



Government of India
MINISTRY OF POWER

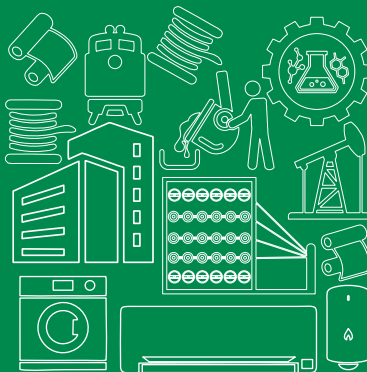


Bureau of Energy Efficiency



FREQUENTLY ASKED QUESTIONS

Related to BEE Schemes for SDA



State Designated Agencies (SDAs) for Energy Efficiency



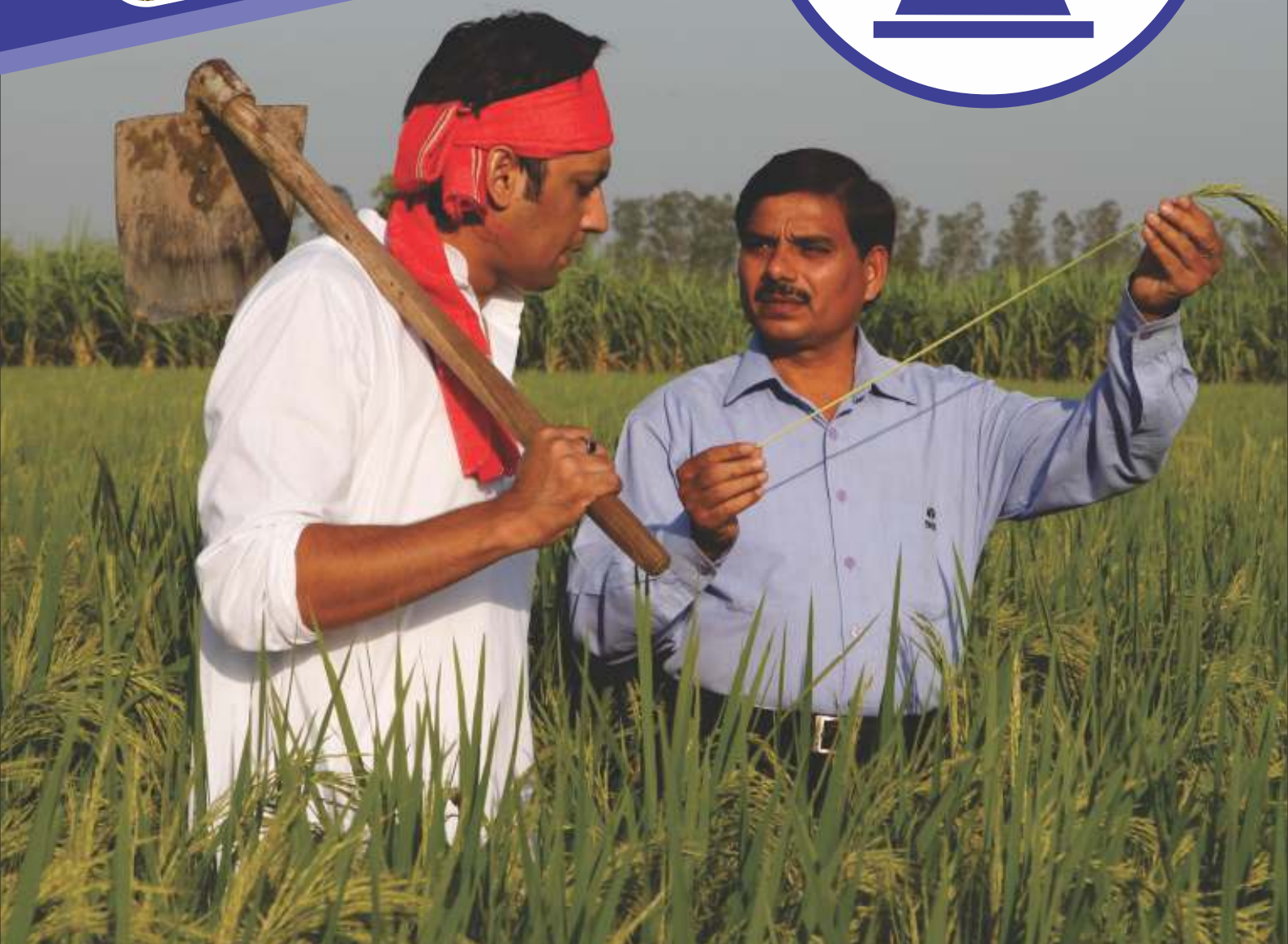
State	Name of the SDA	State	Name of the SDA	State	Name of the SDA
Andaman and Nicobar Islands	Electricity Department, Andaman and Nicobar Islands	Himachal Pradesh	Directorate of Energy, Govt. of HP	New Delhi	Energy Efficiency And Renewable Energy Management Centre
Andhra Pradesh	Andhra Pradesh State Energy Conservation Mission	Jammu and Kashmir	J&K Power Development Department	Orissa	State Designated Agency, Odisha
Arunachal Pradesh	Arunachal Pradesh Energy Development Agency	Jharkhand	Jharkhand Renewable Energy Development Agency	Punjab	Punjab Energy Development Agency
Assam	Assam State Designated Agency	Karnataka	Karnataka Renewable Energy Development Limited	Puducherry	Renewable Energy Agency Puducherry
Bihar	Bihar Renewable Energy Development Agency	Kerala	Energy Management Centre Kerala	Rajasthan	Rajasthan Renewable Energy Corporation Limited
Chandigarh	Chandigarh Electricity Department	Lakshadweep	Lakshadweep Electricity Department	Sikkim	Sikkim State Designated Agency
Chhattisgarh	Chhattisgarh State Renewable Energy Development Agency	Madhya Pradesh	Madhya Pradesh Uja Vikas Nigam Limited	Tamil Nadu	Tamil Nadu Electrical Inspectorate
Dadra and Nagar Haveli	Dadra Nagar Haveli Power Distribution Company Limited	Maharashtra	Maharashtra Energy Development Agency	Telangana	Telangana State Renewable Energy Development Corporation Limited
Daman and Diu	Daman Electricity Department	Manipur	Manipur State Power Distribution Company Limited	Tripura	Tripura State Electricity Corporation Limited
Gujarat	Gujarat Energy Development Agency	Meghalaya	Meghalaya State Designated Agency	Uttarakhand	Uttarakhand Renewable Energy Development Agency
Goa	Goa Electricity Department	Mizoram	Mizoram State Designated Agency	Uttar Pradesh	Uttar Pradesh New & Renewable Energy Development Agency
Haryana	Haryana Renewable Energy Development Agency	Nagaland	Nagaland State Designated Agency	West Bengal	West Bengal State Electricity Distribution Company Limited

