Report and Recommendation of the President to the Board of Directors

Project Number: 49238-001
November 2015

Proposed Administration of Loan
Simpa Energy India Private Limited
Off-Grid Prepaid Solar Leasing Project (India)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 2 November 2015)

Currency unit	–	Indian rupee/s (Re/Rs)
Re1.00	=	$0.015
$1.00	=	Rs65.61

ABBREVIATIONS

ADB	–	Asian Development Bank
CTF	–	Clean Technology Fund
SHS	–	solar home system
Simpa	–	Simpa Energy India Private Limited
SMS	–	short message service

NOTES

(i) In this report, "$" refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data — **Project Number:** 49238-001

Project Name	Off-Grid Prepaid Solar Leasing Project	**Department /Division**	PSOD/PSIF1
Country	India		

2. Sector

	Sector	Subsector(s)	ADB Financing ($ million)
✓	Energy	Renewable energy generation - solar	6.00
		Total	**6.00**

3. Strategic Agenda

Strategic Agenda	Subcomponents
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns

Climate Change Information

Climate Change impact on the Project	Medium

4. Drivers of Change

Drivers of Change	Components
Private sector development (PSD)	Promotion of private sector investment

Gender Equity and Mainstreaming

Some gender elements (SGE)	✓

5. Poverty Targeting

Project directly targets poverty	Yes
Household targeting (TI-H)	Yes

Location Impact

Rural	High

6. Nonsovereign Operation Risk Rating

Obligor Name	Implied Project Rating	Final Project Rating
Simpa Networks, Inc.		

7. Safeguard Categorization **Environment:** C **Involuntary Resettlement:** C **Indigenous Peoples:** C

8. Financing

Modality and Sources	Amount ($ million)
ADB	**0.00**
None	0.00
B-Loans	**0.00**
None	0.00
Official Cofinancing [a]	**6.00**
ADB Clean Technology Fund	6.00
Others [b]	**18.00**
Total	**24.00**

9. Effective Development Cooperation

Use of country procurement systems	No
Use of country public financial management systems	No

[a] Concessional financing from external sources.
[b] Derived by deducting ADB financing, B Loans and Official Cofinancing from Project Total Cost.

Source: Asian Development Bank

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed administration of a loan of up to $6,000,000, to be provided by the Clean Technology Fund (CTF)[1] to Simpa Energy India Private Limited (Simpa) for the Off-Grid Prepaid Solar Leasing Project in India.[2]

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. More people in India lack access to electricity than in any other nation in the world. In 2012, the International Energy Agency estimated the number at 304 million, most of whom live in rural areas outside the reach of conventional electricity grid networks, so they rely on kerosene as their primary source of lighting, if and when available.[3] According to a recent report by the Climate Group, about 77 million households in India (or about 360 million people) lack adequate access to grid electricity, with an additional 20 million underserved households (about 95 million people) receiving less than 4 hours of reliable electricity per day.[4] While the availability of grid electricity is expected to improve by 2025—if the current rate of grid expansion, urbanization, and population growth continue to hold—it is estimated that 70 million–75 million households will still lack access to grid electricity in India by 2024. Over 90% of these households live in rural areas where population growth rates are higher and grid expansion rates are lower than in urban areas, so it is unlikely that the number of rural households that are currently not served or underserved by the electricity grid will fall significantly by 2024. Solar photovoltaic technology offers a clean alternative to address off-grid access to electricity. However, the effective decentralized energy solutions using solar photovoltaic technology, such as solar home systems (SHSs) and community-scale solar micro-grids, involve significant up-front costs for rural consumers and have, as a result, very limited market penetration.

3. Simpa, a wholly owned subsidiary of Simpa Networks Inc., targets the underserved and unelectrified rural population in India by providing simple, affordable, and accessible solar energy to consumers (households and microenterprises).

