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# *Innovative financing mechanisms*

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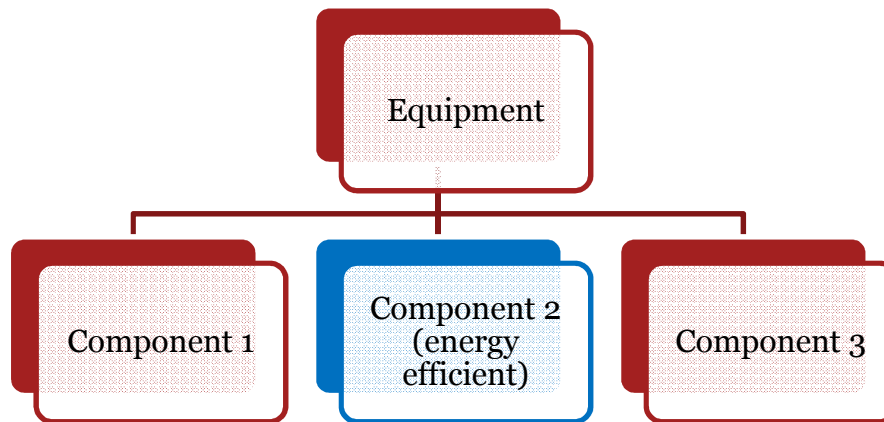
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# Section 1

## ***EE investment potential***

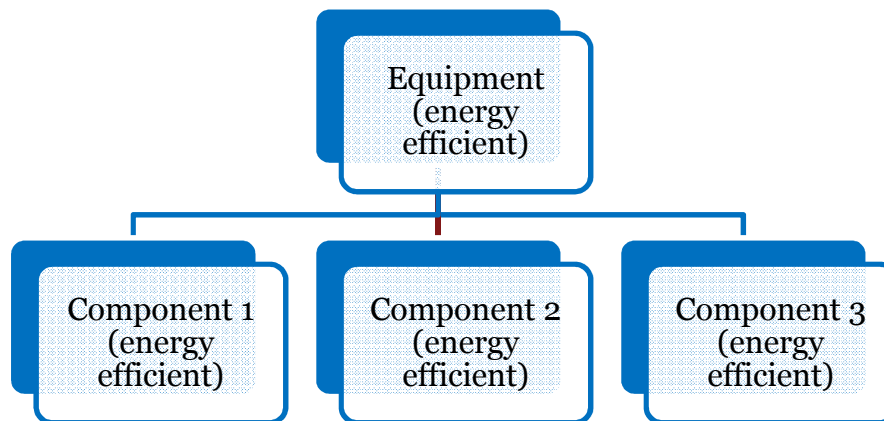
# Typical Energy efficiency investments

Retrofit – addition of new technology features in existing systems



E.g. Tube in a lighting fixture

Replacement – complete refurbishment of the system



E.g. Complete lighting fixture

## ***Retrofitting v/s replacement***

<b>Parameters</b>	<b>Retrofitting</b>	<b>Replacement</b>
<b>Investment</b>	Low	Medium to high
<b>Payback period</b>	Less than 2 years	2 to 5 years
<b>Lead time</b>	Low	Medium to high
<b>IRR</b>	High	Medium to High

## *Investment potential in energy efficiency*

<b>Sector</b>	<b>Investment potential (INR billion)</b>	<b>Energy savings potential (billion kWh)</b>
Industrial (including generic and process EE)	121	49
Commercial	6.6	0.80
Lighting including municipalities	53	73.70
Agriculture	150	60

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## Section 2

# *Implementation models for EE projects*

## ***Self-funding***

An implementation model, where unit-owner:

- Invests own capital or through informal financing
- Responsible for implementation through vendor/own resources

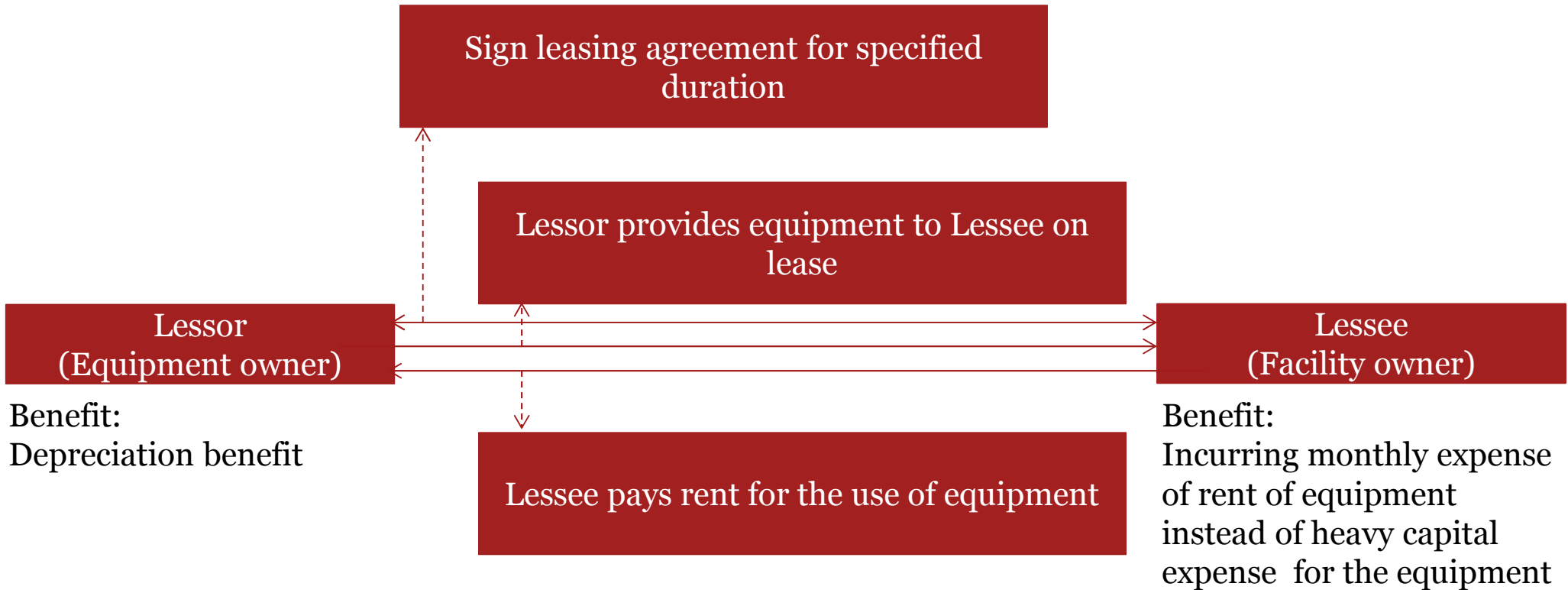
This type of funding is largely prevalent in MSME sector (92.8%), however, more than 1.5 lakh units prefer institutional financing