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FREQUENTLY ASKED QUESTIONS ON AGRICULTURAL DEMAND SIDE MANAGEMENT (AgDSM)



Q.1 What is DSM?

Ans. Demand Side Management (DSM) is described as the planning, implementation and monitoring of utility's activities designed to encourage customers to amend their electricity consumption patterns, both with respect to timing and level of electricity demand so as to help the customers to use electricity more efficiently.

Q.2 How much energy saving can be achieved by using star labeled pump sets?

Ans. Studies reveal that energy saving of about 30%-40% is possible to be achieved in agriculture sector by adoption of Energy Efficient Star Labelled Pump Sets.

Q.3 What kind of activities and programmes can be undertaken under AgDSM programme?

- Ans.**
- Stakeholder consultation and capacity building for DISCOMs, SERCs, SDAs, manufacturers to mandate use of EE pumps for new connections.
 - Financial assistance to farmers for EE pumps for in accordance with pump capacity.
 - Creating awareness among farmers by using print media and channels.
 - Conducting awareness workshop for farmers through Krishi Vigyan Kendras (KVKs).
 - Organizing training workshops for technicians on best practices on over hauling and maintenance.
 - Development of mobile apps for farmers and technicians.
 - Providing financial support to set up one regional testing lab in the North, West, South and East of the country, and one testing lab at national level.

Q.4 How has BEE collaborated with Indian Council of Agricultural Research (ICAR) under its AgDSM programme?

Ans. An MoU was signed between Indian Council of Agricultural Research (ICAR) and Bureau of Energy Efficiency (BEE), Ministry of Power, to create awareness for energy efficient pumpsets and operational practices so as to adopt energy and resource efficient approaches with aim to create awareness on energy efficiency and conservation in agricultural practices, particularly in using agriculture pumpsets, tractors and other machines and to improve fuel and water resource use efficiency thereby reducing the cost of cultivation so as to increase farmer's income in harmony with strategies of "Per drop more crop" and "Doubling Farmers' income".

Q.5 What are the obligations of SDAs under AgDSM programme?

