

*Development of Financial Intermediation Mechanisms for  
Energy Efficiency Investments in Developing Countries*

Under the World Bank/ UN Foundation-UNEP Technical Assistance Project

**Designing Financial Structures and Financing  
Instruments for Energy Efficiency Projects in India**

**REPORT**

**October 31, 2004**



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## EXECUTIVE SUMMARY

1. **Limited options for EE Project financing:** For Indian Lenders, financing Energy Efficiency Projects ("EE Projects") presents a promising business opportunity which they have not tapped so far because they are unfamiliar with the EE Industry and require capacity building support to gain confidence.
2. **Barriers to financing:** Although an EE Project loan is like any other, Lenders have special business and financial concerns which need to be addressed:
  - Although different projects and customers call for varied approaches to financing, minimum technical and commercial safeguards have to be incorporated in business models and contracts for EE Projects
  - Lending to certain EE Projects, especially those involving Small & Medium Enterprises ("SMEs"), Government and Energy Service Companies ("ESCOs"), is perceived to have relatively high risks
  - Tools for appraising EE Projects need to be developed within the framework of existing bank policy
3. **Improving access to credit:** It is relatively difficult for EE Projects involving SMEs, ESCOs and Government to obtain financing because of their limited financial creditworthiness, and liberalization in terms of lending is essential.
4. **Strengthening financial capacity of ESCOs:** ESCOs have to capitalize themselves, either through their own resources or private equity, and put in higher financial commitments into their Projects
5. **Technical Support:** To increase the confidence of Lenders, their technical competencies have to be built up to appraise the projects, analyse special risks. An interim Technical Secretariat, Bureau of Energy Efficiency ("BEE") a Self-Regulatory Body of the EE Industry can help address knowledge gaps.
6. **Risk Mitigation:** Technical failure to achieve energy savings and performance failure by Energy Auditors, Consultants and ESCOs are perceived to be big risks that need to be mitigated by the following:
  - Conducting due diligence of EE Projects
  - Devising sound payment structures
  - Providing a Credit Guarantee Facility and other market-driven risk mitigation mechanisms like insurance

7. **Design of Loan Product:** The existing loan products are adequate to address the financing needs of EE Projects, with suitable modification in terms of lending and inbuilt contractual and payment safeguards.
8. **Form of intervention:** Beyond a credit-enhancement support mechanism in the form of a Credit Guarantee Facility, there does not appear to be a need for any financial incentives to catalyse lending to EE Projects. However, Lenders' personnel need to be sensitized to EE financing to increase their confidence and awareness.
9. **Structuring of loan repayments:** It is possible to structure EE Projects as stand-alone financial structures that may be financed by any Lender as long as security related matters are resolved. Lenders are familiar with these payment structures that enable them to take control over the cash flows accruing to the borrower, and have ample past experience with Trust & Retention Account structures and use of credit enhancement tools such as over-collateralisation. A sound payment structure should be devised such that:
  - Credit risk is shared between the Project Sponsor and ESCO
  - Cash flows are dedicated for debt servicing through Escrow Account and similar mechanisms
  - Lenders are guaranteed repayments, regardless of performance of EE Project
10. **Credit Guarantee Facility** will mitigate special risks of lending to EE Projects to the extent of 75% and for a period of 3 years; eligible EE Projects will comply with stipulations on investment size and contractual terms to qualify for guarantee cover.
11. **Legal Concerns:** Energy Services Agreements should protect interests of Lenders and provide solutions to resolving technical and commercial issues. Existing legal documentation and protocols will remain substantially unchanged barring some customization. However, lending for EE Projects also calls for legal attention to certain special security-related problems such as sharing of ownership of project assets and segregating of cash flows.
12. **General initiatives required:**
  - Seek classification of EE Project loans as *priority sector* loans by RBI
  - Examine prospects for bundling carbon credits of EE Projects financed by Lenders

### 13. Plan of Action:

- Formulate guidelines for appraisal of EE Projects<sup>1</sup>
- Lending schemes to be formulated by Lenders as per design parameters
- Establish the Credit Guarantee Facility
- Participating Lenders to examine existing legal documentation and security structures for customization for EE Project financing
- Recommend standard format for *Energy Services Agreement*
- Establish the Interim Technical Secretariat
- Develop knowledge tools
- Sensitise Lenders' personnel to EE technologies and EE Projects
- Circulate a list of Energy Auditors, Consultants and ESCOs to Lenders
- Seek participation by more Lenders in EE financing initiative
- Coordinate with BEE for technical inputs
- Represent to the Government need for changing procurement procedures
- Present case for special insurance products to the insurance industry
- Present the investment story for EE Industry to private equity players
- Small Industries Development Bank of India ("SIDBI") to examine prospects for investing in EE industry through its own private equity funds
- Present case to Reserve Bank of India for classifying EE Project loans as *priority sector* lending
- Study issues involved in bundling of EE Projects for trading in Carbon Emission Credits under the Clean Development Mechanism
- Facilitate the establishment of a Self-Regulatory Body for the EE Industry

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<sup>1</sup> Appraisal Manual prepared by ICRA Advisory Services

# TERMS OF REFERENCE

**1. Background:** The World Bank is executing the Technical Assistance (TA) project “Development of Financial Intermediation Mechanisms for Energy Efficiency Investments in Developing Countries specifically viz. Brazil, China and India”. The project funded by UN Foundation (UNF) through UN Environment Programme (UNEP) aims to reduce greenhouse gas emissions by catalysing a substantial increase in energy efficiency investments in these countries. The TA project consists of two phases, first is the preparation of a report containing an action plan to achieve the objectives of the project and second is the implementation of the Action Plan.

One of the desired outcomes of the TA is the greater involvement of commercial banks in India in financing of EE projects in the country. A significant barrier identified by commercial banks in finance EE projects, is their limitation in designing suitable financial instruments to suit the EE projects including absence of a guarantee fund. Presently, experience in structured financial products in India is limited to leasing arrangements, primarily for transport equipment; and sophisticated financial structures for financing of infrastructure projects.

Following are the key parameters for developing Financial Structures for EE Projects:

- ⇒ *EE projects entail somewhat higher transaction cost (as a percentage of total investment) in comparison to other capital projects*
- ⇒ Such financial structures should be easily replicated from one EE project to another (through minor modifications)
- ⇒ Financial structures designed for EE projects should mitigate risks effectively
- ⇒ The designed structures should provide comfort to lenders regarding repayment

Until recently, funding of for stand-alone EE projects was virtually non-existent – although financial institutions and commercial banks did have schemes for funding of technology upgradation or modernization projects (to reduce costs). Lending specifically for EE projects has been more of an exception; for instance funding of capacitors for installation by industrial consumers of one of the private utilities through a leasing structure and escrow arrangement, lending by IREDA through a GEF Technical Assistance program, and lending by ICICI using the ECO loan fund for selected EE projects (including ESCO, co-generation and DSM projects)

**2. Objectives:** Energy Efficiency projects do not generate additional revenue, but contribute to the bottom-line through reduction of the energy (fuel and electricity) bill. This makes it difficult to identify and trap cash flow from the project – and the absence of suitable mechanisms that address the various risks of EE projects, as well as the lack of suitable experience for structuring such projects are today viewed as significant barriers to EE project financing. The main objective of this assignment therefore is to address these issues to meet the requirements of commercial banks.

### 3. Tasks to be Performed:

The consultant will work closely with the various participating banks, IREDA and SIDBI / TBSE through out this exercise. Among other things, this consultative process will ensure that the financial structures proposed by the consultant are of interest to them and workable. Specific task to be performed include:

- ⇒ To study the existing financial instruments/structuring available with the participating commercial banks (SBI, BOB etc.) and SIDBI / TBSE. The consultant would also study the financial instruments/structuring used by other institutions in India and abroad for financing of EE projects.
- ⇒ To suggest new or modified financial instruments/structuring to meet the requirement of EE project funding – and for each proposed financial structure, prepare suitable documentation that would be useful for the participating banks and SIDBI / TBSE towards taking actionable steps. Among other issues, the documentation for each financial structure should show the type of EE project related risks that can be addressed and how,

the more likely type of projects or clients that can be financed, the various stakeholders in the transaction and the interactions with them, a spread-sheet model that gives how exactly the proposed financial structure works, recommendations / suggestions regarding operationalization etc.

- ⇒ The consultant should work on various types of financial structures, including but not limited to conditional grants, concessional loans, pooled finance, leasing, performance guarantee based, loan against credit guarantee, secured savings etc.
- ⇒ To identify the feasible security options for the financing, which satisfy the concerns of all the stakeholders including Banks/SIDBI, ESCOs and End-Users. Possible collateral securities, securitisation of future cash-flows and any other innovative security options may be covered under this.
- ⇒ The consultant should also providing requisite exposure and training of selected personnel of the participating banks and SIDBI / TBSE. Training would be a very important component of this entire exercise. It is anticipated that after finalization of the financing structures, there will be at least one common training session for all the participating banks/SIDBI for maximum 2 days duration (to be conducted at Delhi or Mumbai) followed by individual training sessions (maximum 6) for dealing officials of each of the participating banks/ SIDBI of maximum 2 days duration to be conducted preferably at head office/ training centres of the banks.
- ⇒ The consultant shall also guide the participating banks/SIDBI to actually apply one or more financing structure developed under this assignment for financing of energy efficiency projects.
- ⇒ Any other tasks related to the above

# APPROACH AND METHODOLOGIES

Crestar Capital India Private Limited, Mumbai, India (“Crestar”) made a presentation to the Core Committee of the *Development of Financial Intermediation Mechanisms for Energy Efficiency Investments in Developing Countries Project* (“World Bank Project”) at New Delhi, India, on March 15, 2004.

It also reviewed the recommendations of various stakeholders at their meeting held at Mumbai, India on December 15, 2003.

An Interim Report dated July 9, 2004, was presented to the Core Committee on August 25, 2004, and discussed thereat. Views from various members were also received and considered in compiling this report. In forming its consultations, Crestar adopted the following approaches and methodologies:

## 1. Consultative Process

- Conducted preliminary and diagnostic consultations with Banks, Industry and other stakeholders and hold joint meetings of stakeholders, wherever necessary

## 2. Research and Strategy

- Identified key financing issues in family of technologies that will be financed
- Studied case studies of EE financing in India
- Studied existing EE financing mechanisms in India and abroad
- Studied relevant credit enhancement mechanisms in India and abroad
- Identified Best international practices that may be adopted
- Interacted with industry and understood technical and financial requirements
- Analysed relevant range of banking asset products & banking practices
- Understood the operational and regulatory framework of banking products
- Studied existing risk management practices from the EE financing viewpoint.

## 3. Design and Structuring of Financial Instruments

- Resolved key areas of concern in product design:
  - Bankability requirements
  - Credit enhancement requirements and available options
  - Feasible security options
  - Replication issues
- Designed appropriate financial structures
  - Examined customization of financial solutions available internationally
  - Identified providers of credit risk enhancement
  - Discussed preliminary proposals with prospective credit risk enhancement providers
  - Evaluated and structured financial support mechanisms in different technological and business situations



- Resolved legal issues relating to structuring
- Evolved documentation framework for the product
- Mitigation of lending risks: Analysed risks and recommended suitable risk mitigation structures and guidelines
- Credit Enhancement: Devised suitable security structures to increase the comfort of lenders and reduce lending risks
- Restructuring and customization of financial solutions: Customised products and parameters to suit specific project or customer requirements
- Structuring of Cash Flows from Projects for credit risk mitigation: Structured financial products, involving escrows and securitization and defined strategies for improvements in credit rating of projects to the level required by lenders
- Replication of Financial Structures: Devised parameters of conventional banking in a manner that it is easily transmitted within the banking system.
  - Permit a project-specific approach within the features of a standardized product
  - Provide scalability in the form of progressively dismantling financial support mechanisms, catalyse lending across a broad base of industries, users and applications and seamlessly integrate it as a regular financial product within the portfolio of the Bank concerned

#### 4. Origination and Execution

- Set project identification criteria for EE projects
- Evolved framework for Technical Appraisal
- Fitted conventional Project Appraisal methodologies for EE financing

#### 5. Documentation

- Built legal framework for the new financial structures

## EXPLANATION OF TERMS IN THE REPORT

**EE Project:** Project for investing in Energy Efficient assets and techniques

**ESCO:** Energy Service Company is the energy management service provider, who also may act as the investor in EE Projects

**ESCO EE Project:** EE Project in which investment is made by ESCO

**Lenders:** Banks and other financial agencies who provide financial assistance to EE Projects in the form of loan, debt, securitisation of receivables or other monies that are repayable during a fixed period of time

**Project Sponsor:** Project Sponsor is the entity in whose facilities the EE Project is established; often, is the investor in the EE Project.

