



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title:	Global Energy Efficiency Facility (GE2F2) – design of strategies and deployment mechanisms		
Country(ies):	Global with initial focus on China, India & Brazil	GEF Project ID: ¹	5833
GEF Agency(ies):	EBRD (select) (select)	GEF Agency Project ID:	
Other Executing Partner(s):		Submission Date:	2014-06-25
GEF Focal Area (s):	Climate Change	Project Duration (Months)	18
Name of parent program (if applicable):		Project Agency Fee (\$):	180,500
<ul style="list-style-type: none"> For SFM/REDD+ <input type="checkbox"/> For SGP <input type="checkbox"/> For PPP <input type="checkbox"/> 			

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK²:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
CCM-2 (select)	GEFTF	1,900,000	2,150,000
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
(select) (select)	(select)		
Total Project Cost		1,900,000	2,150,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To develop strategies and deployment mechanisms for the Global Energy Efficiency Financing Facility initiative in China, India and Brazil						
Project Component	Grant Type ³	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
Design of mechanisms for the Global Energy Efficiency Financing Facility	TA	Strategies and deployment mechanisms developed for the Global Energy Efficiency Financing Facility	Output 1 – Market studies for China, India and Brazil completed Output 2 – Strategy and deployment plan developed Output 3 – Banking products developed	GEFTF	1,900,000	2,000,000
	(select)			(select)		
	(select)			(select)		

¹ Project ID number will be assigned by GEFSEC.

² Refer to the reference attached on the [Focal Area Results Framework and LDCF/SCCF Framework](#) when completing Table A.

³ TA includes capacity building, and research and development.

	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Subtotal					1,900,000	2,000,000
Project Management Cost (PMC) ⁴				(select)		150,000
Total Project Cost					1,900,000	2,150,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
GEF Agency	EBRD	Cash	2,000,000
GEF Agency	EBRD	In-kind	150,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Cofinancing			2,150,000

D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$) (a)	Agency Fee (\$) (b) ²	Total (\$) c=a+b
EBRD	GEFTF	Climate Change	Global	1,900,000	180,500	2,080,500
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				1,900,000	180,500	2,080,500

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

² Indicate fees related to this project.

E. PROJECT PREPARATION GRANT (PPG)⁵

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

	Amount Requested (\$)	Agency Fee for PPG (\$) ⁶
• No PPG required.	-- 0--	--0--
• (upto) \$50k for projects up to & including \$1 million		
• (upto)\$100k for projects up to & including \$3 million	100,000	9500
• (upto)\$150k for projects up to & including \$6 million		
• (upto)\$200k for projects up to & including \$10 million		
• (upto)\$300k for projects above \$10 million		

⁴ To be calculated as percent of subtotal.

⁵ On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY

Trust Fund	GEF Agency	Focal Area	Country Name/ Global	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total PPG Amount				0	0	0

MFA: Multi-focal area projects; MTF: Multi-Trust Fund projects.

PART II: PROJECT JUSTIFICATION⁷

A. PROJECT OVERVIEW

A.1. PROJECT DESCRIPTION. BRIEFLY DESCRIBE THE PROJECT, INCLUDING ; 1) THE GLOBAL ENVIRONMENTAL PROBLEMS, ROOT CAUSES AND BARRIERS THAT NEED TO BE ADDRESSED; 2) THE BASELINE SCENARIO AND ANY ASSOCIATED BASELINE PROJECTS, 3) THE PROPOSED ALTERNATIVE SCENARIO, WITH A BRIEF DESCRIPTION OF EXPECTED OUTCOMES AND COMPONENTS OF THE PROJECT, 4) INCREMENTAL/ADDITIONAL COST REASONING AND EXPECTED CONTRIBUTIONS FROM THE BASELINE , THE GEFTF, LDCF/SCCF AND CO-FINANCING; 5) GLOBAL ENVIRONMENTAL BENEFITS (GEFTF, NPIF) AND/OR ADAPTATION BENEFITS (LDCF/SCCF); 6) INNOVATIVENESS, SUSTAINABILITY AND POTENTIAL FOR SCALING UP

- 1) The global environmental problems, root causes and barriers that need to be addressed
1. Greater energy efficiency is essential to shift country development paths toward lower-carbon economic growth. A vast potential for energy savings opportunities remains unrealized even though current financial returns are strong, and this is especially the case in developing countries and transition economies. China, India and Brazil represent three of the top 10 energy consuming nations of the world, and China and India have high energy and carbon intensities (see Figure 1 below). When combined, they account for well over half of developing country energy demand. China is the largest energy consumer of the three, followed by India and Brazil.

Figure 1: Energy and Carbon intensities (source: Enerdata Energy Statistical Yearbook 2013)

2. The potential role of energy efficiency in mitigating climate change has been outlined by the International Energy Agency, which estimated that an additional US\$10.5 trillion investment is needed for the “450 parts per million scenario” required to limit the temperature rise to 2°C (IEA 2009).
3. In the world as a whole, but especially in rapidly growing developing countries such as China, India, and Brazil, efficiency improvements to generate more economic output with less energy input are essential for reasons of energy supply security, economic competitiveness, improvement in livelihoods, and environmental sustainability.
4. Many of the financial barriers to energy efficiency arise from the unique characteristics of such projects relative to traditional investment projects. Because energy efficiency reduces energy costs, it improves the “bottom line” of enterprises and does not increase the “top line.” As such, they often do not compete well with other opportunities for using up-front capital, such as capacity expansion or penetrating new markets.
5. Energy efficiency projects are also typically much smaller than conventional projects related to plant expansion, new product development, research and development, or facility modernization. Other novel characteristics of energy efficiency projects include high project development and transaction costs, use of new or innovative technologies, and relatively small value of project assets.
6. The typical finance-related barriers include:
 - Small project size leading to high transaction costs. The relatively small size of Energy Efficiency projects (compared with, for example, energy generation projects or plant

⁷ Part II should not be longer than 5 pages.

expansion projects) leads to relatively high transaction costs (compared with other conventional lending by banks and financial institutions¹), which, in turn, makes them less attractive for conventional bank financing.