- Ans.**
- I. SDA shall have to be more focused on its advocacy role in intra govt. departments. Eg Dept. of Agriculture, SERCs, DISCOMs etc. for mandating use of star labeled agricultural pumpsets in states.
 - II. SDA should undertake stakeholder consultation meetings and capacity building sessions for DISCOMS, SERCs and manufacturers to ensure the mandate of the EE pumps for new connections.

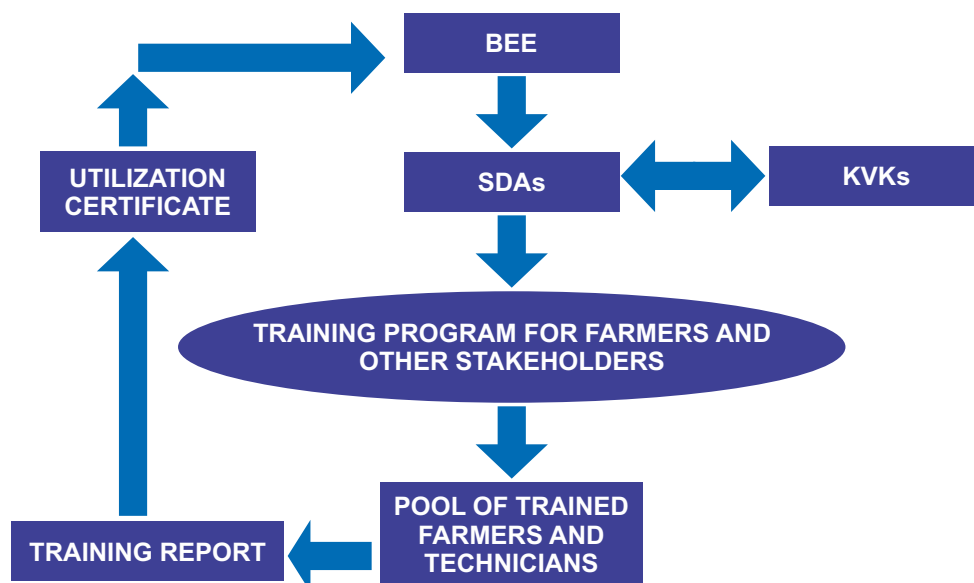
- III. SDA in consultation with BEE should focus towards conducting large scale awareness programs for farmers to promote the adoption of EE pumps in coordination with KVKs.
- IV. SDAs may create awareness through print, electronic media (including television and local radio channels), village cultural events, Gramin Sabha and Panchayat initiated public events.
- V. SDAs in coordination with BEE, may consider organizing training programs for pump technicians who have a major role to play in replacing old inefficient pumps with BEE star rated pumpsets.
- VI. SDAs in coordination with BEE can also issue a certificate to these trained technicians post successful completion of training program. This certification could be used by technician to participate in various govt. programs.
- VII. SDAs will require to submit the Utilization Certificate (UC) and project completion report after successful implementation of the program.

Q.6 What initiatives should be undertaken by SDAs to overcome the barriers faced in implementation of AgDSM pilot projects?

- Ans.**
- Facilitate State Designated Agencies/State governments to mandate the use of star labeled pump sets.
 - Technical assistance and capacity development of all stakeholders i.e. SDAs, SERCs and DISCOMs.
 - Open house session for farmers to increase awareness and encourage their participation in Ag DSM scheme.

Q.7 What will be the channel for the financing of awareness programs for farmers and targeted stakeholders?

- Ans.** The channel for financing of awareness programs is shown below in flow chart. These programs may be conducted with the help of Krishi Vigyan Kendra (KVKs).



**FREQUENTLY ASKED QUESTIONS
ON BUILDINGS PROGRAMME
(ECBC, ECO NIWAS SAMHITA (PART-I),
STAR RATING OF COMMERCIAL BUILDINGS)**



Q.1 Is ECBC applicable to all type of buildings?

Ans. The ECBC is applicable to all buildings or building complexes that have a connected load of 100 kW or greater, or a contract demand of 120 kVA or greater (or may be made stringent at State level) and used for commercial purposes. It is applicable for both Government and private buildings. The code is not applicable to Equipment and portions of building systems that use energy primarily for manufacturing processes.

Q.2 What is the modality of amendment of ECBC and ECBC Rules at State level?

Ans. As per Section (15) of EC Act 2001, State Govt. can modify ECBC as per the climatic conditions of the state. But it has to be ensured that the stringency of the code is not diluted in the process. The ECBC Rules can be amended as per the state framework of building approval system.

Q.3 What are the activities carried out by ECBC Cell?