**Escrow Account:** Bank account where earmarked collections are aggregated and paid to the benefit of the beneficiary ESCO and/or Lender

**SME:** Small & Medium Enterprises

**Lakhs:** Unit of Indian Rupee currency that corresponds to 100,000

**Crores:** Unit of Indian Rupee currency that corresponds to 10,000,000

**Value of Indian Rupee:** Present exchange parity for Indian Rupee approximately Rs. 45 to 1 US Dollar

**Government:** In the limited context of being customers for EE Projects, refers to Government directly, local government bodies such as Municipal Corporations and other government-owned institutions

**Credit Guarantee:** Protection against default by borrower in repaying Lender

**Priority Sector lending:** Classification of loans granted for stipulated purposes, under the direction of the central bank Reserve Bank of India, entitled to special status in Indian Banks

**BEE:** Bureau of Energy Efficiency has been constituted as the regulatory body for the EE Industry under the Government of India

**Energy Services Agreement:** Contract between Project Sponsor and energy manager (Energy Auditor/Consultant/ ESCO)

**Shared Savings Model:** Remuneration is based on energy savings achieved

**Performance Guarantee:** Energy manager guarantees that EE Project will achieve stipulated technical performance parameters

**Baseline:** Technical performance at Facilities prior to implementation of EE Project

# PROFILE OF PROSPECTIVE EE PROJECT SPONSORS

## Who will need funds to set up EE Projects?

The big customer segments EE Projects financing:

- Industrial Customers
- Government Customers
- Commercial Buildings
- Energy Service Companies (“ESCOs”)

Each customer segment calls for a **different approach** to business modeling, contracting and financing. Solutions should be embedded in the business structure and the contract. International models cannot work unless suitably customized in the Indian context.

- No one financial product or mechanism can fit the varied financing requirements for EE Projects; however, **common approaches** and **financial mechanisms** are possible, help safeguard Lenders’ monies.

### Industrial Customers

- Consumes 48% of commercial energy, vulnerable to rising energy costs  
..... strong **business motivations** to undertake EE Projects
- Energy savings potential 25%, constitutes the biggest EE customer segment  
.....but EE Projects are **non-core business activity**
- Large companies have financial resources to invest in EE Projects  
.....but Small & Medium Enterprises (“**SMEs**”) need technical and financial support
- EE Projects with long gestations and paybacks unpopular, fears of obsolescence  
..... normally **pay back in less than 3 years**

- Large Project Sponsors opt to fund their EE Projects out of their internal accruals. The **SMEs** are the largest and **fastest-growing** bank of customers for EE Projects who require bank financing.

### Government Customers

- Immense **potential** to save energy costs, especially in Municipal Corporations  
.....by upgrading water pumping and public lighting facilities, and office buildings
- Budgetary constraints, bureaucratic inertia and poor finances affect **bankability**  
.....but earmarking of definite **revenues** comfort Lenders on repayment of their loans
- Open to **privatizing energy management** services through **ESCOs**  
.....for whom the Shared Savings concept a remunerative business model

- The private sector is increasingly managing energy services for Government, especially Municipal Corporations; EE Projects for Government faces political, bureaucratic and **receivable recovery** problems, Lenders need to build in **special safeguards**.

### Commercial Buildings

- Interest in EE Projects for commercial buildings, government offices and hospitals rising .....yet initiatives in this area are yet to take off

- ....probably the least tapped of business opportunities, yet energy savings applications across a wide spectrum of customers in Government and the private sector

### ESCOs

- Increasing **opportunities** for ESCOs in Industrial, Government and Commercial sectors .....but ESCOs are small, poorly capitalized and may have inadequate track records
- Shared Savings business model slowly gaining wide acceptance ..... making ESCO EE Projects **financially attractive**
- Lenders inexperienced in dealings with ESCOs .....but risk-mitigation mechanisms can **reduce** performance and financial **risks**

- Investments in EE Projects and energy management services are progressively being **outsourced to ESCOs** who are taking on higher technical and management risks to earn a larger share of energy savings.

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EE Projects loans are like any other business loan. The EE industry has to gain the confidence of Lenders through capacity building and credit enhancement support to mitigate the special risk perceptions.

# PROFILE OF LENDERS

## Who will fund EE Projects?

### Indian Lenders have wide reach, adequate financial resources, customer base and expertise to support lending to EE Projects

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**Indian Banking industry** reaches out through over **67,000 branches** across the country, 70% of them in rural areas, and is comprised of more than 300 banks, regulated by the central bank Reserve Bank of India.

There are several tiers of financing, specialized lending institutions and schemes:

- **Commercial Banks**, provide general banking services, working capital and project financing, in both urban and rural areas, rely on depositors' monies
- **Regional Rural Banks, Co-operative Banks and credit societies**, who serve specialized sections of society, and at different geographical and economic levels
- **Development finance institutions**, such as IDBI, who lend mostly to long-term projects
- **Specialised banks** for funding infrastructure projects (*such as IDFC*), SMEs (*State Financial Corporations and SIDBI*), high-investment industries (*such as PFC, REC*) and Exim Bank (*for export transactions*), who mobilize funds from Indian/overseas capital markets
- **Apex financing bodies** such as NABARD (*for agriculture*)
- **Foreign banks**, such as Citibank, who focus on wholesale lending to large businesses
- **Credit default guarantee-providers** such as Credit Guarantee Corporation, CGTSI, etc, to mitigate specific lending risks for banks

Indian Banks have strong rural banking networks and lend extensively to “**priority sector**” purposes such as **SME** businesses and agriculture. Reserve Bank of India and the Government of India encourage **incentive-led lending schemes** for special purposes and sections of society.

Although **lending norms are standardized** across banks, they also follow different approaches to lending for different sectors and customers. Banks follow **well-established** appraisal methodologies, security structures and legal documentation.

Popular loan products are **working capital** and **term finance**. Leasing is not popular<sup>2</sup>. Banks lend individually or through consortiums, depending on the quantum of finance required.

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<sup>2</sup> Despite the availability of accelerated depreciation benefits against income tax payable, leasing of assets is not popular in India, and very few Lenders are interested in offering financial support to EE Projects in the form of leasing products.

Prime Lending Rates ('PLR') are around 11%, but most lending is at rates 1-2% above PLR. Interest rates have come down from 17-20% 5 years ago. Lending to priority sector at lower rates of interest is encouraged.

The major source of funds for Indian banks are deposit-customers, and banks are currently **well-endowed with funds**, and do not require to borrow in India or abroad.

Credit defaults are subject to strict provisioning in accordance with international bad debt norms, and **guarantee covers** can catalyse lending in new areas of business.

**Reluctance to lend to unfamiliar businesses:** Conventionally, most Banks refrain from lending for **non-conventional** purposes. For example, most Banks lend a large part of their funds for only working capital financing. Development Finance Institutions were focused on long-term lending for projects, and some banks such as IREDA support the non-conventional energy sector. Theoretically, banks can lend to any business, but in reality, did not for a variety of reasons:

- Perceptions of high risk
- Unfamiliarity with technologies and businesses
- Lack of policy guidance

**EE Projects are non-conventional lending:** Further, the mainstay lending products are working capital finance – *lending to sustain the working capital cycle* – and project finance *to build fresh production capacity*. Lending for projects to improve business efficiency and increase productivity is not common. EE is a relatively new concept in Indian industry and there are significant knowledge gaps about the feasibility of EE financing. Lenders perceive EE Projects to be technologically risky yielding uncertain results and conceived by energy auditors, consultants and ESCOs whose technical and financial competencies they are not sure of.

▪ Despite having the financial resources, networks, customer relationships, specialized financial products and knowledge base, Indian Lenders may yet need **guidance and support** in diversifying into new areas of financing they are **unfamiliar** with.

**Criteria for designing EE financing products:** Nevertheless, there do not appear to be any major roadblocks to promoting EE Project financing initiatives in India, although designing any new financial product for the purpose needs to follow certain philosophies:

- *Fit within conventional banking policy, systems & methodologies*

Indian Lenders have well-established systems for risk analysis, mitigation and lending. Any new lending programme should dovetail into the **existing banking policy and procedural framework**.

- *Be capable of being scaled up, replicated & decentralised*

Keeping in view the vastness of the Indian banking network and the business/ lending base, any broad based lending programme has to be designed such that it can be applied across different banks and varied business situations. Centralising decision-making or the knowledge bank will hamper growth of the lending programme. Since most banks follow common policies and procedures, a loan product introduced in one bank should be

**seamlessly replicated** by any other bank in the country with minimal external intervention. This implies that Lender personnel at each one of the branches where EE financing products are available should be sensitized to the various technological, commercial, financial and risk aspects of EE Projects.

- *Facilitate commercialisation of the Loan Schemes*

No business can sustain itself in a sheltered environment, and the same principles have to be applied to any financial product. Each loan product should satisfy the commercial goals of the Lender. Non-conventional product features and short-term incentives, such as subsidized-interest rates and complex financial structures, are inappropriate and cannot **sustain beyond the intervention period**. EE has wide application across customers, big and small, and straddle a broad spectrum of technologies, besides having immense growth potential in the coming years.

▪ To reach out to a broad base of customers across the country and in varied business situations, the EE Project loan product should be compatible with extant business strategy and operations – not only in focus and features but also in methodologies – and information dissemination could be the key to facilitating scale up and replication

- *Classification of loans as Priority Sector loans*

Lenders target to meet several business goals, for example, loans to SMEs. Policy interventions can help channelise and catalyse lending to EE Projects.

- *Focus on specific customers*

Lenders target specific customers, such as SMEs. They are often unfamiliar with or uncomfortable with doing business with, say, Municipal Corporations who normally rely on their own revenues and seldom borrow for their investments and operations from Banks. A significant chunk of EE business opportunities originate in Government which is handicapped from raising finances on its own and relies on ESCOs to bring in funds.

- *Technical support and ensuring continuity of Good Practices*

Specialised loan products require both information and technical support on a continual basis, not only to originate and administer loans, but also to ensure that Good Practices are followed through the tenure of the Loan.

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**Lending to EE Projects is just one more remunerative business opportunity for Indian Banks provided they are able to adapt their existing financial products within their current competencies and policy framework.**

# KEY ISSUES IN LENDING FOR EE PROJECTS

## What are the parameters for designing loan products?

### Summary of the Key Issues in Lending:

- **Strengthening Technical Competencies**  
*Feasibility, knowledge gaps, credibility*
- **Evolving Technical Appraisal techniques for EE Projects**  
*Minimum technical safeguards to ensure servicing of debt*
- **Adopting the Cash flow approach for evaluation**  
*Departing from asset-based financing models*
- **Streamlining Business Models for EE Projects**  
*Different business situations, robust business strategy*
- **Preference for existing customer relationships**  
*Reconciling to barriers in lending to new customers*
- **Strengthening financial capacity of EE Project Sponsors and ESCOs**  
*Building stronger ESCOs, mitigating credit risks, Guarantee Facility*
- **Devising sound Payment and Security Structures**  
*Financial mechanisms for improving credit rating*
- **Standardising Energy Services Agreements**  
*Overcoming contracting problems, evolving Contract Template for EE Projects*
- **Building Capacity**  
*Creating the regulatory and enabling business environment*

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## Strengthening Technical Competencies

**Lenders are unfamiliar with EE Projects, lack confidence in Energy Auditors, Consultants and ESCOs and require technical support to appraise and manage lending to EE Projects**

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- **Little knowledge about EE and ESCO model**

The EE and ESCO industry is under-developed. Lenders and Project Sponsors themselves have little understanding of the business models in the industry and the effectiveness of the technologies used.



- **Need for technology demonstrations and precedents**

The technical feasibility of several EE technologies has not been established in Indian operating conditions, and some are under implementation for the first time in India. There is uncertainty about the **effectiveness** and reliability of the technologies. Confidence of the Lenders can be built up by parading successful EE Project transactions.

- **Credibility of Energy Auditors, Consultants and ESCOs**

Lack of confidence in the technical capabilities of energy auditors and consultants and apprehensions that often energy audit reports/ recommendations are over-ambitious in projecting energy savings often prejudices Lenders against EE projects. Energy Auditors, consultants and ESCOs have to follow standard business practices, demonstrate their technical and managerial competence, prove their ability to perform and inspire confidence in Lenders.

- **Reluctance to bear upfront transaction costs**

Project sponsors, especially SMEs, may have difficulties in meeting the cost of energy audits, or find it too risky to commission **energy audits**.

