GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Naoko Ishii
CEO and Chairperson

February 08, 2016

Dear Council Member:

The World Bank as the Implementing Agency for the project, ***India: IND: Chiller Energy Efficiency Project - under the Programmatic Framework for Energy Efficiency #3552*** *under the India: IND Programmatic Framework Project for Energy Efficiency in India (PROGRAM)* has submitted the attached proposed project document for CEO endorsement of a project amendment in accordance with World Bank and GEF procedures. The World Bank has coordinated closely with the Operational Focal Point in India which has written to the CEO in support of project revision.

The Secretariat has reviewed the project document. The amendment involves re-orienting the project to focus on energy efficiency in small and medium enterprises. As explained in the amendment request and the project documents, the original purpose of the project to work on energy efficiency chillers has been overtaken by events. The proposed amendments are consistent with the spirit of the original project to promote energy efficiency under the programmatic framework. The revised project will build on successful models and partnerships established by other projects under the same programmatic framework.

We consider these changes to be major amendments to the original project document endorsed on May 05, 2009, although the overall project budget has not been changed. In keeping with GEF procedures, the Secretariat has reviewed the proposed changes and has ascertained their appropriateness in light of the project's objectives.

We have today posted the proposed project document on the GEF website at www.TheGEF.org for your information. We would welcome any comments you may wish to provide by March 8, 2016 before I endorse the project. You may send your comments to gcoordination@TheGEF.org.

If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Elwyn Grainger-Jones

for Naoko Ishii

Attachment: Project Document; Agency Notification of Amended Project; Letter from OFP
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee

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अपर सचिव
SUSHEEL KUMAR, IAS
Additional Secretary

सत्यमेव जयते

भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
नई दिल्ली - 110003
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FORESTS &
CLIMATE CHANGE
NEW DELHI-110003

D.O.No.4 (1)/3/2015-IC (GEF)

Dated 16th March, 2015

Dear Dr Naoko Ishii,

This letter is in continuation to our discussions when you visited the Ministry on February 6, 2015.

2. The Ministry would like to redesign the WB/GEF-4 "Chiller Energy Efficiency Project" to ensure enhanced energy efficiency of chillers by focusing not on the refrigerant but on the equipment efficiency. The redesigned project will require two years for implementation. About 80% of grant allocated to this project remains un-utilized and returning this country allocation is not desirable, especially when there is a requirement of incremental financing in this sector. In this regard, the Ministry has written to DEA, GoI (copy enclosed).

3. The Ministry requests your kind intervention in reviving this project as it represents our national priority. We look forward to work with you in operationalizing this project soon.

with regards,

Yours sincerely,

(SUSHEEL KUMAR)

Dr. Naoko Ishii
CEO & Chairperson
Global Environment Facility
Washington DC, USA.

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अशोक लवासा
ASHOK LAVASA, IAS

सत्यमेव जयते

सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Secretary
Government of India
Ministry of Environment, Forests & Climate Change

D.O. No. 4(2)/18/2006-IC (GEF)

January 24, 2015

Dear Mr. Mehrishi,

This is in continuation of this Ministry's letter of even number dated 31st December, 2014 on World Bank (WB) / Global Environment Facility (GEF) **'India: Chiller Energy Efficiency Project'**. The status of the project was reviewed by the Ministry with the Ozone Cell of the Ministry, WB and IDBI Bank.

2. The project accessed US$ 6.3 million and US$ 1 million of grant from GEF and Montreal Protocol Fund respectively to reduce GHG emissions whilst simultaneously supporting the phase-out of consumption of Ozone Depleting Substances under Montreal Protocol. The project commenced in 2009 and at the time of project closure in December, 2014, about 80% of the grant remained un-utilized. This Ministry would like to revive this project by re-designing it to ensure enhanced energy efficiency of chillers by focusing not on the refrigerant but on the equipment efficiency. The re-designed project will require two years for implementation.

3. This Ministry is of the view that returning un-utilized grant which has come as country allocation is not called for, especially when there is a requirement of incremental financing in this sector. I would request you to kindly intervene in the matter so that either WB agrees to the project re-designing proposal with a two year timeline extension that will ensure timely and effective completion of the project or return the entire agency fee so that the project is transferred to another GEF agency.