**Modes of financing of MSMEs**





# *Leasing arrangement*



## ***Energy Service Company (ESCO) route***

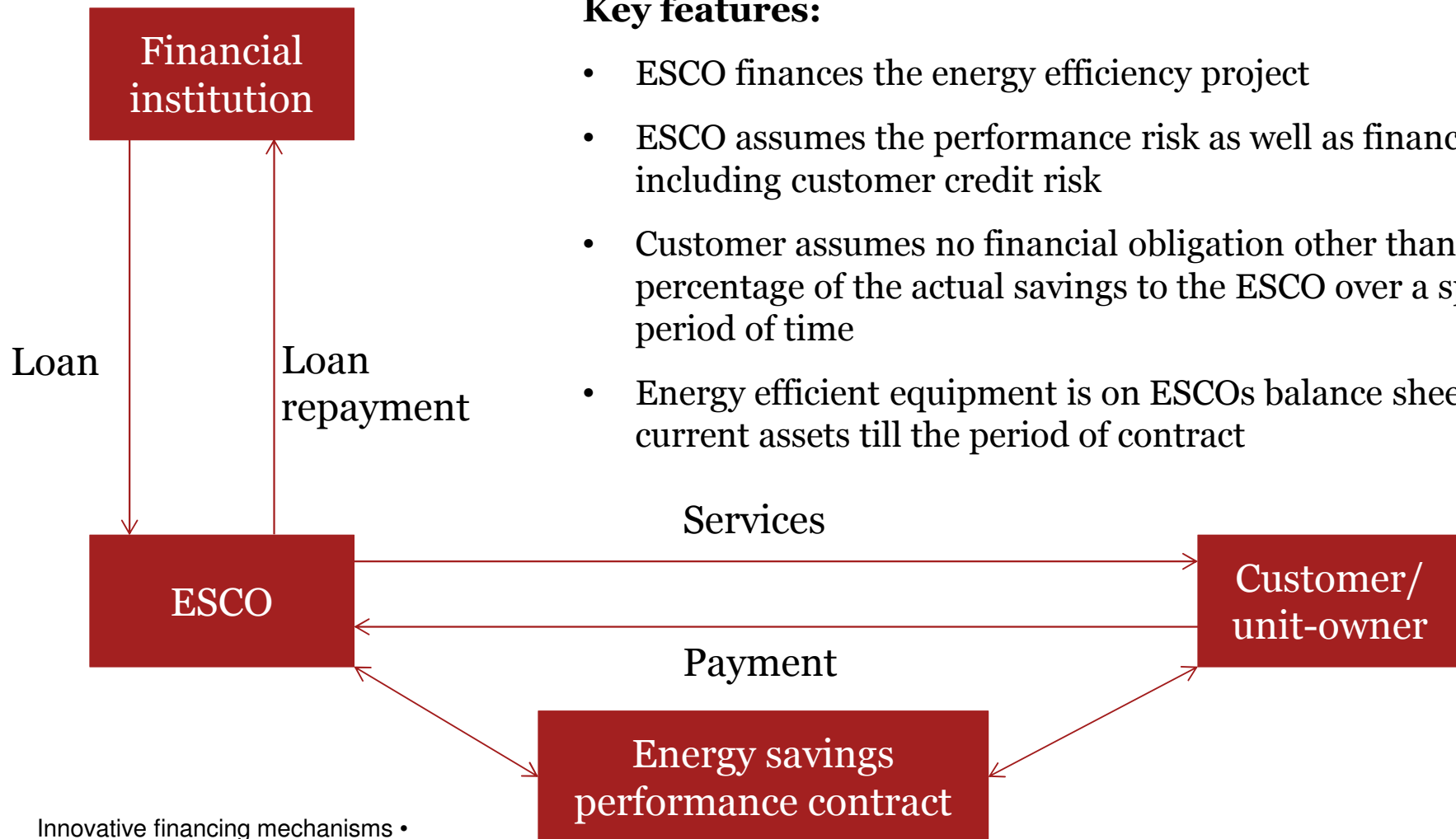
ESCO is a firm offering energy efficiency improvement services which includes:

