

22<sup>nd</sup> Meeting - Small and Medium Enterprises: Energy Efficiency Knowledge Sharing  
(SAMEEEKSHA) Platform



## Energy and Resource Efficiency Action Plan (MSME Sector)

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### Overview of presentation

- Overview of BEE and Programs
- Brief about initiatives for MSMEs
- Financing Mechanism
- Energy Efficiency Action Plan for MSMEs

## BEE and its Mandate

- EC Act and Bureau of Energy Efficiency

**Mission: 'Develop policy and strategies with a thrust on self-regulation and market principles within the overall framework of EC Act'**

- Develop schemes and Initiatives for energy conservation in all economic sectors
- Mission directorate of National Mission on Enhanced Energy Efficiency (NMEEE)
- BEE's Sectoral Initiatives (DSM, SDAs, ECBC)
- Create awareness and importance of Energy Efficiency and Energy Scenarios
- Create professional members, groups with expertise energy management (EA, EM, Energy auditing firms, ESCOs, etc.)
- Supported by States Designated Agencies at State level to implementation EC Act under section 15D and Schemes

## Areas of Interventions

### Strengthening Institutional Capacity of Partners

- Strengthening of State Designated Agencies (SDAs)
- International Cooperation

### Demand Side Management

- Agriculture DSM
- Municipal DSM
- Energy Efficiency in SMEs
- Capacity Building of DISCOMs

### Transport Sector

- Fuel Efficiency Norms
- Plug-in Electric Vehicle (PEV)

### Equipment & Appliances

- Standards & Labelling
- Super Energy Efficient Programme (SEEP)

### Awareness Programs

- General Awareness
- Energy Conservation Awards
- Painting Competition

### National Mission for Enhanced Energy Efficiency (NMEEE)

- Perform, Achieve and Trade (PAT)
- Market Transformation for Energy Efficiency (MTEE)
- Framework for Energy Efficiency Economic Development (FEEED)
- Energy Efficiency Financing Platform (EEFP)

### Buildings EE

- ECBC Commercial
- ECBC Residential
- Star Labelling of Buildings



# BEE- SME Programme – Achievements



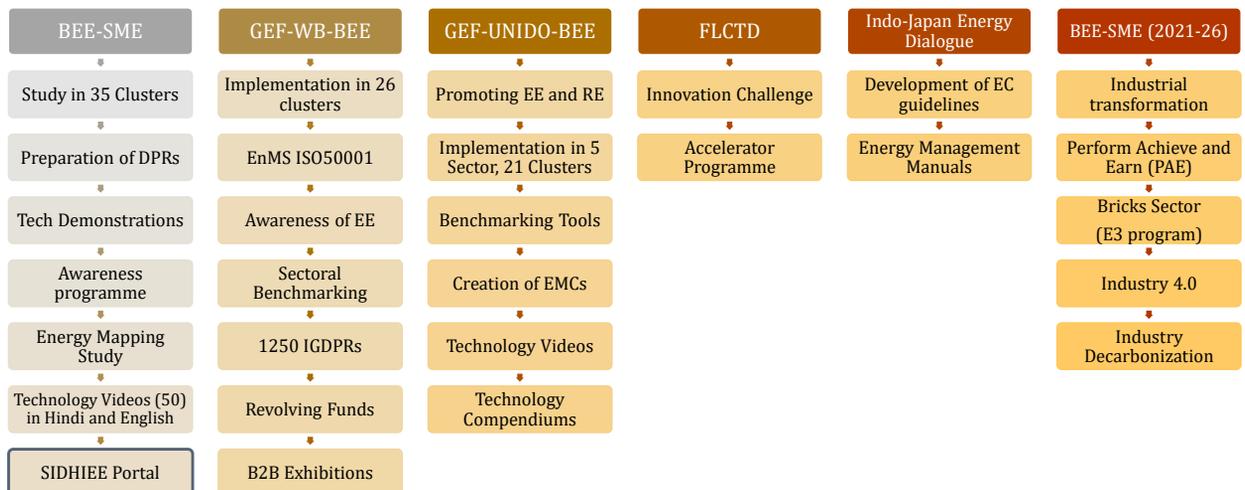
## Outreached more than 15000 SME units in 120 Clusters

