

PROJECT INFORMATION DOCUMENT (PID) CONCEPT STAGE

Report No.: PIDC370

Project Name	Partial Risk Sharing Facility in Energy Efficiency (P128921)
Region	SOUTH ASIA
Country	India
Sector(s)	Energy efficiency in Heat and Power (100%)
Theme(s)	Climate change (80%), Other Financial Sector Development (20%)
Lending Instrument	Specific Investment Loan
Project ID	P128921
Focal Area	Climate change
Borrower(s)	Department of Economic Affairs
Implementing Agency	Bureau of Energy Efficiency
Environmental Category	B-Partial Assessment
Date PID Prepared/ Updated	04-Apr-2013
Date PID Approved/ Disclosed	10-Apr-2013
Estimated Date of Appraisal Completion	00000000
Estimated Date of Board Approval	12-Dec-2013
Concept Review Decision	

I. Introduction and Context

Country Context

With the Indian economy growing at around 7 percent and despite the power sector growing in double digits, India faces significant power shortages that are expected to continue in the foreseeable future. The projected energy shortage in the country is around 10 percent, with peak energy shortage at 13 percent in fiscal year 2011-12. Currently, India has an installed generation capacity of around 190 GW. During the 11th Five Year Plan, capacity additions were about 60 GW, and it is likely that the 12th Five Year Plan, currently under preparation, will call for a capacity addition of 100 GW in 2012-16 to keep up with increasing energy demand. Most of the new capacity will be fossil-fuel based, with an increasing role for coal, from 73% of the generation in 2007 to 78% in 2031. The Government of India is looking for additional supply-side and demand-side resources, such as renewable energy and energy efficiency (EE), to help meet the country's significant power deficit and diversify the energy generation portfolio mix.

Sectoral and Institutional Context

In recent years, India's energy consumption has increased at one of the fastest rates in the world due to population growth and economic development. Commercial primary energy consumption in India has grown by about 700% in the last four decades. Since coal meets close to 70% of India's energy needs, the energy sector alone accounts for half of India's carbon dioxide (CO₂) emissions. In such a scenario, enhancing energy efficiency is the fastest and cheapest means to save energy for India. Increased energy efficiency would enhance national energy security, increase competitiveness, and reduce greenhouse gas emissions. It can also play a critical role in radically lowering the energy intensity of growth by institutionalizing standards for new infrastructure, particularly impactful in an under-urbanized country like India, which is only 30% urbanized.

The Government of India's Expert Group on 'Low Carbon Strategies for Inclusive Growth' and other technical studies, undertaken by leading independent agencies in India and abroad, have suggested that there is a huge potential for electricity savings through energy efficiency. The former projected that the total electricity savings through demand-side savings in the Appliances, Agriculture and Industrial sectors are between 124 to 255 billion KWh, depending on GDP growth and degree of emphasis placed on energy efficiency.

Some of the biggest barriers to wider adoption of energy efficiency measures are lack of understanding of energy efficiency technologies by financial institutions, non-availability of commercially-proven energy efficiency technologies, lack of a developed market for ESCOs, and high discounting rates decision-makers apply to energy efficiency investments due to high current capital costs and uncertainty over future returns.

The Government of India recently launched the National Mission for Enhanced Energy efficiency (NMEEE) under the aegis of the Bureau of Energy Efficiency (BEE), which aims to achieve a higher penetration of low-carbon options to balance growth and climate change mitigation. The NMEEE is focused on four initiatives, which are tailored to meet the different needs of different sectors of the economy.

Perform, Achieve and Trade (PAT): A market-based mechanism to enhance the cost effectiveness of energy efficiency improvements in large, energy-intensive industries and facilities, through certification of tradable energy savings. This mandate for the country's top 478 industrial entities was notified in early April 2012. Each industrial unit received unit-specific energy reduction targets, based on their Specific Energy Consumption (SEC), that allow for a growing economy and increased production from most units. This SEC metric aims to provide a norm for energy consumption in Indian industries that would eventually bring them in line with global standards and promote efficient investments in new capacity in the coming decades. The World Bank's proposed support to PAT through the Clean Technology Fund would assist in the implementation of this project.

Market Transformation for Energy Efficiency (MTEE): Accelerates the shift to energy-efficient appliances in designated sectors through innovative measures to make the products more affordable. This project focuses on demand-side energy reductions through incentives for consumers. The Super Efficient Equipment Program (SEEP), also being proposed for Clean Technology Fund (CTF) funding, is a part of MTEE initiative.