Warm regards

Yours sincerely,

(Ashok Lavasa)

Shri Rajiv Mehrishi,
Secretary,
Department of Economic Affairs,
Ministry of Finance,
North Block,
New Delhi-110001

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MAJOR AMENDMENT REQUEST FOR GEF COUNCIL CIRCULATION /
CEO ENDORSEMENT
PROJECT TYPE: FULL-SIZED PROJECT
THE GEF TRUST FUND

Submission Date: 1/7/2016

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 3552

GEF AGENCY PROJECT ID: P100584
COUNTRY(IES): India
PROJECT TITLE: Chiller Energy Efficiency Project
GEF AGENCY(IES): World Bank
OTHER EXECUTING PARTNER(S): BEE, SIDBI
GEF FOCAL AREA(S): Climate Change
GEF-4 STRATEGIC PROGRAM(S): CC-SP2 Industrial EE
NAME OF PARENT PROGRAM/UMBRELLA PROJECT:
India Programmatic Framework for Energy Efficiency

Expected Calendar (mm/dd/yy)	
Milestones	**Dates**
Work Program (for FSPs only)	4/24/2008
Agency Approval date	6/9/2009
Implementation Start	11/23/2009
Mid-term Evaluation (if planned)	7/1/2011
Revised Project Closing Date	09/30/2018

A. PROJECT FRAMEWORK

Project Objective: To increase demand for, and deployment of, energy efficient technologies and energy-saving practices in targeted micro, small & medium enterprises (MSMEs)

Project Components	**Indicate whether Investment, TA, or STA[2]**	**Expected Outcomes**	**Expected Outputs**	**GEF Financing[1]**		**Co-Financing[1]**		**Total ($)** c=a+ b
				($) a	%	($) b	%	
Component 1: Build Capacity, Awareness, and EE Market	TA	Increased focus on Energy Efficiency among the MSMEs stakeholders	B 2 B linkages in homogenous clusters; Awareness of EE benchmarking for a segment of MSMEs; EE assessment mechanisms facilitated	700,000	87	100,000	13	800,000
Component 2: Increase EE Investments in MSMEs	INV	EE Investments in 4-5 clusters	Pipeline of approx. 200 investment grade detailed project reports; Financing mobilised	3,100,000	11	24,800,000	89	27,900,000
Component 3: Program Knowledge Management	TA	Increased knowledge-base for EE promotion	EE benchmarking in 1-2 segments of	990,000	90	100,000	10	1,090,000

			MSMEs ; Demonstration of scaled down EE technologies					
Project management				400,000	100	0	0	400,000
GEF Financing disbursed against originally endorsed activities				1,110,000	27	2,900,000	73	4,010,000
Total Project Costs				6,300,000	18	27,900,000	82	34,200,000

[1] List the $ by project components. Percentage is the share of GEF and Co-financing respectively of the total amount by component
[2] TA = Technical Assistance; STA = Scientific & Technical Analysis.

B. **SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT**

Name of Co-financier (source)	***Classification***	***Type***	***Project***	***%****
BEE	Executing Agency	Grant	100,000	0.5
SIDBI	Executing Agency	Grant	100,000	0.5
Participating MSMEs	Beneficiaries	Private	24,800,000	89
Chiller owners	Beneficiaries	Private	2,900,000	10
Total Co-financing			27,900,000	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

C. **FINANCING PLAN SUMMARY FOR THE PROJECT ($)**

	Project Preparation a	***Project b***	***Total c = a + b***	***Agency Fee***	***For comparison: GEF and Co-financing at original CEO endorsement***
GEF financing proposed amendment	0	5,190,000	5,190,000	630,000	6,300,000
GEF financing disbursed against originally endorsed activities		1,110,000	1,110,000		
Co-financing proposed amendment	0	25,000,000	25,000,000		93,038,823
Co-financing estimated against originally endorsed activities		2,900,000	2,900,000		
Total	0	34,200,000	34,200,000	630,000	99,338,823

D. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? yes ☐ no X

E. DESCRIBE THE BUDGETED M &E PLAN:

Monitoring and evaluation (M&E) of the amended project will be undertaken at two levels, both at the cluster activity level and the general project level. Activities at the MSME level will be monitored by the executing agencies – BEE and SIDBI, using M&E forms and protocols developed as part of the FEEMP. This M&E information will be aggregated to analyze overall program impacts and may provide the basis for the development of success stories, to be used in outreach activities and in the knowledge management component. All data for the outcome and results indicators will be coordinated by BEE and SIDBI and reported to IBRD, the GEF through the annual PIR process, and the GoI-MOEFCC as chair of the GoI GEF Empowered Committee on a regular basis.

PART II: PROJECT JUSTIFICATION: In addition to the following questions, please ensure that the project design incorporates key GEF operational principles, including sustainability of global environmental benefits, institutional continuity and replicability, keeping in mind that these principles will be monitored rigorously in the annual Project Implementation Review and other Review stages.