- Lack of knowledge and awareness. Understandably, commercial banks typically do not have sufficient knowledge and understanding of energy efficiency technologies and their technical, economic, and financial characteristics, and have not fully developed approaches and techniques for project appraisal and risk assessment.
- Communication between financiers and project developers. Lenders have limited knowledge and awareness of EE project characteristics, while EE project developers often are unaware of the project packaging and presentation requirements of the financial community. This creates a difficult communication gap.
- Risk perceptions. Lenders may perceive energy efficiency projects as being more risky than their other conventional lending.
- High project development costs. Energy Efficiency projects have a relatively high proportion of costs that lenders are reluctant to finance. Such costs include project evaluation and project development costs as well as costs of equipment replacement, plant shutdown, and training of equipment operating and maintenance personnel.
- Requirement for collateral or balance sheet financing. Lenders usually require high levels of collateral or strong borrower balance sheets to provide financing. Energy users may not have collateral or strong balance sheets (or may not be willing to commit their available collateral for Energy Efficiency projects).
- Measurement and verification of energy savings. Adequate methods and tools are not readily available to demonstrate the achieved energy savings.

7. Problems of high transaction costs, perceptions of uncertain risks, and unmet needs for financial intermediation or technical expertise mean that much of the potential for energy savings will remain unimplemented. Institutional innovation is required to address these problems and put in place efficient ways of identifying, packaging, and delivering bundles of energy saving projects.

8. All energy efficiency financing mechanisms must successfully incorporate two functions: (i) a marketing, project development, and technical design function to efficiently package good projects; and (ii) a financing function. A common source of programme failure is inadequate balance between these two functions, leading to insufficient project pipeline development to meet the needs of financiers, or inability to arrange and deliver financing for well-developed projects.

2) The baseline scenario and any associated baseline projects

9. Without the GEF project, the baseline scenario will involve a gradual increase in energy efficiency globally and in China, India and Brazil. The baseline in each focus country is discussed briefly below:

China

10. In 2010 China became the largest energy consumer in the world. China's primary energy supply is predominantly based on rapidly increasing use of coal (over 65% of primary energy supply), with non-fossil fuel energy sources contributing less than 10% of primary energy supply. The rapid increase in coal-based energy consumption has also caused severe local environmental problems, such as air pollution, acid rains, and deterioration of surface water quality. China accounts for over 25% of global industrial energy consumption, and industrial energy consumption has increased by three-folds since 2000. The industrial sector contributes to 57% of final energy consumption and 74% of electricity consumption.

11. As China is still a developing country with a large number of poor people, it has become a global priority to de-link China's economic growth and the increasing trend in energy

consumption and GHG emissions. The International Energy Agency has projected that China needs to provide 30% of global savings in GHG emissions required by 2030, compared to the business as usual scenario in order to achieve the 450 ppm scenario. It is further estimated that end user energy efficiency improvement and end user fuel switching (e.g., from more carbon-intensive fuel sources such as coal to less carbon-intensive natural gas and renewables) are expected to achieve 38% and 9% of GHG emission reduction required from China.

12. The 11th and 12th Five Year plans introduced; a range of new policies and programmes to address energy efficiency, with a focus on regulation of energy use and regulatory or administrative policies to provide incentives and penalties to drive energy efficiency improvements. The energy intensity in China fell by 19.1% during 2006–2010, coming close to the targeted 20%. The contribution from structural changes in the economy has been less important during this period compared to the period 1980–2000, and most of the efficiency improvements were achieved through physical reduction in energy consumption per unit of production in industries. The targeted energy intensity reduction for the 12th Five Year plan is 16%, and a new target of 17% reduction in carbon intensity has been added.

13. In brief, the energy efficiency market can be characterized as follows:

- About half a dozen banks involved in energy efficiency
- Focus on ESCOs, narrow offer to large customers and SMEs
- No focus on facility wide energy audits in industry
- Cooperation with multilateral and bilateral agencies focuses on technical assistance rather than financial side
- Opportunity on large energy efficiency financing product developed as part of large project financing
- Opportunity to develop energy efficiency project identification and development service for large customers

India

14. India is one of the major nations with growing energy usage and CO₂eq emissions. In terms of primary energy consumption, industry is the largest consumer – accounting for over 50% of total energy consumption in the country. Indian industries mostly rely on coal, oil and gas for primary energy. Among these, coal dominates. At the same time as being energy intensive, the industrial sector – especially the industrial micro, small and medium sector – plays a vital role in the Indian economy with an estimated 13 million micro, small and medium enterprises, contributing around 45% of manufacturing output, 40% of exports, and employing more than 40 million people.

15. Recognizing the importance of energy efficiency for the industrial sector, the Government of India and various state governments have taken a number of policy measures to promote the adoption of energy efficiency. Most notable is the June 2008 ‘National Action Plan on Climate Change’ (NAPCC), which outlines steps that will be taken to address both development and climate-related objectives. It is being implemented through eight National Missions, one of which is the ‘National Mission for Enhanced Energy Efficiency’. This Mission specifically focuses on enhanced energy efficiency, and attaches importance to the development and use of new technologies.