Energy Efficiency Financing Platform (EEFP): Mechanisms to help finance demand-side management programmes in all sectors by capturing future energy savings. This initiative aims to create demand for energy efficiency products, goods and services through awareness building, public policies, market facilitation by preparation of bankable projects and markets. The Bureau of Energy Efficiency (BEE) has initiated several sub-projects under this pillar that provide financial access to entities undertaking EE investments. Some performance contracting-based projects have already been implemented as demonstration projects, including some at the Rashtrapati Bhavan (the President's House), several hospitals in Delhi, and some municipalities.

Framework for Energy Efficient Economic Development (FEEED): Developing fiscal instruments to promote energy efficiency: The proposed PRSF project is attendant to the EEFP's Partial Risk Guarantee Facility (PRGF), which aims to promote ESCOs by increasing access to commercial finance through building awareness among lenders and risk-sharing to kick-start lending to the sector. This component of the NMEEE aims to increase financing of energy-saving projects through partial risk sharing, providing venture capital, etc. This project aims to create successful project pilots with seed money that can be quickly replicated throughout the country. This component will also include efforts to increase the energy efficiency of India's public procurement.

The Government of India proposes to implement these sub-components of the NMEEE using domestic and international resources, including assistance from multilateral institutions.

With the NMEEE, India has embarked on an ambitious plan to cut its energy consumption with the following policy aims:

Reduction of 98 million tons of carbon dioxide emissions annually by 2014-15;

Avoidance of 19 GW in electricity generation capacity addition;

Fuel savings in excess of 23 million metric tons of oil equivalent (Mtoe)

The programs under the NMEEE have results indicators. Efficiency targets and individual program targets of the proposed project would be aligned with indicators of GoI's NMEEE schemes, along with intended outcomes of:

Financial investments in energy efficiency leading

Achievement of Introduction and implementation of an efficient market in ESCerts

Entry of energy-efficient equipment suppliers in the market and creation of demand for these investments

The World Bank's long engagement with EE in several countries, through policy dialog and support, capacity building, implementation support, etc., has been instrumental in initiating the maturation of energy efficiency markets.

Energy Service Companies (ESCOs) or performance-contracting companies play a crucial role in identifying and harnessing potential energy savings. ESCOs are third-party private enterprises that implement technological, process-linked and managerial improvements that reduce energy

consumption in industrial and commercial firms. ESCOs either make investments, thereby assuming both the credit and technical performance risk, or, for a lower fee, take only technical risks and guarantee performance while deploying energy efficient technologies and / or processes in host institutions. Due to the inherently technical and capital-intensive nature of service, ESCOs require their own financing to increase their market penetration. In India, this long-term financing is currently largely unavailable from commercial lenders.

Relationship to CAS

This project engages with the Sustainable Development pillar of the India Country Partnership Strategy. By promoting private sector investments in reduced the energy consumption, the project will increase the economy's competitiveness, thereby inducing growth. Reducing energy consumption will reduce the need for increasingly expensive and difficult increases in generation capacity and reduce operation costs for buildings and industries.

II. Proposed Global Environmental Objective(s)

Proposed Global Environmental Objective(s) (From PCN)

To achieve energy savings by mobilizing private sector in energy efficiency industry of India.

Key Results (From PCN)

The very nature of contracts in the proposed project lend themselves to accurate measurement and verification of energy savings. The primary indicators of the project's performance would be:

- Energy savings over the current baseline, in line with the NMEEE's targets
- Emissions reductions from the Business as Usual growth trajectory
- Increased lending for performance contracting, through the demonstration of financing and innovative contracts.
- Increased number of ESCOs accessing finance from commercial lenders engaged in the project.

III. Preliminary Description

Concept Description

Many ESCOs and other performance contractors in India are technically proficient, but, due to a variety of barriers, are unable to scale up their operations, which severely limits India's market for energy efficiency projects and performance contracting. Consultations with key stakeholders, including banks, ESCOs, technology providers, donors, and bilateral institutions, have suggested that lack of access to commercial credit, primarily driven by lenders' high risk perception, is the main barrier. Other barriers include high transaction costs, lack of performance contract standards and energy savings monitoring and verification guidelines, inadequate pilots with replicable contracts, etc. This proposed project aims to assist ESCOs in scaling up their operations by enhancing their access to commercial credit and addressing some of the other barriers. Described below are the barriers this project would target in greater detail:

- a. High risk perception amongst lenders: In a rapidly growing economy with lax enforcement of contracts and laws, lenders prefer to lend to industries that are increasing their margins by the conventional means of 'producing more' rather than 'spending less' through investments that are not very widely understood. Banks are also more conversant with asset-backed lending. EE projects are unconventional, in that they rely mostly on 'not doing something' rather than 'doing something', and they do not lend themselves to asset-backed lending, which causes banks to view them as higher

risk. Thus, banks lend to ESCOs for EE projects only at relatively high rates and short maturities, impeding ESCOs' ability to access long-term credit. The project tries to address this barrier by providing lenders a facility to enhance their understanding of these projects by sharing some risk with them. The technical assistance component of the project described below includes components on capacity building and awareness creation for financial institutions likely to lend to the clean energy sector.