2. Project Design

4. Simpa is an entrepreneurial company that offers a secure, prepaid payment platform to make clean energy solutions simple and affordable for underserved electricity consumers in India. The “technology + service + finance” platform leverages cell phones to unlock demand from consumers while providing risk mitigation for the company, which finances the solar equipment. Simpa’s clients are typically (i) rural households with no connection to the national electricity grid; (ii) rural households getting less than 12 hours of electricity supply per day from the grid; and (iii) microenterprises such as tea stalls, village shops, and small restaurants.

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[1] See the Climate Investment Funds. http://www.cif. climateinvestmentfunds.org

[2] The design and monitoring framework is in Appendix 1.

[3] International Energy Agency. World Energy Outlook. http://www.worldenergyoutlook.org/resources/energydevelopment/energyaccessdatabase/ (accessed 17 August 2015).

[4] Climate Group (in partnership with Goldman Sachs). 2015. *The Business Case for Off-grid Energy in India*. New Delhi (with data and analysis from International Finance Corporation. 2015. *Assessment of the Off-Grid Solar Appliance Lighting Market in India*. *Market research report.* New Delhi).

5. Under the prepaid pricing for SHSs, Simpa's customers make a small initial down payment for the installation of a solar photovoltaic system and then prepay an availability charge on a per day basis for the energy usage, with the flexibility to top up their systems in small user-defined increments using a cell phone. Once a payment (e.g., 30 days of usage) is made using the short message service (SMS), the user immediately receives an SMS with a (top-up) code that can be entered using the keypad on the SHS meter. Thereafter, the system debits the user's account based on the actual energy usage. Each payment for energy contributes toward the amortization of the system purchase price, with the customer having the option to buy the system at predetermined prices at various intervals throughout the product lifecycle. Once fully paid (typically 2–3 years after the initial purchase), the system unlocks permanently and continues to produce electricity for the customer without any further payments. This transforms the recurrent energy expenditure, which used to be spent on kerosene, into an asset purchase.

3. The Borrower

6. Simpa is a wholly owned (and the only) subsidiary of Simpa Networks Inc., a company incorporated in the State of Delaware.

7. Paul Needham is the chief executive officer of Simpa and is supported by an experienced management team. Simpa's management team comprises a mix of local and foreign professionals with experience across a variety of fields including solar finance, energy access, micropayments, and information technology.

B. Development Impacts, Outcome, and Output

8. **Impacts.** The project will (i) improve access to off-grid electricity supply to the rural population in India, the availability of which can yield benefits such as improved education outcomes as children can study after sunset and improved hygiene; (ii) reduce greenhouse gas emissions by substituting kerosene with solar energy, also improving air quality and benefiting the respiratory health of household members; and (iii) improve access to gender benefits for female beneficiaries. Successful implementation of this off-grid energy solution across India could also have a demonstration effect in neighboring Bangladesh, Nepal, and Pakistan, which have chronic power shortages and a high percentage of unelectrified rural households. Further capital infusion will also give credence to the case for increasing financing for innovative off-grid renewable energy solutions in South Asia.

9. **Outcome.** The project will result in increased access to clean energy for a quarter of a million households by 2017, while avoiding 77,108 tons of carbon dioxide emissions annually.

10. **Output.** The output of the project is installation of sustainable solar systems for houses and microenterprise. Project's successful implementation will result in the production of at least 103.3 gigawatt-hours per annum from clean energy with locally purchased goods and services amounting to Rs1.6 billion by 2017. Simpa's marketing initiative will also reach 25,000 women beneficiaries.

C. Alignment with ADB Strategy and Operations

11. **Consistency with ADB Strategy and country strategy.** The financing is consistent with ADB's Midterm Review of Strategy 2020 as it relates to two of the five core focus areas—

infrastructure and environment.[5] Under its Strategy 2020, ADB is committed to expanding the supply of energy in an environmentally sustainable way.[6] The investment is also aligned with ADB's country partnership strategy for India, 2013–2017, which highlights access to energy as one of key areas of ADB's engagement.[7]

12. **Consistency with energy policy.** The investment will directly contribute to the outcome of increasing the number of households with access to electricity and, thereby, will be consistent with ADB's Energy for All Program initiative under which commitments have been made for scaling up access to affordable, modern, and clean energy for the rural poor.