<b>Technology Demonstration Projects</b>	-	<b>50</b>
<b>Energy Efficiency projects (Small to medium)</b>	-	<b>~2000</b>
<b>Detail Project Reports</b>	-	<b>2000 (BEE, World Bank and UNIDO Projects)</b>
<b>Capacity Building Workshops</b>	-	<b>200 and above</b>
<b>Trained Energy Auditors</b>	-	<b>800</b>
<b>Energy Conservation Guidelines</b>	-	<b>25 SME Sectors</b>
<b>Training to Professionals (FIs, LSP, etc)</b>	-	<b>1750</b>
<b>Multimedia Tutorials (EE Technology; Measures)</b>	-	<b>120 (Hindi and English)</b>
<b>Energy Management Centers</b>	-	<b>12</b>
<b>Investment attracted (UNIDO and WB)</b>	-	<b>~563 Cr</b>

## Knowledge portals (SIDHIEE and SAMEEEKSHA)

20 Periodical meets with SME clusters & Publishing and Circulating Quarterly newsletters for 12 years

# BEE- SME Program Journey



# Energy and Resource Mapping of MSMEs

## Energy Mapping of 9 MSME Sectors in India



**9** Energy intensive Sectors  
**45** Clusters  
 Additional 45 for knowledge sharing activities  
**450+** chosen for detail energy audits

## Outcome of Energy mapping Study

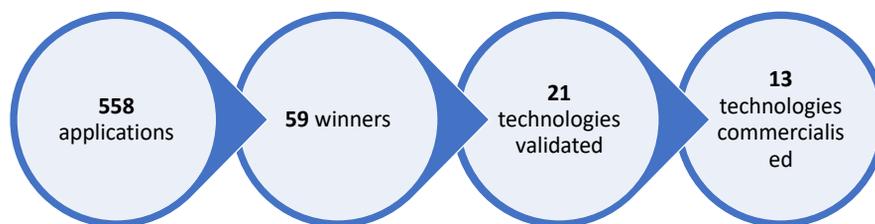
- Detail technology enabled policy roadmap for each sector
- Technology compendiums (125 Technologies)
- Energy Efficiency Benchmarks (process level)
- Knowledge products
  - Sectoral energy consumption and forecast upto 2030-2040
  - Assessment of needful services (skills, technology vendors)
  - RE potentials
  - Investment potentials
- Action plan for 2030 and 2070

## Achievements of FLCTD Project

FLCTD is an 8-year project implemented by the United Nations Industrial Development Organization (UNIDO) in collaboration with the Bureau of Energy Efficiency and is funded by the Global Environment Facility (GEF).

### Technology Verticals

- Waste Heat Recovery, Pump & Pumping System and Space Conditioning
- Electrical Energy Storage, Industrial IoT, Industrial Resources Efficiency



## Achievements of GEF-World Bank-BEE Project

- 1257 Investment Grade Detail Project Reports were prepared
- Estimated replication of EE investments achieved were about 16971 million INR
- Aggregate value of direct EE investments (access to commercial finance) was about 3322 million INR
- Estimated potential and replicable carbon reduction potentials 17.59 Mt CO<sub>2</sub>
- The project had outreached 9167 SME Units
- Trained 750 Energy Auditors
- Trained 1120 professionals from Financial Intuitions
- Implementation support on ISO 50001 to 50 Units
- 5 Energy Efficiency Demonstration Videos were developed
- 14 -B2B vendor interfacing events conducted
- Felicited 534 units for energy conservation award
- Trained 133 shop floor employees on best practices

## Achievements of GEF-UNIDO-BEE Project

- Focused to 29 clusters in 5 sectors
- 1198 Small scale projects implemented in SMEs
- 300 Detail Project Reports
- 21 Pilot Projects implemented
- 7 International study tours organised
- 230 SME stakeholders trained with National Productivity Council
- 95 Capacity Building workshops were conducted
- 603 EE and RE measures implemented
- Benchmarking tool for 6 sectors developed
- 29 Energy Management Centres established
- 500 Local Service Providers were trained
- **Attracted investment of 23139 Lakh INR**

