

APPENDIX – 1: EVALUATION MATRIX

The Evaluation Matrix provides a checklist of parameters to be assessed when appraising a proposal for financing an energy efficiency project. The Evaluation Matrix has been divided into 2 parts:

1. Evaluation of an Energy Efficiency Project
2. Evaluation of an ESCO (project-specific financing)

I. Evaluation of an Energy Efficiency Project

The Evaluation Matrix for appraising an Energy Efficiency project is divided into the following five parts:

1. Promoter Appraisal
2. Technical Appraisal
3. Financial Appraisal
4. Environmental Appraisal
5. Legal Appraisal

1.1 PROMOTER APPRAISAL

	Appraisal Criteria
Management and Organizational Set-up	<ul style="list-style-type: none"> • Shareholding pattern of the firm • Details of Board of Directors • Number of full-time directors and their responsibilities • Qualification, experience of the Chief executive • Qualification, experience and competence of the functional executives
Financial Assessment of the Company*	<p>Past Performance (last 3 years)</p> <ul style="list-style-type: none"> • Growth: Sales and profitability • Profitability: Operating profit margin, Net Profit Margin, ROCE • Liquidity: Current ratio • Efficiency: Fixed assets turnover, Debtors Turnover, Inventory Turnover and Creditor Turnover • Leverage: Debt/ Equity ratio • Coverage: Interest coverage, DSCR
Promoter Background	<ul style="list-style-type: none"> • Family background, qualifications and previous industrial experience • Sources of income • Income tax returns/certificates for the past three years • Wealth tax returns for the past three years • Details of personal properties/assets of promoters/guarantors to be obtained

* Refer to Annexure II of the manual for a list of financial ratios to assess the above parameters

The parameters for technical, financial, environmental and legal appraisal of an EE project as given below should be covered either in the Energy Audit or the Project Report submitted to the bank.

1.2 TECHNICAL APPRAISAL

Process	Appraisal Criteria	Energy Audit Report	Project Report
Energy Auditor	<p>Has an independent energy auditor/ consultant identified the project?</p> <p><u>Creditability of the audit or consultant report?</u></p> <p>Has the energy auditor received accreditation from Bureau of Energy Efficiency? or Is he/ she empanelled with IREDA, PCRA, PFC, etc or Bank?</p> <p>What has been the track record of the energy auditor/ consultant?</p> <ul style="list-style-type: none"> • Track record of the energy auditor/ consultant based on factors like: • What is the number of energy audits completed in the last 3 years? • Whether the energy auditor has conducted any energy audit in the particular industry in question in the last 2 years? If yes, how many? • In which five facilities/ companies has the energy auditor conducted audit in the last one year? 	<p>√</p> <p>√</p> <p>√</p>	
Estimating Energy Saving	<p><u>Establishing baseline energy consumption</u></p> <ul style="list-style-type: none"> • Baseline consumption (as per format provided in Energy Audit report) • How does the AS IS performance metrics compare to industry benchmarks for similar systems? <p><u>Estimating energy savings</u></p> <ul style="list-style-type: none"> • What do the energy savings consist of? Are these; savings in energy cost, fuel cost, labour cost, consumables and maintenance cost. • Are the savings resulting from higher capacity utilisation of the equipment or inefficiency of the existing equipment? • What is the age of the unit/ plant, where the energy saving has been recommended? (if the plant/ equipment is too old, estimated energy savings may not be realisable?) • How does the energy consumption post EE project implementation compare with industry standards, if available? • Does the implementation of the EE project result in higher manpower costs, or increased energy consumption in some other part of the facility, and has that been taken into account when computing the energy savings? • Would the EE project implementation result in shut down of the facility? If yes, what would be the potential loss, and has that been taken into account when computing the energy savings? 	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>	
Technology Evaluation	<u>Technology selection:</u>		