- Conducting investment grade energy audit
- Identification of possible energy saving and efficiency improving actions
- Comprehensive engineering, project design and specifications
- Guarantee of the results by proper contract clauses
- Code compliance verification and guarantee
- Procurement and installation of equipment
- Project management and commissioning
- Facility and equipment operation & maintenance for the contract period
- Monitoring and verifications of the savings results
- Project financing either through ESCO or unit-owner

## ***ESCO – Shared savings model***

### **Key features:**

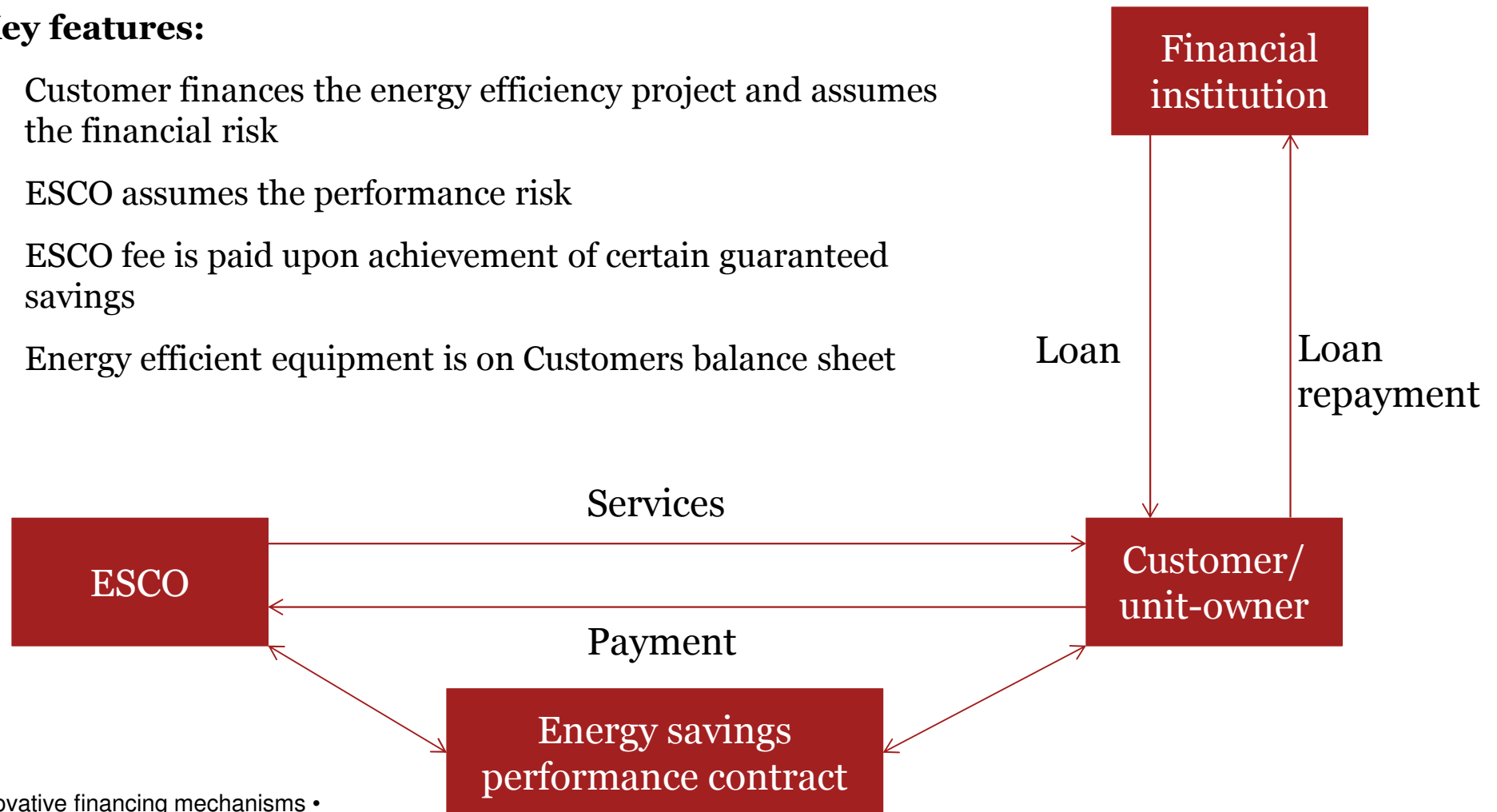
- ESCO finances the energy efficiency project
- ESCO assumes the performance risk as well as financial risk including customer credit risk
- Customer assumes no financial obligation other than to pay a percentage of the actual savings to the ESCO over a specified period of time
- Energy efficient equipment is on ESCOs balance sheet under current assets till the period of contract



## ***ESCO – Guaranteed savings model***

### **Key features:**

- Customer finances the energy efficiency project and assumes the financial risk
- ESCO assumes the performance risk
- ESCO fee is paid upon achievement of certain guaranteed savings
- Energy efficient equipment is on Customers balance sheet



## ***Reasons for low uptake of EE projects despite high investment potential***

- Low awareness amongst MSME unit owners regarding EE financing schemes
- Lack of securitization (need of guarantee apart from collateral)
- Lack of sector-friendly financing product
- Lack of training of bankers/ financial institutions/ CAs/ESCOs

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## Section 3

# *Existing EE financing mechanisms*

## *EE Financing mechanisms*

### Policy & fiscal instruments for EE financing

- Accelerated depreciation
- Development incentives and tax rebates for EE housing

### Debt-based financing schemes

- Commercial EE financing options
- Backed by donor or multilateral financing
- GoI supported EE debt financing – technology innovation fund

