

Facility Administration Manual

Project Number: 49419-001

Loan Number: XXXX

September 2016

India: Solar Rooftop Investment Program

ABBREVIATIONS

ADB	=	Asian Development Bank
CDTA	=	capacity development technical assistance
CEA	=	central electricity authority
CERC	=	central electricity regulatory commission
CTF	=	clean technology fund
DEA	=	Department of Economic Affairs (Ministry of Finance)
discom	=	(power) distribution company
DMF	=	design and monitoring framework
EA	=	executing agency
EPC	=	engineering, procurement, and construction
FAM	=	facility administration manual
FFA	=	framework financing agreement
GOI	=	Government of India
GW	=	gigawatt
INR	=	Indian rupee
LDH	=	(ADB) loan disbursement handbook
MFF	=	multi-tranche financing facility
MNRE	=	Ministry of New and Renewable Energy
MW	=	megawatt
OCR	=	ordinary capital resource
PNB	=	Punjab National Bank
RBI	=	Reserve Bank of India
RESCO	=	renewable energy services company
RRP	=	report and recommendation of the President to the Board
SNA	=	state (renewable energy) nodal agency
SOE	=	statement of expenditure
SRIP	=	solar rooftop investment program
TA	=	technical assistance
USAID	=	United States Agency for International Development
USD	=	United States dollar

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Facility Administration Manual Purpose and Process

The facility administration manual (FAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The FAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the FAM.

The Punjab National Bank (PNB) is wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by PNB of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the FAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the FAM and the loan agreement, the provisions of the loan agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the FAM.

I. FACILITY DESCRIPTION

1. The proposed \$500 million sovereign-guaranteed SRIP will be provided in three tranches. The SRIP's implementation period is from 2016–2022.¹ The SRIP intends to finance primarily solar rooftop systems on commercial and industrial buildings on (large scale) standalone or aggregated basis, likely without GOI subsidies. SRIP may also consider supporting smaller scale residential solar rooftop financing when such market matures and demand for funds becomes available.

2. The impacts of the program would be energy security provided to all in an environmentally sustainable manner and renewable energy developed, aligned with GOI's Integrated Energy Policy.² The outcome would be solar rooftop capacity in India increased.

3. The MFF (and tranche 1) outputs would be (i) debt funding to the solar rooftop sector increased, (ii) PNB institutional capacity improved, and (iii) solar rooftop market infrastructure and bankable subproject pipeline developed.

II. IMPLEMENTATION PLANS

A. Facility Readiness Activities

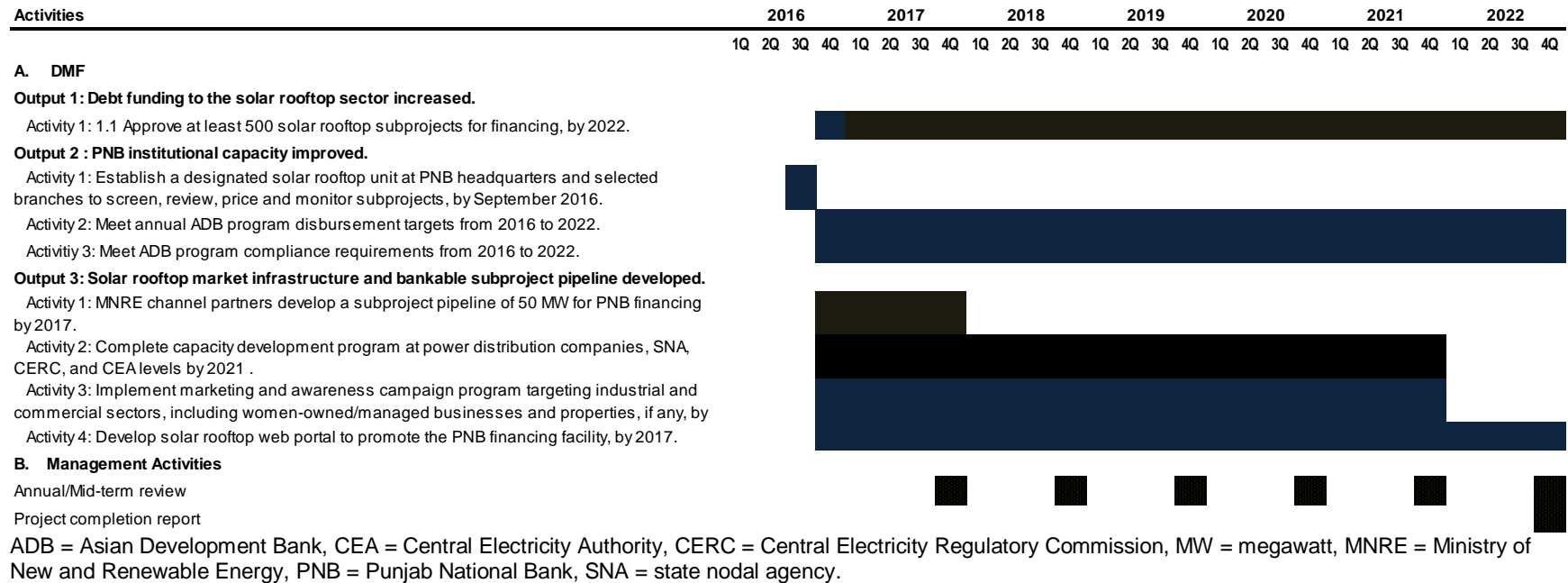
Indicative Activities	Aug 16	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Responsible party
Confirm subproject pipeline [*]	X	X	X	X					MNRE
Establish facility implementation arrangements at PNB	X	X	X						ADB, PNB
Prepare and carry out credit and risk model training			X	X	X	X	X	X	PNB, USAID
Prepare subproject readiness		X	X	X	X	X	X	X	PNB, ADB
ADB Board approval		X							ADB, PNB
Loan signing				X					ADB, DEA, PNB
Loan effectiveness					X				ADB, DEA, PNB
Carry out market development					X	X	X	X	MNRE, ADB

ADB = Asian Development Bank, DEA = Department of Economic Affairs (Ministry of Finance), MNRE = Ministry of New and Renewable Energy, PNB = Punjab National Bank, USAID = United States Agency for International Development.

¹ This lending proposal was not included in ADB. 2014. *Country Operations Business Plan: India, 2015–2017*. Manila. The government requested ADB's financial assistance in a letter (fax) of 23 October 2015 as an addition to the country operations business plan. The South Asia Department confirmed that such financial assistance can be included in the 2016 resource envelope. A project preparatory technical assistance is not envisaged.

² Government of India, Planning Commission. 2006. *Integrated Energy Policy*. New Delhi. http://planningcommission.nic.in/reports/genrep/rep_intengy.pdf

B. Overall Facility Implementation Plan



III. FACILITY MANAGEMENT ARRANGEMENTS

A. Facility Implementation Organizations – Roles and Responsibilities

Facility implementation organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> • Executing agency <ul style="list-style-type: none"> - PNB 	<ul style="list-style-type: none"> ➤ Provide overall management of the ADB facility in accordance with this facility administration manual and other applicable ADB, national, state, and PNB guidelines to ensure strong ownership, compliance, and timely disbursement; ➤ Ensure adequate counterpart resources and support to benefit from the ADB technical assistance grant; ➤ Ensure diligent monitoring and review activities conducted on the ADB program implementation; ➤ Ensure timely audit of the ADB program and funds utilization; ➤ Directly supervise the solar rooftop unit to ensure proactive and timely communication with ADB and Government of India counterparts;
<ul style="list-style-type: none"> • Facility Management Unit <ul style="list-style-type: none"> - PNB 	<ul style="list-style-type: none"> ➤ Establish a designated solar rooftop unit to be responsible for the SRIP implementation; ➤ Establish the necessary bank accounts and other implementation arrangements to receive the ADB funds, as required; ➤ Coordinate with the ADB consultants who will provide relevant technical and financial advisory services to subborrowers; ➤ Work with the ADB consultants to develop the necessary capacities to screen, review, price, approve, and monitor the financing to eligible solar rooftop subprojects; ➤ Provide ADB with the required subproject information and documentation as requested by the ADB project officer(s) for review and approval, if necessary; ➤ Manage subloan disbursement and ADB reimbursement process with the ADB project implementation team; ➤ Comply with the ADB legal agreements (loan agreement/project agreement, FAM, and other relevant guidelines such as the check lists on subproject eligibility, procurement, and/or audits. ➤ Due to the reimbursement is likely in the currency of the transaction (INR), PNB may need to manage the foreign exchange risk; and ➤ Prepare annual monitoring and progress reports.

B. Key Persons Involved in Implementation

MNRE

Officer's Name: Upendra Tripathy
 Position: Secretary
 Telephone: +91 11 24362772
 Email: secy-mnre@nic.in

Punjab National Bank Executing Agency

Officer's Name: H. K. Parikh
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Facility Management Unit

Officer's Name: A. Agarwal
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 7, Bhikhaiji Cama Place
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ADB

Public Management, Financial Sector and Trade Division

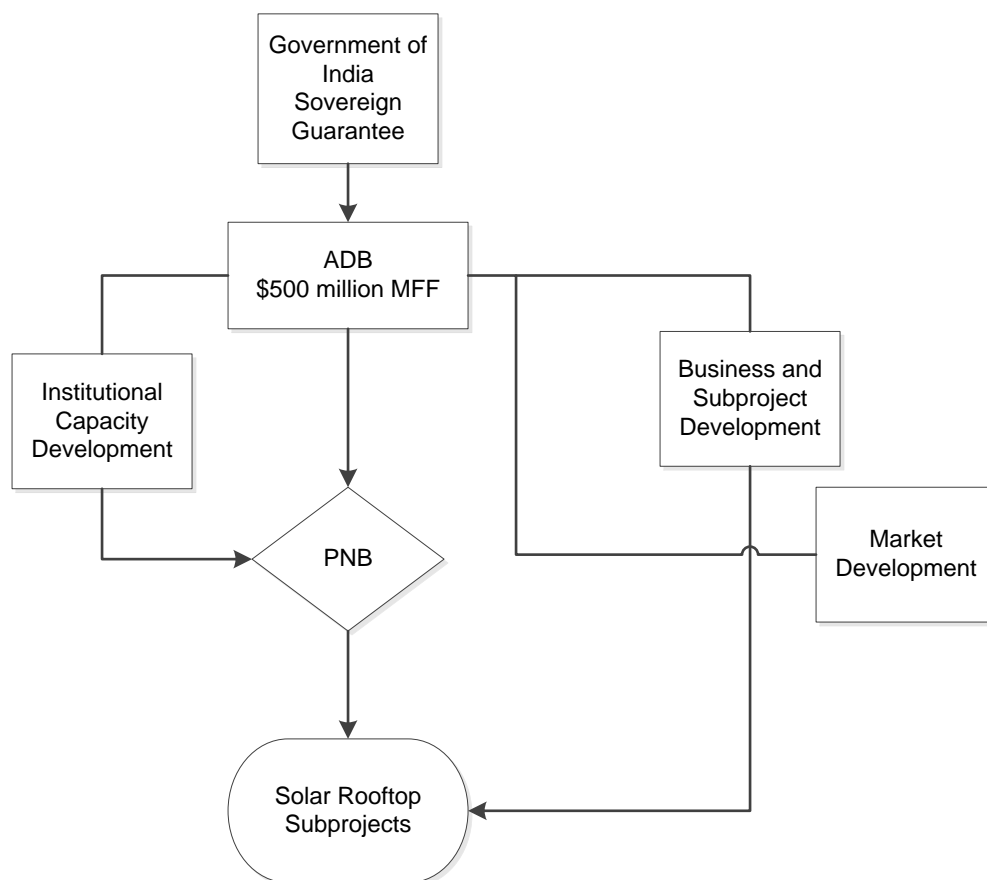
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C. Facility Organization Structure



ADB = Asian Development Bank, PNB = Punjab National Bank, MFF = multitranche financing facility.