b. High transaction costs: The average ticket size for loans for energy efficiency investments is fairly small compared to the loans for capacity expansion in an emerging economy, increasing the transaction costs for lenders. Due to the need to undertake detailed energy audits, energy calculations and detailed engineering design, ESCOs also face high transaction costs to invest and recover its investments from clients. Frequent delays in payments and lack of any legal remedy for such delays, further threaten ESCOs' thin margins from energy savings. Finally, some projects require ESCOs to deal with several distinct entities (building owners, operators and users), which substantially increases the transactions required of the ESCO. Projects that require individual approvals for each transaction typically do not see any significant take-up. This proposed project attempts to overcome this barrier by providing an aggregator, the Preparation Committee, that would aggregate projects into single portfolios to reduce the number of lending transactions required from banks. The IFC's ChUEE program in China, which also has a strong government mandate for energy reductions, used a similar methodology and it has seen significant success.

c. Lack of energy performance contracting standards and energy savings monitoring and verification guidelines: In performance contracting, clear and broadly accepted measurement and verification methodologies are crucial for verification that is mutually acceptable for the ESCO and the client.

Standards and codes for goods and services provide generally acceptable parameters for all the players in a market. Due to the nascent nature of the energy performance contracting market in India, there are no widely accepted codes and standards for such projects. Therefore, each project is forced to prepare its own methods, including energy savings performance contracts and associated monitoring and verification protocols, which often create information asymmetries between the client and the ESCO. When a client contracts two ESCOs for baseline creation and implementation, each repeats the same measurements, increasing the project's cost and lag time. In India's system with long gestation periods for judicial remedies, interventions like performance contracting, that have inherent information asymmetries in the absence of universally acceptable codes, are susceptible to long court cases, substantially increasing payment risks and transaction costs.

Codes allow market players to standardize their products for inter-operability and comprehensibility. The BEE has proposed adopting the international standard code ISO 50001 for monitoring and evaluation of energy audits in India, which is expected to reduce the variation between the various kinds of M&V systems. The proposed project will support this initiative.

d. Inadequate pilots with replicable contracts: Despite several pilot projects financed by multi-lateral and bilateral aid, the number of pilots that are replicable is fairly small. Due to the inherently specific nature of the projects at different buildings, contracts need to be customized for each project, reducing replicability of successful contracts and increasing transaction costs. Absence of standard templates for contracts and lack of operational guidelines to resolve project specific issues cause a perception of higher risk. The project will address this barrier by partnering with BEE to create templates and operational guidelines that other parties can follow.

The proposed operation builds on the existing partnerships with the BEE, the Government of India, the private sector and other stakeholders to scale-up Bank support for energy efficiency in India by utilizing CTF proceeds as well as Bank resources.

Preliminary Project Description: The proposed project under the India Low Carbon Partial Risk Sharing Facility (PRSF) will follow on the current initiatives the government has pursued through its Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE), part of the NMEEE described above, albeit with some crucial differences to improve performance. Other WBG projects have shown that project adoption is fastest when there are sophisticated lenders and borrowers in the field who are already undertaking some investments. This project will focus on lenders who have shown some initiative in lending to the clean energy sector and build upon their experience in creating a risk-sharing facility.

The project will incorporate a risk-sharing facility fund as well as technical assistance for partner commercial banks and other agencies to develop low carbon lending tools. The proposed components are as follows:

- **Component 1: Funded Partial Risk Sharing Facility (\$41 million):** This funding will work in conjunction with commercial banks to increase the access to finance for ESCOs that can invest in projects to reduce energy consumption of large industry, small and medium enterprises and commercial buildings. As with the government's own PRGF, we expect that this pool will assume up to 50% of the default of a bank's portfolio in the sector.

The Supervisory Committee for PRGFEE in BEE will also supervise this Partial Risk Sharing Facility. This facility will sign agreements with empanelled participating commercial banks (PFIs) to follow guidelines in the Operations Manual for the Facility while approving loans will be made, whose cumulative exposure will be shared with the fund. This fund would extend the government's own efforts to involve private financing to ESCOs for implementing energy savings performance contract (ESPC)-based EE projects .