## ***Policy & fiscal instruments for EE financing***

### **Accelerated Depreciation**

Section 32 of the Income Tax Act 1961 offers accelerated depreciation benefits (80% in first year) for following range of EE equipments:

- Specialized boilers and furnaces
- Instrumentation and monitoring systems for monitoring energy flows
- Waste heat recovery equipments
- Cogeneration systems
- Electrical equipment (automatic voltage controllers, TOD energy meters, PF controllers for AC motors)
- Energy efficient burners
- EE manufacturing devices (burners, thin film evaporators, fluid drives & fluid couplings, glass manufacturing equipments, RE devices)



## ***Policy & fiscal instruments for EE financing***

### **Development incentives and tax rebates for EE housing**

Few municipalities (like Pimpri Chinchwad Municipal Corporation, Nashik and Navi Mumbai) are offering following types of rebates for promoting green buildings/ energy efficiency in residential sector:

- Rebate on development fee paid by developers
- Rebate on property taxes paid by residents
- Additional Floor Area Ratio (FAR) of 5% for Indian Green Building Council (IGBC) rated (gold/platinum) green buildings

## ***Commercial EE financing schemes including subsidy schemes***

### **SBI – Project Upgradation of technology (UPTECH)**

Target beneficiary: Existing clients with sole banking arrangement with SBI

Loan amount: Max. 90% of project cost (INR 2 lacs to 1 crore)

Grant/subsidy: 50% of cost of DPR, subject to the maximum of Rs 50000/-

### **Canara Bank (Energy savings for SMEs)**

Target beneficiary: Existing clients of Canara Bank (Category S1 & S2 only)

Loan amount: Max. 90% of project cost (up to 1 crore)

Grant/subsidy: 25% of cost of energy audit and DPR, subject to the maximum of Rs 25000/-

Interest rate: 1% below the prevailing rate

## ***Commercial EE financing schemes including subsidy schemes***

### **Union Bank of India**

Target beneficiary: Clients exclusively banking with UBI

Loan amount: 75% of Project Cost, Max. Rs 1 Crore and min. avg. DSCR of 1.30

Grant/subsidy: Subsidy of Rs 25000/- from IREDA to partially cover the cost of Energy Audit

### **Bank of India**

Target beneficiary: Clients exclusively banking with BoI for last 1 year, Non Client SMEs with no loan liability with other banks

Loan amount: 80% of Project Cost, Max. Rs 1 Crore and min. avg. DSCR of 1.50

Interest rate: 1% less than the term loan rate charged from SME beneficiary

## ***Commercial EE financing schemes including subsidy schemes***

### **Bank of Baroda – Energy efficiency projects scheme**

Target beneficiary: Existing client of BoB with credit rating better than “BBB”

Loan amount: 75% of Project Cost, Max. Rs 1 Crore and min. avg. DSCR of 1.50

Grant/subsidy: Subsidy of Rs 25000/- from IREDA to partially cover the cost of Energy Audit

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# Section 4

## ***Donor-backed debt financing schemes***

## ***Donor backed line of credits for promoting energy efficiency at MSMEs***

Japan International  
Cooperation Agency (JICA)

- JICA Phase-I (fully utilized)
- JICA Phase-II (fully committed)
- JICA Phase-III (proposed on Sept.'14)

Agence Francaise de  
Developpement (AFD)

- Energy efficiency line of credit (fully utilized)

KfW

- Energy efficiency line of credit
- Cleaner production line of credit

## ***Donor-backed debt financing schemes***

### **SIDBI JICA-II Scheme**

***Target beneficiary:*** New / existing MSME units, energy saving projects will be screened as per the Energy Saving Equipment (700) list

***Minimum assistance:*** INR 10 lacs

***Promoter's contribution:*** 25% for existing units and 33% for new units

***Interest rate:*** As per credit rating and 0.75% below the normal lending rate

### **SIDBI-AFD line of credit**

***Target beneficiary:*** MSME units eligible for financing through SIDBI including units graduating out of medium scale post investment

***Eligible projects:*** Retrofitting, process modifications with expansion in production capacity, greenfield EE projects, duly validated CDM projects at cluster level

***Extent of assistance:*** INR 10 lacs to INR 15 crores

***Promoter's contribution:*** 25% of project cost

***Interest rate:*** As per credit rating and 0.75% below the normal lending rate

## ***Donor-backed debt financing schemes***

### **SIDBI-KfW: Energy Efficiency Projects scheme**

***Target beneficiary:*** New / existing MSME units, credit score above the minimum investment grade rating of SIDBI

***Eligible projects:*** Improving insulation, energy efficient lighting, variable speed drives, upgrading or modernizing of industrial boilers, heat recovery systems, optimization of air pressure systems, fuel switching, replacement with EE systems

***Minimum assistance:*** INR 10 lacs

***Promoter's contribution:*** 25% of project cost

***Interest rate:*** As per credit rating and 0.75% below the normal lending rate

### **SIDBI-KfW: Cleaner production scheme**

***Target beneficiary:*** New / existing MSME units, credit score above the minimum investment grade rating of SIDBI

***Eligible projects:*** Increased efficiency, increased resource productivity, recovery of valuable by-products, lower energy consumption, compliance with national standards and regulations, access to new markets, supply chains and financing