16. A number of other donor agencies are currently engaged in or initiating new programs in India that include substantial emphasis on financing EE projects. These include:

- USAID "Program to Accelerate Clean Energy Deployment", a \$20 million, five-year program that includes a major task on innovative financing of EE projects.
- The World Bank, in addition to its project with the Global Environmental Facility (GEF) on scaling up implementation of EE projects in SMEs, is initiating several major programs related to financing EE, including the establishment of a partial credit guarantee

facility.

- KfW Bankengruppe established an EE credit line with SIDBI and is exploring additional financing initiatives, including a TA program to help Energy Efficiency Services Limited develop innovative mechanisms for financing and implementing EE projects.

17. The government is also putting in place other financial mechanisms including:

- Bureau of Energy Efficiency (BEE) Partial Risk Guarantee Fund
- BEE Venture Capital Fund for Energy Efficiency
- Clean Technology Fund Investment Plan for India

18. In brief, the energy efficiency market can be characterized as follows:

- Limited Energy Efficiency financing activity by banks in India either through specialised banks or through specialised departments, i.e. Energy Efficiency not mainstreamed
- Most activity is in SME energy efficiency through Small Industries Development Bank of India (SIDBI) with multilateral and bilateral support
- There is a need to build capacity to identify EE investment opportunity in industry and a need to build scale
- There is potential to build on existing credit lines to scale up

Brazil

19. Total primary energy consumption was 281 million tons of oil equivalent (TOE) in 2012, with an increase of 4% from 2011, and an average increase of 3.4% per year since 2000. On the demand side, the overall energy intensity of Brazil's economy increased by 3% from 2011 to 2012. Overall, energy consumption per unit of gross domestic product (GDP) is increasing as are GHG emissions per unit of GDP (albeit from a low base given the high level of hydroelectricity in energy supply). As a result of economic expansion, industrialization and growing urbanization during the 1970- 2000 period, Brazil's power sector grew fast. Within overall energy supply, electricity went up from 19 to 41%, the use of firewood, charcoal and sugar-cane bagasse dropped significantly (from 40 to 20%), and oil by-products use declined from 38 to 32%. Presently, electric energy use is growing at a rate of 3.5 % per year. To meet power demand, while simultaneously avoiding pollution-related impacts, the Government of Brazil is following a three-prong approach: a) introducing wide power sector reforms, including pricing and regulations, to enhance competition and private sector participation; b) encouraging energy efficiency and energy conservation measures; and, c) encouraging the demonstration and deployment of renewable energy technologies.

20. In the medium and long term there are clear prospects of electric power consumption growth based on a) projected population growth (from 167 million inhabitants in the year 2000 to nearly 200 million inhabitants in 2015), and b) ongoing economic expansion. The forecast from 2000 to 2015 suggests that electric power consumption will outpace growth in GDP.

21. The government of Brazil has been actively promoting EE activities for the last two decades. However, despite various initiatives and efforts to stimulate the market to improve energy efficiency, there remain significant barriers to implementing such measures that involve both marketing to consumers and financing.

22. While little attention has been given to industrial energy efficiency efforts are underway to address barriers in the energy efficiency market for buildings in Brazil, through the recent launch (October 2013) of the GEF-supported The Energy Efficiency Guarantee Mechanism (EEGM), which aims to address the lack of specific financing mechanisms and related expertise. The EEGM, an initiative of the Inter-American Development Bank (IDB), together with UNDP, applies to energy efficiency projects where the energy savings are guaranteed by an energy service company under an energy efficiency contract with its client. The sum of those savings must be higher than the incremental cost of implementing the energy

efficiency project. Only proven methodologies and technologies are eligible to receive partial (up to 83% of the contract value up to \$800,000) Real-denominated credit guarantees - of two types - Technical Risk Guarantee covering default due to technical reasons, and a Comprehensive Risk Guarantee covering defaults due to technical and financial creditworthiness reasons.

23. In brief, the energy efficiency market can be characterized as follows:

- Energy efficiency financing lagging behind growth of renewable energy financing
- Utilities based energy efficiency activity via ESCOs
- Limited range of instruments for energy efficiency financing including partial guarantee instrument supported by Inter-American Development Bank
- Some training of banks but delinked from financing
- Interest by Brazilian National Development Bank to develop energy efficiency activity as reflected in recent MOU signed with EBRD

EBRD's Energy Audit Programme and Sustainable Energy Financing Facilities (SEFFs)

24. Since this project aims to replicate EBRD's successful, proven financing facility approach outside the EBRD's traditional region of operation, EBRD experience contributes to the project baseline.

25. EBRD's Sustainable Energy Initiative (SEI) clearly shows the scale of energy efficiency financing and impact which can be achieved. EBRD launched the SEI in 2006 to scale up its investments in energy efficiency and renewable energy. From launch to the end of 2013, cumulative EBRD SEI investment reached \$17 billion in 756 projects, of which \$14.4 billion are in energy efficiency. SEI investment accounted for 28% of total EBRD investment in 2013. Cumulative carbon emission reduction from these energy efficiency projects is estimated at 54 million tonnes per year.

26. As part of its operational approach, the EBRD offers energy auditing services to clients during the evaluation of loan applications from most industrial and commercial users, particularly energy producers and high volume energy users, regardless of the purpose of the original loan request. As customers have already approached the EBRD seeking a loan, no dedicated outreach effort is required and creditworthiness is evaluated as part of the original loan process. The audit is provided at no cost to the client, but includes a mandatory involvement of the client's engineer or plant manager to create local ownership of the eventual project. EBRD and the client's engineer or plant manager present the potential savings to the client's CEO or CFO before negotiations on the original loan are concluded, giving the customer the option of including energy efficiency investment to the loan. Approximately 60 percent of companies implement the suggested energy efficiency measures.