D. Financing Arrangements

4. **Retroactive financing.** Retroactive financing would be allowed for eligible expenditures described in the FAM, not exceeding 20% under each tranche, incurred before loan effectiveness, but not earlier than 12 months before the signing of the loan agreement. Any retroactive financing would comply with the same ADB requirements as for any other subprojects funded under the SRIP.

5. **Takeout financing.** PNB may also use up to 20% of the ADB funds to buy out qualified solar rooftop loans from other financial institutions under each tranche in order to better consolidate sector assets. Takeout finance may include subprojects that are financially closed or under construction. Any takeout financing would follow prevailing national norms, and comply with the same ADB requirements as for any other subprojects funded under the SRIP.

6. **Maximum ADB financing.** ADB funds can be used to finance up to 50% of the total subproject cost. There is no maximum subproject size.

7. **Statement of expenditure (SOE)/free limit.** Under tranche 1, ADB would review at least the first 3 subprojects each under imprest arrangement and reimbursement arrangement, regardless of the subproject size, until ADB is satisfied with PNB's ability to manage the

subproject review and disbursement process. Following ADB's satisfactory approval of first three subprojects from the head office, ADB may permit a \$1 million SOE limit/free limit per subloan, under which amount no supporting documentations are required. ADB reserves the rights to request any supporting subproject documents and not to reimburse or liquidate any subprojects that do not comply with the SRIP implementation requirements. The substantiating documentations shall include, for aggregated commercial solar rooftop models, (a) evidence of PNB's internal (management and/or board) approvals of the subprojects, such as subloan approval letter, with attached subloan credit files including loan application and detail project reports/feasibility studies; (b) auditor certifying the subprojects expenses incurred, and (c) evidence of payment made by PNB to the subprojects, such as the bank statements for subloan disbursement, and (d) PNB letter to ADB certifying its compliances with the required SRIP implementation requirements. For individual residential solar rooftop installations and those funded by resident associations (e.g., apartment buildings), unless deemed necessary by the ADB, no supporting documents are required. For subproject above the SOE limit/free limit, ADB will issue an approval letter for the respective subprojects for reimbursement.

E. Selection Criteria

8. The following criteria will apply to selecting and approving subprojects under the ADB Facility. ADB has the discretion not to fund any subprojects that PNB has financed or propose to finance:

- (i) subprojects shall be for the preparation, design, installation, operations, and maintenance of electricity generation from solar photovoltaic systems on, clearly defined conventional building structures (e.g., factories, warehouses, shopping malls, and residential buildings) which will have no environmental, involuntary resettlement, or indigenous peoples impacts;³
- (ii) for subprojects proposed for the preparation, design, installation, operation and maintenance in structures that cannot be clearly defined as "conventional buildings", PNB shall first consult ADB on each such proposed subproject, for ADB to determine that the subproject is category C for all safeguard categorizations and can be deemed eligible for financing;
- (iii) the subborrower is financially sound;
- (iv) the subprojects shall follow PNB's Financing Norms as acceptable to ADB, including adequate collaterals, subproject equity contribution, viability gap funding if any, and any other counterpart financing;
- (v) the subprojects are either grid-connected or off-grid;
- (vi) the subprojects shall be based on any technically and commercially viable business model,⁴ as generally perceived by the market and deemed appropriate by ADB;

³ ADB reserve the rights to audit any of the funded subprojects to ensure eligibility and compliance.

⁴ Currently, there are two main types of aggregated business models: (i) capex business model and (ii) opex business model. Under the capex model, a property owner procures and owns the solar rooftop system while an engineering, procurement, and construction (EPC) contractor/developer constructs and commissions the system. This type of solar projects could be self-owned or third-party-owned, either grid-connected or off-grid. Under the opex model, the developer (e.g., a third party renewable energy service company) procures, owns and installs the solar rooftop system and usually enters into a long-term power purchase agreement with the property owner to provide a lower tariff than would other purchased from utility companies/local power distribution companies (discoms).

- (vii) the subprojects shall comply with the SRIP implementation requirements as stated in the legal agreement and this FAM;
- (viii) the subprojects shall comply with all national and state requirements;
- (ix) the subprojects shall have a basic level of product quality and service standards as commonly accepted by the market and PNB technical experts.

F. Subproject Approval Process

9. The subloan approval process is determined based on the disbursement method (see the Disbursement under the Financial Management Section). PNB is able to adopt both imprest (advance) and reimbursement arrangements, based on its preference.

10. **Under the imprest arrangement**, the process usually starts from the branch level, from a prospective subborrower's submission of a (sub)loan application along with any requisite subproject information including feasibility study, company business profile and business plan, financial information, and permits and license, if appropriate, among others. The next step is a Know Your Customer appraisal as required by RBI guidelines to verify the credentials of the subborrower, requisite documentation, and transparency aspects on the subborrower's sources of funds from an anti-money laundering perspective. Upon confirming the basic lending eligibility, PNB technical team would proceed to the approval process in accordance with its normal business processes. At any time prior to disbursing to the subprojects, PNB would screen the subprojects against the ADB eligibility criteria before placing the eligible subprojects in the withdrawal application (see disbursement section below) and request the USD advance from ADB corresponding to the following six months' subprojects lending volume. Upon full disbursement of the subloans, PNB shall follow the liquidation procedure as outlined below. For subprojects below the SOE limit/free limit, PNB shall retain all subproject documents for possible ADB review or audit.

11. **Under the reimbursement arrangement**, the process also starts from the branch level, from a prospective subborrower's submission of a (sub)loan application along with any requisite subproject information including feasibility study, company business profile and business plan, financial information, and permits and license, if appropriate, among others. The next step is a Know Your Customer appraisal as required by RBI guidelines to verify the credentials of the subborrower, requisite documentation, and transparency aspects on the subborrower's sources of funds from an anti-money laundering perspective. Upon confirming the basic lending eligibility, PNB technical team would proceed to the approval process in accordance with its normal business processes until financial closure. Upon fully disbursing to the approved subprojects, PNB would screen the subprojects against the ADB eligibility criteria and place those eligible subprojects in the withdrawal application (see disbursement section below) and request reimbursement. To provide PNB with the flexibility to manage its ADB loans' repayment, ADB permits the reimbursements in either INR or USD. Upon disbursement of the subloans, PNB shall follow the reimbursement procedure as outlined below. For subprojects below the SOE limit/free limit, PNB shall retain all subproject documents for possible ADB review or audit.

12. **Under the retroactive financing**, PNB may finance eligible subprojects not exceeding 20% of each tranche amount, incurred before loan effectiveness, but not earlier than 12 months before the signing of the loan agreement. The detailed procedure shall follow the reimbursement arrangement as described above, and the already financed solar rooftop subprojects shall comply with the SRIP and associated implementation requirements. ADB's SOE limit/free limit shall still apply to the subprojects under the retroactive financing scheme.

13. **Under the takeout financing**, PNB may acquire eligible subprojects and portfolios from other financial institutions not exceeding 20% of each tranche amount, incurred at any time but not fully repaid. The detailed procedure shall follow the reimbursement arrangement as described above, and the already financed solar rooftop subprojects shall comply with the SRIP and associated implementation requirements, including PNB's own internal guidelines on takeout financing, and relevant RBI guidelines. ADB's SOE limit/free limit shall still apply to the subprojects acquired under the takeout financing scheme.

IV. COSTS AND FINANCING

14. The investment is estimated to cost \$40 billion (Table 1). PNB has requested ADB financing through MFF in an amount up to \$500 million, consisting of \$330 million loan from ADB Ordinary Capital Resources (OCR) and \$170 million loan from clean technology fund (CTF).⁵ The MFF consists of 3 tranches (tranche 1 loan of \$100 million from 2016-2018, tranche 2 loan of \$150 million from 2018-2020, and tranche 3 loan of \$250 million from 2020-2022), subject to PNB's submission of related periodic financing requests, execution of the related loan agreement and GOI guarantee agreement for each tranche, and fulfillment of terms and conditions and undertakings set forth in the framework financing agreement. The first tranche of the MFF will be a loan in the amount of \$100 million to be finance entirely by CTF and administered by ADB. CTF loan have a maturity of 40 years with 10 years of grace period. Principal repayments from year 11-20 would be 2% and from year 20-40 at 4%. Multilateral development bank fee is 0.18% and service charge is 0.25%. The weighted average cost of funds is about 0.25%.

Table 1: Current Financing Plan (2016–2022)^a

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	500	1.25
Punjab National Bank ^a	200	0.50
Other foreign borrowing from bilateral and multilateral sources ^b	875	2.19
Government contribution (30% capital subsidy) ^c	750	1.88
Borrowers' equity (assuming 30% for all borrowers)	12,000	30.00
Remaining debt financing	25,675	64.18
Total	40,000	100.00

^a The projections made in the table above, with respect to the borrowers' equity and remaining debt financing, are estimates based on the Government of India 40 GW solar rooftop investment needs.

^b Assuming ADB finances up to 50% of subproject costs and subproject equity contribution is 30% (or a debt-to-equity ratio of 70:30). PNB will therefore contribute 20% of subproject costs, or \$200 million.

^c Including \$625 million from World Bank to State Bank of India and proposed \$250 million from New Development Bank to Canara Bank.

^d Government of India allocated Rs 50 billion (\$741 million) for the 30% capital subsidy.

Sources: Asian Development Bank and Indian Renewable Energy Development Agency Limited estimates.

Table 2: Facility Investment Program

Source	Amount (\$ million)	Share of Loan (%)	Tranche 1 (\$ million)	Tranche 2 (\$ million)	Tranche 3 (\$ million)
Asian Development Bank (OCR)	330.0	33.0	0.0	80.0	250.0
Clean Technology Fund (loan)	170.0	17.0	100.0	70.0	0.0
Subborrowers' own fund (equity)	300.0	30.0	60.0	90.0	150.0

⁵ The clean technology fund (CTF) is a \$5.2 billion fund providing middle-income countries with resources to scale up demonstration, deployment and transfer of low-carbon clean technologies. CTF financing approvals for the investment program were received on 17 May 2016.

Source	Amount (\$ million)	Share of Loan (%)	Tranche 1 (\$ million)	Tranche 2 (\$ million)	Tranche 3 (\$ million)
Commercial Banks/financier (debt) ^a	200.0	20.0	40.0	60.0	100.0
Clean Technology Fund (TA grant) ^b	5.0	n/a	n/a	n/a	n/a
Total	1,005.0	100.0	200.0	300.0	500.0

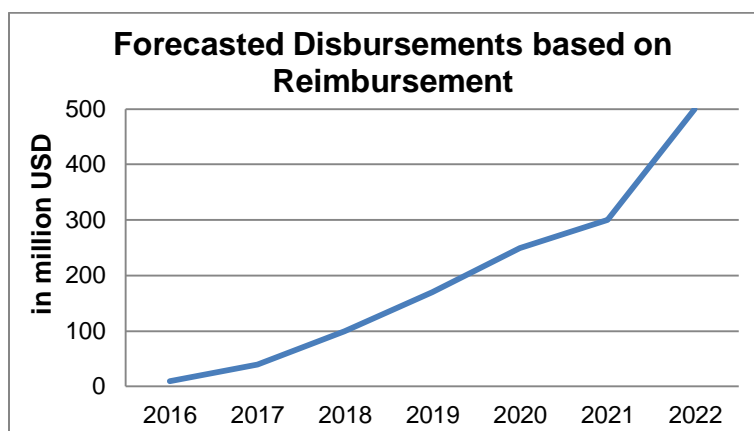
OCR = Ordinary capital resources, TA = technical Assistance.