Ans. List of activities carried out by ECBC Cell is as follows:

- Task 1: Provide technical assistance for ECBC implementation and enforcement in the state(s)/UT(s)
 - a. Develop roadmap for ECBC implementation.
 - b. Propose revision of bye-laws/ General Development Control Rules (GDCR) documents to include ECBC clauses.
 - c. Develop ECBC Rules for effective enforcement of code .
 - d. Prepare draft ECBC in consultation with the stakeholders for notification & enforcement in the state. (Refer ECBC 2017). If ECBC has already been notified, then assist in the amendments of the code as per ECBC 2017.
 - e. Review and compilation of existing government rules/orders/notifications and guidelines related to efficient use of energy in buildings.
 - f. Data collection (specifically, energy consumption data) from DISCOMs for buildings under the scope of state amended ECBC.
 - g. Provide technical assistance for ECBC enforcement
 - Provide hand-holding support to the Urban Local Bodies (ULBs) / SDA/ State Govt. for evaluating ECBC compliance of application submitted for getting building construction and occupancy permits.
 - Assist in establishing ECBC compliance tools and processes, energy monitoring and verification system.
 - Coordinate with central government, state government departments and urban local bodies (ULBs) departments to enforce ECBC.
- Task 2: Provide technical assistance to commercial buildings to ensure ECBC compliant design
 - a. Identify potential commercial projects in discussion with ULB/SDA/ stakeholders.
 - b. Provide technical assistance to ensure that the proposed design is ECBC compliant.
 - c. The projects Techno-Commercial Feasibility Report should elaborate on:
 - Methodology for technical analysis or assessment

- Definition of inputs and assumptions
 - Outputs and results
 - Conclusions and Recommendations
 - Specifications of proposed strategies/technologies; and
 - Financial feasibility analysis
- Task 3: Organise ECBC awareness and ECBC training programs
 - a. Training-A: Organise awareness programme (1-day duration) on ECBC for building sector stakeholders e.g. administrators, government officials, architects, engineers, developers, builders etc. (at least 30 participants).
 - b. Training-B: Organise training programme (2 days duration) for building sector stakeholders (architects, engineers, developers, builders, municipal officials) on the content of ECBC (at least 25 participants).
 - c. Training-C: Organise training programme (2 days duration) for building sector stakeholders (preferably TPAs, municipal officials, etc.) on ECBC compliance using EMIS-BEP tool (at least 25 participants).

Q.4 What are the different compliance approaches to meet ECBC compliance?

Ans. There are three compliance approach to meet ECBC compliance:

- a. PRESCRIPTIVE Approach
 - Flexibility: LOW
 - Expert Knowledge: LOW
 - Requires little energy expertise, provides minimum performance requirements, no flexibility
- b. BUILDING TRADE OFF Approach
 - Flexibility: MEDIUM
 - Expert Knowledge: MEDIUM
 - Allows some flexibility through the balance of some high-efficiency components with other lower efficiency components
- c. WHOLE BUILDING PERFORMANCE Approach
 - Flexibility: HIGH
 - Expert Knowledge: HIGH
 - Allows flexibility in meeting or exceeding energy efficiency requirements (as compared to a baseline building)

Q.5 Does water conservation come under the scope of ECBC?

Ans. No, ECBC addresses only energy efficiency of buildings. Water and other aspects are generally covered in green building rating systems.

Q.6 If there are additions or alterations to the existing buildings (Retrofits and Refurbishments), how should they comply with the Code?

Ans. Compliance may be demonstrated in either of the following ways:

The addition shall comply with the applicable requirements, or the addition, together with the entire existing building, shall comply with the requirements of this Code that shall apply to the entire building, as if it were a new building. Exceptions are when space conditioning is provided by existing systems and equipment, the existing systems and equipment need not comply with this code. However, any new equipment installed must comply with specific requirements applicable to that equipment.

Q.7 What should be the preference for selecting a building for demonstration of ECBC in state through ECBC Cell?

Ans. Preference has to be given to Public buildings, where it is ensured that the Energy Conservation Measures (ECMs) recommended in feasibility report shall be adopted in the building design. Private buildings can be taken up if there isn't any up-coming public building project in the state.

An undertaking from the building owner has to be taken on successful approval of feasibility report for ECBC compliance that the same shall be adopted in the building.

Q.8 Who is the Authority having Jurisdiction and what is its role?

Ans. The Authority having Jurisdiction (AHJ) varies from State to State, it is usually the ULB (municipality department) / Urban Development Department (UDD) / Town Planning Dept. who is the approving authority for building plans and sanction of occupancy / completion certificate.

