

Technical Assistance Report

Project Number: 54340-001

Knowledge and Support Technical Assistance (KSTA)

November 2020

India: Energy Efficiency and Energy Smart
Infrastructure Opportunities for Financial Institutions

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Asian Development Bank

ABBREVIATIONS

ADB – Asian Development Bank
CTF – Clean Technology Fund
FI – financial institution

IFC – International Finance Corporation

PSFI – Private Sector Financial Institutions Division

SMEs – small and medium-sized enterprises

TA – technical assistance

NOTE

In this report, "\$" refers to United States dollars.

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KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE

1.	Basic Data			Project Numb	er: 54340-001	
	Project Name	Energy Efficiency and Energy Smart Infrastructure Opportunities for Financial Institutions	Department/Division	PSOD/PSFI		
	Nature of Activity Modality	Capacity Development Regular	Executing Agency	Asian Developm	nent Bank	
	Country	India				
	Sector	Subsector(s)		ADB Financi	ing (\$ million)	
				Total	0.00	
	Operational Priorities	s	Climate Change Inform	ation		
		g poverty and reducing inequalities	GHG Reductions (tons pe		0	
-	Accelerating progress in gender equality		Climate Change impact of		Medium	
1		nge, building climate and disaster	ADB Financing			
		ncing environmental sustainability	Adaptation (\$ million)		0.00	
		·				
			Mitigation (\$ million)		0.00	
			Cofinancing			
			Adaptation (\$ million)		0.00	
			Mitigation (\$ million)		0.40	
	Custoinable Dessite	amont Cools	,		0.40	
	Sustainable Develop SDG 1.3	oment Goals	Gender Equity and Main Effective gender mainstre			
	SDG 1.3 SDG 5.1		Enective gender mainstre	anning (EGIVI)	1	
	SDG 5.1 SDG 7.a		Poverty Targeting			
	SDG 7.a SDG 9.1		Geographic Targeting		1	
	SDG 3.1		Geographic rangeling		•	
	SDG 10.1 SDG 11.b					
	SDG 12.2					
	SDG 13.a					
	Risk Categorization	Low				
i.	Safeguard Categoria	zation Safeguard Policy Statement doe	s not apply			
პ.	Financing					
	Modality and Source	es		Amount (\$ million)		
	ADB				0.00	
	None				0.00	
	Cofinancing				0.40	
	Clean Technology Fund (Full ADB Administration)				0.40	
	Counterpart				0.00	
	None				0.00	
	Total				0.40	

I. INTRODUCTION

- 1. The technical assistance (TA) project will provide support to Indian financial institutions (FIs) for lending to small and medium-sized enterprises (SMEs) for energy efficiency and smart infrastructure initiatives. The TA activities include: (i) identifying attractive energy efficiency lending opportunities for FIs across various industry segments (market study); (ii) identifying technology vendors suitable for partnership with FIs; (iii) designing financing structures to incentivize SMEs, particularly those owned by women, to finance energy efficiency initiatives; and (iv) sharing knowledge on implementing energy efficiency, smart infrastructure, and strategies for financing emissions reduction in India. The TA will support up to two FIs in designing financing facilities (in discussion with technology vendors) for on-lending to SMEs. Following completion of this TA, the Asian Development Bank (ADB) may consider providing financing to Indian FIs to deploy the facilities designed by this TA project.
- 2. Investment in energy efficiency and smart infrastructure, particularly for machinery and buildings in commercial and industrial areas, can significantly reduce energy costs and greenhouse gas emissions for SMEs. However, there is a low level of adoption of energy efficient technologies in India, partially due to a lack of suitable financing options for SMEs.³ ADB has been working to identify FIs in India with specialized financial products or initiatives that mainstream energy efficiency and emissions reduction. Experience from development partners suggests that marketing strategies, partnerships with technology firms and tailored financial products from FIs are effective in supporting financing of SME energy efficiency initiatives.
- 3. The TA is consistent with ADB's Country Partnership Strategy for India, 2018–2022, which aims to boost economic competitiveness, address climate change, and provide inclusive access to infrastructure. The strategy states that ADB will work with domestic FIs to deepen access to climate finance for renewable energy development and improved energy efficiency. Promotion of energy efficiency and support for smart city technologies are part of the Operational Plan for Private Sector Operations. 5

II. ISSUES

4. Energy accounts for 10%-50% of expenditures in India's core manufacturing industries, and electricity purchases make up the largest part of energy consumption.⁶ More than 20% of firms in India identify electricity shortages as a major constraint to operations. Energy-efficient equipment reduces electricity bills, alleviates the impact of frequent power outages and enhances