^a Any financial sources other than subproject equity and ADB funds. The purpose is to leverage financing from the market.

^b The total TA amount is \$4,750,000 by subtracting the 5% multilateral development bank fee or \$250,000.

Sources: Asian Development Bank.

A. Disbursement S-curve

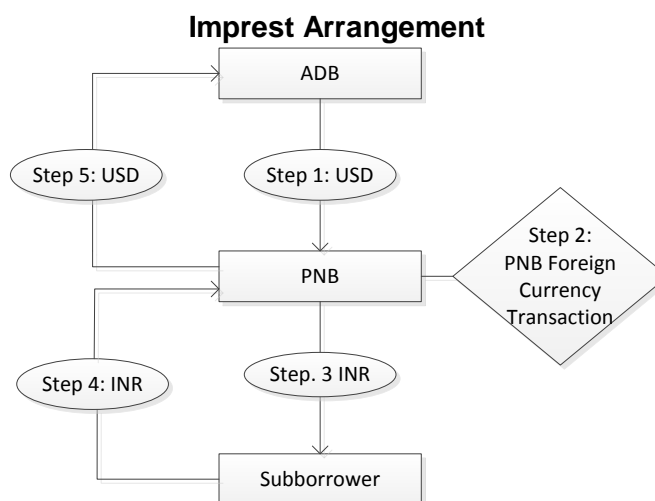


Source: ADB Staff Estimate

15. The proposed program is a financial intermediation loan(s). Due to the nature of initially underdeveloped market and demand for funds, the three tranches under the MFF will increase in size, in the order of \$100 million, \$150 million, and \$250 million.

B. Fund Flow Diagram

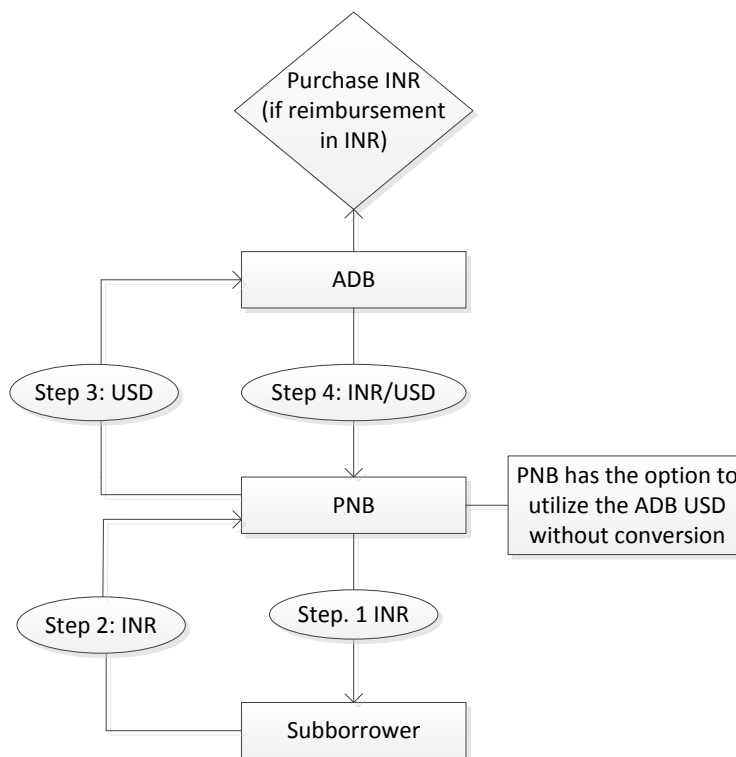
16. The facility fund flow diagram is provided below.



ADB = Asian Development Bank; INR = Indian Rupee; PNB = Punjab National Bank; USD = United States Dollar.

Note: PNB may not engage in foreign currency and interest rate swap transaction to hedge its exchange rate risk and may use its own existing INR fund pools, at its own discretion, to fund the eligible subprojects, or whichever way PNB may find it appropriate to implement the SRIP.
Source: ADB Staff.

Reimbursement Arrangement



ADB = Asian Development Bank; INR = Indian Rupee; PNB = Punjab National Bank; USD = United States Dollar.
Note: PNB may not engage in foreign currency and interest rate swap transaction to hedge its exchange rate risk and may use its own existing INR fund pools, at its own discretion, to fund the eligible subprojects, or whichever way PNB may find it appropriate to implement the SRIP.
Source: ADB Staff.

17. Based on the reimbursement method, ADB will reimburse the subproject cost incurred and paid by PNB following the partial or full disbursement of the subprojects. ADB will reimburse PNB in either INR or USD at PNB's discretion to help it hedge the foreign exchange risk. In the case the ADB disbursement would be in INR, the exchange rate will be determined based on the INR-USD exchange rate on the value date of the ADB foreign exchange transaction. In such a case, PNB will be responsible for the associated foreign exchange risks.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

18. PNB's financial management system is satisfactory.⁶ PNB must comply with RBI,

⁶ FMA was conducted in accordance with the Financial Management Guidelines and Financial Due Diligence Methodology Note.

Ministry of Corporate Affairs, and Securities and Exchange Board of India guidelines and norms. ADB proposes to further enhance PNB's financial management capacity by introducing additional international best practices, particularly in light of its lack of experience in borrowing from development assistance in foreign currencies other than INR, over the course of the ADB facility.

19. Overall inherent risk is moderate: country specific risks in India are moderate as reflected by the country financial, budgetary, and accounting and audit systems. In light of PNB's satisfactory financial results, the entity-specific risks are also moderate, reflecting the financial institution's combined commercial orientation and majority government-ownership. The project-specific risks are moderate due to the nature of the solar rooftop market and PNB's long experience as a public sector. Overall control risks are also moderate as determined by the levels of operational capacity and arrangements, including staffing, accounting policy, internal audit, reporting mechanism, and regulatory capacity.

20. PNB classifies a loan or an advance as an impaired asset, if its interest and/or installment of principal remain overdue for a period of more than 90 days in respect of a term loan. The account will be treated out of order in respect of overdraft/ cash credit for a period more than 90 days. This is in line with loan classification of international best practice. Credit approving authority, prudential exposure limits, industry exposure limits, credit risk rating system, risk based pricing and loan review mechanisms are some of the tools used by PNB for credit risk management and are defined in the Credit Management & Risk Policy of the bank. However, as rooftop solar is at a nascent stage of development in India, a capacity development TA will be provided to ensure required systems are in place. In addition, ADB will recommend that PNB adopt a more frequent loan provision reporting mechanism to mitigate project risks. PNB will work with ADB over the course of the facility to further improve its overall financial management practice.

21. PNB has no significant counterparty (deposits/borrowings) concentration, with the share of largest depositor is only 0.45% of the bank's total liability, and the contribution of its top 20 depositors is only 4.10%. As defined by RBI guidelines, significant counterparty is defined as a single counterparty/instrument/product or group of connected counterparties accounting in aggregate of more than 1% of total liabilities. However PNB has significant exposures to the power, infrastructure, and iron and steel sectors which are a continuing vulnerability and weakness. This is tempered however by its adequate earnings power supported by good net interest margins and by its nationwide franchise and leading position in North India, resulting in sound funding and liquidity profile. PNB has identified the following strategies to achieve improved performance: (i) containment of nonperforming assets and expedite recover process, extending credit to better rated corporates, increasing its low-cost CASA deposits being its main source of funding, and to digitalize banking services to reach new generation customers.

B. Disbursement

22. The facility proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time).⁷ PNB is able to adopt both imprest (advance) and reimbursement arrangements, based on its preference. For imprest advance, ADB will advance USD to the imprest account. For reimbursement, ADB will normally reimburse PNB in the currency of the subloan payment. However, ADB may also reimburse PNB in USD

⁷ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

equivalent of INR. This disbursement arrangement will provide PNB greater flexibility to manage its assets and liabilities and hedge associated financing/currency risks. The facility administration manual will provide detailed the implementation arrangements and compliance requirements. The process will follow the relevant requirements and instructions provided in the loan agreement and this FAM.

Reimbursement Arrangement

23. Under the reimbursement arrangement, ADB will reimburse the subproject cost incurred and paid by PNB upon the partial or full disbursements of the subproject funds. ADB will normally reimburse PNB in the same currency that PNB used for the subloan payment. Since that will usually be in INR, ADB will pay INR into any account that PNB nominates. However, subject to the currency of amount indicated in the withdrawal application, ADB may also reimburse PNB in equivalent USD of INR. In such case, PNB should submit the withdrawal application to ADB in INR with special instruction to reimburse the amount in USD equivalent. PNB will be responsible for the associated foreign exchange risks, if any.

24. For subloans above the SOE limit/free limit, PNB needs to provide the same subloan documents described in para. 7 to enable the reimbursement, and the request for reimbursement should be submitted with a “*withdrawal application for direct payment and reimbursement*” form (LDH Appendix 7A) and “*summary sheet for direct payment/reimbursement/replenishment/liquidation*” form (LDH Appendix 7B). For subloan below the SOE limit/free limit, if requested by PNB and approved by ADB, subloan documents as described in para. 7 will not be attached to each withdrawal application, but be retained by PNB for possible ADB review. The reimbursement of first 3 subprojects will not be eligible for SOE arrangement/free limit.

Imprest Arrangement

25. Under the imprest arrangement, PNB will receive funds from ADB as an advance in USD. The imprest arrangement could reduce PNB’s cash flow difficulties by first obtaining ADB advance for estimated six months’ eligible expenditures. The procedures of the imprest arrangement is provided in LDH Section 10 and summarized in LDH Appendix 10E.

26. Under the imprest arrangement, PNB shall open, administer, and maintain one imprest account in USD and one sub-imprest account in INR specifically for the purpose of operating the ADB facility in PNB or another commercial bank acceptable to ADB. The uses of the imprest account and sub-account are strictly for the purpose of the ADB facility. The imprest account and sub-account should be maintained without restriction on withdrawing funds at any time (e.g., current account) and is opened in the name of PNB. ADB maintains the right to reject the selection of the commercial banks that hold the imprest account and sub-account.

27. The maximum ceiling of the imprest account and the sub-account in aggregate will not at any time exceed the estimated ADB financed expenditures to be paid from the imprest accounts to subborrowers for eligible subprojects over the next 6 months. The withdrawal application must be prepared in US dollars. Replenishment of advances is normally provided only until 6 months before the loan closing date.

28. The request for advance to the imprest account should be submitted with a “*withdrawal application for imprest fund*” form (LDH Appendix 10A) and “*estimate of expenditures to be financed from the imprest account*” form (LDH Appendix 10B) setting out the estimated

expenditures for the subsequent six (6) months. This should include an eligible subproject pipeline that sums up to the total estimated disbursement. PNB should also submit evidence satisfactory to ADB that the imprest account has been duly opened.

29. For subloan above the SOE limit (see para. 31 – 35 below), after eligible expenditures are incurred and paid from the sub-account in INR, PNB could request liquidation and replenishment of the imprest account in equivalent USD based on the historical exchange rate by submitting a “*statement of expenditures (SOE) for financial intermediation loans*” form (Appendix 9C) and attach appropriate supporting documents as described in para 7 and for expenditure incurred in the first 3 subprojects or any subloan above \$1 million. For subloan below the SOE limit, please follow the SOE procedure as described in LDH Section 9.9 and para. 31 – 35 below, and by submitting a “*statement of expenditures (SOE) for financial intermediation loans*” form (Appendix 9C).