- **No established methodologies for appraising EE Projects**

Lenders are used to appraising projects that add to productive capacity and improve financial *top lines* but have difficulties evaluating projects that have the potential to enhance financial *bottom lines*. They may not have the technical expertise to evaluate an EE Project:

- Is the technology viable?
- Is it capable of generating energy savings as promised in the project reports?
- Is the choice of EE equipment, processes and methods appropriate and reasonable with reference to suitability, performance and price?
- Is the equipment competitive vis-à-vis available choices?
- Are the soft costs necessary and reasonably priced?

The criteria employed for EE project appraisal is not significantly different from those used in the case of any other projects; absence of technical standards and a national certifying body for EE Projects hampers the appraisal of projects. Lenders may require **technical support** to comprehensively evaluate the projects.

In view of the host of technologies that is in use in EE, it may not be possible to formulate **standard guidelines** for technical evaluation of EE Projects.

- **Selection of EE Equipment and Standards**

Despite that it may not be entirely possible to standardize technologies, equipment, processes and costs across a wide array of EE solutions spanning various sectors/ industries, several critical equipment and processes are common.

- **Robust Monitoring & Verification Protocols for Projects**

Lenders have no benchmarks to evaluate the Best Practice Measurement & Verification (“M&V”) protocols that need to be built into sound EE Projects to establish robust base lines and sound procedures for measurement of energy savings in order to impart definitiveness and eliminate points of dispute between ESCOs and Project Sponsors.

- Establishment of an **interim Technical Secretariat** for the benefit of Lenders to act as a reference point on technological issues and providing various forms of technical support for evaluation of EE projects as a forerunner to a **Self-Regulatory Body** for EE Projects to be established later. Once the Self-Regulatory Body is formed, the technical functions of the interim Technical Secretariat can be taken over by it.

- **Qualify Energy Auditors, Consultants and ESCOs**

Lenders may like to restrict financing of EE Projects to those recommended by a short list of Energy Auditors, Consultants and ESCOs whose quality of work will match the Best Professional Practices for professional competence and integrity. The Bureau of Energy Efficiency (“BEE”) is in the process of **qualifying Energy Auditors, Consultants and ESCOs**; they are a natural choice for the Lenders. Till such time the BEE releases its list of qualified Energy Auditors, Consultants and ESCOs, Lenders may exercise their own due diligence in selection/ accreditation of such persons on a case-to-case basis. The Interim Technical Secretariat may also provide feedback to Lenders of the quality of work of the qualified entities to assure them of their credibility and good performance.

- A **short list of Energy Auditors, Consultants and ESCOs** compiled by the World Bank Secretariat will guide to Lenders till the BEE releases its list of Qualifying Energy Auditors, Consultants and ESCOs.

In the meantime, the interim **Technical Secretariat** could discharge the following tasks also:

- **Operationalise a Knowledge Base** for appreciation of EE technologies and technical events of significance
- **Facilitate ongoing information dissemination** about the status of extant technologies and emergent technologies
- Lead efforts for capacity **building of Lenders’ internal technical departments** for understanding of EE projects and technical appraisal thereof
- **Document case studies of EE Projects** on an ongoing basis, including financial models and structures for completed EE financings.
- Improve **standards of project report** preparation and standardization of technical terminologies used in the reports

- Provide **feedback** on the quality of **work of Energy Auditors, Consultants and ESCOs**, by tracking progress of milestone projects and polling satisfaction of clients with their work.

In the long run, stakeholders in the EE industry should build bridges with Lenders so that:

- **Partnership with BEE:** There is **coordination** between the EE financing activities of **Lenders** and efforts of **BEE** in building a responsible EE industry
- **Help from the SRB:** The **Self-Regulatory Body** of Energy Auditors, Consultants and ESCOs helps Lenders interact with their constituents, sets and implements Good Practices, including qualification and disqualification of members

- Technical standards and protocols for EE projects, equipment and processes that enable a higher level of acceptability and stamp of approval with reference to international benchmarks and other projects in India, once finalized by BEE (*which has already initiated a Standards and Labeling programme for various EE equipment and appliances in the domestic, commercial, industrial and agricultural sectors*) will be useful for Lenders appraising EE Projects.

## CASE STUDY

### Initiatives to improve Technical Competencies and Capacity Building

#### *How UNEP facilitates a partnership between Lenders and Vendors*

United Nations Environment Programme (“UNEP”) sponsors a consumer loan programme for rural households buying Solar Home Systems in Karnataka. Partnering UNEP are Canara Bank, Syndicate Bank and 8 Grameen Banks sponsored by them. Loans are available across 1,800 bank branches at lower interest rates. Recognising the Banks’ inhibitions in lending for renewable energy products, UNEP provides technical guidance and capacity building support to run a guided lending programme for a period of 3 years. UNEP:

- sets the Technical Specifications for the Solar Home Systems product
- qualifies the vendors whose products are eligible for funding
- established the Good Practices in sales and service
- conducts site visits and compliance audits
- facilitates close Bank-Vendor interaction
- supports focused marketing to reach out to poor rural households through SHGs
- funds capacity building, including training for bank personnel to improve their understanding of photovoltaic technologies
- implements a strategy to desubsidise interest costs progressively
- conducts dialogues with new Banks to start their own loan programmes
- helps evolve consensus amongst vendors on marketing and inter se issues

The Loan Programme was launched in early 2003 and has helped the commercial market for Solar Home Systems grow exponentially and nurtured a financing model that helped fund over 5,000 households in less than 12 months. The Loan Programme does not adopt a directed-lending approach and lets the free enterprise forces decide pricing and other competitive issues.

**CASE STUDY****Initiatives to improve Technical Competencies and Capacity Building***Asian Development Bank (“ADB”)*

ADB provided technical assistance grants to Indian Banks ICICI and IDBI to improve capacity to develop EE Projects in energy intensive sectors. Detailed studies in select energy intensive sectors were conducted to identify potential areas for EE improvements. These studies were followed up by dissemination seminars in various cities. ADB also provided a loan of US \$ 150 million to IDBI to support EE Projects in industrial sectors. IDBI developed these projects as EE components of general process modernization projects which had been proposed to them for financial assistance. The programme was conducted during 1996-2001.

**CASE STUDY****Initiatives to improve Technical Competencies and Capacity Building***GEF - Technical Assistance Project*

Project Goals were the following:

Project monitoring and verification

- Development of M&V protocols
- Post commissioning evaluation protocols

Policy support initiative

- Consultants Directory
- Preparation of Codes, Best practices Manual and Case Studies
- Database of EE products
- Investor Manual

Energy Efficiency capacity building

- Training of project finance, promoters and other stake-holders

Project Development Schemes

- Loan-linked grant schemes

Market development initiative

- Cluster-based projects

Support Commercial Banks for EE market development

**CASE STUDY****Initiatives to improve Technical Competencies and Capacity Building***ECO-II Project*

- Support to Bureau of Energy Efficiency Action Plan
- Development and dissemination of Energy Efficiency building codes for 6 climate regions

This Project is underway presently

Lenders need to partner the EE industry - through a Technical Secretariat, BEE and Self-Regulatory Body - to create the enabling business environment, develop and sustain healthy loan portfolios of EE Projects

## Evolving Technical Appraisal techniques for EE Projects

**Lenders have to revise their appraisal techniques to evaluate EE Projects; certain minimum technical and commercial standards should be stipulated by Lenders to reduce technical risks**

**Limited knowledge of EE Industry:** Lenders have limited understanding of the dynamics of the EE industry, business models and technical issues. There is no proper appreciation and analysis of **technical performance risks**; often, some EE technologies are in use for the first time in India. Appraisal of EE Projects requires different techniques and tools and the Lenders perceive the existence of a **knowledge gap** - feasibility, pricing and commercial prudence:

- Is the technology tested and reliable? Is it compatible with Indian operating conditions?
- Are there better options? What are the technology obsolescence risks?
- Are technology suppliers biased in pushing their own wares in the guise of ESCO Projects?
- Will it deliver the promised results?
- Has the Project Sponsor used, or should have used, the competitive bidding route to selection of Energy Auditors, technologies and equipment suppliers (usually not common in the case of ESCO-led EE Projects)?
- Is costing of EE Projects reasonable and competitive?
- Should they fund the soft costs, i.e. the non-equipment costs of the EE Projects?
- What are the performance benchmarks?
- Is there too much dependence on an ESCO which may not meet the highest standards of creditworthiness?

**Minimum Safeguards:** There are 3 critical issues that Lenders must assess while they are assessing the technical feasibility of EE Projects:

- Is the **baseline data** unambiguous, predetermined and irrevocable?
- Are the **measurement and verification protocols** irreproachable and capable of being interpreted beyond doubt?
- Has the "break-even level" or **minimum performance level** been established?

**Establishment of minimum performance levels, i.e. the level of performance that would reasonably accrue from the EE Project despite technological setbacks due to sensitizations for improper design, procurement, implementation, operation and maintenance or failure by the ESCO or the Project Sponsor, is a pre-requisite to devising the minimum payment structure.** Ideally, the Project Sponsor and ESCO should guarantee that the Lenders have the first right on cash flows commensurate with the minimum performance levels – in other words, the Project **guarantees Lenders** payment of their dues to the extent of the minimum performance levels.

- Pursuing solutions that **reduce technical performance risks** will blur the distinction between an EE Project and any other ordinary project.

### ICRA Manual to Appraise EE Projects<sup>3</sup>

ICRA Advisory Services developed a credit appraisal manual for EE projects (“ICRA Manual”) intended to help Lenders appraise EE Projects set up by Project Sponsors as well as ESCOs. It sets out the parameters for appraising matters relating to the promoters, technical, legal, financial aspects and environmental aspects of the projects with reference to real-life financing cases. It also spells out a checklist of project-specific parameters in the form of an Evaluation Matrix. Recognising that each Lender has its own appraisal mechanisms, the Manual sets out an indicative framework for the appraisal process. To add to the comfort of the Lenders, the Manual, inter alia, list out the criteria for choice of energy auditor, establishment of baseline energy consumption and evaluation of technology used.

**Detailed Project Report:** The Detailed Project Report (“DPR”) submitted to Lenders in respect of each EE Project must contain comprehensive technical, commercial and financial information that will enable them to evaluate the project. The ICRA Manual has set out detailed information requirements and methodologies for the Lenders to appraise EE Projects, and DPRs must capture this data unambiguously and objectively.

### Adopting the Cash Flow approach for evaluation

**Financial feasibility of EE Projects has to be assessed for the improvement in cash flows for the Project Sponsor resulting from the increased productivity and savings in energy costs - Lenders have to apply suitable appraisal methodologies**

**Inappropriate asset-based lending appraisal techniques:** Lenders conventionally preferred asset-based loan products (in the case of Project financing), primarily those intended to increase production capacities. Projects designed to **optimize production efficiencies** and contribute to **bottom line improvements** have not been seriously considered for financing by mainstream Lenders. Therefore, project appraisal parameters are currently biased to this **asset-based lending** approach. Since EE Projects straddle the space between working capital finance (where both asset-based and cash flow appraisals are done) and project financing, existing appraisal methodologies need to be relooked at so that EE Projects can be evaluated for the **cash flow improvements** that result from their implementation.

**Accepting soft costs:** Typically, EE Projects have relatively large components of soft costs vis-à-vis conventional projects. ESCOs have to satisfy Lenders on the justification and reasonableness of the soft costing.

- It may not be possible to use the same yardsticks to assess EE Projects. In the manner of Power Projects and Infrastructure projects, financing of EE Projects too calls for **deviations from extant appraisal methodologies**.

<sup>3</sup> Developed under the auspices of the World Bank project

## Streamlining Business Models for EE Projects

### EE Project Sponsors and ESCOs need to be consistent in their approach to business modeling and incorporate mechanisms for bankability

**Multiple business models** are in place for implementing EE Projects, but very few of them are Lender-friendly. At the present stage of development of the EE industry in India, it may also not be possible to standardise one model that will be acceptable to various stakeholders; therefore, suitable risk mitigation strategies will have to be put in place to increase the comfort of Lenders.

#### ▪ Different Compensation Models

##### *Energy Audit model*

Most EE Projects are implemented by the Project Sponsors themselves based on recommendations by Energy Auditors for retrofitment of existing facilities. Financial commitments are made by the **Project Sponsors** and the Energy Auditor/ Consultant is confined to being a technical advisor. For the Project Sponsor and the Lender, the EE Project is a **normal capital expenditure** eligible for funding under regular lending programmes.