- **Component 2: Technical Assistance for Monitoring and Verification and Capacity Building of Financial Institutions (\$2 million):** Another subcomponent of the project will provide technical assistance (TA) and capacity building to the several stakeholders in the project (PFIs, commercial banks, ESCOs, project developers, etc.). This TA facility will be designed in consultation with the client BEE and industry stakeholders. Bank staff will closely monitor this facility in order to realize the benefits of the project. This subcomponent will also finance preparation of codes for the energy savings performance contracting market, including associated monitoring and verification (M&V) protocols. M&V of actual savings is often contested by the client and the implementing ESCO, leading to a loss of trust and poor contracting that does not delineate risks properly. In the absence of a system of quick judicial remedies, resolution of disputes can take years, discouraging investments in projects with inherent information asymmetry. The TA component will assist in preparation of improved M&V procedures and creating awareness for ISO 50001 for the different client types (municipalities, buildings and industries, etc.) to reduce contestability. The project will focus on capacity building of FIs engaged in the clean energy sector. This project is expected to work in coordination with a linked GEF project that contains an additional \$2 million for similar TA.

This project will be scheduled to coordinate with the expansion and deepening of India's PAT Scheme, which will require seven industrial sectors to reduce energy consumption, using a market mechanism to ensure compliance. Other WBG projects have shown that countries with a strong government mandate to support energy efficiency are able to quickly adopt such measures, as evidenced in the China Utility-based Energy Efficiency (ChUEE) project, whose success was due in part to a strong push from the Chinese government for energy efficiency in the industrial sector. This project will promote energy-efficient technologies and will focus on investments from larger companies, after which smaller industries can take advantage of lower costs. Extensive consultations with stakeholders like ESCOs, equipment manufacturers, lenders, etc. have shown that

implementation of performance contracting requires incentives to be aligned for all the players in the value chain, which has been reflected in the project design.

Leverage and co-financing:

The government has already undertaken the initial planning and preparation of a Partial Risk Guarantee Facility for Energy Efficiency (PRGFEE), which will provide the equivalent of \$20 million as risk capital, to be accessed by commercial banks lending to ESCOs. The proposed PRSFEE, to be funded by CTF, will be providing \$25 million to be managed by a fund manager, which will share default risk with commercial lenders lending to ESCOs. The project will also receive around \$16 million in grant financing from the GEF, with an additional \$2 million for capacity building in banks and financial institutions. The GEF Project Identification Form has already received clearance from the country's GEF Nodal Point and been submitted. Based on the experience of other WBG projects worldwide, we estimate that every dollar of risk-sharing capital will leverage about five dollars of private financing in energy efficiency. Thus, it is expected that around \$100 million from donors and the GoI will leverage \$470 million in private capital, leading to cumulative lending of \$570 million in the sector.

Proposed Project Structure:

The borrowing entities, BEE, would house the funded Partial Risk Sharing Facility and manage it through its Supervisory Committee .

- BEE will house the risk-sharing facility and engage with partner participating banks under World Bank-approved guidelines to finance energy savings performance contracting projects through ESCOs. It will have fiduciary responsibilities to undertake treasury activities for the fund, as decided under the guidelines. It has been proposed that guidelines for lending will be developed during project preparation, which will be the basis for participating financial institutions (FIs) to lend to ESCOs on a portfolio basis, without requiring case-by-case approval. The proposed structure has been designed after consultations with a wide variety of stakeholders, including ESCOs, lenders, clients and equipment manufacturers.

- Partner Participating Commercial Banks/ FIs- These partner organizations will provide funds to projects under guidelines determined during project design after carrying out their standard due diligence. The procedures required for loan appraisal by participating commercial banks would be defined through an operations manual. The PRSF would be provided by participating FIs on portfolio basis. Quarterly reports on the nature and volume of guarantees issued would be submitted to the fund manager, the BEE and the World Bank. Randomized third party audits on appraisal procedures would be carried out to ensure the fiduciary and safeguard standards were applied. Environmental and social safeguards will be covered on a programmatic basis, per the operations manuals that will be part of the lending guidelines.

- ESCO/ Performance contracting enterprise- The preparation committee will assist these enterprises in accessing the PRSF through lending by commercial banks.

Competitive selections of the Fund Manager and the Preparation Committee will ensure that procurement is done in an economically efficient way.

IV. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	x		
Natural Habitats OP/BP 4.04		x	
Forests OP/BP 4.36		x	
Pest Management OP 4.09		x	

Physical Cultural Resources OP/BP 4.11		x	
Indigenous Peoples OP/BP 4.10		x	
Involuntary Resettlement OP/BP 4.12		x	
Safety of Dams OP/BP 4.37		x	
Projects on International Waterways OP/BP 7.50		x	
Projects in Disputed Areas OP/BP 7.60		x	

V. Financing (in USD Million)

Total Project Cost:	39.80	Total Bank Financing:	0.00
Total Cofinancing:		Financing Gap:	0.00
Financing Source			Amount
BORROWER/RECIPIENT			20.00
Global Environment Facility (GEF)			19.80
Total			39.80

VI. Contact point

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