30. As ADB provides advances to cover projected eligible expenditure for the subsequent 6 months, the target turnover ratio of the imprest account should be maintained at 2.0 per annum.⁸ If the turnover ratio of the imprest account is lower than the target, ADB may reduce the level of advance to the imprest account by adjusting the amount of replenishment or by requesting a refund to ADB, as appropriate. The corresponding “*imprest account reconciliation statement*” (LDH Appendix 10C), “*estimation of imprest account turnover ratio*” (LDH Appendix 10C) are also required to be submitted with the subsequent withdrawal applications.

SOE Procedure

31. The SOE procedure will be used for reimbursing eligible project expenditures or liquidating advances to the imprest account. The SOE procedure is a simplified procedure requiring no submission of supporting documentation of expenditures below the approved ceiling. Subject to future adjustment, the initial SOE limit is set at \$1 million per subloan, as the same as the free limit. However, the first 3 subprojects under the imprest arrangement (and the first 3 subproject under the reimbursement arrangement) shall not use SOE procedure.

32. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.⁹

33. On the “*statement of expenditures (SOE) for financial intermediation loans*” form (Appendix 9C), PNB needs to list the subloan amount approved and individual subloan claimed as required in the tabular format. Even if the individual subloan is below the SOE ceiling, PNB needs to retain all supporting documents for the subloans (see para. 7 for details) and permit ADB audit when requested. Again, if the individual subloan exceeds the SOE ceiling of \$1 million, PNB shall use the “*statement of expenditures (SOE) for financial intermediation loans*” form (Appendix 9C) and attach appropriate supporting documents as described in para. 7 above.

34. The following table provides for the requirements of the supporting documents:

⁸ The turnover ratio of the imprest account is calculated by the following formula: cumulative amount of liquidation divided by average of imprest advance amount.

⁹ Checklist for SOE procedures and formats are available at relevant sections of the ADB Loan Disbursement Handbook: <http://www.adb.org/sites/default/files/loan-disbursement-handbook.pdf>

Description	SOE Procedure	Required Documents
Reimbursement	Above SOE limit	<ul style="list-style-type: none"> • <i>Withdrawal application for direct payment and reimbursement form (LDH Appendix 7A) and</i> • <i>Statement of expenditures (SOE) for financial intermediation loans” form (Appendix 9C)</i>
	Below SOE limit	<ul style="list-style-type: none"> • <i>Statement of expenditures (SOE) for financial intermediation loans form (Appendix 9C)</i> • <i>A list of subprojects with basic information such as project costs, loan amounts, project sites, procurements, and technologies deployed.</i>
Liquidation and replenishment from the imprest arrangement	Above SOE limit	<ul style="list-style-type: none"> • <i>Withdrawal application for direct payment and reimbursement form (LDH Appendix 7A) and</i> • <i>Estimate of expenditures to be financed from the imprest account form (LDH Appendix 10B)</i> • <i>Backup document as described under para. 7.</i>
	Below SOE limit	<ul style="list-style-type: none"> • <i>Statement of expenditures (SOE) for financial intermediation loans form (Appendix 9C)</i> • <i>A list of subprojects with basic information such as project costs, loan amounts, project sites, procurements, and technologies deployed.</i>

35. Before the submission of the first withdrawal application, PNB should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the PNB, together with the authenticated specimen signatures of each authorized person by using the “*evidence of authority to sign withdrawal applications*” (LDH Appendix 4B). The minimum value per reimbursement is \$1 million, unless otherwise approved by ADB. ADB reserves the right not to accept withdrawal applications below the minimum amount.

C. Accounting

36. See Section IX for reporting requirements. PNB will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project following prevailing Indian accounting standards.¹⁰ PNB will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

D. Auditing

37. PNB will cause the detailed consolidated project financial statements to be audited in accordance with national auditing standards applicable in India, by an independent auditor acceptable to ADB. The audited project financial statements together with the auditor's opinion will be presented in the English language to ADB within 6 months from the end of the fiscal year by the PNB.

38. PNB will also cause its entity-level statutory financial statements to be audited in accordance with International Standards on Auditing and with the Government of India audit regulations, by the independent auditor of PNB. The audit opinion will include the auditor's review of subprojects approved by ADB and will address (i) whether or not the Statement of

¹⁰ The current Indian accounting standards are yet to converge with the international financial reporting standards.

Subprojects presents fairly, in all material respects, subprojects funded by ADB. (ii) whether or not loan proceeds were used only for the purposes of the facility/project under the related tranche; (iii) the level of compliance for each financial covenant contained in the legal agreements for the project under the related tranche; and (iv) if applicable, the use of the statement of expenditure procedure certifying to the eligibility of those expenditures claimed under SOE procedures in accordance with ADB's Loan Disbursement Handbook and the legal agreements for the project under the related tranche. The audit report will also include an audit management letter (which sets out the deficiencies in the internal control of the project under the related tranche that were identified in the course of the audit, if any). Further guidance is shown in a sample letter for audit in Appendix 4. The audited entity-level financial statements, together with the auditors' report, will be submitted in the English language to ADB within one month after their approval by the competent authority.

39. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

40. The government and PNB have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹¹ ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

41. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Public Communications Policy 2011.¹² After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.¹³

VI. PROCUREMENT AND CONSULTING SERVICES

42. PNB has the capacity to follow ADB's procurement and disbursement requirements. All procurement to be financed under the MFF would be carried out in accordance with ADB's

¹¹ ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

¹² Public Communications Policy: <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

¹³ This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

Procurement Guidelines (2015, as amended from time to time), following stated eligibility criteria. ADB encourages PNB to require its subborrowers to adopt internationally competitive bidding procedures to the extent possible when the amount of the investment is unusually large and economy and efficiency can be gained through such procedures. For procurement of goods and services to be financed by subloans from the ADB loan, PNB would ensure that prices are reasonable and that relevant factors—e.g., time of delivery, efficiency, reliability, suitability for the subproject, and (for consulting services) quality and competence—are taken into account. Solar panels procured under the India domestic content requirement would not be eligible for financing under the SRIP. ADB loan proceeds would be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time). ADB may provide PNB with United States dollars as the currency of payment.

43. ADB, MNRE, and PNB may also carry out relevant institutional procurement and recruitment of consultant services under the capacity development component. The consultants would be engaged in accordance with its Guidelines on the Use of Consultants (2013, as amended from time to time).¹⁴ Disbursements will be made in accordance with ADB's Technical Assistance Disbursement Handbook (2010, as amended from time to time).¹⁵ Procurement of goods under the capacity development component intended for PNB's ownership will follow the relevant ADB guidelines for institutional procurements.

VII. SAFEGUARDS

44. The safeguard categories for environment, involuntary resettlement, and indigenous peoples are all "FI" treated as "C." The solar rooftop systems do not require land space, and have no impact on involuntary resettlement and indigenous people. The nature of the solar rooftop systems is to improve the environmental conditions in India and mitigate the negative impact from global climate change. Solar rooftop projects do not require an environmental clearance in India. Recycling of solar panel modules after they reached the end of their economic life would help recover 90% of the module material. The environmental and social impacts associated with the implementation of solar rooftop projects, either commercial-scale or residential-scale, is negligible. Therefore, an environment and social safeguard management system is not required, and an Environmental Assessment Review Framework is not prepared due to the uniform nature of the work carried out on a country-wide basis under each tranche. ADB will monitor program implementation to ensure that subprojects financed by the facility do not have environmental, involuntary resettlement, and indigenous peoples impacts; and that corrective actions are taken if unforeseen issues arise.

VIII. GENDER AND SOCIAL DIMENSIONS

45. The SRIP supports solar renewable energy development in India. The benefits of rooftop solar energy capacity additions include national benefits in terms of enhanced energy security and additional electricity supply contributing to inclusive and environmentally sustainable economic growth, and localized benefits of improvement of livelihoods and job creation at the subproject sites. The design of the SRIP incorporates some gender elements. In addition to

¹⁴ ADB. 2015. *Guidelines on the Use of Consultants*. Manila. Available: <http://www.adb.org/sites/default/files/institutional-document/31481/guidelines-use-consultants.pdf>

¹⁵ ADB. 2010. *Technical Assistance Disbursement Handbook*. Manila. Available: <http://www.adb.org/sites/default/files/institutional-document/31314/tadisbursement.pdf>

PNB's existing social schemes to support women,¹⁶ ADB would also encourage subproject developers to enhance the recruitment of women in system operations and maintenance. The poverty reduction impact of renewable energy projects can be both direct and indirect. The direct impact is through additional power generation which supports economic activities and improves the livelihoods of individuals such as the provision of lighting, refrigeration, and other household amenities. The investment also creates economic benefits for other business sectors, service providers, and related industries. Indirectly, rooftop solar energy projects minimize the negative environmental impacts and improve general public health conditions.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Facility Design and Monitoring Framework

46. Please see appendix 1 for the facility design and monitoring framework (DMF).

B. Monitoring

47. The monitoring criteria of the facility include (i) details of the subloans that receive the ADB financing, including their eligibility, technical, credit, risk assessments, and share of ADB financing; (ii) facility performance evaluation by using the targets, indicators, assumptions, and risks in the DMF, including how subborrowers are involved in the facility monitoring; (iii) compliance monitoring by verifying with which facility's regulatory, technical, environmental, social, financial, and other covenants are complied; and (iv) procurement procedures undertaken by borrowers and subborrowers that are complied with Section VI.

48. The above mentioned monitoring are carried out at two distinct levels:

- (i) PNB
- (ii) ADB

49. PNB will prepare monitoring and review (progress) reports to ADB on a regular basis (see Section D). ADB has the discretion to conduct its own independent assessments to verify the results of the monitoring reports submitted by PNB. A tripartite review meeting will be held among the Government of India, ADB and PNB at least twice during each tranche disbursement. The timing of the completion of the monitoring reports will be the 10th day of the month following the completion of the operation of the previous six months.

C. Evaluation

50. ADB will conduct a midterm review of the facility at the half-point of implementation. The midterm review and final tranche review will cover contract awards and disbursement, implementation progress including progress against institutional development and capacity building milestones, social and environmental aspects, and the status of the investment

¹⁶ PNB already has a number of lending schemes that target women self-help groups: (i) National Rural Livelihood Mission that will promote lending to women self-help groups consisting of 10-15 persons and in difficult/ remote tribal areas/groups with disabled persons; (ii) Swaran Jayanti Shahari Rozgar Yojna that promotes lending as part of an Urban Self Employment Programme for urban poor living below the poverty line in any city/town and residing in the town for at least 3 years; and (iii) Urban Women Self Help Programme for urban poor women living below the poverty line in any city/town and residing in the town for at least 3 years.

program performance management system. The midterm review and final tranche review will identify problems or weaknesses in the implementation arrangements, suggest nominal changes in scope, outputs, and due diligence, and agree on suggested changes for the subsequent disbursements. Within 6 months of the physical completion of the entire facility, PNB will submit a facility completion report to ADB to summarize all the items identified under para. 38 for the entire MFF. The template is to be provided by ADB.

D. Reporting

51. PNB, through its solar rooftop unit, will prepare monitoring and review (progress) reports on an annual basis for submission to ADB for review. The annual progress reports will provide (i) a narrative description of progress made during the review period including the types of technologies financed, disbursement, safeguard due diligence and compliance if any, and gender inclusiveness if any; (ii) quantitative data on disbursement volume and schedule and relevant subproject financial data; (iii) issues; and (iv) plans for the subsequent reporting period. In addition, the report should include a narrative description and assessment of procurement processes and arrangements in accordance with ADB's Procurement Guidelines and Guidelines on the Use of Consultants (March 2013 as amended from time to time). Finally, PNB shall submit to ADB the unaudited and when available audited financial statements on an annual basis. The progress reports will be in a format consistent with ADB's facility performance reporting system (see Appendix 5).