27. As part of the SEI, the EBRD has also developed a network of energy efficiency financing banks - through the creation of Sustainable Energy Finance Facilities (SEFFs). With the express aim of building knowledge and confidence among all parties, SEFFs provide financial institutions and clients with expert guidance in designing lending products and assessing opportunities to turn sustainable energy projects into sound investments. The network currently includes 80 banks in 20 countries with a cumulative commitment of US\$ 3 billion. These banks have financed to date over 55,000 loans for industrial and residential energy efficiency which are expected to lead to estimated energy savings of 11TWh.

28. In building this network, the EBRD has developed a specific set of skills and experience to:

- integrate energy efficiency financing as a component of the business strategy of local commercial banks;
- launch effective energy audit programmes driving the build-up of a pipeline of

financeable energy efficiency projects;

- define credit analysis methodologies to assess energy efficiency investments within each bank;
- build capacity within each bank to analyse energy efficiency projects;
- where relevant, blend effectively concessional funding with private financing particularly for SME and residential energy efficiency;
- develop local consultancy capacity to carry out effective energy audits including financial analysis; and
- set up MRV system to monitor and evaluate energy savings resulting from energy efficiency investments.

29. Each SEFF establishes an Implementation Team, comprising carefully selected local and international experts, to provide direct support in building capacity at financial institutions and with their clients. The Implementation Team works with banks and clients to identify solutions and assess feasibility, thereby increasing the acceptance rate of loan applications. Once a loan is disbursed, the Implementation Team also steers implementation and provides project monitoring services to maximise energy savings.

30. The key elements of the SEFF project structure is show diagrammatically below:

Figure 2: Diagram showing EBRD's generic SEFF model

3) The proposed alternative scenario, with a brief description of expected outcomes and components of the Project

31. To address the market opportunities and challenges outlined in A1.1 above, the Global Energy Efficiency Financing Facility (GE2F2) will aim to deploy up to USD 5 billion in energy efficiency private sector financing for large energy intensive industries and SMEs through the active use of energy audits and the translation of technical energy savings potential into financial action. This will be achieved by developing the energy efficiency financing capacity of local banks and by providing energy audits to large energy intensive companies and SMEs, building on EBRD's demonstrated experience and results achieved in sustainable energy financing in its region of operations which includes Central and Eastern Europe and the Southern and Eastern Mediterranean regions. GE2F2 will provide financing to local banks in the form of credit lines for on-lending and, potentially directly lend to large energy intensive companies. International and local participation in the fund will be pursued as part of the implementation of the current project.

32. The scope of the GE2F2 will be global based on the participation of local and international financial institutions, industries and their associations and other market players. The involvement of stakeholders with significant experience in the focus countries is crucial to the success of the Fund and will be pursued throughout the proposed preparation activities. In particular stakeholder consultation workshops, co-hosted by the Asian Development Bank and the Inter-American Development Bank, and involving other global and local financial institutions will be held in each country, and will result in a signed Aide Memoire outlining the plan of action, and ensuring formal buy-in from governments and financial institutions. The GE2F2 will build on the EBRD activity through its network of local energy efficiency financing banks in its region of operations and expand its application initially to a set of large, high energy intensity, high carbon intensity countries, namely China, India and Brazil and then to a subsequent set of countries supporting a global scale of intervention.

33. The GE2F2 is being developed in two initial phases as shown in the diagram below:

- a. short term support for design and development of financing strategies and mechanisms

and launch of the facility which is the subject of the present proposal;

b. deployment of the facility including funding of Technical Assistance activities such as energy audits at a country level involving major business, financial and technical actors in each country potentially through GEF-6 projects, which would require endorsement by local GEF focal points, potentially under a GEF programmatic framework.

34. Following successful deployment in the initial countries the facility could then be expanded to a third set of countries. The speed and scope of implementation would depend on the availability of funding for the energy audits and technical assistance, and on the range of partners mobilised by the intervention in each country.

Figure 3. Project deployment

Note*: Decisions on GEF-6 pipelines are dependent on priorities of the countries in question and those of the relevant GEF implementing agencies. Inclusion of the idea that deployment may include GEF-6 funding does not imply that this has or will be agreed. Consultation and agreement on these and other funding strategies will be pursued throughout the project but particularly under output 2, and depend on decisions of the stakeholders in question.

35. In the deployment phase, the GE2F2 objective is to reduce fossil fuel consumption and associated GHG emissions by facilitating financing of energy efficiency projects in industry, commercial and utility sectors. The facility will aim to engage with 130 banks by year 3, undertake 1750 energy audits over 3 years, and result in energy savings of \$1.4 billion per year by the end of year 3 leading to GHG reductions of 11 million tonnes per year by end year 3.

36. The objective of the preparatory phase of the project is to develop strategies and deployment mechanisms for the Global Energy Efficiency Financing Facility initiative in China, India and Brazil.

37. The Project consists of one component focused on the design and development of financing strategies and mechanisms for the Global Energy Efficiency Financing Facility. The component consists of three outputs:

- Output 1 – Market studies for China, India and Brazil completed;
- Output 2 – Strategy and deployment plan developed; and
- Output 3 – Banking product developed.

38. These outputs are described in more detail below.

Output 1 – Market studies for China, India and Brazil completed

39. Early assessment of potential markets is important when developing energy efficiency delivery programmes because different markets require different approaches. Selection of market segments for concentration will define organizational arrangements for technical work and the types of financial products to be developed. In addition, different stakeholders may have very different interests in market development strategies: one bank may be interested primarily in developing new small and medium-size enterprise (SME) clients, while another may be primarily interested in providing new services to existing large commercial customers. The purpose of this analysis is to provide sufficient information to ensure that the project strategy takes into account the critical features energy efficiency market.