1. Background

The CEEP was prepared during the period of the GoI's 11th five year plan (2007-2012), which committed to increasing energy efficiency by 20% by 2016-17. In order to realize the plan commitments India launched the National Mission for Enhanced Energy Efficiency (NMEEE) as part of its first National Action Plan for Climate Change (NAPCC) in 2008. The GoI estimated that the NMEEE can: (i) Reduce carbon dioxide emissions by 98 million tons annually by 2014-15, (ii) Avoid 19 GW of electricity generation capacity additions, and (iii) Save at least 23 mtoe of fuel. Implementation of the NMEEE benefited from the existing regulatory structure, in particular the Energy Conservation Act of 2001 that led to the creation of the Bureau of Energy Efficiency (BEE) as the statutory body to coordinate EE related intervention at the central level working with the states. The primary goal of BEE is to reduce energy intensity in the economy and to institutionalize EE services, enable delivery mechanisms in the country, and provide leadership on energy conservation as part of the NMEEE.

To enhance synergies across different efforts on energy efficiency and improve effectiveness of the GEF EE portfolio in India, the GoI developed a low carbon Programmatic Framework for Energy Efficiency (PFEE) – GEF ID 3538, which was approved by the GEF in 2008. The CEEP is part of the PFEE, whose objectives are to: i) promote EE in buildings through increased market penetration of EE technologies, practices, products and materials in the residential and commercial building markets; ii) increase deployment of energy efficient technologies and support adoption of energy saving practices in the industrial sector (small- and medium-scale enterprises); and iii) implement energy efficient technologies and measures in Indian railways. The BEE is responsible for integrating the PFEE with relevant GoI programs and strategies.

2. The Chiller Energy Efficiency Project

2.1 Higher level Objectives

The higher level objectives of the CEEP related directly to meeting the 11th plan goal through the implementation of a set of EE interventions in the chiller sector. Given that chillers normally consume more than 30% of the energy in large commercial buildings and industrial establishments, implementation of CEEP was meant to support India's efforts in reaching its EE goals, and also generating awareness about energy efficiency in large energy consumers.

2.2 Development objectives

The CEEP was focused on the refrigeration and air conditioning sectors and designed with the development objective of accelerating the replacement of centrifugal chillers with efficient non-CFC-based centrifugal chillers in order to promote deployment of energy efficient technologies and products to reduce GHG emissions, and also support the phase-out of CFC demand in India.

Chillers are central to large scale systems used in industry, and the earlier model chillers were not only energy inefficient, but also used CFCs that have a detrimental impact on the Ozone layer. India committed to phasing-out CFCs under the Montreal Protocol. Hence the CEEP was designed not only to deliver energy efficiency and related climate benefits, but also benefits in term of protecting the Ozone layer.

2.3 Financing

Given its potential multiple benefits, the CEEP was funded through a blend of GEF, MP and CDM resources. The Ministry of Environment Forests and Climate Change was the project counterpart, with the Industrial Development Bank of India serving as the financial intermediary. The $6.3 m in GEF resources were aimed at supporting chiller replacement ($ 5.73 m) and project management ($ 0.57 m). Table 1 shows the project cost broken down by funding sources.

Table 1: Original Project Cost, in US $

Component	GEF	MLF	CDM	Pvt. Sector	Total
1.Chiller Replacement	5,730,000	264,316	3,569,450	70,124,604	79,668,370
2.Measurement&Monitoring	0	206,236	1,365,764		1,572,000
3.Technical Assistance	0	305,000	228,453		533,453
4.Project Management	570,000	224,448	686,333		1,479,781
Total	**6,300,000**	**1,000,000**	**5,850,000**	**70,124,604**	**83,273,604**

2.4 Status

As of October 2015, out of a target of 370 chillers (215 chillers through GEF and 155 chillers through CDM component) to be replaced, the project had replaced only 31 chillers. This was due to a number of reasons, mostly external to the project: as part of its commitment under the Montreal Protocol, India decided to accelerate the phase out of CFC chillers a year ahead of schedule (in 2009 against the target of 2010), which exhausted the eligible population of chillers under the project; and, in the case of CDM, the international market for carbon credits collapsed in 2010 thus wiping out the prospects of cash flow from carbon revenues. This led to a lack of interest among beneficiaries in registering for the chiller replacement program under the project; and, given the downturn in the carbon market, one of the main prospective buyers of CER's (KfW) pulled out of the project in 2013.