E. Stakeholder Communication Strategy

52. Communications activities will focus on media and corporate communications regarding the value of ADB's sustained partnership with PNB and the potential and actual positive outcomes made possible by the MFF. These can contribute to encouraging active use of the facility and raising broad awareness of ADB, PNB, and the benefits of renewable energy and energy efficiency.

X. INSTITUTIONAL CAPACITY AND MARKET DEVELOPMENT

53. A proposed \$5 million TA grant, funded by CTF, is designed to strengthen PNB's implementation capacity and improve other necessary market infrastructures to enable timely disbursement of the ADB funds. TA implementation will be administered by ADB and also implemented by MNRE and PNB. The TA would focus on the necessary conditions to develop a viable subproject pipeline. The TA would have two main components: (i) PNB institutional capacity development and (ii) market and subproject development. Under the first component, PNB shall establish: (i) a solar rooftop unit, (ii) dedicated processes and procedures, (iii) business development and advisory service, (iv) subproject approval and administrative capacities, and (v) any other necessary capacities to successfully implement the SRIP. Under the second component, the TA consultants shall work with MNRE to: (i) conduct extensive training/awareness raising among industrial and commercial entities, public institutions, state (renewable energy) nodal agencies (SNAs), discoms, urban local bodies, and other relevant stakeholders; (ii) provide necessary market infrastructures including policy, regulation, legal/contractual templates, toolkits, financing, and risk guarantee, among others; (iii) develop rooftop solar cells in discoms, SNAs, central electricity regulatory commission, and central electricity authority; and (iv) conduct awareness campaigns among all stakeholders on the available business models and their technical and financial benefits, and provide website portals.

XI. ANTICORRUPTION POLICY

54. PNB is advised of ADB's Anticorruption Policy (1998, as amended to date). Consistent with its commitment to good governance, accountability and transparency, implementation of the subprojects under the Facility shall adhere to ADB's Anticorruption Policy. ADB reserves the right to review and examine, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the subprojects under the Facility. In this regard, investigation of government officials, if any, would be requested by ADB to be undertaken by the government. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the facility framework agreement and the bidding documents. In particular, all contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of PNB, the subborrowers and all contractors, suppliers, consultants, and other service providers as they relate to the subprojects under the facility. Individuals and entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activities and may not be awarded any contracts under the facility.¹⁷

55. Under PNB's operations manual, PNB discloses to its board all financial relationships and transactions of nonexecutive directors in its annual report. The compensation of all board members is also disclosed. PNB management is required to disclose to the board all material, financial, and commercial transactions where members of management have a personal interest and transactions where such members have a potential conflict of interest with the interests of PNB.¹⁸ In the event that a director is an interested party in a transaction (based on disclosure), the director may not, in any way, take part in or influence arrangements in the transaction, in accordance with Section 300(1) of the Companies Act.

56. ADB's Anticorruption Policy designates the Office of Anticorruption and Integrity¹⁹ as the point of contact to report allegations of fraud or corruption among ADB-financed projects or its staff. Office of Anticorruption and Integrity is responsible for all matters related to allegations of fraud and corruption. For a more detailed explanation refer to the Anticorruption Policy and Procedures. Anyone coming across evidence of corruption associated with the Project may contact the Anticorruption Unit by telephone, facsimile, mail, or email at the following numbers/addresses:

- by email at integrity@adb.org or anticorruption@adb.org
- by phone at +63 2 632 5004
- by fax to +6326362152
- by mail at the following address (**Please mark correspondence Strictly Confidential**):

Office of Anticorruption and Integrity
Asian Development Bank
6 ADB Avenue
Mandaluyong City 1550
Metro Manila, Philippines

¹⁷ ADB's Integrity Office web site is available at: <http://www.adb.org/site/integrity/main>.

¹⁸ Nondisclosure is a punishable offense under Section 299(4) of the Companies Act.

¹⁹ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>.

XII. ACCOUNTABILITY MECHANISM

57. People who are, or may in the future be, adversely affected under a subproject may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²⁰

XIII. RECORD OF FAM CHANGES

58. This section will retain all revisions and updates that occur during implementation to provide a chronological history of changes.

²⁰ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

DESIGN AND MONITORING FRAMEWORK FOR THE INVESTMENT PROGRAM

Impact the Program is Aligned with			
Energy security provided to all in an environmentally sustainable manner, and renewable energy developed (Integrated Energy Policy) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Solar rooftop capacity in India increased.	By 2023 a. 400 MW of solar rooftop power-generating capacity is funded by PNB (2016 baseline: 0). ^b b. An average of additional 441,700 tons of carbon dioxide emission reduced annually from this program (2016 baseline: 0). c. ADB program to catalyze \$300 million project equity and \$200 million debt financing leveraged by PNB (2016 baseline: \$0 project equity and \$0 debt).	a–c. MNRE and relevant Government reports.	Protracted economic slowdown in the international and domestic markets to reduce government fiscal capacity to support the sector development. Change of government and solar rooftop policy.
Outputs 1. Debt funding to the solar rooftop sector increased. 2. PNB institutional capacity improved.	At least 500 solar rooftop subprojects approved for financing by 2022 (2016 baseline: 0). 2a. A designated solar rooftop unit at PNB headquarters and selected branches to screen, review, price, and monitor subprojects established by September 2016 (2016 baseline: not applicable). 2b. Annual ADB program disbursement targets (to be determined during implementation) met from 2016 to 2022 (2016 baseline: not applicable). 2c. ADB program compliance requirements met from 2016 to 2022 (2016 baseline: not applicable).	PNB's own program review reports. 2a–2c. PNB annual reports and ADB review reports.	Untested solar rooftop market demand. Slow market reaction to government market development efforts and incentives, e.g., feed-in-tariff, renewable energy purchase obligation, and/or direct subsidies. PNB's declining financial position to implement the ADB program.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
3. Solar rooftop market infrastructure and bankable subproject pipeline developed.	<p>3a. Subproject pipeline of 50 MW developed by MNRE channel partners (developers) for PNB financing by 2017 (2016 baseline: 0 MW of subprojects).</p> <p>3b. Capacity development program at power distribution companies, SNA, CERC, and CEA levels completed by 2021 (2016 baseline: 0).</p> <p>3c. Extensive marketing and awareness campaign program targeting industrial and commercial sectors, including businesses and properties owned and managed by women, if any, implemented by 2022 (2016 baseline: 0)</p> <p>3d. Solar rooftop web portal to promote the PNB financing facility developed by 2017.</p>	<p>3a–3d. Government of India (e.g., MOP and/or MNRE) notifications, gazettes, and reports.</p> <p>3d. Market and sector research and reports.</p>	<p>Inadequate sector-level (power distribution companies, SNA, CERC, and CEA) ownership and commitment to reform and development.</p> <p>Continued power distribution companies' financial position and associated offtaker risk.</p>
<p>Key Activities and Milestones</p> <p>1. Debt funding to the solar rooftop sector increased. (Tranche 1 for \$100 million available by December 2016, tranche 2 for \$150 million available by December 2018, and tranche 3 for \$250 million available by December 2020)</p> <p>1.1 Approve at least 500 solar rooftop subprojects for financing, by 2022.</p> <p>2. PNB institutional capacity improved.</p> <p>2.1 Establish a designated solar rooftop unit at PNB headquarters and selected branches to screen, review, price and monitor subprojects, by September 2016.</p> <p>2.2 Meet annual ADB program disbursement targets (to be determined during implementation) from 2016 to 2022 (2016 baseline: not applicable).</p> <p>2.3 Meet ADB program compliance requirements from 2016 to 2022.</p> <p>3. Solar rooftop market infrastructure and bankable subproject pipeline developed.</p> <p>3.1 MNRE channel partners develop a subproject pipeline of 50 MW for PNB financing by 2017.</p> <p>3.2 Complete capacity development program at power distribution companies, SNA, CERC, and CEA levels by 2021 (2016 baseline: 0).</p> <p>3.3 Implement extensive marketing and awareness campaign program targeting industrial and commercial sectors, including businesses and properties owned and managed by women, if any, by 2022 (2016 baseline: 0).</p> <p>3.4 Develop solar rooftop web portal to promote the PNB financing facility, by 2017.</p>			

Inputs	
Loan	
ADB OCR:	\$330 million
CTF:	\$170 million
Commercial banks and/or financiers:	\$200 million (estimated)
Equity	
Subproject Equity:	\$300 million (estimated)
Grant	
CTF:	\$5 million
Assumptions for Partner Financing	
Outputs not administered by ADB that are necessary to reach the outcome include: USAID train PNB solar rooftop unit staff on solar rooftop-specific financial credit and/or risk model. ^c	

ADB = Asian Development Bank, CEA = Central Electricity Authority, CERC = Central Electricity Regulatory Commission, CTF = Clean Technology Fund, FAM = facility administration manual, GW = gigawatt, MNRE = Ministry of New and Renewable Energy, MOP = Ministry of Power, MW = megawatt, OCR = ordinary capital resources, PNB = Punjab National Bank, SNA = state nodal agency, TA = technical assistance, USAID = United States Agency for International Development.

^a Government of India, Planning Commission. 2006. *Integrated Energy Policy*. Delhi.

^b 400 MW of solar rooftop energy is estimated to be generated solely from \$500 million ADB financing, without the additional \$300 million subproject equity or the \$200 million debt financing from other commercial sources.

^c USAID has developed a solar rooftop-specific financial credit and/or risk model to assist lending institutions in India assess, appraise, and price the solar rooftop lending projects. USAID would administer its funds to provide the relevant capacity to PNB to support the ADB program.

Source: Asian Development Bank.

ADB PROHIBITED INVESTMENT ACTIVITIES LIST

The following do not qualify for Asian Development Bank financing:

- (i) production or activities involving harmful or exploitative forms of forced labor²¹ or child labor;²²
- (ii) production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phaseouts or bans, such as (a) pharmaceuticals,²³ pesticides, and herbicides,²⁴ (b) ozone-depleting substances,²⁵ (c) polychlorinated biphenyls²⁶ and other hazardous chemicals,²⁷ (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,²⁸ and (e) transboundary trade in waste or waste products;²⁹
- (iii) production of or trade in weapons and munitions, including paramilitary materials;
- (iv) production of or trade in alcoholic beverages, excluding beer and wine;³⁰
- (v) production of or trade in tobacco;¹⁰
- (vi) gambling, casinos, and equivalent enterprises;¹⁰
- (vii) production of or trade in radioactive materials,³¹ including nuclear reactors and components thereof;
- (viii) production of, trade in, or use of unbonded asbestos fibers;³²
- (ix) commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests; and
- (x) marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

²¹ Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

²² Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).

²³ A list of pharmaceutical products subject to phaseouts or bans is available at <http://www.who.int>.

²⁴ A list of pesticides and herbicides subject to phaseouts or bans is available at <http://www.pic.int>.

²⁵ A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at <http://www.unep.org/ozone/montreal.shtml>.

²⁶ A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985.

²⁷ A list of hazardous chemicals is available at <http://www.pic.int>.

²⁸ A list is available at <http://www.cites.org>.

²⁹ As defined by the Basel Convention; see <http://www.basel.int>.

³⁰ This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations.