The state can decide that the final compliance check is carried out by AHJ or through compliance certificate from SDA post verification of submitted documents and inspection, if required.

Q.9 Is it necessary to show ECBC compliance through simulation software?

Ans. A building following the whole building performance approach shall show compliance through a whole building energy simulation software that has been approved by BEE.

Q.10 Where can user find weather data for any city for energy simulation?

Ans. The Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE) provide weather data for Indian locations for simulations. Weather files can be downloaded from Energy Plus website for Indian cities given on the link below.

In case where the weather file is not available for a location, the closest possible available weather file in terms of climate type / altitude and latitude has to be considered.

https://energyplus.net/weather-region/asia_wmo_region_2/IND%20%20

Q.11 If building sector is added in PAT scheme than why ECBC has to be implemented?

Ans. ECBC is implemented in new buildings from the design stage. Whereas PAT scheme is for existing buildings (Designated consumers).

Q.12 Who are the major stakeholders in the state for implementation/enforcement of ECBC?

Ans. State Designated Agency, Urban Local Bodies, Urban Development Department, Town and Country Planning Department, Public Works Department, Electrical Inspectorate, CREDAI, Institute, Architects, Engineers, Developers etc.

Q.13 Who shall be responsible for ECBC compliance certificate in the state, ULB or SDA?

Ans. It is state specific decision which has to be decided in consultation with different state departments relevant in the process.

Q.14 What is the modality of ECBC compliance in the state till the identification of Energy Auditor (Building)?

Ans. ECBC empaneled firms and professionals and ECBC master trainer may look after the compliance in the state till the identification of Energy Auditor (Building) at national level.

Q.15 What is Eco Niwas Samhita 2018 (Part-I: Building Envelope)?

Ans. The Eco-Niwas Samhita 2018 or the Energy Conservation Building Code for Residential Buildings (ECBC-R) has been introduced by BEE to ensure that all our future houses are designed to be energy efficient. The 2018 version is the Part 1 of the Code which focuses on the Building Envelope (roof, walls and windows). It sets minimum building envelope design standards to:

- Limit heat gains (for hot climates) and limit heat loss (for cold climate)
- Improve natural ventilation potential
- Improve day lighting potential

Q.16 What kind of buildings fall in the ambit of Eco-Niwas Samhita 2018 (Part I: Building Envelope)?

Ans. The code is applicable on:

- a. 'Residential buildings' built on a plot area ≥ 500 m² and
- b. Residential part of 'Mixed land-use building projects', built on a plot area of ≥ 500 m². However, states and municipal bodies may reduce the plot area based on the prevalence in their area of jurisdiction.

The following are excluded from the definition of 'residential building':

- a. Lodging & Rooming Houses
- b. Dormitories
- c. Hotels

Q.17 How many climate zones are covered in Eco-Niwas Samhita 2018 (Part I: Building Envelope)?

Ans. The Eco-Niwas Samhita 2018 (Part I: Building Envelope) is developed for four climate zones viz. Composite, Hot-Dry, Warm-Humid and Temperate.

Q.18 What type of information is required for checking a building's compliance with Eco-Niwas Samhita 2018?

Ans. For compliance checking, information required is:

- Architectural drawings (plans, section and elevations) and
- Construction details (material and its thickness) for wall, roof and fenestration is required.

With this information, calculations for compliance check can be done for calculating RETV (Residential Envelope Transmittance Value) in either of following ways:

- Manually, as explained in the code document through the equation
- Using a compliance check tool, which can be downloaded from <https://beeindia.gov.in/latest-news/eco-niwas-samhita-2018-part-i-building-envelope-book-film-tool>

Q.19 Which type of commercial buildings can apply for Star Rating?

Ans. Four types of categories: Office Buildings, BPO Buildings, Shopping Malls, Hospitals are included under Star Rating of commercial buildings.

Q.20 What are the climate zones covered under different categories of buildings for Star Rating of commercial buildings?

Ans. For different categories of buildings, the following different types of climate zones are covered:

Category of buildings	Climate Zones Covered
Office Buildings	<ul style="list-style-type: none">• Composite• Warm & Humid• Hot and Dry
BPO Buildings	<ul style="list-style-type: none">• Composite• Warm & Humid• Hot and Dry• Temperate
Shopping Malls	<ul style="list-style-type: none">• Composite• Warm & Humid• Hot and Dry• Temperate
Hospitals	<ul style="list-style-type: none">• Composite• Warm & Humid• Hot and Dry• Temperate• Cold

Q.21 What is the registration fees for star rating of commercial buildings?