A project design issues that made implementation challenging was the fact that project components funded by the different sources (i.e. GEF, MLF, and Carbon Finance) were interdependent, and hence not immune from the risks faced by each other. As a result, the collapse of the carbon market not only

affected project components that were financed by carbon finance revenues but affected the whole project.

2.5 Disbursement

As of Oct 2015 the total disbursement out of US$ 7.30 million (GEF and MP, excluding CDM), stood at US$ 1.62 million (22.25% including MP component), with an un-disbursed balance of US $ 5.67 million. Against the total GEF grant of US$ 6.3 million, only US$ 1.10 million (17.50%) was disbursed thus leaving a balance of approximately US$ 5.19 million.

3. Supporting India's Energy Efficiency Ambition

The GEF has maintained a strong focus on EE under the climate change focal area over the years. The CEEP was prepared and started implementation in GEF 4 (2006-2010) under the strategic programing area "to promote energy efficiency in the industrial sector." The Programmatic Framework for Energy Efficiency that the CEEP is part of continues to be directly relevant to the GEF 5 thrust "to promote market transformation for EE in the industry and building sectors", and continues to be fully aligned with the GEF 6 programing directions that reemphasize "the key role of energy efficiency in addressing climate challenges"

The growing scope of EE as a climate mitigation strategy at the GEF is also mirrored in India's low-carbon growth ambition through the NAPCC, and supported by actions on the ground. India has already reduced its overall energy intensity by 4.1% between 1990 and 2010. At the 2009 UNFCCC Conference of the Parties (COP) in Copenhagen India declared a voluntary goal of reducing the emissions intensity of its GDP by 20–25%, over 2005 levels by 2020, and is on its way to meeting these targets. Recently India submitted its Intended Nationally Determined Contribution (INDC) plan to the UNFCCC in October 2015 stating even stronger level of voluntary commitment - reducing energy intensity of GDP by 33%-35% by 2030 as compared to 2005.

It is estimated that much of the potential for EE improvements lies within micro, small and medium enterprises (MSMEs), as they comprise more than 80% of the country's industrial enterprises and lag behind larger industry benchmarks in technology modernization and other energy efficiency measures. While the energy consumption of manufacturing industries in India has been growing, their energy intensity has shown a decreasing trend; however, this trend needs to be accelerated given the increased level of India's ambition on EE. The GoI's 12th five year plan (2012-2017) includes a strong focus on industrial EE as a focus area under low-carbon growth.

Taking cognizance of the above and that the ongoing GEF Project on Energy Efficiency in Commercial Buildings (GEF ID 3555) implemented by UNDP is already focusing on EE initiatives in the Building Sector, the GoI requested the CEEP be restructured so that available resources be directed to complement its own efforts on improving industrial energy efficiency. This aligns well with the strategic direction of GEF's programming and provides an opportunity for the GEF to support India in its pursuit of low-carbon growth through scaling-up on EE interventions, while staying true to the high level objectives of the CEEP, and fully within the objectives of the PFEE under which the CEEP was conceived and approved.

4. The amended CEEP

The Government of India's INDC recognizes EE improvement in the industrial sector as one of the important mitigation strategies to combat climate change. The INDC document also highlights successful initiatives taken at 500 SMEs by the Small Industries Development Bank of India (SIDBI), which is

delivered through the ongoing GEF 4 project titled "*Financing Energy Efficiency at MSMEs Project (FEEMP)*", also part of the PFEE. Implementation of this project has evidenced strong demand from the GoI and other stakeholders, including the private sector, to promote energy efficiency in Micro, Small and Medium Enterprises (MSMEs). The FEEMP relies on a delivery model with the Bureau of Energy Efficiency (BEE) coordinating the overall management, and SIDBI delivering on MSME cluster level initiatives.

While the results of FEEMP implementation are encouraging, there are many additional needs for EE interventions which would facilitate transformational impact and improve competitive advantage of MSMEs, including replicating the experiences in other energy intensive sub-sectors, such as pharma, ceramics, agro based/food processing units, etc.; supporting pipeline development by decreasing the risks associated with EE investments ; customizing and demonstrating advanced EE technologies for MSME operations; and facilitating demand aggregation of unit-specific interventions so that implementation becomes economical for vendors, and enhances the chances of replication. These approaches to pipeline development and demand aggregation are well aligned with the innovative approaches promoted under the GEF-6 Programming Strategy

The proposed major amendment to CEEP focuses on supporting the above opportunities, and further strengthen EE goals of GOI through redeploying available GEF resources (US$ 5.19 million) from the original CEEP project design. The detailed new project components are described below.