***Minimum assistance:*** INR 10 lacs

***Promoter's contribution:*** 25% of project cost

***Interest rate:*** As per credit rating and 0.75% below the normal lending rate



## ***SIDBI-JICA Line of Credit Phase II***

### **Financial parameters for projects appraisal**

<b>Parameter</b>	<b>Norms</b>
Minimum Assistance	Rs.10 lakh
Minimum promoters contribution	25% for existing units 33% for new units
Debt Equity Ratio	Maximum 2.5 :1
Interest Rate	As per credit rating and 0.75% below the normal lending rate
Upfront fee	Non refundable upfront fee of 1% of sanctioned loan plus applicable service tax
Security	First charge over assets acquired under the scheme; first/second charge over existing assets and collateral security as may be deemed necessary
Asset coverage	Minimum Asset Coverage should be 1.4 : 1 for new units and 1.3 : 1 for existing units
Repayment period	Need based. Normally, the repayment period does not extend beyond 7 years. However, longer repayment period of more than 7 years may be considered under the Line if considered necessary

## ***SIDBI-KfW: Energy Efficiency Line of Credit***

### **Financial Parameters**

<b>Parameters</b>	<b>Norms</b>
Minimum assistance	Not less than Rs.10 lakh
Minimum promoter's contribution	25% of project cost
Overall debt/equity ratio	2:1
Interest rate	As per credit rating and 1% below the normal lending rate
Asset coverage	1.3 for manufacturing unit and 1.75 for service sector unit
Repayment period	Need based – normally not more than 7 years

## ***SIDBI-KfW: Cleaner Production Line of Credit***

### **Financial parameters**

<b>Parameter</b>	<b>Norms</b>
Minimum Assistance	Generally not less than Rs.10 lakh
Minimum promoters contribution	25% of the project cost
Debt Equity Ratio	2.:1
Interest Rate	As per credit rating and 0.75% below the normal lending rate
Asset coverage	1.3 for manufacturing unit and 1.75 for service sector unit
Repayment period	Need based. Normally, the repayment period does not extend beyond 7 years.

## ***GoI supported EE debt financing – technology innovation fund***

***Quantum of fund:*** INR 300 million

***Type of fund:*** Revolving fund

***Established by:*** Technology Information Forecasting and Assessment Council (TIFAC) within SIDBI

***Purpose:*** To provide assistance in form of soft loans to MSMEs for technology innovation

***Areas of financial support:*** Development, up-scaling, demonstration and commercialization of innovative technology-based projects, including EE

***Extent of financial support:*** Up to 80 percent of project cost (max. INR 10 million). Higher assistance is considered selectively based on innovation content in the projects

## *Performance and status of these schemes*

<b>Credit Line</b>	<b>Period</b>	<b>Number of units assisted</b>	<b>Total amount sanctioned (INR Crores)</b>	<b>Total amount disbursed (INR Crores)</b>
JICA Phase I (JPY 30 billion)	Aug 2008 – Mar 2011	2918	1934.10	1734.04
JICA Phase II (JPY 30 billion)	June 2011 - present	1880	2137.97	1789.89
JICA Phase III (JPY 30 billion)	Loan agreement for JPY 30 billion signed in September 2014 for extending support to MSMEs beyond JICA Phase II.			
AFD (EUR 50 million)	May 2010 – Aug 2011	641	489.75	456.57
KfW Energy efficiency (EUR 50 million)	Nov 2009 – present	275	265.14	226.03
KfW Cleaner production (EUR 38.5 million)	Nov 2009 – April 2013	282	306.49	273.01

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## Section 5

# *Innovating financing schemes*

## *Innovative financing mechanisms*

Schemes for supporting lending institution through guarantee

- Partial Risk Guarantee Fund
- Partial Risk Sharing Facility

Equity financing for EE in India

- Venture Capital Fund

## ***Schemes for supporting lending institution through guarantee***

### ***Partial Risk Guarantee Fund (PRGF)***



## ***Introduction to PRGF***

- PRGF is a risk sharing mechanism which lowers the risk for the lender by substituting part of the risk of the borrower by granting guarantees ensuring repayment of part of the loan upon a default event
- Guarantees a maximum 50% of the loan (only principal). In case of default, the fund will:
  - Cover the first loss subject to maximum of 10% of the total guaranteed amount
  - Cover the remaining default (outstanding principal) amount on pari-passu basis upto the maximum guaranteed amount

## ***Conditions of PRGF***

- Eligible sectors: Government buildings, municipalities, SMEs
- Timing of guarantee: PFI to take guarantee before disbursement of loan
- Extent of guarantee: Maximum INR Rs 3 crores per project or 50% of loan amount, whichever is less
- Tenure of guarantee: Maximum 5 years from date of issue of the guarantee
- Processing fee: 0.25% of maximum guaranteed amount applied payable at the time of application
- Guarantee fee: upfront fee of 1% of amount guaranteed payable after approval and before signing of contract