40. Output 1 consists of assessments of the current situation in China, India and Brazil

regarding energy efficiency in the industrial, commercial and utility sectors, including:

- review of the relevant legislation, including analysis of financial and economic incentives/disincentives (including subsidies and special taxation regimes) that are relevant to investment in energy efficiency;
- examination of current energy efficiency financing activities, and identification of specific opportunities and scope for growth in each target market;
- stakeholder analysis to identify key stakeholders, including identifying and securing buy-in from suitable partners, especially international financial institutions and local financial intermediaries. Assessment of experience to date and specific scope for growth potential;
- review of barriers to energy efficiency investments and provide recommendations for overcoming those barriers on various levels (legal, institutional, fiscal, financial, behavioural, awareness, etc.) to enable optimal structures for market-based financing mechanisms that can work on sustainable bases.
- SWOT analysis and gap analysis;
- market sector mapping across four dimensions including macro environment, energy demand and use, technology, and industry, including profile of the target market, market segmentation, size and characteristics / needs;
- financial viability (IRR, NPV) of typical energy efficiency measures in key market segments, using current energy prices and economic incentives/disincentives as well as the impact of potential energy price and economic incentives/disincentives changes on the profitability of such investments;
- an estimation of the needs for technical assistance to support the financing facility including industry, government, and local financial institutions to design and extend energy efficiency loans etc.;
- potential funding sources for audits and technical assistance to banks;
- previous experience with similar programmes and lessons learned (a review of the relevant financing schemes/programmes launched and/or implemented to date).

41. These activities will result in enhanced understanding of market characteristics, allowing successful projects strategies and deployment plans to be developed.

Output 2 – Strategy and deployment plan developed

42. Output 2 will build on the results of the market studies prepared in Output 1, and make use of that analysis to develop a strategy and deployment plan for the Facility in China, India and Brazil. Output 1 gives particular attention to the learning of lessons from prior energy efficiency financing in the focus countries, and output 2 ensures that these lessons are incorporated into the country strategies of GE2F2, and secures local and international buy-in.

Activities include:

- stakeholder analysis at a global level to ensure coordination with other relevant actors in the market globally. This work will include identifying suitable global partners and ensuring coordination and collaboration where this may offer synergies and operational efficiencies. Stakeholders involved include other multilateral and bilateral development banks and agencies;
- definition of general approach to local financial intermediaries and larger industrial companies based on EBRD energy efficiency financing experience;
- definition of country-specific approaches connecting main actors active in those markets such as local banks. The approach will include marketing of approach, country event and workshops. Identify local organisations to drive direct activity with large energy-intensive industries.
- definition of the rationale and strategic objectives justifying the financing of energy efficiency investments including environmental, economic and social effects as a result of

financing investments;

- determination of financial and economic costs and benefits of energy efficiency investments in the market;
- identification and description of possible mechanisms (institutional and financial) to implement the investments (such as a combination of commercial loan and capital grants, etc.);
- comparative analysis of minimum two (established vs. innovative) financing options per country and justification of the optimal option to be selected;
- detailed design and cost-benefit analysis of the selected financial model;
- detailed description of the investment scheme including:
 - i. an indicative list of activities, eligible expenditures and identification of criteria;
 - ii. target areas and potential beneficiaries;
 - iii. the institutional mechanisms and the implementation arrangements;
- identification of potential sources for financing of energy efficiency projects and potential funding sources for audits and technical assistance to banks.
- In each country, 1-day workshops co-hosted by the Asian Development Bank (China and India), and the Inter-American Development Bank (Brazil) will be held to secure formal buy-in to subsequent development of the Financing Facility. Each workshop will include key stakeholders such as governments (and GEF National Focal Points) and global, regional and local banking actors, and result in a signed Aide-Memoire on the deployment phases of GE2F2.

43. These activities will result in clear financing strategies for the facilities operations in each country, and a deployment plan for further specification under output 3.

Output 3 – Banking product developed

44. Once target markets are defined and strategies have been developed, covered in Outputs 1 and 2, market outreach and marketing of project concepts needs to be conducted, followed by detailed banking product development. If Outputs 1 and 2 show that the financing facility is not feasible in one of the countries, then activities under output 3 will be limited to those that are beneficial to advance energy efficiency financing in the country in question. Local expertise and country level partners will be engaged to ensure relevance, and who will have the capacity to carry the country projects forward if approved. Activities include:

- creating roster of technical specialist at region/country level;
- banking product development including setting up:
 - i. internal procedures
 - ii. integration of energy efficiency profitability analysis in credit assessment
 - iii. initial training of local staff in participating banks
 - iv. outreach and origination of energy efficiency project pipeline
- development of recommendations on applicable procurement procedures in accordance with the relevant country legislation and preparation of procurement guidelines for the facility;
- development of the monitoring and evaluating plan to track facility results and developing a list of relevant technical, environmental and financial performance indicators for use in monitoring the progress of implementation;
- development of methodologies to calculating the energy savings and CO2 emissions reductions realised by the portfolio of projects for reporting purposes;
- outline of a capacity building and training strategy with the view to build preparedness for the implementation of the scheme.

45. As a result of the above activities the GE2F2 initiative will be ready to launch in China,

India and Brazil.

4) Incremental/additional cost reasoning and the expected contributions from the baseline, the GEFTF, LDCE/SCCF and co-financing

46. Baseline developments involve the continued and acute need for access to investment products that are tailored to the market. Commercial financing and investments achieved in the sector are likely to remain small and initiatives to improve the situation piecemeal. There is limited indication of shifts taking place in the absence of the Project – e.g. related to the emergence of innovative business concepts and best practices – without targeted intervention in the sector. The application of EBRD's experience to these markets is intended to accelerate the market substantially and achieve a significant ? within a limited time period.