Eligible financial institutions include both banks and nonbanks regulated and supervised by the Reserve Bank of India. These initiatives refer to activities eligible for classification as climate mitigation finance in "2018 Joint Report on Multilateral Development Banks' Climate Finance," June 2019 (Annex C). These include electricity and heat generation from renewable energy; energy efficiency in existing industrial facilities and in commercial, public, and residential buildings; energy efficiency improvements in utilities and public services; energy efficiency in vehicle fleets; energy efficiency measures in new buildings; energy audits; urban transport modal change; transport-oriented urban development; inter-urban transport; and infrastructure for low-carbon and efficient transport.

² Women-owned SMEs include SMEs where women are the primary borrower or co-borrower.

³ S. Retallack et. al. 2018. Energy Efficiency Finance Programs: Best Practices to Leverage Private Green Finance. *ADB Institute Working Paper Series. No. 877.* Manila: Asian Development Bank.

⁴ ADB 2017. <u>Country Partnership Strategy: India, 2018–2022 -Accelerating Inclusive Economic Transformation.</u>
Manila.

⁵ ADB. 2019. Operational Plan for Private Sector Operations 2019–2024. Manila.

⁶ Council on Energy, Environment and Water (CEEW). 2018. <u>Factors Influencing the Uptake of Energy Efficiency Initiatives by Indian MSMEs</u>. New Delhi.

SMEs' resilience. India has improved its energy efficiency since 2000, but there remains much room for further improvement.

- 5. Gains in energy efficiency are often encouraged by a supportive government policy framework. India's Perform, Achieve, and Trade scheme under the Bureau of Energy Efficiency is the key policy driver of efficiency gains in industry. ADB's sovereign operations support these efforts, most recently through a \$250 million loan to a government-owned energy services company, Energy Efficiency Services Limited, to support demand-side energy efficiency measures.8 However, private-sector financing is also needed to support adoption by SME firms.
- 6. Many opportunities for economically attractive efficiency gains remain untapped by SMEs in India, partly because of their limited awareness of available energy efficiency measures and their need for tailored financial products that enable positive returns on investment over a longer time frame. A broader offering of affordable and targeted financial products will likely encourage SMEs to adopt new technologies for improving energy efficiency and reducing emissions.⁹
- 7. Energy efficiency lending for SMEs is often considered less attractive than other forms of lending by commercial FIs in India, which often lack technical expertise, industry partnerships, and awareness of opportunities to design and market appropriate financing solutions. Efforts in other contexts to improve the capacity of FIs to lend in a targeted way for energy efficiency solutions have yielded successful results. Examples include the European Bank for Reconstruction and Development's Sustainable Energy Financing Facility, ¹⁰ India's Energy Efficiency Services Limited's financing company (municipal lighting with light-emitting diode light bulbs), ¹¹ and the emergence of green banks in developed economies (footnote 9).
- 8. Additional challenges lie in the lack of access to finance for women-owned micro, small, and medium-sized enterprises (MSMEs), which accounted for only 14%-20% of MSMEs in India in FY2017. Access to finance is often more constrained for women-owned businesses. ¹² Given the smaller proportion of women-owned MSMEs, public policies and programs do not explicitly support them. Almost 98% of women-owned businesses are microenterprises, and their inability to meet collateral requirements can make accessing finance particularly challenging. ¹³
- 9. Women entrepreneurs typically bear the burden of energy inefficiencies, especially when they are responsible for cooking and fuel collection, in addition to running their own microenterprises. Lack of access to energy for lighting, heating, and cooking inhibits their

F. Zhang. 2018. <u>In the Dark – How Much Do Power Sector Distortions Cost South Asia?</u> Washington, DC: World Bank Group.

⁸ ADB. 2019. ADB Provides \$250 Million to Expand Energy Efficiency Investments in India. Manila. The Clean Technology Fund (CTF) also contributed \$46 million to this transaction.

⁹ This could be even more effective when energy efficiency financing is offered in parallel with targeted information and expertise on products, technologies, and other aspects key to making investment decisions. International Energy Agency. 2015. Accelerating Energy Efficiency in Small and Medium-sized Enterprises. Paris. For example, a 2018 study by CEEW found that companies that learn about energy efficiency solutions through workshops, competitors, or peers are significantly more likely to invest in energy audits. CEEW. 2018. Factors Influencing the Uptake of Energy Efficiency Initiatives by Indian MSMEs. New Delhi.