##### *Guaranteed Savings Model*

The EE Project investment continues to be made by the Project Sponsor, but the risk of non-performance is mitigated by **performance guarantees of Energy Auditors/ Consultants** who play a dynamic role, committing themselves to guaranteeing a certain minimum level of performance resulting from the implementation of the EE Project, in exchange for a higher compensation package (*if certain levels of technical performance are achieved and/or energy savings is generated*) in the form of:

- (a) Higher fees for Energy Audit/ Energy Management consultations,
- (b) Additional contracts for implementing, operating and maintaining the EE Project, and
- (c) Captive or tied-up equipment procurement contracts

Usually, such EE Projects are implemented through an ESCO-type entity whereby the risks of non-performance are borne partially or completely by the ESCO. This model has had limited application because:

- (a) Project Sponsors are not convinced about the **financial ability of the ESCOs** to compensate them in the event of non-performance, and
- (b) **Risk-mitigation products** are not available in the market, such as performance guarantee insurance.

##### *Shared Savings Model*

Many Project Sponsors prefer to concentrate on their core competencies and avoid blocking their resources to building up an optimal energy management/services infrastructure. In this context, ESCOs pursue an **integrated business model** - technical tasks to diagnose and fix energy efficiency solutions, invest in energy assets, build, operate and maintain them. There are several approaches to business modeling and financing.

It is understood that in China and Brazil, as in most of the developed world, most ESCOs are operating on the *Shared Savings* model. In India, Project Sponsors are either not familiar or

comfortable with the concept of parting with their energy savings. Their negative perceptions are accentuated by the:

- (a) inadequate financial stature of ESCOs, and
- (b) inability of ESCOs to obtain financing for EE Projects.

As opposed to the *Guaranteed Savings* model, the *Shared Savings* model is more remunerative to the ESCO commensurate with the higher risks shared by the ESCO and most likely to be the model pursued in the days to come in the Indian energy management industry.

Normally, ESCOs in India do not follow a Special Purpose Vehicle (“SPV”) structure; it is inadvisable to standardise on any one structure since both have their pros and cons, but significantly:

- The **SPV structure** helps focus risk and externalises other liabilities accruing from the ESCO’s other operations. Lenders are exposed to only the risks of the Project that they have financed
- Financing EE Projects undertaken in the parent company ESCO itself (*without the SPV structure*) helps diversify risks because of the basket of EE projects that the ESCO has undertaken, and the recourse to various cash flows. However, this also means the necessity to tackle inter se issues between Lenders and unbundling of assets.

There can be **no one model** acceptable to stakeholders – for example, smaller transactions cannot take the SPV route. Lenders may use the SPV route as an option to lend to large ESCO EE Projects, on a case-to-case basis.

#### ▪ **Critical Business Modelling issues**

The wide range of energy management solutions and Project Sponsors makes it impossible to frame one **business model** or one **financial structure** for ESCO EE Projects. However, all business models must answer common questions and observe **minimum safeguards**:

- Who will invest in the assets?
- What are the minimum performance obligations?
- What are the minimum payment obligations?
- What is the payment mechanism and security structure?
- What happens to the assets at the end of the term of the contract?
- How will failure by the ESCO impact the Project?
- Degree of comfort that has to be provided by the parent company of the ESCO?
- Have the dynamic issues been addressed – adjustment of Baseline, change in sources of energy, variation of technical parameters, etc.
- How is integrity of Baseline data and measurement/ verification assured?
- Have special and user-specific technical and business problems been addressed?
  - *Example*, Municipal Corporation loses source of revenues by change in laws?
  - *Example*, Adjustment of baselines for changes of fuel or energy sources?
  - *Example*, Unauthorised changes by Project Sponsor that could impact energy savings?

#### ▪ **Standardised Contract**

A standardised approach to contracting for EE Projects, regardless of whichever model ESCOs follow, is advisable. The *Energy Services Agreement* is the most important contract that sets out the formal relationship between the Project Sponsor and the ESCO, and details the technical, commercial and other contractual issues – it also needs to recognise the rights of the



Lender so that **debt servicing obligations are protected**. It will assure that the Project Sponsor obtains performance, and the ESCO is paid for its efforts.

▪ **Payment Structure**

Creation of a sound payment structure will ensure that the cash flows arising out of the performance of obligations under the Energy Services Agreement are identified in advance and irrevocably come to the Lenders. It may not be possible to insist on irrevocable payment structures – such as Escrow Accounts, Letters of Credit, Cash collaterals, etc – especially in the case of contracts with Governments where predetermined procurement procedures are followed and may not be feasible in the case of smaller contracts, but this should be the preferred mode of **payment protection**.

▪ **Insurance coverage**

Beyond standard insurance cover for risk protection against fire, breakdown, etc., insurance solutions must be pursued to obtain coverage for risks arising from non-performance, technical failure, indemnity, etc. A comprehensive package of **insurance solutions** is not offered currently by the Indian insurance industry. **Capacity building** efforts are necessary to reach out to the insurance industry in general to convince them to structure tailor made products for the EE industry.

▪ **Credit Guarantee Mechanism**

Most ESCOs have limited financial strength – poor capitalization, inadequate internal resources, and inability to offer risk-mitigation tools – and this has the potential to impact adversely lending for EE Projects. Further, inter se Lender security issues impair the ability of Lenders to confiscate EE Project assets in certain extraordinary situations. In order to raise the credit rating for EE Projects invested by ESCOs with financial support from Lenders, a partial credit risk guarantee may be required for a limited period of time, say, 3 years. A Guarantee Facility can be ideally sponsored under the auspices of the World Bank.

▪ Robust contractual frameworks, bankable payment structures, insurance coverage and a Credit Guarantee mechanism **limit business risks** in EE Projects.

**CASE STUDIES**

**Business Models in EE Project Transactions**

	INDUSTRIAL
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• **Integrated Textile Company - *Factory Energy Management***

- Energy Audit conducted by ESCO
- Investment in assets made by Project Sponsor
- Operations & Maintenance responsibility with ESCO
- ESCO takes a share of the energy savings in compensation for its efforts

This Project received funding from Lenders but does not amount to anything beyond a **normal capital expenditure** of the Project Sponsor who had good financial credentials and raised loans on the credibility of its own **balance sheet** and the **performance guarantee by ESCO** to the extent of minimum debt servicing obligations, credit enhanced by collateral of parent company

## INDUSTRIAL

- **Edible Oil Refinery – Cogeneration of power**

- First time cogeneration technology was applied in the industry
- Part of a larger capital expansion project, resulted in significant cost savings
- Investment in assets made by Project Sponsor
- New Lender for EE Project, no security problems

The Project Sponsor chose to invest in the EE Project and run it on its own although it was not its core activity to generate power. Its financials were good, but the EE **technology** was **untested** in its configuration and in this industry.

## INDUSTRIAL

- **Power Utility – Distribution reforms**

- Improve distribution infrastructure and commercialised customer billing systems
- No capacity increases, but tremendous cost savings and productivity improvements
- Investment in assets made by Project Sponsor
- Risk-mitigating phase-outing of investment programme

The Project Sponsor belonged to a large industrial group, but there was **no recourse to parental support**. The Project Sponsor had **poor financials** which improved significantly after implementation of the EE Project. The EE Project was **phased out** in order to (a) demonstrate the technologies and techniques, and (b) progressively enhance the financial creditworthiness of the borrower. Lender financed the EE project within **conventional lending parameters**.

## COMMERCIAL BUILDINGS

- **Service Sector Company - Office Lighting**

- Energy Audit conducted by ESCO, Operations & Maintenance responsibility with ESCO
- Investment in assets made by Project Sponsor
- ESCO guarantees minimum technical performance
- Shares energy savings after crossing threshold of energy savings

Project **phased out vintage technology** to save energy, no major/ innovative technological issues. The Project Sponsor funded the Project out of its internal resources itself. ESCO was paid the fees for Energy Audit and could not work out a shared savings deal.

## GOVERNMENT

- **Municipal Corporation - Water Pumping**

- EE Project Investments by ESCO, with retrofits/new assets
- ESCO guarantees minimum performance, takes large share of energy savings
- Maintenance responsibilities with ESCO
- Contractual/ Payment structure protection for Lenders

Taking advantage of the municipal corporation's healthy revenues, an Escrow Account arrangement was negotiated to ensure **irrevocable repayment of loans** advanced by Lenders to invest in the EE Project.

## Preference for existing customer relationships

### Lenders prefer to lend to their existing customers for their EE Projects

**Only existing customers of the Bank are eligible for EE financing?** The mainstream business of commercial banks in India is advancing money for capital expenditure and working capital. Lenders seldom break out of this customer relationship cycle and do not lend to **stand-alone projects of new customers**; besides credit risks, it also invites a host of security structuring and lending problems. Therefore, Project Sponsor/ ESCO can approach its own Lenders for supplemental funding for its EE Projects.

**Piggybacking of the financial strengths of the Project Sponsor:** ESCOs by the size and scale of their operations may not have big lines of credit from their Lenders, limiting access to credit for ESCO EE Projects. However, ESCOs have the advantage of raising funds for EE Projects by **shifting the credit risk to the Project Sponsors** through structured lending mechanisms. ESCOs that face difficulties accessing loan funds directly from Lenders must tap Project Sponsors' Lenders based on the latter's credit risk. Securitisation of cash inflows accruing to the ESCO from the Project Sponsor is a financial structure that can be effectively used to fund ESCO EE Projects. Thereby, the technical and financial risks are segregated – the first being with the ESCO, and the latter on the Project Sponsor. AS long as the project continues to run and technical performance standards are met, the Project Sponsor, for whom the energy management project is a non-core activity and relatively small part of its operations, should have no problem honouring the dues under the energy services contract. Banks in India popularly use this model whereby a smaller company avails credit by discounting bills raised on a larger supplier which has better credit rating.

**Credit enhancing EE Projects by structuring obligations:** Lenders are keen to enlarge their lending portfolios and ESCOs must convince Lenders about the creditworthiness of their Projects and seek financial support because:

- the Projects are financially feasible and have robust contractual and payment protection
- Lenders may find it attractive to provide financial support in the form of innovative financial structures such as Securitisation instead of conventional Project Loans and Working Capital finance.
- The credit risk of the ESCO Project is hedged by insurance coverage and similar **risk-mitigation mechanisms**.

**Stand-alone financing of EE Projects possible:** The typical EE Project structure – investing in new assets and dedicating earmarked cash flows for debt servicing – makes **EE financing a stand-alone credit product** and Lenders may find it attractive to expand their lending business beyond their existing client relationships.

- EE Project business models work on independent asset and segregated cash flows – this makes it easier for Project Sponsor/ ESCO to look beyond their existing security encumbrances and banking relationships. This also creates additional opportunities for Lenders to pursue **new customer relationships**.

## Strengthening Financial Capacity of EE Project Sponsors and ESCOs

**ESCOs should expeditiously address serious concerns about their financial strength - pursue only commercially feasible EE Projects, shore up their capital and increase financial commitment to their projects.**

**ESCOs have to prove their credentials:** Most ESCOs have a limited track record in building and managing EE Projects and have to prove their **technical competencies** and **financial stature** to invest in and run the Projects on a sustainable basis; and gain the confidence of Lenders on the technical and financial feasibility of their EE Projects.

- **Projects should be technically and financially feasible**

EE Projects must be chosen not merely technically feasible but because they also meet all commercial parameters for financing. EE Projects have to be techno-economically feasible:

- The **Project Sponsor** must be financially credit-worthy at the outset, have the ability to generate cash flows to pay the ESCO its dues without obstruction or delay, despite that the EE Project is a non-core activity and may not be a priority financial commitment.
- **ESCO** must prove its technical competence, ability to deliver the promised performance and financial strength. Since the EE Project may represent a significant chunk of revenues of the ESCO, non-receipt/ delays may adversely impact the its ability to service its loans
- Payment for energy services should be secured by **sound payment structures**
- **Robust contract framework** is required to formalize and resolve all technical and business issues
- **Dispute resolution mechanisms** should be in place to tackle contentious issues

- Often, the **credit worthiness of the Project Sponsor** may be better than the ESCO that is investing in and running the EE Project, and a contractual and payment structure that **shifts part of the lending risks to the Project Sponsor** would be appropriate.

Detailed Project Reports (“DPR”) submitted to Banks for financing of EE Projects should address credit concerns and not merely technical matters. Project Sponsors and ESCOs should adopt standardized DPR formats that are acceptable to the Banks. The DPR should document clearly the information and analysis of the **risk profile of the Project**.

- **How to capitalize ESCOs**

ESCOs have to **increase their own capital** so that they can leverage it to raise debt finance. ESCOs with strong business models and credit-worthy client base may also be in a position to **tap the private equity market**.