## ***Eligible projects***

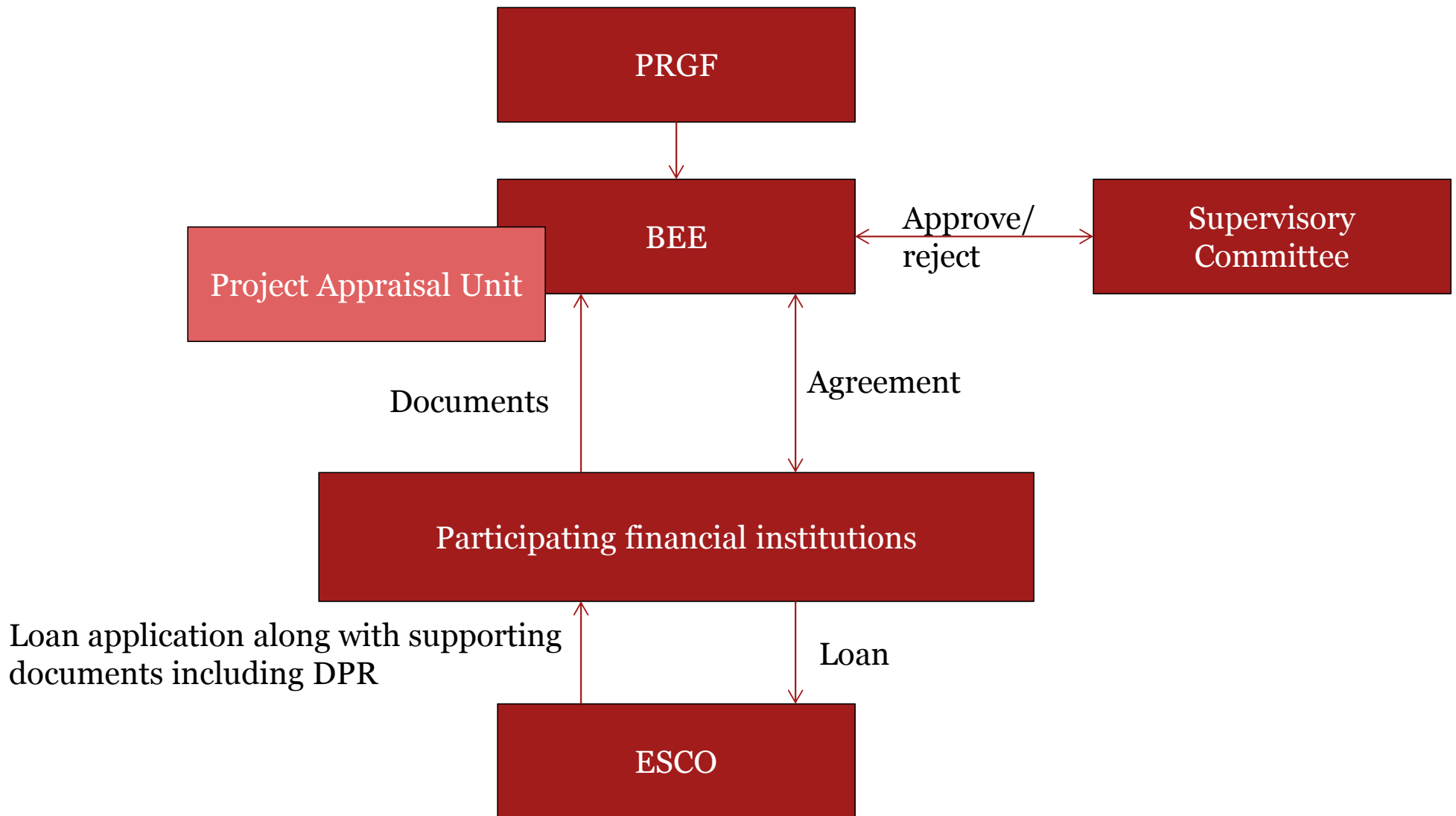
Projects in the eligible sectors that:

- Seek to achieve demonstrable energy savings and mitigation in emissions of greenhouse gases
- Propose a viable method to monitor and verify energy and green house gas emission savings
- Be a new project, not refinancing existing projects or any outstanding obligations of the Eligible Borrower
- Use viable technology and be developed with competent energy audit/feasibility studies
- Project must be implemented by BEE empanelled ESCO on performance contracting mode

## ***Projects not eligible under PRGF***

- Project where performance risks are additionally covered, , to the extent they are so covered, under a scheme operated/administered by:
  - Deposit Insurance and Credit Guarantee Corporation or the Reserve Bank of India
  - Government or by any general insurer or any other person or association of persons carrying on the business of insurance, guarantee or indemnity
- Any project not in conformity with provisions or directives or instructions issued by the Central Government or the Reserve Bank of India
- Project proposal by ESCO which has not repaid any portion of the amount due to a PFI for a guarantee invoked under PRGF or any other scheme mentioned above