International Energy Agency. 2015. <u>Accelerating Energy Efficiency in Small and Medium-sized Enterprises</u>. France.
 ADB Institute. 2018. <u>Energy efficiency finance programs: best practices to leverage private green finance</u>. Tokyo.

Women-owned SMEs lack access to finance as per the following: International Finance Corporation (IFC). Financial Inclusion for Woman-Owned Micro, Small & Medium Enterprises (MSMEs) in India; SME Finance Forum. 2014. Poor Access to Finance for Women-owned Businesses in India: The Role of Financial Institutions. Washington, DC; ADB. 2014. Gender Tool Kit: Micro, Small, and Medium-Sized Enterprise Finance and Development. Manila; IFC. 2018. Financing India's MSMES: Estimation of Debt Requirement of MSMEs in India. Washington, DC.

¹³ IFC. 2014. *Improving Access to Finance for Women-owned Business in India.* Washington, DC.

productivity. Moreover, lack of awareness limits women's ability to capture economic opportunities made possible by improved energy access. This TA will incorporate best practices on gender mainstreaming to mitigate structural biases against women-owned SMEs in the energy efficiency technologies industry.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

10. The TA is aligned with the following impact: reduction of the energy intensity of the Indian economy. ¹⁴ The TA will have the following outcome: Fls familiarized with energy efficiency program designs suitable for SMEs in India. ¹⁵.

B. Outputs, Methods, and Activities

- 11. The TA consists of three key activities which will provide ADB and potential clients with market research on target segments and technologies. In addition, the TA will help selected FIs develop suitable financing products for SMEs to invest in energy efficiency, smart infrastructure, and emissions-reduction measures. Where feasible, ADB will consider working with FIs to finance programs developed under the TA.
- (i) Phase 1: Market analysis: This study will map energy consumption and emissions by SMEs in various segments across India. It will provide intelligence on common energy efficiency technologies and their financial, regulatory and practical viability. This will help identify promising niches for lending programs. The study will include a review of historical data and prior studies to identify market needs. The study will also identify barriers (policy, technical, financial, or other) that prevent firms from investing in relevant technologies and suggest ways to address these barriers, including with financing products. To the extent possible, the study will highlight the share and profile of women-owned or women-led businesses in segments where energy efficiency technologies are most relevant, and identify constraints they face in accessing technologies or managing the supplier dynamic that differentiate them from maleled businesses. The study will be published as an ADB knowledge product to inform phases 2 and 3 and support market-building activities in energy efficiency and smart infrastructure.
- (ii) Phase 2: Industry engagement: ADB will present the market study to FIs, private sector partners, technology providers, and other key stakeholders at a gender-inclusive event in an Indian business or industry hub. ADB's Private Sector Financial Institutions Division (PSFI) will provide information on working with FIs to finance targeted high-impact technologies. ADB will identify suitable and gender-inclusive FIs committed to developing a targeted SME lending program for energy efficiency. ADB will also identify energy efficiency equipment and service vendors interested in establishing partnerships with ADB-supported financial institutions.
- (iii) Phase 3: Capacity building and project pipeline development: Following the workshop, consultants funded under this TA will work with the selected FIs to design a targeted SME lending program. The design will include a plan to develop or procure expertise to assess technologies and identify potential technology partners; design financial products that take the women borrower's market into consideration; work with male and female equipment and service vendors; create associated credit and distribution criteria; develop a marketing strategy targeting both male and female customers; train loan officers to service diverse markets, develop gender-inclusive hiring and training strategies; and develop a commercial pipeline for the new SME financing products. The identification of technology partners and design of partnership incentives will be a critical part of this phase.

¹⁴ The Energy Conservation Act, established in 2001 is the legal framework for promoting energy conservation in India.

¹⁵ The design and monitoring framework is in Appendix 1.

The resulting outputs from the TA activities are identified in the Development Metrics Framework (DMF) (Appendix 1): (i) Fls' knowledge of energy efficiency credit lines improved, (ii) market gaps analyzed, and (iii) SMEs' knowledge of gender-sensitive energy-efficient technologies improved.

C. Cost and Financing

12. The TA is estimated to cost \$400,000, which will be financed on a grant basis by the Clean Technology Fund and administered by ADB. The key expenditure items are listed in Appendix 2.