³¹ This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

³² This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

LIST OF KEY ADB PROJECT IMPLEMENTATION DOCUMENTS

ADB Loans Disbursement Handbook (2015)

(as may be updated from time to time):

<http://www.adb.org/sites/default/files/institutional-document/33606/adb-loan-disbursement-handbook.pdf>

Guidelines on the Use of Consultants by Asian Development Bank and Its Borrowers (2013)

(as may be updated from time to time):

<http://www.adb.org/sites/default/files/institutional-document/31481/guidelines-use-consultants.pdf>

Procurement Guidelines (2015)

(as may be updated from time to time):

<http://www.adb.org/sites/default/files/institutional-document/31482/procurement-guidelines-april-2015.pdf>

Technical Assistance Disbursement Handbook (2010)

<http://www.adb.org/sites/default/files/institutional-document/31314/tadisbursement.pdf>

SAMPLE LETTER FOR AUDIT

ASIAN DEVELOPMENT BANK

Regional Department
Sector Division/Regional or Resident Mission

[Date]

[The Borrower]
Dear Sir/Madam:

**Subject: Solar Rooftop Investment Program
Financial Reporting and Auditing Requirements**

1. This letter is to ensure your timely compliance with the loan covenants and the quality of financial information as required by ADB. ADB's *Handbook for Borrowers on the Financial Governance and Management of Investment Facility Financed by the ADB* (the Booklet) is enclosed to guide you.

2. ADB, by its Charter, is required to ensure that the proceeds of any loan made, guaranteed, or participated in by ADB are used for the purposes in which the loan was approved. ADB requires accurate and timely financial information from its borrowers to be assured that expenditure was for the purposes stated in the loan agreement.

3. For this particular facility, the requirements are stipulated in sections _____ and _____ of the loan agreement of _____ between ADB and PNB and sections _____ and _____ of the loan agreement of _____ between ADB and PNB. Copies of the loan agreements are enclosed for onward transmission by your office to your EA and the auditor(s), together with a copy of this letter.

4. The following are the main requirements:

ADB requires PNB to maintain a separate account and records related to the facility to ensure that the loan fund is used only for the objectives set out in the loan agreement.

The first audited 'Statement of Subprojects' to be submitted to ADB covers the fiscal year ending _____. As stipulated in the loan agreement, they are to be submitted up to six months after the end of the fiscal year. For this loan, the deadline is by _____. A sample report format, with explanatory notes, is attached as Annex A.

The accounts and records for the facility are to be consistently maintained by using sound accounting principles. Please stipulate that your external auditor is to express an opinion on whether the financial report has been prepared using international or local generally accepted accounting standards and whether they have been applied consistently.

Please ensure that your external auditor specifies in the auditor's report the appropriate auditing standards they used, and direct them to expand the scope of the paragraph in the auditor's report by disclosing the key audit procedures followed.

ADB prefers that auditors conform to the international auditing standards issued by the International Federation of Accountants. In cases where other auditing standards are used, request that your external auditor to indicate in the auditor's report the extent of any differences and their impact on the audit. The external auditor should give his opinion whether or not the Statement of Subprojects presents fairly, in all material respects, subprojects funded by ADB.

The external auditor's opinion is also required on whether:

- the proceeds of ADB's loan have been utilized only for the facility as stated in the loan agreement;
- the financial information contains data specifically agreed upon between PNB and ADB to be included in the financial statements;
- the financial information complies with relevant regulations and statutory requirements; and
- compliance has been met with all the financial covenants contained in the loan agreement.

The auditor's report is to clearly state the reasons for any opinions that are qualified, adverse, or disclaimers.

The audit report should also be accompanied by an Audit Management Letter (which sets out any deficiencies in the internal controls that govern the facility and that were identified in the course of the audit, if any).

Actions on deficiencies disclosed by the external auditor in its report are to be resolved by PNB within a reasonable time. The external auditor is to comment in the subsequent auditor's report on the adequacy of the corrective measures taken by PNB.

5. Compliance with these ADB requirements will be monitored by review missions and during normal facility supervision, and followed up regularly with all concerned, including the external auditor.

Yours sincerely,

Director/Country Director
(Sector Division/Regional or Resident Mission)

cc: PNB
(External auditor of the Borrower)

PRO FORMA FACILITY PROGRESS REPORT

A. Introduction and Basic Date

1. Provide the following:
 - i. ADB loan number, facility title, borrower, executing agency, implementing agency;
 - ii. Total estimated facility cost and financing plan;
 - iii. Status of facility financing including availability of counterpart funds;
 - iv. Dates of approval, signing, and effectiveness of ADB loan;
 - v. Original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
 - vi. Date of last ADB review mission.

B. Utilization of Funds (ADB loan, cofinancing, and counterpart funds)

2. Provide the following.
 - i. Cumulative contract awards financed by the ADB loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
 - ii. Cumulative disbursements from the ADB loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
 - iii. Re-estimated costs to completion, need for reallocation within ADB loan categories, and whether an overall facility cost overrun is likely.

C. Facility Purpose

3. Provide the following.
 - i. Status of facility scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
 - ii. An assessment of the likelihood that the immediate development objectives (facility purpose) will be met in part or in full, and whether remedial measures are required based on the current facility scope and implementation arrangements;
 - iii. An assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
 - iv. Other facility developments, including monitoring and reporting on environmental and social requirements that might adversely affect the facility's viability or accomplishment of immediate objectives.

D. Implementation Progress

4. Provide the following.
 - i. Assessment of facility implementation arrangements such as establishment, staffing, and funding of the solar rooftop unit;
 - ii. Information relating to other aspects of the executing agency's internal operations that may impact on the implementation arrangements or facility progress;
 - iii. Progress or achievements in implementation since the last progress report;

- iv. Assessment of the progress of each facility component, such as:
 - a. Recruitment of consultants and their performance;
 - b. Procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
 - c. The performance of suppliers, manufacturers, and contractors for goods and works contracts.
- v. Assessment of progress in implementing the overall facility to date in comparison with the original implementation schedule—quantifiable and monitorable targets, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets, the reference framework or guidelines in calculating the facility progress; and
- vi. An assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

E. Compliance with Covenants

5. Provide the following.
 - i. The Borrower's compliance with policy loan covenants such as sector reform initiatives and executing agency (EA) reforms and the reasons for any noncompliance or delay in compliance;
 - ii. The Borrower's and EA's compliance with financial loan covenants including the EA's financial management and the provision of audited project financial statements or audited agency financial statements; and
 - iii. The Borrower's and EA's compliance with facility-specific loan covenants associated with implementation, environment, and social dimensions.

F. Major Facility Issues and Problems

6. Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).

ATTACHED TECHNICAL ASSISTANCE FACILITATING SOLAR ROOFTOP INVESTMENT IN INDIA

A. Introduction

1. A capacity development technical assistance (TA) grant in the amount of \$5 million will be provided to the Government of India (government) to support (i) the implementation of Asian Development Bank Solar Rooftop Investment Program (SRIP) and (ii) associated institutional capacity and market development in the solar rooftop sector in India. The rationale for such a capacity development TA is to provide the necessary conditions to create bankable solar rooftop subprojects to enable Punjab National Bank (PNB), the SRIP borrower, to finance these subprojects. The proposed capacity development TA is to be implemented over 5 years from January 2017 – January 2022, and aligned with the other relevant ongoing and future sector capacity development initiatives.³³

B. Outputs and Key Activities

2. The proposed TA would have three main components: (i) PNB institutional capacity development, (ii) market development, and (iii) awareness campaign, each of which will be implemented jointly by Ministry of New and Renewable Energy (MNRE),³⁴ PNB, and/or ADB. While ADB will administer the proposed TA, the training component will be delegated to and implemented by MNRE and PNB, both of which will be the TA executing agencies of the training component. Because the TA will partly leverage the capacities of existing training facilities: (i) MNRE's 35 partner institutions under its Solar Energy Training Network (SETNET)³⁵ and (ii) PNB's 30 regional training centers, such extensive training programs under the TA are best managed by MNRE and PNB respectively.³⁶ The executing agencies' capacities on procurement, consultants recruitment, financing management, risk management, financial reporting, and payment approval and procedures were assessed and found to be adequate.

I. PNB Institutional Capacity Development

3. **Establishment of dedicated solar rooftop units at its headquarters and selected branches (ADB—administered).** The proposed capacity development TA would help PNB establish solar rooftop units (SRU) at its headquarters and relevant branches by recruiting and deploying technical analysts to help originate, review, price, approve, administer, and/or monitor solar rooftop projects. The SRU established at PNB headquarters would also function as the ADB program administration unit.

4. **Train-the-trainer component (PNB—administered).** The capacity development TA will support the training efforts provided by the 30 PNB regional training centers dedicated for the SRIP. This will be achieved through training the trainers in PNB's training centers to provide the

³³ The proposed capacity development TA is a part of the comprehensive government sector development initiatives to enable subproject development supported by the following development partners: ADB, KfW Development Bank, New Development Bank, and the World Bank.

³⁴ MNRE also refers to any institutions, agencies, and/or entities under MNRE, such as National Institute of Solar Energy.

³⁵ <http://mnre.gov.in/file-manager/UserFiles/List-of-NISE-SETNET-Partners.pdf>

³⁶ MNRE's 35 SETNET institutions provide information, knowledge and experiences about solar rooftop technologies, business models (e.g., capex and opex), and financing modalities. PNB's 30 regional training centers would provide training to more than 60,000 loan officers through in-house trainers and by external experts – hired on an as-needed basis.

necessary skill sets to originate, review, price, approve, administer, and/or monitor solar rooftop projects. The training would be provided at both headquarters and branch (zonal) offices.

5. **Business advisory support (ADB—administered).** The proposed capacity development TA would recruit a renewable energy service company to work with potential subborrowers to bring the developed subprojects to PNB for financing. The renewable energy service companies would (i) prepare feasibility studies, financial projections, project structuring, and other matters related to subloan application to PNB; (ii) review compliance requirements, including necessary licenses, permits, and clearances; (iii) arrange service providers [e.g., equipment suppliers, and EPC (engineering, procurement, and construction) and maintenance contractors]; and (v) undertake other steps leading to system operation. The legal consultant (firm) would provide any related business legal support.

6. **ADB project administration and monitoring (ADB—administered).** This is the first time PNB will have undertaken a loan from ADB. The proposed capacity development TA would provide a team leader and the procurement consultant to help PNB follow ADB administration guidelines.

II. Market Development

7. **Market training program (MNRE—administered).** MNRE's 35 SETNET partner institutions would build capacities among the solar energy professionals community in India through various training methods, including standardized training curricula. The proposed TA consultants could support the training of relevant SETNET trainers and/or fund the training programs, including to selected state nodal agencies (SNAs),³⁷ power distribution companies, solar rooftop project developers, system installers and engineers, and others relevant stakeholders.

8. **Recruitment and deployment of technical analysts (MNRE—administered).** The proposed TA would support the establishment of dedicated solar cells in identified states and the recruitment of technical experts to be deployed to these solar cells, SNAs, or even power distribution companies, among others.

9. **Dedicated websites and toolkit (ADB—administered).** ADB would work with MNRE and PNB to develop a dedicated solar rooftop website to provide a single information source, including a toolkit, for provide one-stop shop for solar rooftop project development and financing. The ADB primary TA consultants would help develop a toolkit, which would provide rooftop owners, developers, bankers, and other relevant stakeholders information regarding all aspects of solar rooftop systems.