- **ESCOs should strengthen their financials**

Most Indian ESCOs are small entities – they neither have large asset bases nor strong balance sheets commensurate with the risks they have to take on while running EE Projects. ESCOs must:

- **Increase their equity capital base:** ESCOs cannot expect Lenders to fund EE projects that do not meet the extant lending norms (DER) for commercial projects.
  - Mobilise their own **financial contribution to Projects**. The ESCO or a Project Sponsor must commit their funds, and not expect a lender to take on a disproportionately higher risk.
  - Alternatively, spin off specific Projects into **SPVs** that are financially strong and free of other non-ESCO/Other liabilities, such that non-Project risks are mitigated
  - **Hedge non-performance risks** through suitable **insurance** products/ similar risk mitigation techniques. Insurance coverage for performance and credit risks – such as receivables insurance – can help mitigate the risks for Lenders.
  - Seek parent company **credit enhancement support** in the form of corporate guarantees and similar support. It may be possible for ESCOs to leverage the financial strengths of their parent companies to make the lending more attractive for Lenders.
  - In the case of weak Projects, accept the inevitability of **recourse finance structures**, and provide sufficient collateral to Banks as additional non-Project comfort. Till the EE industry reaches a level of maturity and the confidence of Lenders increases, non-Project assets may have to be offered as security to Lenders.
  - Convince Project Sponsors to accept the **Shared Savings business model** (*as in China and Brazil*) instead of trying the Performance Guarantee model. The former business model promises better financial feasibility for ESCO Projects.
- **Leverage a Credit Guarantee Facility Mechanism**

- A Suitable Credit Guarantee Facility may be established to help EE Projects overcome credit deficiencies. The Facility will, inter alia, focus on **increasing lending to SMEs, liberalizing lending norms** for EE Projects and be a **short-term intervention** till Lenders gain experience and expertise in EE Project financing.

Several EE Project Sponsors and ESCOs are established and run by technocrats and are small enterprises who have inadequate financial resources to meet requirements of Lenders, and find it difficult to comply with their **lending norms**. It will also enhance the capacity to bear greater risks to shift from performance guarantee business model to **shared savings model**. Very importantly, it will provoke Lenders to accept **new customer relationships** with ESCOs and are unable to obtain financing for their Projects from any Lender in the normal course. A Credit Guarantee Mechanism could improve the credit risk profile of Lenders while **increasing access to credit** for such EE Projects. However, Credit Guarantees are no substitute for sheltering EE Projects that are neither technically or financially viable.

#### *Possible Structure of the Credit Guarantee Facility*

- **Eligibility:** The Credit Guarantee Facility is structured to meet the special financing concerns of Lenders in funding (a) EE Projects of SMEs, who find it difficult to obtain funding from Lenders, who may be apprehensive of the technological risks accompanying such Projects, and (b) ESCO Projects, who typically have weak financials but wish to invest in technically and financially viable EE Projects. Besides encouraging Lenders to fund innovative technologies and increase access to credit for SMEs/ ESCOs, it also seeks to liberalise lending norms without compromising on quality of credit. It will also comfort the Lenders from the inter se security risks that are peculiar to EE Projects. Availing the guarantee cover is optional and extending it to financially-strong EE Projects, such as those with parental support is not preferred. The Guarantee Facility should not be used as

a surrogate tool to optimize interest rates. Guarantee cover is automatically extended to Projects that fulfill the qualifying norms, and the guarantee facilitation process is seamless and integrated with the loan appraisal and approval process. Default risk is shared with the Lenders to the extent of 50%. EE Projects that will qualify for cover are:

- EE Projects invested by SMEs with an investment size not exceeding Rs 25 lakhs
- ESCO EE Projects with an investment size not exceeding Rs 300 lakhs

Wherever ESCO is part of a large industrial group, it is expected that the parent company will provide the necessary collaterals to the Lenders, and will not be encouraged to avail the Facility

- **Modified Lending norms:** EE Projects should comply with Lenders' normal lending norms. However, the Banks may consider modifying the lending norms wherever the Credit Guarantee Facility is availed in respect of a Project:
  - Reduce or waive the margins for funding
  - Lend at not more than Prime Lending Rate and consider lending at lower rates
  - Lend without recourse, and dispense with the requirement for additional collaterals beyond the hypothecation of the financed assets
  - Extend term for loan and/ or longer period of moratorium
- **Business Structure:** The EE Projects:
  - may be structured either on the shared savings model or guaranteed savings model
  - have to be technically and financially feasible
- **Contractual issues:** All Projects shall employ standard security, payment and contractual structures. Exceptions may be considered in the case of Projects involving Project Sponsors who are government or government undertakings, but on case-to-case merit.
- **New Technologies:** Projects using technologies that are innovative and/or untested in Indian conditions will be encouraged for funding as long as the ESCO provides adequate technical evidence to corroborate the effectiveness of the technology outside India.
- **Extent of Cover:** Subject to Banks undertaking normal recovery procedures in the event of default, they will be covered for 50-75% of the defaulted amount, but only the amount equivalent to the principal of the loan.
- **Constitution of the Facility:** The Credit Guarantee Facility could be for an initial sum of Rs 50 crores (may be increased progressively after reviewing increase in size in loan portfolio). The Facility can be funded by suitable donors and administered by SIDBI on the lines of its extant CGTSI scheme for small sector lending risks. The term of the Facility can cover all eligible loans advanced by Lenders during the first 3 years. In respect of these loans, Lenders may lodge their claims any time till the expiry of 10 years from the last date of the Term of the Facility. Guarantee Fees<sup>4</sup> will be borne by the Lenders who may recover the cost from the borrowers at their option. Recovery proceeds after invocation of the guarantee will be set off against the guarantee devolution monies payable to them.

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<sup>4</sup> to be determined in line with normal fee structures for such guarantee products

## CASE STUDY

### Chinese Guarantee Structure

As part of the second phase of the World Bank/GEF project, a Loan Guarantee Special Fund has been established with GEF grant resources and started preliminary operation. The fund is to help ESCOs secure commercial loans for projects to be implemented with Energy Performance Contract (“EPEC”). The World Bank/GEF project seeks to help ESCOs to build a good credit history so that they will be able to obtain bank loans in the future even without a guarantor. The Special Fund is underwritten by I&G, the only nation-wide investment and guaranty company. The Loan Guarantee Program has the objective of enhancing the ability of ESCOs to obtain commercial loan financing from domestic banks., so that the banks become increasingly familiar and comfortable with lending to the ESCO industry, and are increasingly willing to undertake ESCO credit risks themselves. If there is a need for some support to close a loan or line-of-credit, ESCOs and the relevant bank may apply for a partial guarantee. Guarantees may be for loans directly to ESCOs, ESCO host enterprises, or various combinations of these. The Program offers partial credit guarantees of up to 90% of loan principal amount initially, with declining amounts over time. A fee is charged for the guarantee coverage. The Program is open to any potential applicants operating ESCOs or otherwise engaged in energy performance contracting in China. Guarantee periods are expected to range between 1-3 years, and amounts are expected to be relatively small. Hence, guarantee commitments will "revolve" fairly quickly. The Guarantee Program Special Fund was established with GEF resources of \$22 million equivalent. This capital reserve fund will be placed in a first-loss position for the program's guarantees I&G will assume a portion of the default risk relating to the leveraging of the reserve with guarantee commitments over and above the reserve balance.

## CASE STUDY

### Credit Guarantee Fund Trusts for Small Industries Scheme (“CGTSI”) of Small Industries Development Bank of India (“SIDBI”)

The objective of CGTSI Scheme is to make available bank credit without the hassles of collaterals/ third party guarantees and be a major source of support to the first generation entrepreneurs to realise their dream of setting up a unit of their own in the Small Scale Industries (“SSI”) sector. It is confined to guaranteeing loans extended by all scheduled commercial banks and specified regional rural banks. CGTSI presently has a corpus of around Rs 767 crores. CGTSI seeks to assure the lender that, in the event of an SSI unit, which availed collateral free credit facilities, fails to discharge its liabilities to the Lender; the Guarantee Trust would make good the loss incurred by the Lender up to 75% of the credit facility (maximum loan size Rs 25 lakhs). This support is available for both term loans as well as working capital finance. For borrowers who become sick due to factors beyond the control of management, assistance for rehabilitation extended by the lender could also be covered under the guarantee scheme. A one-time guarantee fee of 2.5% of the credit sanctioned without collateral security has to be paid within 30 days of disbursement of the credit facility; an additional charge of 1% is levied annually as annual service fee. The guarantee costs are normally passed on to the borrower. CGTSI requires that interest rate should not exceed 3% over the Prime Lending Rate, excluding the annual service fee. Claims are honoured only if the lender initiates legal proceedings against the defaulter, and payments are made by CGTSI within 30 days. After filing a claim for guarantee settlement, the lender will continue to be the agent for recovering the dues from the defaulter. CGTSI has priority over any realisations.

## Devising sound Payment and Security structures

**EE Projects are unique in that financial mechanisms can be devised to capture dedicated cash flows for the benefit of the Lenders; but some special asset security-related issues also need to be resolved.**

A **strong payment structure** would mean:

- Earmarking of cash flows for payment of loan servicing obligations and the business dues<sup>5</sup>
- Limiting the scope for payment delays and restrictions
- Using innovative financial mechanisms such as escrow, securitisation, cash collateral, over-collateral, guarantees, etc.

**Dedicated Cash Flows to service debt:** Given the poor credit rating of ESCOs, and the contract-driven nature of the EE Projects run by ESCOs, lot will depend on the **financial credibility of the Project Sponsor** and the channels by which its obligations under the *Energy Services Agreement* will accrue to the benefit of the ESCO/ Lenders who have financed the Projects. Clear cash flow streams will have to be identified in respect of each EE Project to quantify the energy savings and notional cash source of such savings (*in the form of reduced payments to power utilities, for instance*) and a mechanism to segregate such notional cash savings for the benefit of the Lenders. Safeguards should be built in to ensure that: (a) the earmarked collections are adequate and continual to provide enough funds for meeting the obligations, and (b) in the event of failure or redundancy of the earmarked collections, alternative sources have been identified for substitution. The proceeds of the earmarked collections should be irrevocably used to **pay Lenders directly**.

**Payment structure for dedicated cash flows:** There must be strong contractual protection for computation and payment of the receivables from the Project Sponsors without dispute or external reasons. Lenders are familiar with dedicated cash flow structures that are in use in financing of Power and Infrastructure Projects, whereby cash flows from the Project Sponsor are captured through **Trust & Retention Accounts** and **Escrow Accounts** and used to meet **debt servicing obligations** within the framework of *Power Purchase Agreements* and *Concession Agreements*, etc. Payment structures should be **irrevocable** and automatic in order to eliminate uncertainties and defaults.

### TRUST AND RETENTION ACCOUNTS

Trust & Retention Accounts (TRA) are arrangements between the borrower, the Lender and the borrower's bankers, whereby cash inflows of the borrower are deposited in a designated bank account for utilization in a manner and priority to be decided by the Lender. Typically, a pool of collections is identified and all such collections have to be mandatorily deposited in the TRA. For example, in the case of a municipal corporation-borrower, all property tax collections could be collected in one designated bank account so that the corporation's lenders can decide how they can allocate the inflows such that their loans can be repaid. All rights, title and interest in the said account are held in trust for the lenders and the borrower. Initiation of such an arrangement will require the prior consent of existing lenders since it is

<sup>5</sup> Means dues under the ESA. The Project Sponsor must ensure that adequate cash flows are earmarked so that the Lender/ ESCO is paid its dues without interruption or dispute. Delays in payment of business dues, apart from hampering the ESCO from continuing its tasks under the ESA, would also result in defaults in loan servicing.



possible that the relevant cash flows are already securitised for their benefit. The TRA banker acts in accordance with the instructions of the lender and duly pays the dues of the lender in accordance with the terms of the TRA Agreement. Legally, all amounts paid to the lender out of this account constitutes suitable discharge of debt. TRA structures are used commonly in infrastructure projects (power, roads, etc.) and in transactions involving securitisation of future cash flows, and have proved superior to other payment structures especially in the event of default.

**Types of payment structures:** There are 3 possible structures:

- *First*, paying the equivalent of the **pre-Project expenditure**<sup>6</sup> into a special account which proceeds may be used to pay up the dues. Although this payment structure is most suitable for receivables from non-Government Projects, it does not guarantee payment.
- *Second*, providing a revolving **Letter of Credit** support for periodical payment of dues. Although this is an attractive option for Lenders, it may not be possible to negotiate this payment mechanism.
- *Third*, creation of an **Escrow Account** wherein certain earmarked collections are banked for the benefit of the ESCO and the Lender. This is an ideal payment structure since it assures that a predetermined sum of money from an identifiable source of collections is available for appropriation for the ESCO and the Lenders.