D. Implementation Arrangements

- 13. ADB's PSOD (Financial Institutions division) will administer the TA and will select, supervise, and evaluate consultants. ADB will disburse the TA funds following ADB's *Technical Assistance Disbursement Handbook* (2020, as amended from time to time). ADB will contract a firm through quality- and cost-based selection or quality based selection to conduct the market study and prepare materials for the workshop (phases 1 and 2) through an output-based lump sum contract with a provision for fixed out-of-pocket expenditures.
- 14. Phase 1 and phase 2 are expected to be carried out under separate contracts. For phase 3, ADB will work with a consultant or a firm to prepare the lending program in collaboration with the selected FI(s) and technology partners. This work will be separately procured once the participating FI(s) have been identified and is subject to a TA agreement being signed with the partnering FI(s). The FI(s) selected to participate in phase 3 will contribute resources to the successful completion of the product launch strategy that results in a capital commitment from ADB. Terms will be agreed through a TA agreement letter. To
- 15. ADB staff will supervise and work with the consultants and the identified FI(s) to ensure that the work is targeted at developing a viable lending program suitable for potential financing by ADB. Successful completion of the TA will allow the identified partner FIs and PSFI to prepare a potential lending program and to consider conducting project-specific due diligence. This approach is consistent with the scope for a KSTA activity, as it involves sector and thematic research and development to search for potential ADB financing transactions. The direct costs of working with the FI on development of a specific project (phase 3) can be recovered from the FI if ADB makes a capital commitment for the project.

Implementation Arrangements

implementation Arrangements				
Aspects	Aspects Arrangements			
Indicative implementation period	December 2020–June 2023			
Executing agency	ADB—Private Sector Operations Department			
Consultants	Package title	Selection method	Engaged by	
	Phase 1 and 2 Gender-sensitive market gap analysis for energy efficiency and emissions-reduction measures for SMEs in India (includes workshop planning and coordination; and report editing, design, and layout)	Individual consultant or firm: QCBS/QBS	ADB	

¹⁶ The terms of reference for phase 3 will take into account the specific needs of the selected partner FI.

¹⁷ Sample TA Letter Agreement (accessible from the list of linked documents in Appendix 3).

Aspects	Arrangements			
	Phase 3 (Conditional) Smart building and energy efficiency finance consultant to support the lending program design with selected FI(s)	Individual consultant or firm: QCBS/QBS. To be confirmed at conclusion of phase 2.	ADB	
Disbursement The TA resources will be disbursed following a Disbursement Handbook (2020, as amended				

ADB = Asian Development Bank, FI = financial institution, QBS = quality-based selection, QCBS = quality- and cost-based selection, SMEs = small and medium-sized enterprises, TA = technical assistance. Source: Asian Development Bank.

- 16. Pursuant to Article 14(iii) of the ADB Charter, the applicable developing member country's government's no objection to the implementation of the TA in the relevant country will be obtained before the implementation or financing of the TA in that country.
- 17. **Consulting services.** ADB will engage the consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated staff instructions.¹⁸ In addition to the expertise criteria set out in the applicable terms of reference, in order for an individual consultant or a consulting firm to qualify as consultant, the following eligibility criteria shall be met:
 - (i) a consulting firm will be incorporated in an ADB member country. An individual consultant, either engaged individually or through a firm, will be a citizen of one of the ADB member countries:
 - (ii) a consultant will be competent and qualified for services in accordance with the terms of the TA agreement to be entered into with ADB;
 - (iii) an individual consultant shall not be named on ADB's Sanctions List or sanctioned by ADB pursuant to ADB's Integrity Principles and Guidelines (2015, as amended from time to time);
 - (iv) a consulting firm, including its personnel, shall not be named on ADB's Sanctions List or owned or controlled by a person or a legal entity that is named on the International Sanctions List or sanctioned by ADB pursuant to ADB's Integrity Principles and Guidelines (2015, as amended from time to time); and
 - (v) an individual consultant shall not be a representative or an employee of a government organization, or a related party of ADB, its subsidiaries, or its staff.
- 18. **Cofinancier requirements.** This TA will be funded by ADB's Clean Technology Fund (CTF) program—the Business Development Facility: ADB CTF Private Sector Smart Cities and Infrastructure Program.¹⁹ The proposal complies with the CTF's "guidelines for the approval and management of CTF preparation grants for public and private sector projects" (May 27, 2010). No additional monitoring and reporting is required beyond the standard procedures followed by ADB.

IV. THE PRESIDENT'S DECISION

19. The President, acting under the authority delegated by the Board, has approved the Asian Development Bank administering technical assistance not exceeding the equivalent of \$400,000 to be financed on a grant basis by Clean Technology Fund for Energy Efficiency and Energy Smart Infrastructure Opportunities for Financial Institutions in India, and hereby reports this action to the Board.