47. In the baseline, investments in energy efficiency projects will take place. While this baseline reflects favourably the work that has already been done by national governments and multilateral organizations, there is a risk that the business-as-usual approach will not ensure the comprehensiveness, sustainability and replicability within the timelines given in this Project. In short, this project will help to accelerate the adoption of energy efficiency and GHG emission reductions.

48. The existing experience of the EBRD is counted as baseline cofinancing since it is essential for the success of this project. The estimates of value are taken as 5% of all Technical Assistance provided under the SEFFs. It should be noted that, beyond cofinancing in investment and in-kind, the proposed project significantly benefits from the EBRD's reputation and influence, as well as its strong network of existing contacts.

5) Global environmental benefits (GEFTF, NPIF) and/or adaptation benefits (LDCE/SCCF)

49. The deployment phase of the Global Energy Efficiency Financing Facility has an estimated energy savings of USD 1.4 billion per year by end year 3 and GHG reductions of 11 million tonnes per year by end year 3. These estimates have been based on the following assumptions: five audits per FI, based on EBRD experience, average investment through local banks per audit of \$1 million, 3 year payback meaning annual savings potential of \$0.3 million per audit, for direct industrial EE, average investment per audit of \$19 million. These emission reductions are top-down indirect emission reductions for the current GEF project.

6) Innovativeness, sustainability and potential for scaling up

50. This Project will develop and implement an innovative type of financial product and provision of long-term funding that is currently absent in the sector. The existing offer is dominated by government programmes implemented through state controlled banks that normally target large one-off projects.

51. The GE2F2 through its incremental financing amount would leverage resources and client networks of local banks with the aim to develop and launch “green” loans on the Chinese, Indian and Brazilian markets. This will improve availability of financial and technical resources to support investments in emission reductions and energy savings. Furthermore, through its operations, the GE2F2 will demonstrate to businesses the benefits of energy savings and emission reductions, as well as promote adoption of the best available technologies.

52. The Facility's market transformation strategy is based on the removal of multiple barriers to accelerate the adoption of energy efficiency investments by businesses. Sustainability of results will in part be achieved by the enhanced capacity of banks to lend. Local experts will increasingly be able to deal with energy efficiency projects, equipment suppliers will increasingly enter the market and competitive market conditions will be created. The expected outcome is that local banks will be able to recognize the business case for sustainable lending and - once the awareness, knowledge, suppliers and a competitive market are in place - normal commercial lending will be accessible for energy efficiency initiatives.

A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

53. There are a range of stakeholders that are affected and could benefit from the Project. The EBRD will consider the most effective and efficient ways of consulting and involving stakeholders that are responsive to local needs and consistent with the Project's opportunities and constraints. Key stakeholders include:

- Local banks and industrial associations at country level
- The Brazilian National Development Bank (BNDES), Brazil, with whom the EBRD has signed an MOU to collaborate, amongst other things, on energy efficiency
- China Banking Regulatory Commission CBRC, China
- Bureau of Energy Efficiency (BEE), India. BEE is responsible at the national level for implementing the NMEEE. The state level implementation of NMEEE is being done through State Designated Agencies (SDAs) which will also be key stakeholders under the present project
- International organisations promoting Energy Efficiency in industry
- Multilateral Development Banks based on country coverage and experience, in particular the Asian Development Bank and the Inter-American Development Bank.

A.3 Risk. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

54. The following table summarizes the assessment of potential risks that could affect Project implementation. The potential impact of all risks on Project implementation will be reviewed during Project inception and on an ongoing basis.

Risk Mitigation approach

Political risk (i.e., low government commitment to energy efficiency in industry) This is a low risk. All three governments have made a significant policy and legislative commitment to energy efficiency over the past decade.

Market risks This is a medium risk at the deployment stage of the project. During project preparation the markets will be assessed and market sectors identified in such a way as to minimize this risk.

Technology risk This is a low risk. The technologies to be used are all available and proven. The barriers to market entry lie elsewhere.

Financial risk This is a low risk during project preparation, and a moderate risk that will be mitigated by conditionalities of the Facility's approach and thorough transaction support as a component of project implementation. A risk management strategy will be prepared as part of the process of developing the Facility. Creditworthiness of participating banks will be assessed on a case-by-case basis. It is expected that the majority of candidate banks, at least at the initial stage, will be partner banks with strong track record and good financial performance.

Climate risk This is a low risk. Modernized facilities will be better able to withstand extreme weather, reduced water use will respond to projected reductions in precipitation, improved management will allow for the increased diversification of the resource supply chain, and lower-carbon production will make enterprises less vulnerable to the potential impacts of stricter government regulation and consumer preferences for lower-carbon products over time.

Implementation Risk This is a low risk. The current project will build on experience that EBRD has in its region of operation. Implementation risk will be mitigated by close cooperation with in-country partners in participating enterprises and in key ministries.

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

55. This Project will be implemented and managed by the EBRD who will provide overall management and coordination. Leading sector and country organisations such as the Institute of Industrial Productivity (IIP) will provide support for the global project development and will coordinate work in China and India. Specialised consultants to set-up energy efficiency banking product in each country. Regular consultation and coordination will take place with other IFIs such as the Asian Development Bank and the Inter-American Development Bank, and, in the subsequent deployment phase these agencies are expected to lead the country-level projects that are forthcoming.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAs, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.:

China

56. The project is also in line with the plans and recommendations set out in China's national communications to the UNFCCC. The 2nd National Communication includes industrial energy efficiency among the key energy conservation projects during the 12th Five Year Plan. This plan, covering 2011–2015, several targets have been set interim targets to achieve a pledge made in COP 15 to reduce its carbon intensity by 40%–45% by 2020, compared to 2005. These include targets for reduction in carbon intensity by 17% and energy intensity by 16% to be achieved by 2015 compared 2010. The key energy efficiency improvement programs under the 12th Five Year plan include promoting structural changes in the overall economy and in the industrial sector through (a) suppressing the growth in energy-intensive industrial sectors, (b) phasing out obsolete and inefficient production capacity, (c) upgrading the energy efficiency of the remaining industries through replacing inefficient equipment and industrial processes, (d) ensuring that the new industrial capacity uses efficient industrial technologies, (e) increasing the share of renewable energy and clean energy in the energy supply mix, and (f) accelerating the growth in the service sector and new industries with high value-addition and low energy intensity.