## *Guarantee mechanism*

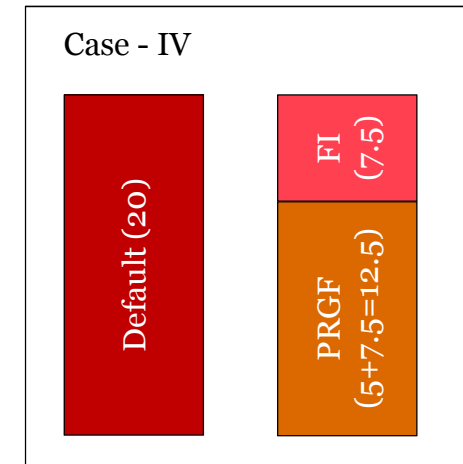
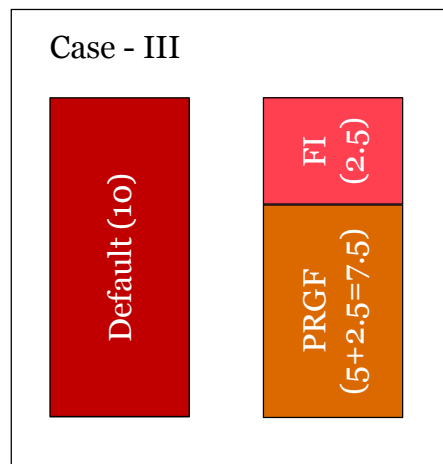
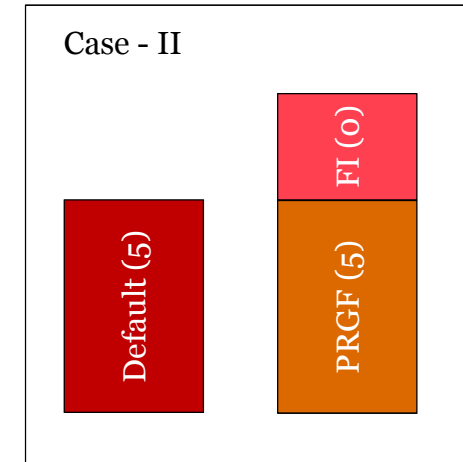
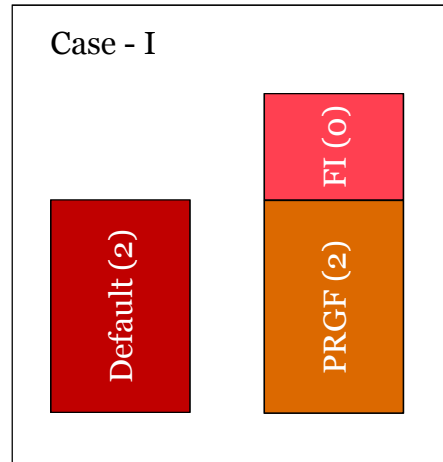
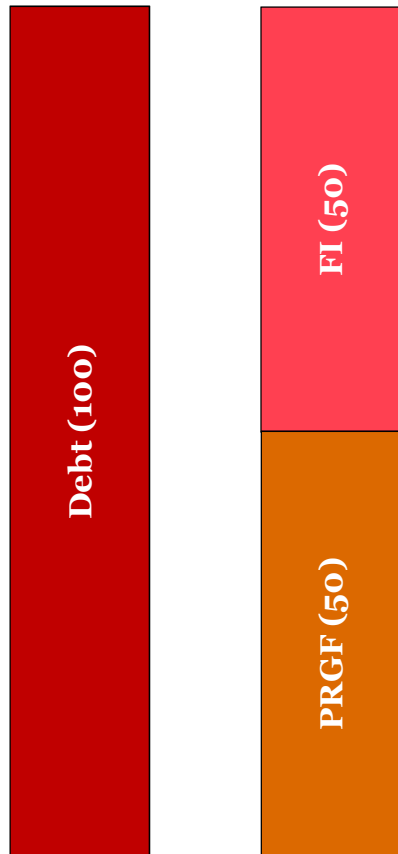


## ***Guarantee invocation***

The guarantee invocation process is as follows:

- PFI may invoke the guarantee within a maximum period of one year from date of declaration of the project as NPA provided 18 months have lapsed from the date of last disbursement of loan or payment of upfront fees whichever is later
- PRGF shall pay 75% of the claim against guarantee by the PFI, within 30 days, subject to the claim being otherwise found in order and complete in all respects
- Balance 25 per cent of the guaranteed amount will be paid on conclusion of recovery proceedings by the PFI

# Guarantee claim analysis



## ***Schemes for supporting lending institution through guarantee***

### ***Partial Risk Sharing Facility (PRSF)***



## ***Introduction to PRSF***

PRSF is a credit risk mitigating mechanism to provide PFIs with partial coverage of the default risk involved in extending loans for energy savings projects.

PRSF will support the financing of energy efficiency projects by:

- Addressing risks and barriers faced by PFI in financing ESCOs
- Structuring transactions involved in financing energy savings EE projects by standardizing contracting appraisal and other supporting documents
- Engaging PFIs and building their capacity to finance EE projects on commercially-sustainable basis

## ***Conditions of PRSF***

- **Extent of guarantee:** Maximum INR 15 crore or 50% of loan amount, whichever is less
- **Tenure:** Maximum tenure is 5 years
- **Guarantee fee:** 1% of guaranteed amount
- **Condition of Guarantee:** Loan amounts disbursed within a period of 18 months from approval date of guarantee
- **Loan repayment:** In accordance with terms and conditions of loan agreement and routed through TRA