III. Awareness Campaign (MNRE and PNB—administered)

10. The proposed capacity development TA would also help MNRE and PNB promote solar rooftop systems and available financing facilities in India by raising public awareness of their technical and commercial benefits. In particular, the TA consultants would help MNRE and PNB: (i) undertake a formal SRIP launch event of the ADB–PNB financing facility; (ii) conduct nationwide and state-level marketing and awareness multi-media campaigns including local

³⁷ The Ministry of New and Renewable Energy (MNRE) has established an administrative department called the state nodal agency in different states and union territories of India to promote and develop the renewable energy sector.

media (e.g., newspapers, television, radio) and other available and effective media channels including Internet websites; (iii) undertake marketing calls to potential industrial, commercial, and residential clients; and (iv) develop other outreach programs. The websites and toolkits would support the efforts under this component. These activities will be carried out through third party contracts. The ADB communication consultant will provide the relevant support to MNRE and PNB.

C. Cost and Financing

11. The proposed capacity development TA is estimated to cost \$5,000,000 to be financed on a grant basis by the Clean Technology Fund.

Table 1: Cost Estimates and Financing Plan
(\$'000)

Item	Amount
A. Clean Technology Fund^a	
1. Consultants	1,600.0
a. Remuneration and per diem	
National consultants	1,200.0
b. Local travel	300.0
c. Reports and communications	100.0
2. Equipment	100.0
3. Training, seminars, and conferences	2,500.0
a. Facilitators	200.0
b. Training program ^b	2,300.0
4. Miscellaneous administration and support costs	300.0
5. Contingencies	250.0
6. Multilateral development bank fee	250.0
Total	5,000.0

Note: The Government would provide counterpart support in the form of committed training work programs, dedicated counterpart staff resources to manage the third party training programs, office and housing accommodation, office supplies, secretarial assistance, domestic transportation, and other in-kind contributions if necessary. The value of Government of India counterpart contribution is estimated to account for 30% of the \$2.5 million third party training component, or about \$1 million equivalent (20% of the total TA cost).

^a Administered by the Asian Development Bank. The total capacity development TA amount is \$4,750,000 after deducting a multilateral development bank fee of 5% or \$250,000 (see Item 6).

^b The training component would be delegated to the TA executing agencies of MNRE and PNB to conduct the extended training to state nodal agencies, power distribution companies, solar rooftop developers, and PNB's zonal offices, among others, to develop the market. This component would also include media and advertisement costs as mentioned in Section III (Awareness Campaign). ADB will only finance up to 70% of total training costs.

Source: Asian Development Bank estimates.

D. Implementation Arrangements

12. To facilitate a smooth implementation of the TA under the government leadership and to ensure close coordination among all stakeholders, a steering committee, to be chaired by MNRE, will be established. The steering committee will include senior representatives from ADB, MNRE, PNB, the World Bank, KfW Development Bank, and/or other relevant development partners and stakeholders involved in the solar rooftop sector development in India. The steering committee will convene at least once every six-months.

13. ADB would directly administer 50% of the TA components, estimated at \$2.5 million, including recruitment of the primary consultants (Table 2). MNRE and PNB would administer the remaining 50% of the TA components, also estimated at \$2.5 million.

14. All consultants funded by the TA would be selected and recruited in accordance with ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time). All goods and services funded by the TA will be procured in line with ADB's *Procurement Guidelines* (2015, as amended from time to time). ADB would carry out the recruitment of the primary consultants listed in Table 2, and MNRE, PNB, and/or associated (MNRE SETNET) partner training institutions and (PNB) regional training centers would be responsible for the recruitment of all other consultants. ADB would recruit the primary consultants on a firm or individual basis³⁸, depending on market conditions, using the quality- and cost-based selection method, with a standard quality—cost ratio of 90:10 due to the highly specialized expertise needed.

15. Under the delegated TA component, MNRE, PNB, and/or associated (MNRE SETNET) partner training institutions and (PNB) regional training centers would have the fiduciary responsibility for implementing the training programs in accordance with the ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time) and ADB's *Procurement Guideline* (2015, as amended from time to time), and those pertaining to financial management and monitoring and review. Under the delegated TA component, ADB will sign an agreement with MNRE and PNB, respectively. All proposed training program expenses must be based on detailed proposals including program contents, list of participants, and budgets. ADB will review at least the first five training proposals until satisfied with the established implementations arrangements. MNRE and PNB shall ensure that all contract records and accounts under the TA training component are available upon request. Prior to agreeing to the utilization of the TA funds, ADB reserves the rights to request basic training information including program agenda, a list of participants, and date and location of the training. ADB also reserves the right to suspend its funding to the training programs in the case of noncompliance with the signed agreements.

16. ADB may establish an advance payment facility at MNRE and PNB to facilitate payments for qualified training conducted. Reimbursement is also allowed, either through MNRE and PNB or directly to the identified training institutions and centers. The disbursements under the TA for both ADB-administered and delegated components would be made in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). ADB could reimburse up to 70% of eligible costs associated with the delegated TA training component. MNRE and PNB shall maintain separate TA project accounts and/or record by funding source for all expenditures incurred on the TA. Both MNRE and PNB will cause the detailed TA project accounts (e.g., on the third party training) to be audited in accordance with the Government's audit regulations by an auditor acceptable to ADB. The audited accounts will be submitted in the English language to ADB within 6 months of the end of the fiscal year by the executing agency. The annual audit report will include a separate audit opinion on the use of the TA accounts. The Government and MNRE and PNB have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. ADB reserves the right to verify the TA project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

³⁸ Use of output-based lump-sum contracts would be maximized to extend possible, to improve TA administration efficiency.

17. The ADB team leader and the procurement consultant (Table 2) would be responsible for the technical support, implementation advisory, and monitoring and review of the procurement and consultant recruitment process to ensure the compliance of the delegated training component with the ADB guidelines. The effectiveness of the training programs under MNRE and PNB administrations will be assessed by ADB team leader and procurement consultant on a quarterly, semiannual, and annual basis. The government has been informed that approval of the capacity development TA does not commit ADB to finance any ensuing expenditures.

18. The primary consulting services administered by ADB is summarized in Table 2. The detailed terms of reference are provided in the facility administration manual.

Table 2: Summary of Consulting Services

Area of Expertise	Person Months
National	
1. ADB Team Leader	20
2. Strategy and Risk Consultant	10
3. Renewable Energy Service Advisor(s)	30
4. Market Development Consultant	10
5. Legal Consultant	10
6. Communication Consultant	10
7. Procurement Consultant	10
Total	100

Source: Asian Development Bank.

E. Governance

19. ADB would administer the capacity development TA implementation and ensure compliance with the ADB and Clean Technology Fund implementation guidelines. In addition, ADB has reviewed the proposed training facilities and their capacities, and PNB's governance (risks, financial management system, procurement, financial reporting, and/or payment oversight) as a part of the comprehensive multitranches financing facility due diligence process. With the support of a dedicated procurement consultant, MNRE and PNB would have adequate capacity to administer the TA in accordance with ADB's guidelines.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

National Consultants

1. **Team Leader** (20 person-months, national, intermittent). The objective and purpose of the assignment are to provide overall technical, design, and implementation leadership to best support India's solar rooftop development. The team leader will also carry out the necessary loan and TA monitoring and review work to ensure, particularly to ensure the compliance of the third party training program with the ADB requirements. The scope of work is to (i) lead the overall capacity development technical assistance (TA) implementation and (ii) coordinate among all relevant stakeholders and the consultant team to ensure ADB solar rooftop investment program (SRIP) and the TA implementations (e.g., consultant recruitment), disbursement, and completions; (iii) support the PNB SRU meeting the ADB implementation requirements and disbursement targets; and (iv) establish a long-term project implementation capacity to meet the international best practices.. The minimal requirements are a postgraduate degree in the economics, business, energy, or other relevant fields with a minimum of 20 years' relevant work experience. The candidate should be a global practice leader in solar rooftop development to provide technical guidance on both the institution (financing) and sector developments.

- (i) Review and understand the ADB SRIP and the associated CDTA design;
- (ii) Work with the consultant team to first prepare a comprehensive (i) Punjab National Bank (PNB) institutional assessment report and (ii) rooftop solar sector assessment report on India;
- (iii) Prepare a corresponding work plan based on the TA paper on PNB institutional capacity and market development in consultation with all relevant stakeholders;
- (iv) Conduct proper dialogue with PNB management, Government of India, and private sector stakeholder (e.g., developers and property owners), and any other stakeholders on the two assessment reports and the associate work plan to seek feedbacks;
- (v) Submit the prepared assessment reports and associated work plan for ADB's approval in the first months of the CDTA implementation;
- (vi) Manage the work plan to ensure smooth SRIP and CDTA implementations and eventual achievement of the stated objectives;
- (vii) Manage the consultant team and help PNB/MNRE develop a solar rooftop project financing and development website portal and toolkits;
- (viii) Act as a solar rooftop practice leader and provide technical advisory to any stakeholders as needed;
- (ix) Help PNB establish and expand the functions of its solar rooftop unit (SRU) and relevant branches and familiarize relevant staff with ADB's project implementation procedures and terminologies, particularly those pertaining to financial intermediation loans, such as statement of expenditures, reimbursement methods, and imprest arrangement; and the preparation of withdrawal applications, liquidation, replenishment, and/or reimbursement by using the appropriate forms;
- (x) Develop a training program to address the identified gaps to staff from PNB solar rooftop unit (SRU) and those from branch offices, such as by conducting workshops on ADB guidelines for (a) a FAM; (b) the *Loan Disbursement Handbook*; (c) Procurement Guidelines; and (d) Guidelines on the Use of Consultants, among others;

- (xi) Provide training on subproject procurement reviews and compliance and verifications that no solar panels under the India domestic content requirement will be funded under the SRIP;
- (xii) Provide training on subproject safeguards on labor, gender, environment, social, and other aspects of the ADB implementation compliances;
- (xiii) Provide hands-on training on timely preparation and submission of satisfactory project audit reports and project review and monitoring reports;
- (xiv) Pay specific focus on protecting ADB's reputational risk by ensuring full compliance through dedicated monitoring and review process;
- (xv) Organize all available external training opportunities of ADB-hosted training events for concerned PNB staff;
- (xvi) Whenever possible, (a) promote ADB's gender inclusiveness in business development (e.g., awareness workshops), subproject implementation, operations, and maintenance, and (b) provide training in ADB implementation guidelines including gender;
- (xvii) Review the third party training programs managed by MNRE and PNB and approve their work plans;
- (xviii) Conduct site visits and undertake frequent audits on the operations of the MNRE and PNB training programs and verify their compliance of the consultant recruitments with the ADB requirements;
- (xix) Responsible for the entire ADB loan and TA monitoring and review, by conducting the necessary site visits and other due diligence to ensure implementation compliance with all ADB requirements;
- (xx) Whenever possible, (a) promote ADB's gender inclusiveness in business development (e.g., awareness workshops), subproject implementation, operations, and maintenance, and (b) provide training in ADB implementation guidelines including gender; and
- (xxi) Provide any other supports as needed.

2. **Strategy and Risk Consultant** (10 person-months, national, intermittent). The objective and purpose of the assignment are to provide advisory services to strengthen Punjab National Bank (PNB)'s internal management and operational capacity, including financial risk management, to undertake the ADB program. The scope of work is to provide management and operational advisory to better enable it to become a national financing center for rooftop power development. The minimal requirements are a postgraduate degree in the economics, laws, business, finance, or other relevant fields with a minimum of 10 years' combined management consulting and banking experiences.