India

57. The project is fully consistent with India's national communications to the UNFCCC, as well as India's National Action Plan on Climate Change (NAPCC), which is a nation-wide framework for low carbon and a climate resilient future. The NAPCC outlines steps that will be taken to address both development and climate-related objectives in keeping with regional and global priorities in reducing fossil fuel consumption and GHG emissions. The project objectives are also fully in line with the 'National Mission for Enhanced Energy Efficiency' (NMEEE) – one of the eight Missions under the NAPCC – which lays emphasis on the need to develop and demonstrate energy-efficient technologies in the sector.

Brazil

58. The Government of Brazil is committed to addressing the challenges presented by climate change. Brazil adopted a National Plan on Climate Change in December 2008, which defines actions and measures aimed at mitigation and adaptation to climate change, and enacted Federal Law No. 12,144 of 9 December 2009, which launched the Brazilian Climate Change Fund in order to financially support mitigation and adaptation action with resources from the oil royalties. The law creates a supportive environment for Federal, State and Local

Governments actions on Climate Change. In this context, the Government has established a national voluntary commitment of reducing Brazil's GHG emissions by 36.1% - 38.9% by 2020, compared to a business as usual (BAU) scenario, with emission reductions from energy efficiency contributing 12 to 15 million tonnes of CO2 eq in 2020 to the country's targets. According to Brazil's second National Communication to the UNFCCC (2010), industry is the second largest contributor to the country's carbon dioxide emissions from the energy sector (24% in 2005).

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

59. The project supports the GEF-5 strategic objective CCM-2 (Promotion of market transformation for energy efficiency in industry and the building sectors) under the climate change mitigation focal area of the GEF, through promoting the deployment and diffusion of energy-efficient technologies and practices in industrial production and manufacturing processes, commercial and infrastructure projects.

60. The project is also consistent with strategic objective CCM-1 on technical demonstration, deployment and transfer.

B.3 The GEF Agency's comparative advantage for implementing this project:

61. In accordance with its mandate – to nurture a new private sector in a democratic environment through environmentally sound and sustainable project financing – the EBRD is making significant investments supporting transition processes in its Region of Operation. As stated in GEF/C.31/5 (May 2007, Comparative Advantages of the GEF Agencies), the EBRD has considerable experience and a track record of success in market creation and transformation and ensuring sustainability through private sector involvement. The proposed Project is fully in line with the EBRD's Sustainable Resource Initiative (SRI), an umbrella initiative that builds on the EBRD's Sustainable Energy Initiative (SEI), in three areas vital for the EBRD's countries of operations: energy, water and materials.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Marta Simonetti			Andreas Biermann	+442073387358	BiermanA@ebrd.com

Energy and carbon intensity of China, India and Brazil compared to 7 largest energy consumers & EU

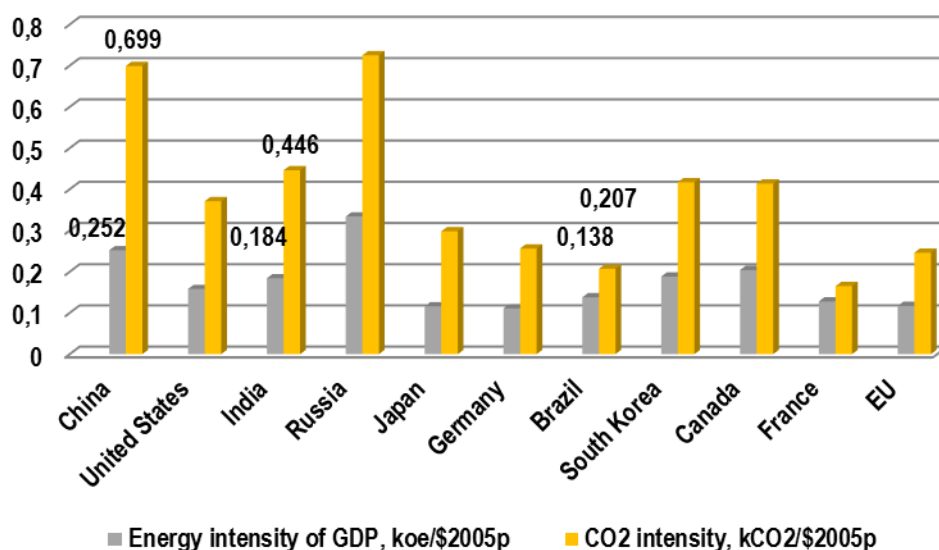


Figure 1: Energy and Carbon intensities (source: Enerdata Energy Statistical Yearbook 2013)