## BEE- SME Programme – Future Actions



## Broad Indicators envisaged by 2025-26

Pilot Demonstrations <b>180</b>	Perform Achieve and Earn <b>500</b>	Technical Assistance <b>800</b> Units	Industrial De carbonization <b>10</b>
Implementation of EC Guidelines <b>500</b>	Implementation of ISO50001 <b>380+</b>	Financial Platform and guidance <b>100</b>	Energy Clinics <b>100</b>
Energy Management Centers <b>20</b>	Initiatives through SDAs and CFCs	Bricks E3 Scheme <b>7000</b>	Sectoral Energy Mapping <b>12</b> Sectors; <b>60</b> Clusters <b>600+</b> Units

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## Investment Potentials in Industry

Sectors	Moderate Energy Savings by 2031 (Mtoe)	Energy Savings Investment by 2031(Rs. crore) - Moderate Savings Scenario	Energy Savings Investment by 2031( Rs Crore) - Ambitious Savings Scenario
Agriculture	5.7	51,450	89,004
Commercial	4.9	81,154	105,701
Domestic	12.1	120,233	145,420
Municipal	0.9	8,337	13,389
Industrial	47.5	515,116	601,210
Transport	15.8	226,039	365,706
Total	86.9	1,002,329	1,320,630

Source: BEE's UNNATEE Report 2019

## Energy Efficiency Financing Initiatives

- BEE's financial instruments in the past
- Current Action Plan
  - Grading of EE Projects
  - Creation of Facilitation Centers
  - ADEETIE

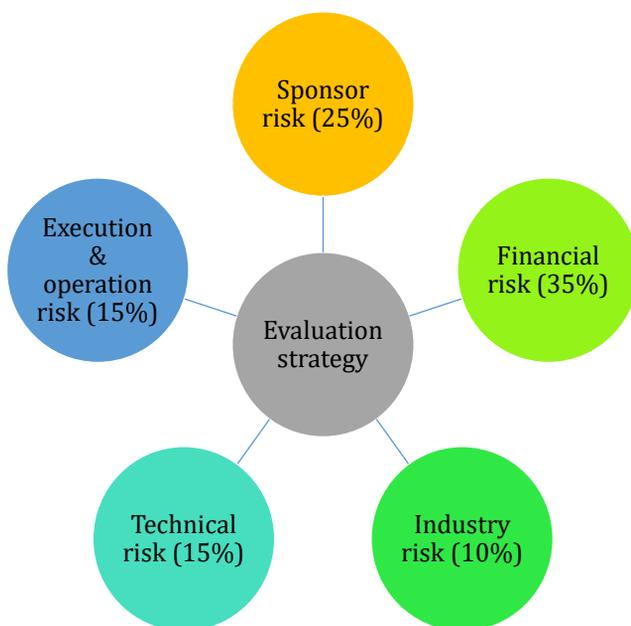
## BEE's programmatic initiatives on financing (Industry)

- **Soft Financing**
  - Demonstration project in SMEs – ~100 Demonstration projects
  - Assistance for conducting energy audits, development of knowledge products
- **Creating an aggregated demand of technology**
  - Under GEF-UNIDO-BEE Project 17,000 BLDC fans were deployed (Cost reduced 2700 – 1850)
- **EE Financing for MSME project was operationalized 2010-19**
  - 1258 IGDPs were prepared (244 – Faridabad)
  - 1067 Units implemented suitable measures with an investment of 321Cr.
  - Revolving Fund (4E Financing Scheme) -28% contribution to the loan.
- **Enhancing existing financial initiatives**
  - Included 125 EE technology/measures in CLCSS Scheme for 25%

## Grading of EE Projects

- BEE has launched a pilot program to undertake grading of 100 EE Projects
- Enabling the borrowers to approach FIs for attractive financing options
- BEE has empaneled two agencies (CRISIL and SMERA) for rating/grading the projects
- BEE shall reimburse grading cost of maximum Rs. 3 lakh per project
- The proposed reimbursement amount will be reimbursed as per the following :-
  - Identified cost till Rs. 1 Cr loan / Upto Rs. 3 Lakh for loan above Rs. 1 Cr
- Eligible borrowers are – SMEs, Large industries, OEMs, ESCOs, Central/ State government offices
- Project's energy saving should be minimum 10%, and the loan size should be in the range of Rs. 25 lakh to Rs. 1 crore.