**Payment structure in Government contracts:** The Escrow Account mechanism will be ideal for collection of receivables from Government EE Projects. Typically, cash inflows of Government arising from taxes and other statutory collections are escrowed and appropriated to pay the dues under the *Energy Services Agreement*.

**Stipulations on minimum payments:** In all large ESCO EE Projects, Lenders may like to add stipulations that regardless of performance deficiencies, but subject to certain safeguards for Project Sponsors, the minimum debt servicing obligations should be met out of the Escrow Account pending resolution of disputes or deficiencies.

**Deficit in earmarked collections:** In the event of the energy savings being less than anticipated, Lenders could pursue the following course of action:

- break up the cash collaterals
- take recourse to the regular cash flows of the ESCO
- pursue contractual remedies to restore the Project cash flows:
  - resolve the disputes between ESCO and Project Sponsor
  - resolve the technical deficiencies, wherever possible, with additional funding, wherever required
  - take over the Energy Services Agreement
  - carry out valuation and transfer of assets to Project Sponsor or resort to open market sale.

<sup>6</sup> Usually, the reference point for energy savings is the expenditure that the Project Sponsor incurs before the Energy Efficiency Project is implemented. One of the fund allocation methods followed is to earmark and set aside the amount spent by the Project Sponsor (example: the amount spent on electricity, furnace oil, etc) and use the funds so allocated to pay for the dues to the Energy Consultant/ ESCO/ Lender

- EE Projects should have **in-built dedicated cash flow financial mechanisms** – Escrow Accounts, direct payment structures, over-collateralisation, cash collaterals, etc – to speeden up and ensure payments for energy services.

## CASE STUDY

### Municipal Corporation (“MC”) Water Pumping Project

#### *Payment Structure*

- **Deposition of a security deposit** by MC that may be utilized to repay Lenders in the event of default and inability of Escrow Account to fully repay loan obligations.
- **Earmarking of a pool of tax collections** that are under lien to the ESCO.
- **Creation of an Escrow Account/** arrangement with MC’s bankers to ensure that earmarked collections are allocated and appropriated to pay first the debt servicing obligations and thereafter the dues to the ESCO.
- **Irrevocable authority for MC’s bank** to pay the dues of the ESCO on the due date, regardless of whether any payment dispute is prevalent or not.
- **Guaranteed minimum payment for Lenders** even in the event of default by ESCO of its performance obligations for a limited period of time.
- **Assignment of all dues to ESCO under the ESA** to the Lender, including takeover and operation of the ESCO’s tasks.

**Legal concerns in sharing of cash flows:** Once the theoretical cash inflow is identified and segregated, it should be unbundled for the benefit of the Lender who has financed the EE Project. However, it is customary for Project Sponsors to avail loans from several Lenders and dedication of cash flows to meet the obligations of each Lender separately will invite resolution of inter se Lender legal issues.

**Legal concerns relating to ownership of assets financed:** Normally, Lenders have the first right of appropriating assets of the Project Sponsor, not only present but also the future. Most EE Projects face peculiar security-related issues from the Lenders’ point of view

- *Existing facilities are retrofitted or modified* – this means (a) existing assets may be charged to a different Lender, or (b) ESCO may invest in the retrofitting or modification and own the assets that are now part of another asset owned by the Project Sponsor and charged as security to another Lender. Therefore, Lenders have to tackle the twin problem of multiple charge holders as well as multiple owners of assets that are modified or integrated in such a manner that their identity may become invisible or indivisible. This problem can be resolved by (i) identifying such assets, (ii) segregating ownership, and (iii) dividing the charge on the assets between the different Lenders without diluting their respectively claims over the assets.
- *Releases of assets* – The new EE assets owned by the ESCO are located in the premises of the Project Sponsor. In the event that the ESCO defaults on its performance obligations, it is possible that (a) the original identity of the financed assets is lost, or (b) the Project Sponsor creates a lien on the assets and refuses to release them to the ESCO’s Lenders.
- *Resolving Multiple Ownership issues:* Within the present security structures, these are typical Multiple-Ownership situations that may lead to confrontations between the Project Sponsor, ESCO and the different Lenders, which needs to be resolved legally.

The Lenders need to review their extant legal documentation to examine the changes/additional comfort required to smoothen the security-related issues that result from financing of both plain-vanilla EE Projects as well as ESCO-run EE Projects.

- There are legal solutions for tackling Lenders inter se and Project Sponsor-ESCO asset **security issues**; Lenders should analyse such risks at the time of appraisal of the EE Project and **tailor legal documentation** to handle security enforcement situations that may arise in the event of default.

**Lending Experiences:** Some of the successful lending transactions in India have employed several tools for structuring of payments and credit enhancement. In order to allay apprehensions over the quality of recommendations for energy efficiency and project design and execution, State Bank of India insists on all projects being undertaken only by accredited energy auditors and consultants. Wherever Trust & Retention Account structures have been used, lenders have also preferred deposition of cash collaterals that could cover any short-term deficits such that periodical debt repayment obligations do not get disturbed. It is also prudent to pledge cash flows that provide a comfortable margin of safety by over-collateralisation. For instance, if a municipal corporation-lender offers to escrow the property taxes collected by it, the quantum offered should normally be 1.25 – 1.5 times the debt obligation that it protects.

## Standardising Energy Services Agreements

**EE Projects are medium-term contract-driven businesses. Use of standardised formats for *Energy Services Agreements* (“ESA”) will streamline business models, incorporate minimum safeguards and mechanisms for honouring obligations and resolving disputes, but more importantly recognize the predominant rights of Lenders on the lines of *Power Purchase Agreements* in IPP financing**

### ▪ Contract templates

Business models and innovative financial mechanisms fail unless they are backed by a **robust contractual framework** that addresses concerns relating to stability of the Project, compliance with good practices, devising of sound technical parameters and structuring of a sound payment mechanism, besides reflecting clarity of purpose and resolution of contentious issues. Like the power and infrastructure sectors, the **ESCO business is contract-driven**, and the ESA should **protect the interests of the Lenders** and ensure that they realize their monies.

**Minimum safeguards:** Contracts should be standardized and ensure that minimum safeguards are built in for the comfort of the ESCO and the Lenders. A rigid contractual template albeit flexible for transactional subjectivities, should guide the ESCO in conceiving and finalizing the business model for the Project besides stipulating unambiguous, non-subjective terms of reference and scope of work, helping troubleshoot points of conflict and providing solutions for resolving conflicts and disputes. As a pre-condition to lending, Lenders should insist on minimum safeguards being incorporated in the ESA. While the Project Sponsor may choose to pursue contractual remedies for penalizing non-performance by the ESCO, the ESA should contain safeguards for Lenders in the form of a **guaranteed debt servicing payments structure**. In other words, Lenders should continue to be paid their dues on the **“Take or Pay” principle** applied in the case of *Power Purchase Agreements*. Some of the **critical parameters for framing ESA:**

- Is the scope of services defined precisely?
- Are inter se responsibilities clearly delineated?
- Is Baseline established?
- Are Measurement & verification protocols clear-cut and unbiased?
- Have areas of possible dispute been addressed?
- Are there minimum/ guaranteed performance standards?
- Are there minimum/ guaranteed payment obligations?
- Is financial structure strong enough to ensure recovery of loans within contract period?
- Is security structure adequate to provide suitable collateral and late payment risk?
- Energy Savings billing - is the process well-defined?
- Is payment mechanism clear?
- Are termination valuation formulae in place?

The typical **“Take or Pay”** situations in the case of ESA may be the following events:

- Failure by Project Sponsor to comply with its covenants
- Shutdown of the Project Sponsors’ plants or inability to generate energy savings because of reasons beyond the control of the ESCO
- Disputes in performance, billing and other issues between ESCO and Project Sponsor

- Inadequate cash flows from energy savings to pay Lenders
- Failure on grounds of technical non-performance
- Partial or complete suspension of the ESA other than reasons of Force Majeure Events
- Reengineering necessitated by changes in business, technical and regulatory framework

**Protection for Project Sponsor:** However, “Take or Pay” protection cannot excuse non-performance by ESCO for an indefinite period of time; the ESA should address contingencies when the ESCO has stopped functioning effectively or the energy savings cannot be generated for an indefinite period of time – ideally through a Buy-Out plan whereby the EE assets financed can be transferred to the Project Sponsor ahead of expiry of the Term of the ESA at an agreed price, sold or otherwise disposed of. ESA should detail this contingency plan and Lenders may seek information on the feasibility of the contingency plan.

**Assignment of ESA:** Further, as in Power Purchase Agreements and in the case of infrastructure projects, ESA should be assignable to Lenders so that they can independently sell or otherwise dispose off the Project and its assets.

- The collective clout of the World Bank, EE Industry and the Lenders should be used to implement good standards in contracting that will sustain a balanced and fair approach to running EE Projects.

## CASE STUDY

### Municipal Corporation (“MC”) Water Pumping Project

*Safeguards in the Energy Services Agreement: Indicative List*

The ESCO implemented an energy-efficient water pumping retro fitment Project for a Municipal Corporation. ESCO entered into a comprehensive Energy Service Agreement on the Shared Savings model that culminated after a long-drawn process of energy audits, baseline studies, tendering and competitive bidding.

#### *Energy Savings Computation, Billing & Payment*

- Independent certification and corroboration procedures for various technical events (such as commissioning) and [ ]
- Irrevocable fixation of baselines at the time of execution of ESA
- Simplified and non-complex procedures for M&V
- Dynamic recomputation of energy savings formula
- Irrevocably escrowing of dedicated cash flows accruing to MC, and identification of alternative cash inflows in the event of redundancy of the original cash flows
- Earmarking and payment of debt service obligations regardless of non-performance or disputes except in special circumstances

#### *Reducing bureaucratic and political hurdles*

- Protection in the event of delays in Project implementation and operation
- Acceptance and payment of periodical energy savings bills regardless of incidence of disputes
- Transfer & takeover of assets at fair valuation in the event of suspension, early termination or end of term
- Impact of regulatory changes
- Dispute resolution mechanism

## ▪ Special problems in dealing with Government

**Tendering and contracting procedures** need to recognize the special needs for EE financing and suitable changes made in tendering, contracting and approval procedures to mitigate risks of dealing with Government which may not be regarded as a prime credit risk. Concerns of both ESCOs and Lenders centre on the following:

- Do the tendering norms facilitate a payment and contractual structure that addresses the credit concerns of the Lenders?
- Are there minimum guaranteed payments to take care of the loan servicing requirements?
- What are the safeguards to ensure that the Government meets its payment obligations without any delay or default?

It is critical that the dealings with Government be formalized through suitable *Energy Service Agreements* that ensure equitable rights for performance of respective obligations. Risk arising from Political uncertainty has to be suitably protected against appropriately as bureaucratic procedures and delays. The World Bank Project must work closely with BEE, Government and local government to convince them to give a special status to EE Projects in Government-tendering norms, payment structures and approval procedures – and evolve uniform standards for Project documentation in consultation with BEE.

## CASE STUDY

### Contracting with Municipal Corporations

Each industry and client may require different approaches to managing risks that can jeopardize the smooth implementation of the EE Projects. Government bodies, such as Municipal Corporations, are emerging as big customers of the EE industry, but suffer from severe financial problems that hamper their investment ability as well as enlarge the credit risks for an ESCO who chooses to implement an EE Project on a Shared Savings model.