4.1 Project components

The amended project will contribute to bridge the current gap in understanding between energy professionals/technology suppliers, entrepreneurs, Banks and Financial Institutions. The project will focus on tapping EE benefits through a three pronged approach which includes i) awareness/capacity building; ii) direct interventions to increase EE investments; and iii) expanding the EE knowledge base, especially through establishing key performance indicators. The project will engage in focused efforts in energy-intensive SME sectors and/or clusters to increase the demand for EE products and services and mobilize several actionable initiatives, which would typically include: replication of proven technologies, demonstration of scaled down technologies which are proven in large scale units but not available for MSMEs, unit-level specific technical assistance, financial instruments to facilitate EE technology deployment, etc. Given the resources and the pool of MSMEs available, the actual measurable EE initiatives will be implemented in about 200 MSME units. The sub-sectors considered for implementation include, agro-based and food processing units, ceramic industries, pulp and paper units, pharma sector, and consumer electrical. These categories are broadly comparable to the size and types of processing systems under FEEMP –i.e. mixed engineering, forging and foundry, chemical units These sub-sectors in MSME consume about 25% of the energy share of MSMEs. The components envisaged for implementation under the amended project include the following:

Component 1: Build capacity, awareness, and EE market (US$ 0.7m). Many of the energy efficient equipment vendors usually focus on large-scale units with limited interest to cater to MSME sector clients, mainly due to perceived difficulties in reaching out to MSMEs. However, once aware of the business volumes to be realized (especially considering that about 46% industrial production is from the MSME sector), the large vendors mobilize quickly with multiple marketing strategies (such as supply chain efficiency, OEM management, cluster business models, system integrators, etc.). On the other hand, MSMEs engage in misperceived cost cutting by engaging local fabricators (mainly semi-skilled), resulting in inefficient equipment. Under the FEEMP, several capacity building initiatives have been taken up to build the awareness of MSME units on the importance of selecting energy efficient equipment and on the importance of deploying skilled professionals to improve O&M practices, as well as on

selecting the right vendors. FEEMP has also implemented several demonstration pilots. Further, to complement these efforts, there is a need also to focus on local/cluster level skill development, as well as the establishment of business linkages through vendor development. Thus, Component 1 would facilitate business-to-business or B-2-B linkages for: (a) replication of successful technologies in MSMEs, focusing on homogenous clusters by establishing linkages for appropriate technology providers; (b) skill development for the Local Service Providers (LSPs); (c) establishing key performance indicators for a segment of MSMEs (e.g. consumer appliances, pumps, etc.); (d) enabling EE assessment mechanisms such as cluster level testing facilities, association of EE practitioners, etc.; and (e) media products for enhanced awareness and outreach. This component will be jointly implemented by BEE and SIDBI. While SIDBI will focus on awareness building for EE investment at its own branches as well as other FIs, BEE will ensure EE knowledge exchange, experience sharing, and technical integrity.

Component 2: Increase EE investments in MSMEs (US$ 3.2m). The objective of this component is to support the EE opportunities highlighted above to facilitate higher level of EE investments for about five categories of MSMEs spread in different geographical clusters. This component will provide support to development of the pipeline that goes beyond the TA support of Component 1 by decreasing the risks associated with such investments. On the demand side, MSMEs are unable to prepare EE projects but are also reluctant to spend any money on the preparation of a bankable proposal by a third party, particularly if this is an unfamiliar activity in the industry.

Component 2.1- Provide TA for preparing EE investment proposals (US$ 1.0m). To address risks associated with implementing unfamiliar technologies, this US$ 1.0 million component will cover the costs of developing a pipeline of about 200 Investment Grade Detailed Project Reports (IGDPRs). The IGDPRs will identify unit-specific EE opportunities to be implemented by the units. This component will also provide assistance for vendors to aggregate demand for interventions so as to economic on scale and increases the chances of replication. The preparation of IGDPRs will be managed by SIDBI and overall technical and policy guidance will be provided by BEE.

Component 2.2 - Support Revolving Fund (RF) for facilitating EE investments (US$ 2.10m). In addition, the EE investment opportunities are expected to be further enhanced by extending loan support through an existing Revolving Fund managed by SIDBI. Currently the RF size is US$ 3 million, which will be increased to US$ 5.2 million by allocating an additional US$ 2.1 million. Using the successful model and guidelines established under the FEEMP, the fund will provide 25% of the loan amount required for EE proposals at no interest, 65% will be lent on commercial terms by SIDBI and the rest 10% will be unit's own contribution.