Ans. Non-refundable registration fee of Rs.1,00,000 (Rupees One Lakh) only in the form of a crossed bank draft issued in the name of "Bureau of Energy Efficiency" and payable at New Delhi.

Q.22 What is the manner of display of star rated steel plaque?

Ans. The manner of display of the label would be such that it is at a place of prominence like at the entrance of building and at a height of 5 feet as measured from the bottom of the label with respect to the floor level.

Q.23 Are any incentives/rebates in tax etc. available after getting star rated certificate?

Ans. Currently, there is no such provision.

Q.24 Whether GST is included in the lump-sum financial cost quoted by Agency for establishment of ECBC Cell?

Ans. The financial proposal submitted by agencies includes all expenses and tax liabilities associated in execution of the deliverables as per the RfP except the GST. GST, if any, shall be applicable/provided as per the prevailing rates. (Quoted value is excluded of GST amount).

*This is regarding current RFP, "Hiring of Agency to provide Technical assistance to implement Energy Conservation Building Code (ECBC) in State(s)/UTs" for creation of 17 ECBC Cells covering 23 states and 4 UTs.

FREQUENTLY ASKED QUESTIONS ON ENERGY CLUBS



Q.1 Why is it necessary to educate students about energy efficiency?

Ans. Conservation and efficient use of energy has long been identified as the priority area for the Government of India. It is important that next generation is educated, and they are aware how to efficiently use the energy resources. Children spend a considerable amount of time in schools, therefore, it is essential to inculcate the importance of energy conservation amongst school children.

Q.2 What are Energy Clubs and what is the aim of their establishment?

Ans. BEE through Energy Clubs aims to create awareness among school students, who in turn, will sensitize their peers, families and community towards energy conservation through dynamic and innovative measures. BEE's objective is to expand the programme manifold and make it the biggest and most impactful energy conservation and efficiency programme in the country. Further, it wants to connect the principal, faculty and students who will be the torch bearers in changing their school, home and neighborhood through inculcation of lifestyle change.

Q.3 How do we start Energy Clubs at our school?

Ans. The interested schools can establish Energy Clubs by contacting respective nodal officers of their states. Further, already existing clubs (like Eco clubs) can also be considered for their strengthening to include energy efficiency and conservation activities.

Q.4 How do we run energy clubs in our schools?

Ans. An equal participation from the Principal, faculty and students is necessary to run these energy clubs. To ensure that Club activities are undertaken on a daily basis and to gauge impact of the activities on each member of the Institution, a Committee needs to be formed. The Committee can be comprised of the following individuals:

1. President/Chairperson – The Principal
2. Secretary – Vice Principal / Senior most faculty
3. Treasurer – Financial Expert
4. Team Manger – One of the faculty members
5. Youth Representative – One representative from each class (Class VII-Class XII)

Q.5 What are the major roles of the members of the Committee on Energy Clubs?

Ans. Role of the President/Chairperson

- Chair Committee meetings.
- Set the strategic and operational goals for the club.
- Lead the club and act as an ambassador for all aspects of the club.
- Supervise the Implementation of activities under the Club.
- Assess the Impact of the activities carried out in the Club.

Role of the Secretary

- Analyze participation and consider ways of increasing participants.
- Keep the list of upcoming activities up-to-date and ensure the President, faculty and youth representatives are aware of it.
- Review the performance of the club and communicate with the Institution.
- Recognition of the champion (student) who have gone out of the way to promote energy efficiency.

Role of the Treasurer

- Draw up a Club budget.
- Keep records of income and expenditure.
- Compile an end of year financial report to be submitted along with the Secretaries annual report.
- Prepare the club's budget, present it to the board for approval, and ensure that club activities adhere to the budget.
- Maintain accurate financial records throughout the year to be reviewed at any time by members, other officers, or administration.

Role of the Team Manager

- Administration and management of the team.
- Training of the youth representatives.
- Acting as liaison officer between the Chairperson, Secretary and the youth members.
- Ensure the Club members meet fortnightly to plan activities for the coming month and discuss the progress for the past month.
- Encourage youth representatives to attend daily activities and seek their suggestions for the month.

Role of youth representative

- Take training modules from the trainer.
- Motivate peers, juniors and seniors to inculcate habits that will promote energy efficiency.
- Educate students to create awareness amongst peers, family members and neighbors.
- Work with the Team Manager to organize activities under the Energy Club.

Q.6 Can demo of eco-clubs be covered under Energy Clubs of Students' Capacity Building Programme of BEE?