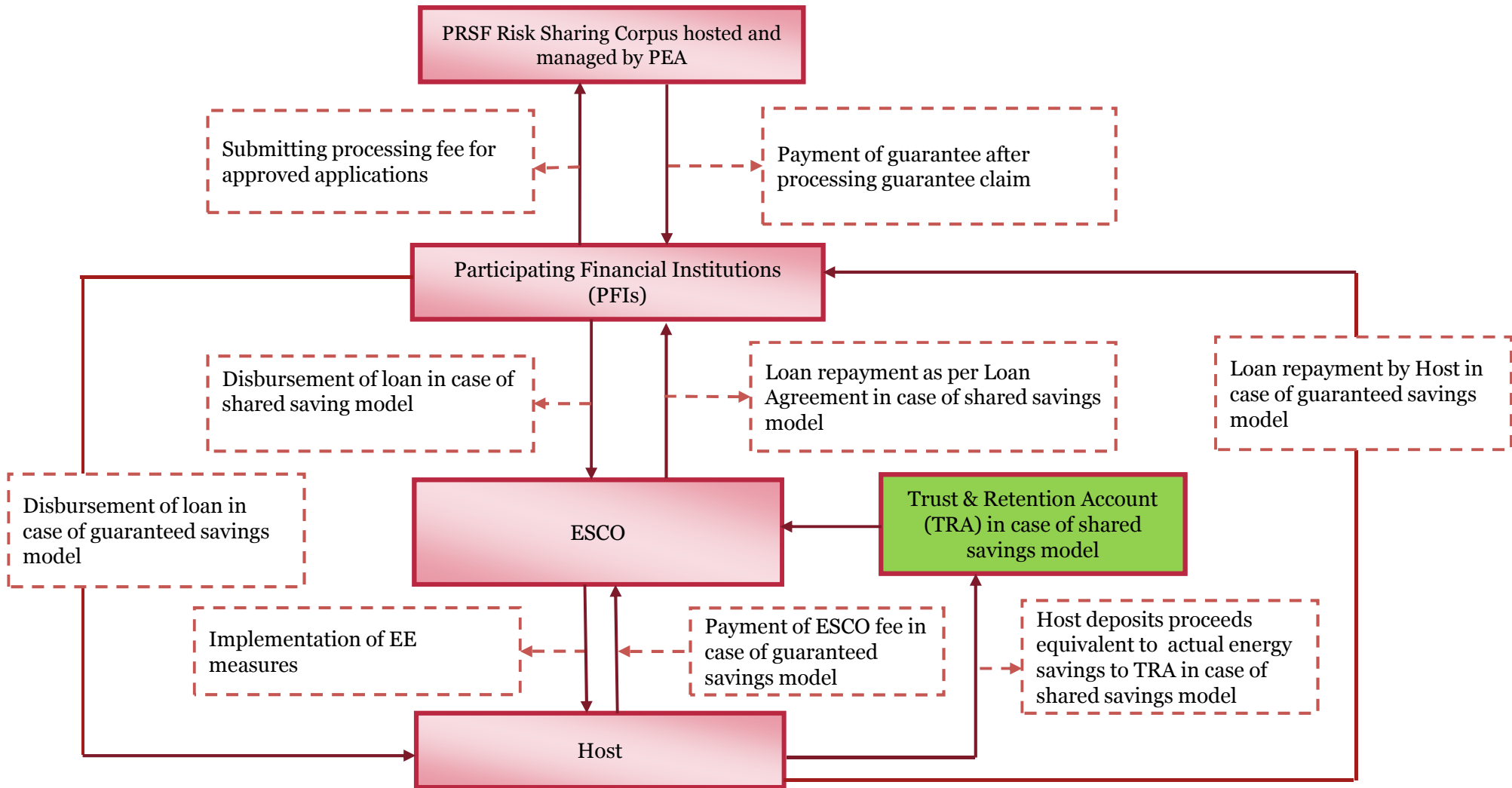
## ***Eligible projects under PRSF***

- Project being executed through ESPC with objective of bringing demonstrable energy savings and where either ESCO or the Host falls under MSME
- Expenditure on purchase, erection & commissioning, installation or modification shall minimum of 50% of the total project cost

## ***Projects not eligible under PRSF***

- Any project where performance of project is specifically guaranteed by any other Government scheme
- Project involving only substitution of conventional energy with off-grid or captive renewable energy source, with or without any savings in energy consumed

# Guarantee mechanism



## ***Guarantee invocation – guaranteed savings model***

- PFI can lodge a claim with PEA after it proceeds for legal action for recovery of any of the guaranteed loans provided 18 months having lapsed from date of completion of energy savings project
- PEA shall release to PFI 75% of the claim amount within 30 days of receipt of the complete information with regard to the Guarantee Claim
- Remaining 25% of the claim amount shall be paid to PFI within 30 days of being notified of the account being closed and documents as specified in this regard being received by PEA

## ***Guarantee invocation – shared savings model***

- PFI can lodge claim against the write-off, in case of restructuring and writing-off a part of the principal amount of loan under shared savings model
- Payment of claim in such event, shall be pursuant to PEA satisfying itself through:
  - Separate due diligence, by an external agency, of the books of account of PFI
  - M&V of the energy saving project through an entity appointed by PEA out of the panel of BEE-accredited energy auditors
- Decision of PEA with regard to admissibility of such a claim shall be final so, it will be recommended that PFI obtains such approval with regard to admissibility before giving effect to the restructuring.

***Equity financing scheme***

***Venture Capital Fund (VCF)***



## ***Salient features of VCF***

- VCF is a fund to provide equity capital for energy efficiency projects in government buildings, municipalities and MSMEs
- VCF shall provide last mile equity support to specific energy efficiency projects, limited to a maximum of 15% of total equity required, through Special Purpose Vehicle (SPV) or INR 2 Crores, whichever is less
- Investment period of fund is 5 years, with an option of early exit. The option for exit routes are:
  - Repurchase by the invested entities/ promoters
  - Strategic sale – mergers and acquisition
  - Initial Public Offering (India, foreign capital markets)

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# *Thank You*

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## ***Types of EE financing***

### **Recourse financing**

- Borrower personally liable
- Lenders have right to owe collateral as well as right to garnish wages or levy accounts
- Assessment is done on the basis of cash-flow of a project as well as balance sheet of the company
- E.g. if existing factory goes for expansion or home loan

### **Non-recourse financing**

- Borrower is personally not liable
- Lender cannot pursue other than collateral
- Assessment is done purely on the basis of cash-flow analysis of the project
- E.g. Phase I of solar PV projects bidding in JNNSM, MNRE

## ***Finance demand in MSME sector***

In 2010 MSME sector, total debt demand comprised of INR 26 trillion

Viable and addressable debt demand is estimated to be INR 9.9 trillion after excluding:

- Sick enterprises
- New enterprises (those with less than a year in operation)
- Enterprises rejected by financial institutions
- Enterprises that prefer finance from the informal sector

**Finance demand of MSME sector (INR trillion)**