Component 3: Knowledge Management (US$ 0.99m). This component managed by BEE would facilitate consolidating the knowledge generated while implementing the IGDPRs. BEE as part of technical advice to SIDBI, will identify advanced technologies and if necessary, customize and demonstrate such technologies for better penetration (including scaled down technologies which are proven in large scale units but not available for MSME scale of operations)[1]. In addition, BEE will establish key EE performance indicators for at least one or two segments of MSME manufacturing (e.g. consumer appliances or pumps, etc.) which could bring about a long term transformative change in demand-side EE. Such efforts would also facilitate streamlining mitigation strategies and goals, with improved ability to track the progress of implementation, especially in the context of MSME sector

[1] Rotary Vacuum Dryer technology (RVD) deployed in dyes and chemical intermediates in Ankaleswar chemical cluster under FEEMP is such example. A short demonstration of this example in Hindi can be seen at: https://www.youtube.com/watch?v=mQeM66BrLaU

strategies highlighted in India's INDC. This component would also focus on skill development initiatives including setting up equipment testing/operation and maintenance facilities involving OEMs, industry associations, and other stakeholders.

Component 4: Project Management and Coordination (US$ 0.4m). This component would provide resources for project management and coordination across the components and with the various MSMEs.

Table 2 below provides a breakdown of the proposed components of the amended project.

Table 2: Proposed Components and Cost Break-up

Component Name	Cost (million US$)				Activities
	BEE	SIDBI	Total	Co-Fin.	
Component 1: Activities to Build Capacity, Awareness, and EE Market	0.4	0.3	0.7	0.1[2]	• Facilitate B 2 B (e.g. MSMEs to Technology providers/vendors) linkages for replication of successful technologies in homogenous clusters • Awareness on EE benchmarking for a segment of MSMEs (e.g. consumer appliances, pumps, etc.) • Enabling EE assessment mechanisms such cluster level testing facilities, association of EE practitioners, etc.
Component 2: Activities to Increase Investment in EE: ***2.1.*** TA for preparing EE investment proposals ***2.2*** Revolving Fund (RF) for facilitating EE investments		1.0 2.1	3.1	24.8[3]	• Activities to increase EE investments for about 4-5 categories of MSMEs spread in different geographical clusters (different from those already covered by the Financing MSME project) • EE demand aggregation through approx. 200 technology-based and/or EE benchmark based IGDPRs which will support EE measures at homogeneous clusters (e.g., consumer appliances, pharmaceuticals, agro based/food processing industries, pulp and paper, ceramics, etc.). • Additional funds allocated alongside the MSME Revolving Fund to facilitate better availability of financing at concessional rate.
Component 3: Program Knowledge Management	0.99		0.99	0.1[4]	• Facilitate EE benchmarking in one or two segments of MSME manufacturing (e.g. consumer appliances, pumps, etc.) which could bring about a long term transformative change in demand side for EE. • Demonstration of scaled down EE technologies and facilitate skill development initiatives for stakeholders
Component 4: Project Management and Coordination	0.18	0.22	0.4		• Timely project implementation and monitoring
Total	**1.57**	**3.62**	**5.19**	**25.00**	

[2] Co-financing will be mobilized from SIDBI as part of their corporate funds for promotion and development of EE products; the figure is a very conservative estimate.

[3] In addition to the project's revolving fund, SIDBI will lend an estimated US$ 5.46 million on commercial terms and another US$ 0.84 million will be equity contribution from the MSME unit. MSMEs are further expected to raise finances from the market to the tune of about US$ 18.5 - 25 million in the short, medium and long term in the form of potential investments within the clusters and replicable investments on a larger scale. The co-financing figures consider a conservative estimate of US$ 18.5 million debt financing in the form of loans, with the reinvestment of revolving fund for at least two cycles of 5 years each. These estimates are comparable with the FEEMP, where about US$ 38 million is expected from replication of measures implemented in 500 units. This effort will also further strengthen related initiatives under SIDBI, including a US$ 500 million World Bank line of credit for *India: MSME Growth Innovation and Inclusive Finance Project.*

[4] BEE will mobilize finances from its budgetary resources for demonstration of about 5-6 demonstrable technologies in the project clusters; the figure is a very conservative estimate.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

PROJECT IMPLEMENTATION ARRANGEMENTS:

Industrial Development Bank of India (IDBI) has been the executing CEEP. However, considering the synergies between ongoing energy efficiency programs in India and the activities envisaged under FEEMP, the amended project will be executed by SIDBI and BEE. Both these agencies have strong experience in the EE sector and have been implementing the GEF supported FEEMP. It is proposed to replicate the same implementation arrangements as FEEMP for this project, with a project implementation period of 30 months, starting from April, 2016 (the likely month of completion of major amendment process both at GEF and The World Bank). Project closing period, hence will be September 30, 2018.