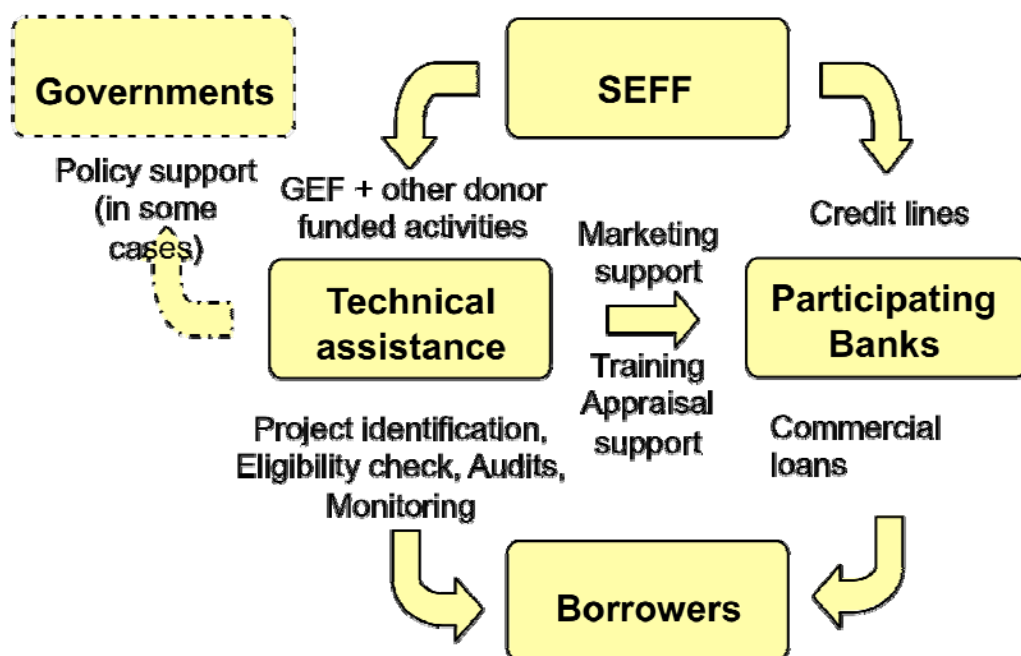


Figure 2: Diagram showing EBRD's generic SEFF model

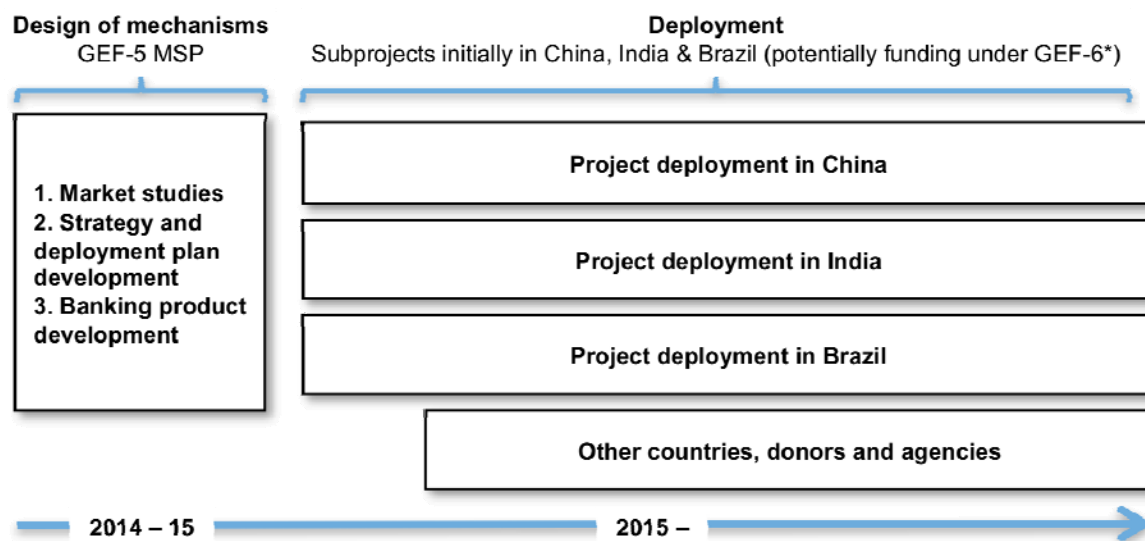


Figure 3. Project deployment

Note: Decisions on GEF-6 pipelines are dependent on priorities of the countries in question and those of the relevant GEF implementing agencies. Inclusion of the idea that deployment may include GEF-6 funding does not imply that this has or will be agreed. Consultation and agreement on these and other funding strategies will be pursued throughout the project but particularly under output 2, and depend on decisions of the stakeholders in question.*

SECTION A.3 RISKS

Risk	Mitigation approach
Political risk (i.e., low government commitment to energy efficiency in industry)	This is a <i>low risk</i> . All three governments have made a significant policy and legislative commitment to energy efficiency over the past decade.
Market risks	This is a <i>medium risk</i> at the deployment stage of the project. During project preparation the markets will be assessed and market sectors identified in such a

	way as to minimize this risk.
Technology risk	This is a <i>low risk</i> . The technologies to be used are all available and proven. The barriers to market entry lie elsewhere.
Financial risk	This is a <i>low risk</i> during project preparation, and a <i>moderate risk</i> that will be mitigated by conditionalities of the Facility's approach and thorough transaction support as a component of project implementation. A risk management strategy will be prepared as part of the process of developing the Facility. Creditworthiness of participating banks will be assessed on a case-by-case basis. It is expected that the majority of candidate banks, at least at the initial stage, will be partner banks with strong track record and good financial performance.
Climate risk	This is a <i>low risk</i> . Modernized facilities will be better able to withstand extreme weather, reduced water use will respond to projected reductions in precipitation, improved management will allow for the increased diversification of the resource supply chain, and lower-carbon production will make enterprises less vulnerable to the potential impacts of stricter government regulation and consumer preferences for lower-carbon products over time.
Implementation Risk	This is a <i>low risk</i> . The current project will build on experience that EBRD has in its region of operation. Implementation risk will be mitigated by close cooperation with in-country partners in participating enterprises and in key ministries.