## Grading of EE Projects - Evaluation Strategy



Grade	Score	Repayment capability of project debt
Grade 1	90 – 100	Excellent
Grade 2	80 – 89	Very Good
Grade 3	70 – 79	Good
Grade 4	60 – 69	Above Average
Grade 5	50 – 59	Average
Grade 6	30 - 49	Weak
Grade 7	0 -29	Weakest

**(ADEETIE)**

## Assistance in Deploying Energy Efficient Technologies in Industries & Establishments

### Interest Subvention scheme

- a. Interest Subvention between 4-8% for EE projects.
- a. Interest Subvention with two different rates, is proposed for the following two categories:
  - i. MSME, North Eastern sector and select New Technology areas @ 5%
  - ii. Non-MSME sector @ 4%.
- b. PFC will be the Nodal Agency for interest subvention.
- c. Interest Subvention on loans financed by PFC will be reimbursed on Monthly Basis.
- d. Interest Subvention on loans financed by institutions *other than PFC*, will be reimbursed on Annual Basis.

**(ADEETIE)**

- **PFC was appointed as a nodal agency.** It will work in consultation with BEE for becoming knowledge based champion organization for lending programs. Energy Efficiency Financing Dept (EEFD), an appraisal unit shall be constituted in PFC.
- **Eligible borrowers:** MSMEs and Large Industries
- **Financing Arrangement:** Loans greater than and equal to Rs. 25 crore are proposed to be funded only by PFC and loans below Rs.25 crore are extended by SIDBI/IREDA and other Banks & NBFCs.
- **DE Ratio is proposed:** 80:20 for MSME , NE State Industries and New EE Technology Industries & 70:30 for Non-MSME sectors.
- Proposed fiscal support requirement is **INR 2000/-** crore for overall working for the duration of 5 years

**(ADEETIE)**

- Considering that interest subvention of 4%, 6% AND 8% based on different potential saving levels

Project cost (Rs. Crore)	Threshold energy savings per project (%) for 4% interest subvention	Threshold energy savings per project (%) for 6% interest subvention	Threshold energy savings per project (%) for 8% interest subvention
<b>MSMEs</b>			
Rs. 50 lakh to Rs. 5 crore	5%	10%	20%
More than Rs. 5 crore	10%	15%	25%
<b>Large Industries</b>			
Rs. 50 lakh to Rs. 5 crore	7%	15%	25%
More than Rs. 5 crore	12%	20%	30%

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**Facilitation Centre for EE Financing**

BEE's dedicated IT Platform for mobilizing Energy Efficiency Financing in the country.

<https://www.adeetie.beeindia.gov.in/bee-facilitation-centre>

- Objective of the platform is to facilitate the MSMEs and FIs for Ease of Doing Business
- Encourage EE financing in the country
- Develop a repository of latest technologies, verified by experts
- Development of Portal
  - Capacity building of EE technologies
  - Accessing expression of interest from stakeholders
  - Tracking the status of financing

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# Facilitation Centre for EE Financing



## IT Platform ([adeetie.beeindia.gov.in](http://adeetie.beeindia.gov.in))



-  This IT Platform shall provide one-stop solution for energy efficiency financing.
-  The beneficiaries will submit their willingness request online
-  Financial Institutions shall also able to receive the notification and submit their comments online
-  The list of EE technologies shall also be uploaded on this IT Platform.
-  The details of existing EE financing schemes shall be available in this platform.
-  The details of tentative rate of interest offered and KYC documents by different FIs shall also be available