	<ul style="list-style-type: none"> • Is the technology proven or tested? If not, whether successful anywhere else? and can that success be replicated in Indian context and conditions? 	√	
	<ul style="list-style-type: none"> • Does the technology/ process/ equipment technically fit with the facility's existing technology/ process/ plant & machinery? If not, what aspects of the technology/ process do not fit, and what measures is the company planning to take in this regard? 	√	
	<ul style="list-style-type: none"> • Is there any industry benchmark data available from a reliable source, on the level of energy consumption post deployment of this new technology/ process? (Check with BEE or industry-specific national or regional bodies) 	√	
	<p><u>Equipment Suppliers</u></p> <ul style="list-style-type: none"> • List of equipments and machinery to be installed with cost and manufacturing specifications.? • Capacity of the equipment, and whether it as per requirement? • List of recommended equipment suppliers/ vendors 	√	√
Proposed Project Implementation	<p><u>Skills and Experience of the Project Implementation Team</u></p> <ul style="list-style-type: none"> • Who is implementing the project? <ul style="list-style-type: none"> - In-house: Company implementing the project - Contracted to EPC or ESCO • Skills and experience of the project implementation team • Track record/ experience of the Company/EPC/ESCO depending upon whosoever is implementing the project. Provide a list of relevant projects completed in the last two years. <p><u>Selection of Suppliers:</u></p> <ul style="list-style-type: none"> ▪ Have the suppliers been selected? If yes, provide list of selected suppliers, including equipments to be supplied by the supplier, price of the equipment and delivery schedule ▪ Reputation of the suppliers – Whether the supplier is a large national or regional distributor/ supplier or a local supplier? ▪ Terms for supply and installation of the equipment by the suppliers? ▪ Is there any performance guarantees from the equipment suppliers? <p><u>Implementation Time Period</u></p> <ul style="list-style-type: none"> ▪ Time period required to implement the EE project ▪ Penalties in case project implementation is delayed 		√

1.3 FINANCIAL APPRAISAL (to be part of Project Report submitted to bank)

Key Financial Parameters*	Base Case	Worst Case
Internal Rate of Return		
DSCR		
Debt/ Equity		
Asset Coverage Ratio		
Other Financial Parameters*	Base Case	Worst Case
Payback		
Interest Coverage Ratio		
Net Cash Accruals/ Total Debt		

*For definitions of the financial parameters, refer to Financial Viability Parameters under section 3.2.3 of the manual

1.4 ENVIRONMENTAL APPRAISAL (to be part of Energy Audit Report submitted to bank)

Pollution Declaration

- Clearly state whether the pollution level post EE project implementation is estimated to be higher or same or lower than the existing pollution level at the facility

1.5 LEGAL APPRAISAL (at the time of loan disbursal)

Appraisal Criteria	Appraisal Check List
Statutory Approvals	<ul style="list-style-type: none"> Environmental Clearance from the State Pollution Control Board, if applicable Environmental Clearance from MOEF, if applicable
Legal Documentation	<p><u>Sanction Letter or EOI</u></p> <ul style="list-style-type: none"> Unconditionally accepted Sanction Letter of EOI as per individual bank's standard format Check Memorandum of Association (MOA) of company to ensure that company has necessary borrowing powers and an auditors certificate to that effect should be obtained. <p><u>Loan Agreement</u></p> <ul style="list-style-type: none"> Duly accepted loan agreement as per individual bank's standard format <p><u>Due diligence of security package</u></p> <ul style="list-style-type: none"> In case where the loan is to be secured by mortgage of property, the title to the property has to be examined. In case where the loan is proposed to be secured by an unconditional and irrevocable Bank Guarantee a commitment from the concerned party that it is agreeable to furnish the guarantee is to be obtained. In case the 'Personal Guarantee' of the promoter director is insisted upon as a collateral security, it is to be ensured that the director has a sound financial background. This has to be done by analyzing the following information:

	<ul style="list-style-type: none"> - copies of Income Tax and Wealth Tax returns for the last 3 years - list of unencumbered immovable properties owned with their approximate market value - list of guarantees furnished jointly and severally in the past - details of the guarantee invoked - whether invoked guarantees were honoured - name and address of the bankers <ul style="list-style-type: none"> • In case the ‘Corporate Guarantee’ of a sister concern is insisted upon as a collateral security the same due diligence as mentioned above is to be done. Also the Memorandum of Association of the sister concern has to be examined to ensure that the company is authorized to issue such guarantees • Form 8 & 13 relating to the deed of hypothecation should be registered with the Registrar of Companies within 30 days of date of execution of the deed. • Valuations certificate of fixed assets should be obtained, wherever applicable • Prima facie verification of title deed by Legal Department • NOC from existing charge holder for creation of final security
Due diligence of agreement with supplier	<ul style="list-style-type: none"> • Terms for supply of the equipment (payment terms, schedule of supply) • Terms for Installation and commissioning of the equipment by the supplier (applicable only if the supplier is contracted to install and commission the equipment) • Terms of the performance guarantee, if any provided by the supplier • Penalties, if the equipment does not perform as per guaranteed performance
Due diligence of performance contract, if any provided by the ESCO	<ul style="list-style-type: none"> • Amount of Energy Savings guaranteed per year • Penalty/ incentive if guaranteed are not/ over achieved • Conditions under which savings are expected to be achieved