BEE will retain overall implementation responsibility for the amended project, and will directly implement activities such as project oversight, reporting and evaluation, implementation of certain national level outreach and capacity building activities, and cross cutting knowledge management activities. The BEE will also maintain implementation responsibility for certain targeted capacity building efforts such as programs designed to improve technical capacity/skill development, etc.

SIDBI will assume implementation responsibility mainly for the Component 2 with extended support for Component 1 and 4, with a focus on the cluster specific activities. SIDBI will provide reports on implementation progress to BEE, who is lead agency with overall responsibility for the GEF Programmatic Framework Project for Energy Efficiency.

PART IV: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.

Agency Coordinator, Agency name	Signature	Date *(Month, day, year)*	Project Contact Person	Telephone	Email Address
Karin Shepardson World Bank		1/6/2015	A.S. Harinath A.S.Ramakrishna	91-11-4924-7751	Harinath@worldbank.org aramakrishna@worldbank.org

ANNEX A: PROJECT RESULTS FRAMEWORK

An estimate of possible achievement of total results is presented in the Table below. Annex B presents the detailed analysis and the basis for the results. The estimated results cover three parts:

(a) Cumulative and estimated lifetime Carbon ERs: The ERs are estimated considering direct emission reductions through direct investments which emerge from expected implementation in 200 MSME units. The 200 units are proposed for implementation based on available resource of US$2.1 million in RF. The potential energy savings in the proposed 5 SME sectors are assessed based on the information sourced from FEEMP implementation; technology studies conducted under BEE's SME programs; meetings, field level interaction with SME units, and industry associations. The assessments reflect that energy savings could vary from 12 to 22% respectively for low/medium and high EE investment options and also depend on type of SME sector. Considering the availability of Revolving Fund for implementation, the average energy savings have been targeted up to 20%. Assessment of ERs from the project intervention has been carried out using the usual GEF assumptions for estimating EE savings and CO2 benefits. The estimated ERs are classified under two major categories: (i) lifetime direct GHG emissions avoided due to direct interventions under the project; (ii) potential GHG emissions avoided due to post-project re-investment of revolving fund, as well as indirect ERs arising from replication potential. Annex 1 presents the detailed results including different % scenarios of project penetration in terms of actual implementation by the units. The committed ERs presented in Table 3 considered 85% penetration.

(b) Direct Investments: The aggregate value of direct EE investments in the amended project for 200 MSME units is estimated at US$ 9 million considering that the proposed RF of US$ 2.1 million would leverage at least 3 times in EE investments through SIDBI's contribution in the form of loan extended to the implementing units. The estimated per unit direct investments are higher than the results committed under the FEEMP, where the estimated value of direct investment in 500 units is about US$ 15 million. Further, considering the loan tenure of 5 years, the RF will be rolled out for a minimum of 2, and a maximum of 3 additional cycles of 5 years each, leading to replicable investments ranging from US$ 18 to 25 million. These estimates are proportionate with the committed results under FEEMP where implementation in 500 units is expected to result in long term replicable investments of US$ 38 million.

Table: Expected results

S.No.	Indicator	Target
1.	Number of IGDPRs prepared (Number)	200
2.	Aggregate value of direct EE Investments mobilized during the project period (US$ million @ 1$ = INR 65)	9.0
3.	Cumulative and estimated lifetime Carbon ERs through direct investments (million tons of CO_2).	1.0
4.	Estimated replicable EE Investments (in US$ million @ 1$ = INR 65) with 2 additional cycles of RF utilization	18.5
5.	Potential lifetime million tons of ERs (million tons of CO_2).	2.8

ANNEX B - Assessment of Emission Reductions using GEF assumptions for estimating EE savings and CO_2 benefits

A1. Estimated Energy Savings in Proposed Project Sectors

Estimated energy savings is arrived through field level discussions and unit level quick walk throughs; information sourced from FEEMP implementation; and technology studies conducted under BEE's SME programs such as BEE-SME cluster manuals, Small Medium Enterprises Energy Efficiency Knowledge Sharing Platform (SAMEEKSHA). The percentage energy saving potential is presented under two scenarios, the first scenario presents implementation of low and medium cost EE interventions and the optimistic scenario presents high cost measures with greater energy savings. While estimating the emission reductions due to the project interventions, a combination of these measures is considered with the assumption that 70% of enterprises implement the low/medium cost measures and 30% implement the high cost measures.