Ans. Yes.

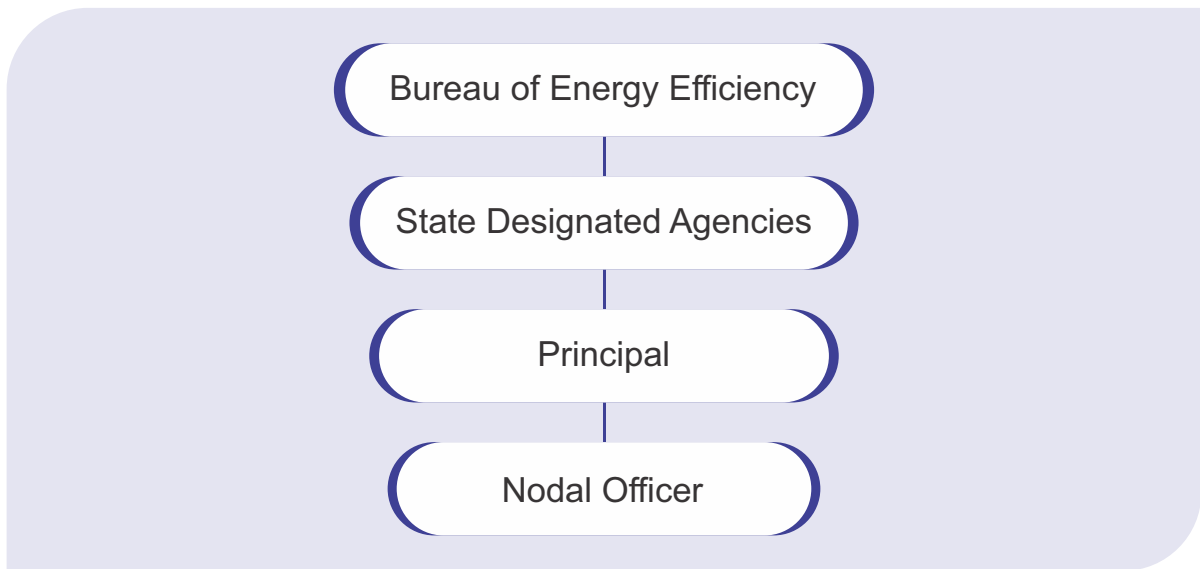
Q.7 What are the roles of SDAs in smooth functioning of Energy Clubs?

- Ans.**
- Identify schools and seek their willingness to establish energy club in the premises.
 - Training of Trainers may be conducted by SDAs and training calendars of these trainers based on their accessible locations may be developed.
 - Facilitate IPC trainings of Peer Educators.
 - Monitor the working of Energy Club so as to sustain regular activities.
 - Budget allocation for running of Energy Clubs.
 - Share different schemes of BEE on energy efficiency and energy conservation in Energy Club.
 - Share ideas on different activities of energy club.
 - Share annual activities and report with BEE.
 - Compile reports from schools for submission to BEE.

Q.8 What activities can be undertaken in Energy Clubs?

- Ans.**
- Conducting training programmes on energy efficiency.
 - Organize debate, quiz, science competitions on energy efficiency.
 - Organize skits/plays/dramas on energy efficiency.

Q.9 What should be the reporting structure for Energy Clubs?



FREQUENTLY ASKED QUESTIONS ON ENFORCEMENT MANUAL



Q.1 What is the purpose of enforcement manual?

Ans. Under the sections 17, 27, & 28 of the 'Energy Conservation Act, 2001' (Act), the State Designated Agencies (SDAs) notified under section 15 of the Act and the State Electricity Regulatory Commissions (SERCs) established under section 17 of the 'Electricity Regulatory Commissions Act, 1998' have been vested with power/authority for inspection, adjudication and imposition of penalty for enforcing the provisions of the Act.

The Central and State Governments in consultation with the Bureau has framed/prescribed various rules and regulations under the 'Perform, Achieve and Trade' (PAT) scheme, 'Standard and labelling' (S&L) scheme, 'Energy Conservation Building Code' (ECBC), and 'Certification of Energy Professionals' for implementing the provisions of the Act. Additionally, the Central Government has also prescribed rules for inspection and manner of inquiry (adjudication) to ensure clarity, transparency and consistency for the enforcement provisions of the Act.