Examples of special issues are outlined below:

- Well-defined revenue inflows can be escrowed to guarantee uninterrupted and irrevocable cash flows to fulfill payments obligations to ESCO; debt servicing obligations of Lenders can be earmarked and recovered without any difficulty
- Bureaucracy can slow down decision-making at various levels at various stages of the term of the contract. Advisable to crystallise all variables to limit the need to take decisions in the future
- Budgetary and political constraints can lead to curtailment of cash flows and even renegotiation of contract
- Wide-scale changes may not be possible in operating environment
- Overruns in both cost and time are likely and can impact the financial feasibility considerably

## Indicative Structure of a model Energy Services Agreement

### Template detailed the critical matters that must be discussed in the ESA

#### Recitals

- Describes the Energy Services transaction in brief
- Who will own the EE Equipment
- Who will Build, Own, Operate and Transfer

#### Definitions

- Clearly explains in unambiguous terms the various terms used in the ESA

#### Covenants

- Representations and warranties by ESCO that:
  - The Project is being built and operated in accordance with the recommendations in the Energy Audit Report
  - They have the necessary professional skills
  - They have adequate resources to undertake the Project
- Representations & warranties by Project Sponsor that they:
  - Hand over premises where the Project is to be located, and provide facilities during construction and operation of the Project
  - Extend necessary support in obtaining permits, regulations, approvals for the Project within stipulated timeframe

#### Term

- Term of the Agreement to have minimum term to cover the period of Loan
- ESA to become effective only if certain conditions fulfilled, such as financial closure or compliance by the Project Sponsor
- Remedies for and consequences of termination ahead of expiry of term to be spelt out
- Extension beyond Term

#### Scope of Work

- mention ownership issues
- plan of action for expansion and additional facilities during Term
- operation and maintenance issues
- Responsibility for measurement and verification of energy savings
- transfer of facilities at end of Term

#### Facilities

- Description of Facilities
- Flexibility to make changes to Facilities in order to achieve Energy Savings
- Procedure for concurrence from Company for changes, and bearing of costs therefore
- Recomputation of formula for calculating energy savings
- Recomputation of price for Transfer

**Construction**

- warranties for establishment
- respective responsibilities for establishing facilities
- inspection and commissioning of facilities
- crystallization of commissioning date and start of energy savings
- event of delay in acceptance of establishment by Company
- event of delay in establishment by ESCO
- inspection and independent certification of establishment
- confirmations from both parties that all construction obligations are fulfilled
- commissioning in phases
- target date for commissioning
- extension of time for commissioning, and penalties for delays in construction
- Termination of contract before commissioning or establishment
- Protection against Force Majeure Events

**Operation and Maintenance**

- Respective operation and maintenance responsibilities of ESCO and Project Sponsor
- Scheduling of maintenance, and remedies in the event of improper maintenance
- Responsibility for obtaining approvals
- Handling operational emergencies, computing their unfavourable impact on energy savings
- Reengineering necessitated by regulatory changes
- Equipment performance warranties
- Insurance coverage

**Financing and Ownership of Assets**

- Recognition of priority of lenders to cash inflows arising from operations
- Remedies when quantum of energy savings is inadequate to pay Lenders
- Target date for achieving financial closure, and remedy if not achieved or delayed
- Identification of assets financed by Lenders for hypothecation/mortgage

**Energy Savings**

- Detailing of Baseline data, including baseline for computing power costs
- Detailing of Measurement & Verification protocols
- Methodology for calculation of Energy Savings with reference to baseline data
- Technical remedies for calculation of energy savings in exceptional circumstances, especially where energy savings cannot be achieved because of circumstances beyond control of ESCO
- Changes in cost benchmarks for computation of energy savings
- Recalculation of energy savings in exceptional circumstances
- Non-disruptive measurement, computation, billing and payment protocols
- Allocation of energy savings between the ESCO and the Project Sponsor
- Guaranteed savings and/ or minimum cash requirements for meeting lender obligations
- Counter-Guarantee from ESCO that deficit in Energy Savings will be recouped, in full or in part, or at least to the extent of the Loan servicing (without collaterals)

**Billing and Payment**

- Billing cycles and Procedure therefor
- Non-disruptive procedures for payment of bills
- Non-disruptive procedures for payment of disputed bills
- Impact of changes in tax and regulatory structures



- Letter of Credit, Escrow Account mechanism or similar payment structure to irrevocably guarantee payment of bills on due dates
- Identification and earmarking of collections/ source of cash for funding Escrow Account
- Buffering with over-collateralisation and cash collaterals
- Protection/ Alternative in the event of loss/alienation of escrowed receivables
- Clearance from existing charge holders
- Alternative payment system in the event of breakdown of envisaged payment structure

**Transfer of Financed Assets**

- Procedure for transfer of assets at end of Term
- Valuation of assets for transfer
- Early termination valuation

**Force Majeure, Events of Default & Termination**

- Clear cut and unambiguous delineating of Force Majeure Events that may impair the performance of respective obligations by ESCO and Project Sponsor
- Protection for Lenders during pendency of Force Majeure Events
- Events of default, and predetermined remedies therefor

**Dispute Resolution**

- How disputes are to be resolved
- Continuation of payments to Lenders despite disputes
- Predetermined time frame for resolving disputes
- Resolution of disputes facilitated by independent agencies

**Insurance**

- Insurance Coverage for Project – besides customary Fire Policies, suitable Breakdown, performance and indemnity policies

**Other Clauses in the ESA**

- Assignment of Project to Lenders

**Technical Matters**

- Detailing of findings from Energy Audit Report
- Detailing of Baseline Performance data
- Measurement & Verification Protocols
  - measurement devices
  - agency for M&V
  - periodicity and methodologies for M&V
- Methodologies for computing energy savings

## Building Capacity

### ▪ **Priority Sector status for lending to EE Projects**

Conferring the status of a “priority sector” status for loans to EE Projects will help accelerate EE financing and make possible replication on a large scale across Lenders all over the country. Under the auspices of the World Bank Project, a case must be prepared, presented and lobbied for with the Reserve Bank of India and in other regulatory and banking forums.

### ▪ **Leasing Products**

Under Indian tax laws, accelerated depreciation is available in respect of certain EE investments, and leasing is a well-established financial product that leverages the tax benefits in exchange for a cheaper cost financial product. Unfortunately, even though Lenders may find it attractive to offer leasing as a financing alternative, certain regulatory problems inhibit its popularity. The EE industry must diagnose the causes for this slowdown in industrial leasing and examine possibilities of reviving the interest of Lenders.

### ▪ **Carbon Emission Credits trading**

Additional financial incentives for lending will be available to Lenders if they are able to bundle their small-scale EE Projects and trade them under the Clean Development Mechanism. Lenders will welcome this extra income that can partly defray their own capacity building costs and compensate them for the concessions that they may offer to the EE Projects in the form of lower interest rates and/ or modified lending norms. However, Lenders may chose to negotiate sharing/ buying of Carbon Emissions Credits from EE Projects on a case-to-case basis.

At present, there is no empirical study on the options available to Indian Lenders to bundle their EE Project portfolio after meeting the stringent CDM norms.

### ▪ **Information Data base - Manual for Appraisal of EE Projects & EE Compendium**

A Manual for Appraisal of EE Projects is being compiled under the auspices of the World Bank Project to help Lenders understand the dynamics of the industry and gain technical support and assessment skill sets. A Compendium for Energy Intensive Manufacturing Industries is under compilation to:

- provide information on technologies, suppliers, cost structures of various EEM, indicative financial / economic ratios and analyses
- present Investors perspective for the benefits of lenders

### ▪ **Establishment of a Self-Regulatory Body for EE Industry**

Ultimately, the EE Industry has to form its own Self-regulatory Body that will regulate and discipline the industry, besides helping various stakeholders identify EE technologies, qualify/ disqualify energy auditors/ consultants/ ESCOs, conceive and disseminate technical standards and Good Practices, and generally act as the ombudsman for the EE industry. It could, inter alia, take over the functions of the interim Technical Secretariat, and facilitate a continuous information exchange – web-site, seminars/ workshops, publications, documentation of case studies, etc.

- **Regulatory control by Bureau of Energy Efficiency**

The BEE is the regulator for the EE industry and is involved with several activities to build a strong and mature EE industry:

- Accreditation of energy auditors and managers
- Minimum energy performance standards for industry segments
- Development of Manuals and Codes
- Standards and Labeling programme for Appliances

Lenders are expected to draw a lot of support from the BEE.

- **Development of suitable Insurance Products**

There exist very few products in the insurance industry to mitigate risks specific to the EE industry. Products such as Performance Guarantee insurance are not widely available, and indemnity policies not yet popular. The EE Industry should also tap insurance products such as Receivables insurance to increase the confidence of Lenders.

- **Interaction with Industry Associations**

Partnerships between Lenders and Industry Associations and increase the levels of confidence of Lenders to lend to EE Project-members of the relevant associations.

- **Sensitisation of Lenders' personnel**

Being a decentralized and broad-based lending operation, it is critical to sensitise Lenders' personnel at all levels to EE financing to increase their confidence and apprise them of the risks inherent in such financing. Communicating a clear-cut policy and information support to the various offices will help encourage lending without the necessity of large-scale training programmes.

# FINANCING EE PROJECTS - INDICATIVE TERM SHEET

## *Template for Designing the Loan Product*

### ▪ Eligible Projects

EE Projects, meaning Projects which are intended to save energy costs based on the recommendations of a qualified energy auditor, consultant or ESCO. No ceiling on quantum of Loan. Projects may be implemented by the Project Sponsor directly or by an ESCO.

### ▪ Loan Product

- Equipment/ Project Term Loan, outside the working capital limits
- Securitisation of Future Cash Flows from Project Sponsor, for ESCOs (*optional product*)
- Equipment Loan
- Line of Credit for ESCOs to cover several EE Projects (*optional product*)

#### Equipment Term Loan

- Loan for buying EE equipment, repayable in periodical instalments, structured as Term Loans or Lease. Subject to broad lending parameters for loans given to meet normal capital expenditure

#### Project Term Loan

- Project Loan for funding EE Project costs, including costs on equipment, intangible costs on studies, management fees, construction period costs, etc. Subject to broad lending parameters for loans advanced for meeting capital expenditure

#### Line of Credit

- Medium-term facility for ESCOs structured on the model of Working Capital Term Loan, where drawdown is based on cost of individual EE Projects, and repayment linked to their respective capital recovery. Subject to broad lending parameters for working capital finance.

#### Securitisation of Receivables

- Assignment of receivables due to the ESCO from the Project Sponsor over the term of the Energy Services Agreement, and financing of the EE Project by discounting the future receivables.

### ▪ Quantum of Loan

Depends on cost of project and Lenders' assessment

- **Eligible Costs**

Total Project Cost, including intangible costs such as energy audit fees, feasibility studies, baseline studies, management fees, software, training costs, etc. To include other costs such as *Interest during Construction period*.

- **Margin**

Financing of Project to the extent of 90%, balance to be contributed out of Project Sponsors/ ESCOs' internal accruals

- **Interest Rate**

*Prime Lending Rate* or less, depending on Lenders assessment of credit risk

- **Term**

3-7 years, based on Lenders' assessment of cash flows and financial feasibility. Moratorium as per normal Lenders' norms, from 6 months up to 24 months. Repayment as per Lenders' normal terms.

- **Receivables/ Loan Payment Structure**

- Tripartite Escrow Agreement for creation of escrow on cash flows of Project Sponsor to the extent of at least 1.50 times the quantum of quarterly debt servicing obligations
- Cash collaterals to provide liquidity in the event of delay or default to the extent of at least 1.50 times the quantum of quarterly debt servicing obligations

- **Debt Equity Ratio ("DER")**

- Up to 9:1 for the EE Project, but with overall DER of 2:1 pre-EE Project Loan
- Higher DER is fixed on the premise that the EE Project promises improvement in cash flows, thereby enhancing the borrowers' bankability beyond the present levels.

- **Debt Service Coverage Ratio ("DSCR")**

- As per Lenders' normal norms

- **Asset Cover**

- As per Lenders' normal norms

- **Guarantee Facility**
  - Available from Guarantor subject to compliance with eligibility parameters
  - Intended to mitigate credit default risks resulting from technical failure, security-related conflicts and encourage liberalised lending parameters
  
- **Security**
  - Hypothecation of EE assets
  - Assignment of *Energy Services Agreement*
  - Intended to help Lenders take over the Project in the event of the continuous failure of the ESCO to meet its contractual obligations
  - Other normal loan security documentation
  - If ineligible for Guarantee cover, suitable collaterals depending on Lenders assessment
  
- **Project Documentation**
  - *Energy Audit Report* from qualified Energy Auditor, consultant or ESCO
  - Competitive quotations from suppliers of equipment and services
  - *Detailed Project Report*
  - Standard *Energy Services Agreement* between Project Sponsor and ESCO
  - *Performance Guarantee Deed* of ESCO
  - Other normal documentation
  
- **Legal Documentation**
  - Normal Loan documentation
  - *Escrow Agreement*, if required
  - NOC/Release of charge from other Lenders to the Project Sponsor:
    - creation of charge on new assets to co-exist with present assets
    - exclusion of prior charge in respect of assets installed by ESCO in the facilities of the Project Sponsor
    - dedication of cash flows for the benefit of the new Lenders to the EE Project

## CASE STUDIES

### EE Financing Schemes

#### State Bank of India, Project Uptech, launched in 1986

- *Purpose:* Promote technology upgradation in the SME sector – covers cost reduction, productivity improvement, waste management, pollution & environmental measures / control etc. to improve overall competitiveness & profitability.
- *Quantum of assistance:* 90 % of project cost up to max Rs 100 lakhs, Minimum of Rs 2 lakhs
- *Target Customer Group:* Existing clients
- *Energy Audit/ Consultancy:* Only accredited agencies
- Does not currently support ESCO EE Projects
- Limited Guarantee Facility for SME loans under CGTSI Scheme
- *Current Status:* Available through select branches

Available only to existing customers of State Bank of India (“SBI”), as additional financial assistance, to co-exist with existing borrowings; No experience with financing of ESCO EE Projects; modified lending norms for sponsor contribution/margin, interest rate, financial ratios; Encourages SMEs to undertake energy audits with help of grant; Credibility of energy audit reports and recommendations significant area of concern.