¹⁸ Terms of Reference for Consultants (accessible from the list of linked documents in Appendix 3).

¹⁹ ADB. 2018. BDF: ADB CTF Private Sector Smart Cities and Infrastructure Program. Manila, Philippines.

DESIGN AND MONITORING FRAMEWORK

Impact(s) the TA is aligned with

Reduction of the energy intensity of the Indian economy.¹

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Fls familiarized with energy efficiency program designs suitable for SMEs in India.	By 2023, at least [one] FI signs a TA Agreement with a work plan for setting up a SME energy efficiency financing scheme	TA progress reports, signed letter from FI	There may not be a funding gap for energy efficiency investments Low interest of FIs to commit and invest resources in energy efficiency and emissions reducing measures.
Outputs	By 2021		
Fls' knowledge of energy efficiency credit lines improved	1a. Capacity building program benefiting at least 1 FI and designated staff from FI implemented (2020 baseline: 0).	TA progress reports and production of final version of market gap report	No suitable technology providers available in the market
	2b. 1 capacity building program module developed on reaching out and serving women borrowers in the energy efficiency market (2020 baseline: 0)		
2. Market gaps analyzed	At least 1 knowledge report identifying existing financing gaps, gender-based factors limiting access to finance and markets, and viable energy efficiency and emissions-reduction technology niches in industry and buildings published (2020 baseline: 0).	TA progress reports and production of final version of market gap report	No suitable technology providers available in the market
3. SMEs' knowledge of gender-sensitive energy-efficient technologies improved	1 gender-inclusive workshop ^a held with at least 25 decision-makers of Fls and vendors, of which20% shall be women b (2020 baseline: N/A).	TA progress reports and production of final version of market gap report	No suitable technology providers available in the market

¹ In accordance with the provisions of the Government of India, Energy Conservation Act, 2001, http://legislative.gov.in/sites/default/files/A2001-52.pdf. New Delhi, India.

Key Activities with Milestones

1. Fls' knowledge of energy efficiency credit lines improved

- 1.1 Consultant selection and award of contract by Q2 2021
- 1.2 Summary of literature review, detailed research plan, interviewee list by Q3 2021
- 1.2 Technology report of existing climate finance products offered by relevant FIs, best practices in Asia, diagnostic of barriers to increase offerings and identified relevant technology providers for SME needs, by Q4 2021
- 1.3 Interim report about research interviews with a gender-inclusive group of market participants and technology advisers by Q4 2021
- 1.4 Final market analysis gap report by Q1 2022
- 1.5 Submission of a pipeline of suitable investments with the FIs by Q2 2022
- 1.6 Final implementation strategy including concept paper for energy efficiency credit line by Q2 2023

2. Workshop with FIs, technology vendors held

- 2.1 Publication of knowledge report by Q3 2021
- 2.2 Gender-inclusive workshop by Q4 2021
- 2.3 Summary report about market study launch workshop by Q4 2021
- 2.4 Report on energy efficiency solutions for SMEs by Q4 2021
- 2.5 Capacity building program for the FI designed, including criteria, training plans

3. Development of implementation strategy with FI

- 3.1 TA agreement with FI signed by Q1 2022
- 3.2 Consultant selection and award of contract by Q2 2022
- 3.3 Implementation strategy endorsed by FI by Q1 2023

Inputs

Clean Technology Fund: \$400,000.

FI = financial institution, N/A = not applicable, q = quarter, SMEs = small and medium-sized enterprises, TA = technical assistance.

^a Gender-inclusive workshop refers here to female representation in the attendance as well as to the integration of the market findings regarding gender-related gaps in the discussions.

The percentage covers the participation of women entrepreneurs and female representatives of enterprises and partner FIs, as well as of invited speakers. The target will be confirmed from the findings of the market analysis. Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN (\$'000)

tem	Amount
Clean Technology Funda	
1. Consultants	
 a. Remuneration and per diem i. International or national consultant firm – market gap 	125
analysis and workshop (phase 1 and phase 2) ii. International or national consultant firm— phase 3 output	250
2. Training, seminars, workshops, forums, and conferences	
a. Venue rental and related facilities	10
3. Contingencies	15
Total	400

^a Administered by the Asian Development Bank. Source: Asian Development Bank estimates

LIST OF LINKED DOCUMENTShttp://www.adb.org/Documents/LinkedDocs/?id=54340-001-TAReport

- Terms of Reference for Consultants 1.
- 2. Sample TA Letter Agreement