II. Evaluation of an ESCO (project-specific financing)

The evaluation process to be followed for appraisal of an ESCO seeking project specific financing would cover the following:

- 1) A detailed appraisal of the EE project (covered in Section I of the evaluation matrix) and
- 2) Appraisal of the ESCO

ESCO Appraisal

The ESCO appraisal consists of the following two evaluations:

1. Basic ESCO Assessment based on information provided by ESCO
2. Client References Checks of the ESCO

1. BASIC ESCO ASSESSMENT (PART I)

I. Track record		
1	Is this a new or existing firm?	(new/ existing)
a.	<u>If Existing</u> Whether the ESCO has completed any energy efficiency project in the specific industry or sector? If yes, how many?	(yes/no; if yes: number)
b.	List of EE projects completed in the last 2 years	(as per below format)

List of key EE projects completed in the specific industry in the last 2 years

I.	Company/ Facility name where the project was executed	
a.	Date of project commencement/ completion	
b.	ESCO man-days	
c.	Industry	
d.	Brief description of energy saving project	
e.	Total Project Cost <ul style="list-style-type: none"> - Investment by facility owner - Investment by ESCO, if any - Loan (name of the bank or financial institution) 	
f.	Total Savings to the facility owner	
g.	Terms of Payment to ESCO	
	Project Results <ul style="list-style-type: none"> Key Performance indicators Power & Fuel Bill – Pre & Post ESCO Project Specific Energy Consumption – kWh/ unit of product/ MT of fuel/ MT of project (Pre- & Post) Cost of Implementation – Projected Vs Actual Savings – Baseline Vs M&V Results 	

II. Firm Structure		
1.	Names of the promoters of the ESCO?	
2.	Type of firm	(proprietorship, partnership, private limited or public limited)
3.	Number of Full Time Staff Numbers	

Names of promoters

	Promoter Name	Equity Stake (%)
1		
2		

III. Qualifications & Experience		
1.	Qualifications of key personnel assigned to the project (as per table below)	

Key Personnel in the project

Names of Key People			
Position			
Total length of experience			
Number of years in current position			
Qualifications			
Training			
List of projects completed in the last two years, including his/her role in the project			
Designing & Constructing EE Projects			
Maintenance Experience			
Skill Transfer			
Availability for the project			

IV. Financial Information		
1.	Equity base and structure, Networth of ESCO/ Promoters	
2.	If existing firm, please provide last 3 years Profit & Loss and Balance Sheet.	
2.	Financial Projections (P&L and BS) till the term of the loan.	
4.	Current bankers to the firm: Facility availed Current outstandings Security provided	
5.	Current order book	

2. Client References (Part II) - part of the project report submitted to the bank

At least '3' client references, with at least from that particular industry are required. The client reference checks would be in the following format:

Feedback Form

Client Name:

Industry:

Project completed by ESCO:

Date of project commencement:

Date of project completion:

Project Cost:

Services offered by the ESCO:

1.	<p>How does the achieved energy savings compare with the estimated energy savings indicated in the energy audit report (pre-implementation)?</p> <ul style="list-style-type: none"> • Achieved savings higher than estimated • Achieved savings as per expected/ estimated • Achieved savings below than estimated <p><i>Comment: If 'c', please provide reason why the projected energy savings were not achieved.</i></p>
2.	<p>Was there any cost escalation in the project?</p> <ul style="list-style-type: none"> • No cost escalation • Project cost incurred were higher than projected on account of: <ul style="list-style-type: none"> - Incorrect estimation of project cost by the ESCO? - External factors like increase in prices of equipment or any other costs? - Combined affect of the above two factors <p><i>Comment: If 'b', by how much were the project costs incurred higher than projected? Reason for higher projects costs. Specific areas where the project cost incurred was higher than estimated.</i></p>
3.	<p>Was the project completed on schedule?</p> <ul style="list-style-type: none"> • Completed before schedule • Completed as per schedule • Delayed <p><i>Comment: If 'c', please provide reasons for delay, and by how much time the project was delayed.</i></p>
4.	<p>Six months or one year post implementation, how does the energy saving achieved compare with the projected energy saving (prior implementation)? Response required, only if project was implemented six months or one year back, or earlier.</p> <ul style="list-style-type: none"> • Achieved savings higher than estimated • Achieved savings as per expected/ estimated • Achieved savings below than estimated <p><i>Comment: If 'c', please provide reason why the projected energy savings were not realized.</i></p>

Note: The client references need to be duly completed, signed and sealed in an envelope, with a company seal of the ESCO's client.