- (i) Review and understand the ADB SRIP and the associated CDTA design;
- (ii) Review the PNB corporate plan and operations, understand PNB's operating environment, and identify factors constraining its business growth pertaining to renewable energy financing, more specifically on solar and solar rooftop power;
- (iii) Review the bank operations related issues, including funding, financial management, credit/risk management, liquidity management, nonperforming assets, recovery, and any other issues that could impact PNB negatively from becoming a national financing center for solar rooftop development;
- (iv) Consult PNB senior management on strategies to address the ongoing banking sector restructuring and declining asset quality and profitability;
- (v) Work with the consultant team to first prepare a comprehensive PNB institutional capacity assessment report, with focuses on the critical needs for (i) subproject development and (ii) subproject origination, processing, review, approval, and monitoring;

- (vi) Prepare a corresponding work plan with the team leader, based on the TA paper on institutional capacity development;
- (vii) Conduct proper dialogue with PNB management on the proposed PNB institutional capacity development work plan to seek feedbacks;
- (viii) Submit the prepared assessment report and associated work plan for the PNB institutional capacity development component for ADB's approval in the first 3 months of the CDTA implementation;
- (ix) Implement the developed work plan, including proposal of relevant changes, conduct of consultations, and advocate of changes;
- (x) Develop a training program to address the identified capacity gaps, including hands-on training, workshops, and the provision of external training opportunities;
- (xi) Provide operational advisory support and training to PNB management and staff on long-term corporate strategy, planning, and reform to address the pressing issues of general banking sector profit decline and rising in nonperforming assets;
- (xii) Help PNB innovate: e.g., improve resource management and allocation and improve sector-specific credit and risk review process, and strengthen recovery;
- (xiii) Work with other consultants to develop PNB's business advisory capacity to at least initially support the solar rooftop subproject development;
- (xiv) Work with other consultants and help PNB/MNRE develop a relevant solar rooftop project financing and development website portal and toolkits;
- (xv) Contribute to the awareness workshops by providing the perspective from a financial institution to develop and review solar rooftop subprojects to analyze the associate risks and benefits; and
- (xvi) Provide any other supports as needed.

3. **Renewable Energy Service Advisor(s)** (30 person-months, national, intermittent). The objective and purpose of the assignment are to support project development by providing renewable energy services, such as energy audit, to potential clients by establishing a technical and commercial rationale for installing solar rooftop systems. The scope of work is to provide solar rooftop system related services to potential clients and business development support. In addition, the advisors would also provide the necessary technical and financial backstopping to PNB, training program, and any other necessary program and TA implementation support. The advisors shall also contribute to the awareness raising. This component of the CDTA will be tendered to a renewable energy services company (RESCO) on a firm basis, to a qualified renewable energy service company. The minimal requirements are a proven track record to provide rooftop solar energy audit and business development for at least 5 years.

- (i) Review and understand the ADB SRIP and the associated CDTA design;
- (ii) Work with the consultant team to first prepare a comprehensive PNB institutional capacity assessment report, with focuses on the critical needs for (i) subproject development and (ii) renewable energy services provision;
- (iii) Submit the prepared work plan on how to support PNB subproject development and how to support the market development efforts for ADB's approval in the first 3 months of the CDTA implementation;
- (iv) Implement the developed work plan, including providing the required renewable energy services on a case-by-case basis to demonstrate technical and commercial viabilities of solar rooftop systems;
- (v) Work closely with PNB's potential existing customers and any other potential solar rooftop clients for business origination and subproject development (e.g., to conduct energy audit and design of solar rooftop solutions);

- (vi) Provide clients with basic technical and commercial parameters for installing suitable solar rooftop systems, such as by proposing a viable business structures and develop a sound subproject models to achieve the best long-term project cycle financial results;
- (vii) If required, work with the business development consultants to provide turnkey solution for system installation, including equipment suppliers, EPC contractors, and maintenance contractors;
- (viii) Support the business development consultants and strengthen PNB's capacity on subproject development by working closely with existing PNB borrowers, government ministries, public sector undertakings, urban local bodies, and private businesses, among others;
- (ix) Provide all necessary technical and commercial backstopping on subproject business models to ensure technical and financial viability to ensure subproject bankability;
- (x) Develop a training program to address the identified gaps to staff from PNB solar rooftop unit (SRU) and those from branch offices;
- (xi) Support the awareness campaign by providing the necessary technical and financial inputs;
- (xii) Work with other consultants and help PNB/MNRE develop a relevant solar rooftop project financing and development website portal and toolkits;
- (xiii) Work with business development consultants to prepare for awareness workshops and conferences by providing the necessary technical inputs; and
- (xiv) Provide any other supports as needed.

4. **Market Development Consultant** (10 person-months, national, intermittent). The objective and purpose of the assignment are to support the solar rooftop project development through specific solar rooftop sector development. The scope of work is to review rooftop solar infrastructure and advocate the necessary improvements/changes. The minimal requirements are a postgraduate degree in the economics, laws, business, energy, or other relevant fields with a minimum of 15 years' relevant work experience. The candidate should have extensive solar rooftop sector development experience in India.

- (i) Review and understand the ADB SRIP and the associated CDTA design;
- (ii) Work with the consultant team to first prepare a comprehensive rooftop solar sector assessment report on India, with a focus on solar rooftop market infrastructure, such as on feed-in-tariff, net metering, power distribution companies and tariff reforms, implementation of renewable purchase obligations, and incentive schemes including any grant scheme and preferential tariff, and accelerated depreciation tax benefits, with the objective to catalyze sector investments and project development;
- (iii) Prepare a corresponding work plan with the team leader, based on the TA paper on market development in consultation with all relevant stakeholders;
- (iv) Conduct proper dialogue with PNB management, Government of India, and private sector stakeholder (e.g., developers and property owners), and any other stakeholders on the market assessment report and the associate work plan to seek feedbacks;
- (v) Submit the prepared assessment report and associated work plan for the sector development component for ADB's approval in the first 3 months of the CDTA implementation;
- (vi) Implement the developed work plan by reviewing existing sector development and infrastructure framework, propose relevant changes, conduct consultations, and advocate these changes;

- (vii) Work with other consultants and help PNB/MNRE develop a relevant solar rooftop project financing and development website portal and toolkits;
- (viii) Contribute to the awareness workshops by presenting sector infrastructure development issues, with the objective to catalyze sector investments and project development;
- (ix) Whenever possible, promote ADB's gender inclusiveness in business development (e.g., awareness workshops), subproject implementation, operations, and maintenance; and
- (x) Provide any other supports as needed.

5. **Legal Consultant** (10 person-months, national, intermittent). The objective and purpose of the assignment are to support the institutional capacity and market development by providing the legal support. The scope of work is to provide the legal advisory and documentation. This component of the CDTA could be tendered on a firm basis or an individual basis from a top Indian law firm. The minimal requirements are past legal advisory and/or project development experiences in solar rooftop project development.

- (i) Review and understand the ADB SRIP and the associated CDTA design;
- (ii) List all relevant Indian national (center) and state-level laws, regulations, and guidelines pertaining to rooftop solar systems development, including but not limited to pertaining to feed-in-tariff, net metering, renewable energy purchase obligation, tariff structure and bidding, and government incentives;
- (iii) Work with the consultant team to first prepare a comprehensive rooftop solar sector assessment report on India, with a focus on legal and regulatory framework and gap analysis;
- (iv) Prepare a corresponding work plan with the team leader, based on the TA paper on institutional capacity and market development in consultation with all relevant stakeholders;
- (v) Conduct proper dialogue with PNB management, Government of India, and private sector stakeholder (e.g., developers and property owners), and any other stakeholders on the assessment reports and the associate work plan to seek feedbacks;
- (vi) Submit the prepared assessment report and associated work plan for the legal and regulatory component for ADB's approval in the first 3 months of the CDTA implementation;
- (vii) Provide legal support to potential subborrowers/developers, through business development consultants or RESCO team, on a case-by-case basis, including legal advisory on business structure, preparation of power purchase agreement, and preparation of other project legal contracts;
- (viii) If required, help PNB draft subloan agreement, include that to other participating financial intermediaries (PFIs), which shall cover all ADB program implementation and compliance requirements, such as environment and social safeguards, procurement, labor, gender, and other administration requirements;
- (ix) Provide legal and regulatory support to Government of India, power regulator, renewable energy nodal agencies, and/or power distribution companies on the sector legal and regulatory framework, propose necessary changes, conduct relevant consultations, and advocate of changes;
- (x) Work with MNRE and PNB to produce a set of standard legal templates for solar rooftop project development, including a standard power purchase agreement for various business models;
- (xi) Develop a training program to address the identified gaps to relevant stakeholders;

- (xii) Work with other consultants and help PNB/MNRE develop a relevant solar rooftop project financing and development website portal and toolkits;
- (xiii) Contribute to the awareness workshops by presenting both project level and market level legal and regulatory backstopping, make suggestions, and advocate changes; and
- (xiv) Provide any other legal and regulatory service at project, institutional, and market level as needed.

6. **Communication Consultant** (10 person-months, national, intermittent). The objective and purpose of the assignment are to support the awareness campaign and ensure the public knowledge of the solar rooftop technical and commercial benefits. The scope of work is to ensure effective media coverage by working with DEA, MNRE, public sector commercial banks, other central and line ministries, state governments, public sector undertakings, renewable energy nodal agencies, sector regulators, discoms, private sector developers, and development partners, among others. The minimal requirements are a postgraduate degree in the economics, business, energy, or other relevant fields. Experiences with government agencies are highly desirable. The candidate should have a minimum of 5 years of relevant work experience.

- (i) Review and understand the ADB SRIP and the associated CDTA design;
- (ii) Prepare a corresponding work plan with the team leader, based on the TA paper on media campaign, and submit such a work plan for the approval of ADB, MNRE, and PNB during the first month of TA implementation;
- (iii) Help MNRE and PNB design associated media campaigns;
- (i) Implement the developed work plan to support the TA and government media campaign on solar rooftop technical and commercial benefits, and other aspects of the solar rooftop sector development;
- (iv) Facilitate coordination and communication on the organization of awareness workshops and conferences by identifying resource persons/guest speakers, inviting potential rooftop solar energy users, developers, financiers, equipment suppliers, discoms and regulators, and MNRE;
- (ii) Support MNRE and/or PNB to develop the solar rooftop project financing and development web portal and toolkits;
- (v) Manage the CDTA efforts on other market awareness campaigns including television advertisements, newspaper advertisement, radios, social media, and other website development; and
- (vi) Provide any other media-related supports as needed.

7. **Procurement Consultant** (10 person-months, national intermittent). The objective and purpose of the assignment are to support and ensure that any of the third-party procurement and consultant recruitment processes (e.g., from the 35 MNRE Solar Energy Training Network partner institutions) will be carried out in compliance with the ADB requirements. The scope of work is to provide technical inputs, procurement and consultant recruitment training, and monitoring and review of the procurement and consultant recruitment process. The consultant preferably has at least a university degree and 15 years of work experience in institutional procurement. The expert will carry out, but not be limited to, the following tasks:

- (i) Understand the ADB procurement and consultant recruitment process for financial intermediation loans;
- (ii) Review and understand established private sector or commercial procurement and consultant recruitment practices in India;

- (iii) Review the ADB program's solar rooftop system and related procurement process at the subborrower level and ensure compliances with the ADB requirements;
- (iv) Review the consultant recruitment work to be carried out by PNB's 30 regional training centers and/or 35 MNRE Solar Energy Training Network partner institutions to ensure their compliance with the ADB requirements;
- (v) Conduct quarterly, semi-annual, and/or annual procurement stocktaking and/or audits on the procurement and consultant recruitment processes carried out by PNB, MNRE, PNB regional training centers, MNRE Solar Energy Training Network partner institutions, and any other relevant entities against ADB's procurement guidelines for financial intermediation loans and the scope of the TA; and
- (vi) Produce quarterly, semi-annual, and/or annual procurement audit reports for the review of ADB to ensure continuation of the successful ADB TA delegation to MNRE and PNB, and their training centers and partners.