#### Canara Bank, Loan Scheme for Energy Savings for SMEs, launching in July 2004

- *Purpose:* Financing energy saving equipment & measures
- *Quantum of assistance:* Rs 10 lakhs or 90% of project cost
- *Target Customer:* SME clients whose energy costs account for more than 20% of Cost of production
- *Energy Audit/ Consultancy:* Only accredited agencies
- *Additional Assistance:* Grant of Rs 50,000 to cover cost of Energy Audit and preparation of DPR
- Does not currently support ESCO EE Projects
- Limited Guarantee Facility for SME loans under CGTSI Scheme
- *Current Status:* Launched

Targeted at SMEs, whose energy audit studies will be subsidized by a grant and EE Projects funded under liberalized lending norms; Available only for existing customers of the Bank; no experience in ESCO EE Project transactions; Challenge is to appraise EE Project proposals for techno-economic feasibility.

#### ECO (Energy Conservation & Commercialisation) Project, USAID

- *Purpose:* Advance loans for EE Projects, demonstrate different approaches/ financial mechanisms to increasing access to commercial finance for EE Projects, increase exposure of commercial banks and improving appraisal skills
- *Quantum of assistance:* Up to 50% of the cost of the Project
- *Target Customer:* EE Projects, including ESCO EE Projects
- *Current Status:* USD 5 million facility funded by USAID and disbursed through ICICI Bank

Limited funding support to a wide spectrum of EE Projects intended to develop Lenders’ capacity; Funding mostly of new customers.

**CASE STUDY****EE Project Financing**

INDUSTRIAL

**A K SPINTEX, textile unit***Funding under SBI Uptech*

<i>Type of funding</i>	Medium Term Project Loan, direct lending to Project Sponsor
<i>Project Sponsor margin</i>	10%, Project DER 9:1
<i>Term of Loan</i>	5 years, moratorium 6 months
<i>Interest Rate</i>	PLR
<i>DER</i>	2:1 overall, before the Project
<i>DSCR</i>	2.29
<i>IRR/ Payback period</i>	57%, 18 months
<i>Security Structure</i>	Hypothecation of Project assets, Second charge on all other assets, personal guarantee of promoters/ directors
<i>Basis for Project</i>	DPR, backed by Energy Audit Report submitted by energy consultant

SBI Uptech has extended a typical project loan with liberalized lending parameters – higher DER for the EE Project, but the Project Sponsors' pre-Project financial ratios satisfied conventional bankability requirements. Given the fast payback and the attractive returns on investment, there is adequate cushion against project construction and technical performance risks because of the 5-year period of repayment. The investment in the EE Project does not significantly alter the financial risk profile of the Project Sponsor.

**CASE STUDY****EE Project Financing**

INDUSTRIAL

**Orissa Sponge Iron, steel unit***Funding by IREDA*

<i>Type of funding</i>	Long Term Project Loan, direct lending to Project Sponsor
<i>Term of Loan</i>	10 years, moratorium 2 years
<i>Interest Rate</i>	15%
<i>DSCR</i>	1.68
<i>IRR/ Payback period</i>	23%, 4.5 years
<i>Security Structure</i>	Hypothecation of Project assets, personal guarantee of director

Orissa Sponge Iron availed a normal term loan to fund the cost of its EE Project which brought significant energy savings and improvements in its bottom line.



## CASE STUDY

### EE Project Financing

INDUSTRIAL

#### **Parakh Foods Limited, co-generation plant**

*Funding by ICICI Bank under USAID ECO*

<i>Type of funding</i>	Medium Term Loan
<i>Project Sponsor margin</i>	50%, as per ECO Fund norms
<i>Term of Loan</i>	5 years
<i>Interest Rate</i>	Concessional rate of 9%
<i>IRR/ Payback period</i>	Less than 24 months
<i>Security Structure</i>	Hypothecation of Project assets, no other collaterals
<i>Basis for Project</i>	DPR, prepared by Energy Consultant

Although co-generation technology is well-established, both its pioneering application in the edible oil industry and the technology route were innovative. Project Sponsor had good financials and the EE Project was in the nature of normal capital expenditure easily serviced out of its operational cash flows which improved as a result of the significant amount of energy savings.

## CASE STUDY

### EE Project Financing

GOVERNMENT

#### **Saket Projects Limited, water pumping ESCO**

*Funding by ICICI Bank under USAID ECO*

<i>Type of funding</i>	Medium Term Loan to ESCO
<i>Primary Risk</i>	Cash flows of Municipal Corporation, secured by Energy Services Agreement
<i>Project Sponsor margin</i>	50%, as per ECO Fund norms
<i>Term of Loan</i>	6 years
<i>Interest Rate</i>	Concessional rate of 9%
<i>IRR/ Payback period</i>	Less than 30 months
<i>Security Structure</i>	Hypothecation of Project assets, no other collaterals Payment Structure – Escrow Account created out of dedicated revenue inflows of Project Sponsor. Minimum guaranteed payments to meet debt servicing obligations regardless of technical performance for a limited period of time. Over-collateralisation of escrow, and additional cash collaterals. Unconditional payments to Lender even in event of disputes.
<i>Basis for Project</i>	DPR, prepared by ESCO based on energy audit and baseline studies conducted by it

This was a lending to a ESCO EE Project where the Project Sponsor was a municipal corporation and the upgradation was a well-established technology with minimal risks. Despite weak financial strengths, a strong contractual framework and Shared Savings business model gave comfort to Lenders on unconditional recover of their monies out of a pool of escrowed tax collection revenues of the Project Sponsor. Minimum guaranteed payments to Lenders and additional cash collaterals pledged by Project Sponsor ensured seamless cash flows in the event of delays. Baseline was firmly established and M&V protocols were predetermined and of unimpeachable integrity.

**CASE STUDY****EE Project Financing**

GOVERNMENT

**Sahastronics Limited, public lighting ESCO***Funding by ICICI Bank under USAID ECO*

<i>Type of funding</i>	Line of Credit to ESCO, based on stipulation of common safeguards in contracting with Municipal Corporations to invest in and manage their public lighting assets Drawdown subject to appraisal of individual ESCO projects
<i>Primary Risk</i>	Cash flows of Municipal Corporation, secured by Energy Services Agreement
<i>Project Sponsor margin</i>	50%, as per ECO Fund norms
<i>Term of Loan</i>	5 years for each Project
<i>Interest Rate</i>	Concessional rate of 9%
<i>IRR/ Payback period</i>	Less than 24 months
<i>Security Structure</i>	Hypothecation of Project assets, no other collaterals Payment Structure – direct payment by Project Sponsor to account of Lender and first appropriation for debt servicing obligations
<i>Basis for Project</i>	DPR, prepared by ESCO based on energy audit and baseline studies conducted by it

The Line of Credit was innovative and intends to fund several EE Projects invested in by ESCO over a period of time. This EE Project was on the Shared Savings model; although ESCO financials did not justify Project funding, credit rating was enhanced by structuring a direct payment mechanism that resulted in the Lender having control of cash flows accruing from the EE Project. Cash flows adequate to meet debt servicing obligations out of minimum technical performance achievable. EE Project was awarded under open competitive bidding with normal government procurement procedures, no deviations for ESCO business, except that Energy Services Agreement was executed.

## PLAN OF ACTION FOR DISCUSSION

### IMMEDIATELY, PRIOR TO LAUNCH OF LOAN PROGRAMMES BY PARTICIPATING BANKS

1. Formulate guidelines for appraisal of EE Projects<sup>7</sup>
  - *Lenders require technical inputs to assist them appraise EE Projects*
  - *Adapt cash flow appraisal techniques for assessing EE Projects*
2. Lending schemes to be formulated by Participating Banks
  - *Lenders to customize their own lending schemes, keeping in mind their specific business considerations*
3. Establish the Credit Guarantee Facility
  - *Set up the Credit Guarantee Facility for supporting eligible EE Projects*
4. Participating Banks to examine existing legal documentation and security structures – agreements, legal procedures and inter se Lender coordination – for customization for EE Project financing
  - *Adapt existing legal documentation and build in safeguards required for financing EE Projects, and develop customized legal protocols*
5. Recommend standard format for Energy Services Agreement
  - *Adapt standard draft for ESA across the EE Industry*
6. Establish the Interim Technical Secretariat
  - *Several technical issues need to be resolved from time to time, and the Interim Technical Secretariat can discharge these tasks till the Self-Regulatory Body for the EE Industry takes over*

#### **Interim Technical Secretariat/ Self-Regulatory Body**

Comprising of representatives from the EE industry – consultants, ESCOs, Industry Associations, Project Sponsors and Lenders, the Technical Secretariat could help provide technical assistance to the stakeholders themselves, besides acting as a facilitator for encouraging new technologies, recommending technical standards and coordinating with regulatory bodies such as BEE. The Secretariat could also commission various technical studies, document case studies of successful EE financing and rate the performance of various qualified consultants, auditors, equipment suppliers and service providers. It could also disseminate technical information to stakeholders in the form of newsletters, web-site, etc. Once the Self-Regulatory Body is established over a period of the next 24 months, it could take over the tasks discharged by the Interim Technical Secretariat along with its other tasks.

<sup>7</sup> in consonance with the parameters stipulated in the ICRA Manual

7. Develop knowledge tools
  - *Lenders need access to information about EE technologies, projects, technical standards and other data*
  - *Document case studies of EE Projects and financing on an ongoing basis*
  - *Circulate technical guidance information from earlier capacity building projects*
  - *Set up information channels for ongoing information dissemination – web-sites, newsletters and guidance literature*
8. Sensitise bank personnel to EE technologies and provide information support about EE Projects
  - *Bank personnel are uninformed about the EE Industry and information dissemination efforts at all levels should aim to increase their confidence to lend to EE Projects*
9. Circulate a short list of Energy Auditors, Consultants and ESCOs to Participating Banks
  - *Banks are unsure about the credibility of the various EE Industry players. Till BEE completes its qualification process, this short list can guide Lenders in their appraisal process*

## **ONGOING TASKS**

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10. Seek participation by more Banks in the EE financing initiative
  - *In order to popularize EE financing products, participation of more Lenders in the Programme is desirable*
11. Coordinate with BEE for technical inputs:
  - *List of qualified Energy Auditors, Consultants and ESCOs*
  - *Compendium of technical standards and other guidance notes*
  - *Lenders need to interact with BEE to present their case and seek its intervention in financing issues for the EE Industry, besides tapping its technical resources*
12. Represent to the Government, through BEE and directly, the case for changes in procurement procedures
  - *Convince Government to standardize procurement and contracting procedures in respect of EE Projects and permit safeguards to be built in for the benefit of Lenders*
13. Coordinate with BEE on an ongoing basis
  - *Establish a nodal person for interacting with BEE on all EE Project financing issues*

14. Represent to the insurance industry the need for insurance products for EE industry
  - *Lobby and work with the insurance industry to develop/ adapt suitable risk-mitigation products – performance guarantees, indemnities and receivables insurance - for credit enhancement*
15. Present the case for investments in the EE Industry to private equity investors
  - *Conduct road shows with select private equity investors to apprise them of investment opportunities in the EE Industry and develop suitable investment tools and marketing strategies*
16. SIDBI to examine prospects for investing in EE industry through its own private equity funds
  - *Work with SIDBI's private equity funds to develop a case for private equity financing in the EE Industry*
17. Lobby with Reserve Bank of India the need to classify EE financing as priority sector lending
  - *Present the case for priority-sector classification for all lending to EE Projects*
18. Study the issues involved in bundling of EE Projects for trading in Carbon Emission Credits under the Clean Development Mechanism
  - *Prepare a bundling strategy for selling the carbon credits of EE Projects financed by the Lenders*
19. Facilitate the establishment of a Self-Regulatory Body for the EE Industry
  - *The Self-Regulatory Body will ultimately take over the Technical Secretariat, maintain the knowledge tools and be the face of the industry.*