## IT Platform ([adeetie.beeindia.gov.in](http://adeetie.beeindia.gov.in))

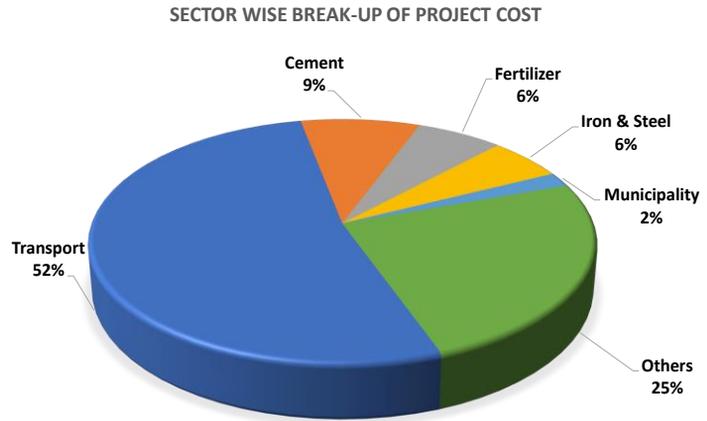


-  STEP- 1 Submit the willingness form
-  STEP-3 Review and Screening of application
-  STEP – 3 Request for submission of technical details
-  STEP- 4 Technical evaluation of the application
-  STEP-5 Submit the report to FIs

## IT Platform (adeetie.beeindia.gov.in)

States	Willingness forms (No.)	Total Project Cost (Rs. Lakh)
Andhra Pradesh	28	41230
Arunachal Pradesh	4	100
Assam	1	NA
Bihar	4	2432.85
Chattisgarh	1	NA
Goa	1	60
Gujarat	7	72640
Haryana	8	6244
Telangana	7	14957
Jharkhand	1	5000
Karnataka	7	7136
Kerala	6	NA
Madhya Pradesh	5	139.9
Maharashtra	27	23135
New Delhi	1	62000
Orissa	5	8228
Punjab	6	4394
Rajasthan	2	690
Tamil Nadu	8	1873.25
Uttar Pradesh	10	27603
Uttarakhand	7	3094
West Bengal	2	165
<b>Total</b>	<b>148</b>	<b>281122.00</b>

## Summary of projects identified by Facilitation Centre



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## Energy Efficiency Incentives Program for SMEs

- **BEE will be launching Perform Achieve and Earn (PAE) Scheme for MSMEs**
  - Opportunities for SMEs to participate on voluntary basis
  - Earn ES certificates upon achieving the energy efficiency targets
  - Opportunity to trade in IEX Power exchange
  - BEE may buy the ES Certs
  
- **Demonstration of EE technologies in MSME Clusters**
  - MoU with the Cluster Level associations
  - Offer financing support for demonstration of selected EE technologies
  - Project Implementation support
  - 100 Demonstration have been envisaged

## Action Plan for Perform Achieve and Earn (PAE) Scheme

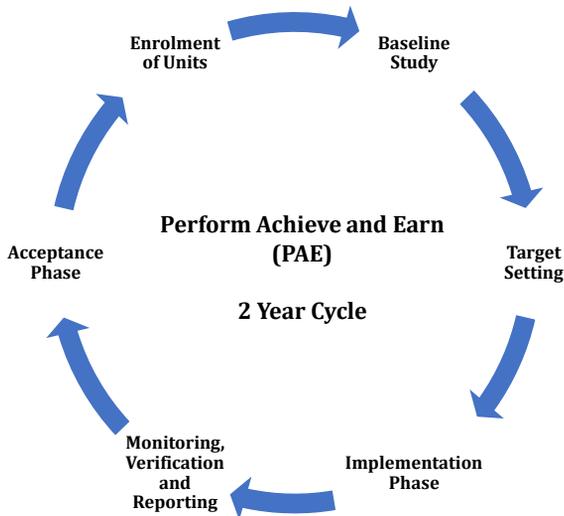
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### BEE would like to approach a Voluntary mode scheme for SMEs

- Incentive-oriented compliance mechanism
- Promote the voluntary uptake of energy conservation in SMEs
- Issue ES Certs to successful SME units (BEE may value the ES Certs based on ongoing monetary value of ES Certs rolling in PAT and BEE may purchase the ES Certs)
- BEE in the pilot phase wish to focus Foundry and Dairy Sector
- Following are the estimate on range of energy savings and cost of ES certs

No of Units (Foundry and Dairy)	Range of Energy savings/unit	Energy Savings (toe)
400	5-15 toe	360-1080



## Scope for Expansion

Forging, Steel Re-Rolling, Ceramics, Glass, Refractories, Bricks sectors has potentials to take benefit of PAE in future cycles

Probably, the best program to get the SMEs under a umbrella program for monitoring Scope for classification/grading of units (Similar to Japanese model)

**Thank you**

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