.00 |
| Date     | 13-May-2016   | 30-Jun-2020    | 02-Dec-2020    | 30-Nov-2021    |
| Comments | Loans approved means sanctioned by SBI. The value has reduced from earlier USD 300 million, Since the three major sanctions previously made (namely Tata Power Renewables, Hinduja Renewables and JSW Solar) amounting to US\$ 178.19 million have been dropped from the sanctioned projects' list. |                |                |                |

|   |             |                   |                  |             |
|---|-------------|-------------------|------------------|-------------|
| 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        | 97.70             | 97.70            | 265.00      |
| Date  | 13-May-2016 | 30-Jun-2020       | 02-Dec-2020      | 30-Nov-2021 |
| 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 | 30-Jun-2020       | 02-Dec-2020      | 30-Nov-2021 |
| Comments  |             |                   |                  |             |

|   |             |                   |                  |             |
|---|-------------|-------------------|------------------|-------------|
| Capacity (MW) of GRPV orders                      |             |                   |                  |             |
| ▶ Capacity (MW) of GRPV orders (Megawatt, Custom) |             |                   |                  |             |
|   | Baseline    | Actual (Previous) | Actual (Current) | End Target  |
| Value   | 0.00        | 432.00            | 451.00           | 600.00      |
| Date  | 13-May-2016 | 30-Jun-2020       | 02-Dec-2020      | 30-Nov-2021 |
| 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     | 264.19            | 264.19           | 500.00     |



|          |             |             |             |             |
|----------|-------------|-------------|-------------|-------------|
| Date     | 13-May-2016 | 30-Jun-2020 | 02-Dec-2020 | 30-Nov-2021 |
| Comments |             |             |             |             |

#### Disbursement Linked Indicators

|  |             |                   |                  |                   |
|--|-------------|-------------------|------------------|-------------------|
| <b>► DLI 1 DLI 1: Establishing a Rooftop Solar PV Program at the State Bank of India. (Intermediate Outcome, 5,000,000.00, 100%)</b> |             |                   |                  |                   |
|  | 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-2020       | 02-Dec-2020      | --                |
| <b>Comments</b>  |             |                   |                  |                   |

|   |             |                   |                  |                   |
|---|-------------|-------------------|------------------|-------------------|
| <b>► DLI 2 DLI 2: Technical assistance to key stakeholders for the implementation of MNRE's GRPV program (Intermediate Outcome, 13,000,000.00, 67%)</b> |             |                   |                  |                   |
|   | 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-2020       | 02-Dec-2020      | --                |
| <b>Comments</b>   |             |                   |                  |                   |

|   |             |                   |                  |                   |
|---|-------------|-------------------|------------------|-------------------|
| <b>► 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%)</b> |             |                   |                  |                   |
|   | Baseline    | Actual (Previous) | Actual (Current) | till Nov 30, 2021 |
| Value   | 0.00        | 176,320,000.00    | 176,320,000.00   | 298,750,000.00    |
| Date  | 13-May-2016 | 30-Jun-2020       | 02-Dec-2020      | --                |
| <b>Comments</b>   |             |                   |                  |                   |

|   |             |                   |                  |                   |
|---|-------------|-------------------|------------------|-------------------|
| <b>► DLI 4 DLI 4: Piloting new business models (Outcome, 10,000,000.00, 0%)</b> |             |                   |                  |                   |
|   | 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-2020       | 02-Dec-2020      | --                |
| <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        | 273,131,000.00    | 273,131,000.00   | 300,000,000.00    |
| Date            | 13-May-2016 | 30-Jun-2020       | 02-Dec-2020      | --                |
| <b>Comments</b> |             |                   |                  |                   |

| ▶ DLI 6 DLI 6: Sustainability of GRPV program (Outcome, 20,000,000.00, 0%) |             |                   |                  |                   |
|--|-------------|-------------------|------------------|-------------------|
|  | 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-2020       | 02-Dec-2020      | --                |
| <b>Comments</b>  |             |                   |                  |                   |