13. **Consistency with ADB operations.** ADB has been one of the leaders in supporting private sector initiatives for solar energy in India, and has been instrumental in supporting utility scale and off-grid solar initiatives. The investment highlights ADB's multi-product approach to supporting private sector investors for both utility scale and off-grid solar projects, and its ability to customize its financial products to cater to market needs and take associated risks.

D. Project Cost and Financing Plan

14. Table 2 summarizes the project costs, and Table 3 summarizes the financing plan.

Table 2: Project Cost

Item	Amount ($ million)	Share of Total (%)
Capital expenditures for additional 75,000 solar home systems	14.0	58.3
Branch operating expenditures		
Existing branch network and head office	3.6	15.0
New branches	1.4	5.8
Unit expenses (customers acquisition and servicing costs for village level entrepreneurs)	3.5	14.6
Working capital for expansion	1.5	6.3
Total	**24.0**	**100.0**

Source: Simpa Energy India Private Limited.

Table 3: Financing Plan

Source	Amount ($ million)	Share of Total (%)
Debt: Clean Technology Fund[a]	6.0	25.0
Debt: Other commercial cofinancing	4.5	18.8
Equity	5.0	20.8
Internally generated cash	8.5	35.4
Total	**24.0**	**100.0**

ADB = Asian Development Bank.
[a] Administered by the Asian Development Bank.
Sources: Asian Development Bank estimates; Simpa Energy India Private Limited.

[5] ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific.* Manila.
[6] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020.* Manila.
[7] ADB. 2013. *Country Partnership Strategy: India, 2013*–2017. Manila.

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

15. A loan of up to $6,000,000 to Simpa funded entirely by the CTF and administered by ADB is proposed.[8] The proceeds of the loan will be used to finance an estimated 30,000 SHSs. The facility has been structured keeping in view the long-term objectives of the CTF, including achieving scale, potential for reducing greenhouse gas emissions, development impact, minimum concessionality, and catalyzing more financing into the renewable energy space (such as Simpa's off-grid solar venture).

B. Value Added by ADB Assistance

16. ADB's participation allows the company to access long-term debt presently unavailable from commercial lenders. ,. This transaction allows Simpa to access ADB's network, knowledge, and experience in the solar sector, especially in India where ADB has deep understanding of both utility level and off-grid needs and has played an important role from both the policy and project perspectives.

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

17. In compliance with ADB's Safeguard Policy Statement (2009), the project is classified category C for environment, involuntary resettlement, and indigenous peoples. The potential environmental and social impacts of the project were assessed, as well as the institutional capacity and commitment of Simpa for environmental and social management. Simpa's business activities have minimal or no adverse environmental, health, and safety impacts and are unlikely to entail impacts on involuntary resettlement and indigenous peoples. Simpa will comply with applicable national laws and regulations on environment, health, and safety.

18. A gender action plan is prepared to capture gender measures implemented in the project. [9] Gender measures include launching marketing initiatives targeting women beneficiaries, monitoring the number of women in households who have improved access to electricity through the use of Simpa's products, and prioritizing and monitoring the number of women staff and village level entrepreneurs. Simpa will comply with national labor laws and, pursuant to ADB's social protection strategy, will take measures to comply with the internationally recognized core labor standards.[10] The borrower will report regularly to ADB on (i) its compliance with such laws, and (ii) the measures taken. Information disclosure and consultation with affected people will be conducted in accordance with ADB requirements.[11]

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[8] In May 2014, the trust fund committee of the CTF approved a $34.5 million regional program—the Renewable Energy Mini-Grids and Distributed Power Generation Program—to be administered by ADB over a 3-year period through private sector operations. Approval of individual investments has been fully delegated to ADB in line with CTF governance arrangements. An investment in Simpa is referenced in the proposal and was well received. The proposal and approval for this program can be found at http://www.climateinvestmentfunds.org/cif/content/approval-mail-renewable-energy-mini-grids-and-distributed-power-generation-program-india-i-0

[9] Gender Action Plan

[10] ADB. 2003. *Social Protection.* Manila (adopted in 2001).