S. No.	Cluster	Avg. Energy Consumption (toe)/year/Unit	Targeted MSMEs	Total Energy consumption of targeted MSMEs (toe/Yr)	Energy Savings Potential from targeted MSMEs (toe/Yr)				Source
					Average scenario	%	Optimistic Scenario	%	
1	Ceramic	2455	70	171850	20622	12%	37807	22%	Cluster Profile Reports-SAMEEKSHA
2	Pulp & Paper	925	20	18500	2775	15%	4625	25%	BEE_SME Cluster Manuals-Muzaffarnagar Cluster
3	Agro based Industries	71	20	1420	213	15%	355	25%	Field visits and quick walk through assessments at Kundli
4	Food Processing	528	20	10560	1056	10%	2112	20%	FEEMP-Mumbai-Thane Mixed Cluster
5	Pharmaceuticals	135	70	9450	1134	12%	1890	20%	FEEMP - Ankleshwar Chemical Cluster
	Total		**200**	**211780**	**25800**	**12%**	**46789**	**22%**	

A2. Estimated Emission Reductions

The table below presents the estimated emission reductions. The assumptions for using the GEF EE Tool are given below

- Length of Analysis Period (Years after Project Close) : 15 Years
- Maximum Technology / Measure Lifetime (Years) :15
- Grid Electricity Emissions (tCO2/MWh) :0.82 (Source – Central Electricity Authority)
- Grid Electricity T&D Loss Rate (%) :22.92 % (Source-Central Electricity Authority)
- Useful Lifetime of Investment : 15 Years
- Percent of Activities Implemented in the Baseline (no intervention scenario) : 10%
- Number of Replications Post-project as Spillover utilizing Revolving Fund : 2

Table: Investment Scenarios depending on penetration rate

	Ceramic Cluster	Pulp and Paper Industries	Pharmaceutical Industries	Agro based Industries	Food Processing	Investment Scenarios depending on penetration rate		
						100%	50%	15%
Number of units	70	20	70	20	20	200	100	30
Total Investment (Rs mill)	252	81	101	49	35	517	259	78
Energy and Monitory Savings								
Electrical Savings (MWh/Yr)	26831	26655	3201	1980	3454	62122	31061	9318
Natural Gas Savings (SCM/Yr)	19274904	0	1302646	0	0	20577550	10288775	3086633
Coal Savings (MT/Yr)	19676	2224	519	0	2389	24809	12404	3721
Diesel Savings (Ltrs/Yr)	0	0	8700	80141	0	88841	44421	13326
Monetary savings (Rs. Million)	228	94	56	18	15	411	206	62
GHG Emissions Avoided								
Direct GHG Avoided during the project period(tCo2/) – 2016-17	108027	30633	6414	2239	7977	155290	77645	23293
Direct GHG Avoided after project period(tCo2/) 2018-32	751281	214431	44604	15673	55840	1081828	540914	162274
GHG Avoided due to Post-Project re-investment of Revolving Fund 2018-32 (tCO2)	1351262	385363	80225	28166	100352	1945368	972684	291805
Indirect bottom-up savings (tCO2/Life time)	954,787	272293	56686	19902	70908	1374575	687288	206186
Total GHG avoided (tCo2/life time)	3165356	902721	187928	65979	235077	4557061	2278530	683559

AGENCY NOTIFICATION ON AMENDED PROJECT

PROJECT IDENTIFIER

Name of Amended Project: Chiller Energy Efficiency Project
Country(ies): India
Implementing/Executing Agency: World Bank
GEF Project ID: 3552
Agency Project ID: P100584
Focal Area: Climate Change
Project Type: Full-sized Project
Trust Fund: GEFTF
CEO Approval/Endorsement Date: 5/5/2009
Approved/Endorsed Grant: 6,300,000
Agency Project Approval Date: 6/30/2009
Agency Project Approval Amount: US $ 6,300,000

PROJECT AMENDMENT

Amendment date: December 2015
Type of Amendment: Major Change
Changed amount or objective: The objective of energy efficiency will continue to be pursued in line with the GEF-approved Programmatic Framework for Energy Efficiency India, but without the original focus on CFC-based chillers of the project.
Explanation for amendment: To refocus project activities in order to adapt to the new conditions on the ground and take into account developments since approval of the project so as to continue to support India's goals to increase energy efficiency and undertake aggressive climate mitigation action.

AGENCY CERTIFICATION

The World Bank would like to request approval from the GEF Secretariat for the amendment of the above-mentioned project.

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