[11] Summary Poverty Reduction and Social Strategy; and Safeguards and Social Dimensions Summary.

B. Anticorruption Policy

19. Simpa was advised of ADB's policy of implementing best international practice relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism, and remedies for ADB in the event of noncompliance.

C. Investment Limitations

20. The proposed loan will not count toward the medium-term, country, industry, group, and single-project exposure limits for nonsovereign investments, as it will be funded by CTF resources, not ADB ordinary capital resources.

D. Assurances

21. Consistent with the Agreement Establishing the Asian Development Bank (the Charter), [12] ADB will proceed with the proposed assistance upon establishing that the Government of India has no objection to the proposed assistance to Simpa. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the ADB Board of Directors.

V. RECOMMENDATION

22. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve the administration by ADB of a loan of up to $6,000,000 to be provided by the Clean Technology Fund to Simpa Energy India Private Limited for the Off-Grid Prepaid Solar Leasing Project in India, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Stephen Groff
Vice-President

5 November 2015

[12] ADB. 1966. *Agreement Establishing the Asian Development Bank.* Manila.

DESIGN AND MONITORING FRAMEWORK

Impacts the Project is Aligned with
Access to off-grid electricity supply to rural population improved
Greenhouse gas emissions reduced
Access to gender benefits
(Source: Planning Commission, Government of India)[a]

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome 1. Access to clean energy, enabled by a financially viable energy services company, increased	1a. 225,000 households in total provided with access to electricity by 2018 (2014 baseline: 5,745) 1b. Installed generation capacity is 44.4 megawatt equivalent by 2018 (Baseline: 2.8 megawatt equivalent) 1c. 77,108 tons of carbon dioxide avoided annually since 2018 (2014 baseline: N/A)	1a–c. Annual monitoring report by Simpa 1a–c. ADB's annual review report	Users are unable to pay for daily use of solar home system
Output 1. Sustainable solar systems for houses and microenterprises installed	1a. 105,000 solar home systems in total sold and installed by 2016 (2014 baseline: 5,745) 1b. 103.3 GWh produced from clean energy by 2017 (2014 baseline: 2.4 GWh)[b] 1c. 25,000 women customers benefitted from marketing strategy through referral coupons (worth Rs200 equivalent to 10 days of energy charge) by 2017 (2015 baseline: 5,100) 1d. Community engagement program designed and organized for women annually per branch 1e. Locally purchased goods and services amount to Rs1.6 billion by 2017 (2014 baseline: Rs208.5 million) 1f. 10 testimonials documented (2 per state) on how Simpa operations have changed the lives of women, highlighting the benefits of access to electricity	1a-1b. Annual monitoring report by Simpa	Inadequate capacity of Simpa staff who implement business plan Stiff competition from other vendors Increase in manufacturing costs

Key Activities with Milestones **Sustainable solar systems for houses and microenterprises installed** 1.1 Financial close of the Clean Technology Fund funding by 15 December 2015 1.2 Equity and other commercial cofinancing mobilized by 31 December 2015 1.3 Expand operations to five new states: Bihar, Jharkhand, Odisha, Assam, and West Bengal by 31 December 2019
Inputs Equity: $5 million Clean Technology Fund (debt): $6 million Other lenders (cofinancing): $4.5 million Internally generated funds: $8.5 million
Assumptions for Partner Financing: Not applicable.

ADB = Asian Development Bank, GWh = gigawatt-hour, N/A = not applicable, Simpa = Simpa Energy India Private Limited.

[a] Government of India. 2013. *Twelfth Five Year Plan, 2012–2017*. Delhi.

[b] The basis for estimation is in para. 6 of the Economic Analysis.

Source: Asian Development Bank.