The manual serves as a streamlined and consolidated resource to build the capacity of enforcement agencies (viz. SDAs and SERCs) and assist them in the following:

1. Understand the compliance process and key milestones in the aforesaid schemes.
2. Map the violations / non-compliance events at various stages of the course of implementation in the aforesaid schemes.
3. Understand and follow a consistent process/steps/actions of enforcement likely to unfold from each violation/non-compliance event as per the prescribed rules and regulations.
4. Build and adopt a consistent set of tools and templates in carrying out the enforcement related actions.

Q.2 Who are the intended users of enforcement manual?

Ans.

- The State Designated Agencies (SDAs) notified under Section 15 of the 'Act'.
- The State Electricity Regulatory Commissions (SERC) established under Section 17 of the 'Electricity Regulatory Commissions Act, 1998'.
- The Appellate Tribunal for Energy Conservation and other third-party appellants / petitioners.

Q.3 Does the Manual supersede any rules and regulations notified in respect of the EC Act 2001?

Ans. No.

Q.4 Does the Manual provide best or promising practices for enforcement of the EC Act 2001?

Ans. No.

Q.5 What provision/s under the EC Act 2001 empower the authority/ies to impose penalty on defaulters?

Ans. Section 26.

Q.6 What are the provision/s under the EC Act 2001 that trigger liability for penalty in case of non-compliance?

Ans. Provision of clause (c) or the clause (d) or clause (h) or clause (i) or clause (k) or clause (l) or clause (n) or clause (r) or clause (s) of section 14 or clause (b) or clause (c) or clause (h) of section 15.

Q.7 What is the quantum of penalty liable under the EC Act 2001? What are the guiding factors for the Adjudicating Officer in determining the quantum of penalty?

Ans. The penalty shall not exceed ten lakh rupees for each failure and, in the case of continuing failures, an additional penalty may extend to ten thousand rupees for every day during which such failures continues or shall not be less than the price of every metric ton of oil equivalent of energy (prescribed under this Act) that is in excess of the prescribed norms.

While adjudicating the quantum of penalty under section 26, the adjudicating officer shall have due regard to the following factors, namely: -

- a. the amount of disproportionate gain or unfair advantage, wherever quantifiable, made as a result of the default;
- b. the repetitive nature of the default.

Q.8 Who shall be liable for penalty if institutions/companies default under the provisions of the EC Act 2001?

Ans. As per Section 48 of the EC Act 2001, every person who at the time of such contravention was in charge of, and was responsible to the company for the conduct of the business of the company, as well as the company, shall be deemed to have acted in contravention of the said provisions and shall be liable to be proceeded against and imposed penalty under section 26.

Q.9 Who shall appoint the Adjudicating Officer for imposing the penalty and what are the qualifications required?

Ans. As per Section 27 of the Act, an Adjudicating Officer (AO) shall be appointed by the State Electricity Regulatory Commission (SERC) for the purpose of adjudication and holding an inquiry against any person who fails to comply with the provisions specified in Section 26. The Adjudicating Officer shall be a senior officer of the rank of a Member, who will conduct an inquiry in accordance with the Energy Conservation (Manner of Holding Inquiry) Rules, 2009.

Q.10 What is the qualification required for the Inspecting Officer?

Ans. The Inspection Rules, 2010 shall guide the appointment of Inspecting Officer. The inspecting officer should be a 'graduate engineer' who has obtained a bachelor's degree in Engineering from an University incorporated by an Act of the Central or State Legislature in India or other educational institutions established by an Act of Parliament or declared to be deemed Universities under section 3 of the University Grants Commission Act, 1956 (3 of 1956) or any degree recognised by the All India Council for Technical Education as equivalent or has obtained a bachelor's degree in Engineering from any foreign University or institution recognised by the Central Government. In addition, the SDA shall, appoint inspecting officer under sub-section (1) of section 17 from amongst its officers holding a post equivalent or in the rank of Under Secretary to

the State Government, and having minimum professional experience of three years in the field of energy conservation or energy efficiency in the SDA or any Department or Office of the Central Government or a State Government.

Q.11 When and how can SDA file the petition?

Ans. SDA shall within two months from the date of receipt of inspection report, give directions to the inspecting officer, to file a case before the State Commission against the person concerned for such non-compliance under section 27 and submit all material facts to prove its non-compliance against the said person, during the inquiry held by the adjudicating officer appointed by the State Commission for the purpose of imposing any penalty specified under section 26.

Q.12 How can Inspecting Officer prepare the petition?

Ans. SDA through its Inspecting Officer, shall prepare a Petition by taking into account all the facts and materials on record, collect evidence or documents and list of persons(s) acquainted with the facts and circumstances of the case, relevant to the subject matter of inquiry and their role in the events of non-compliance.

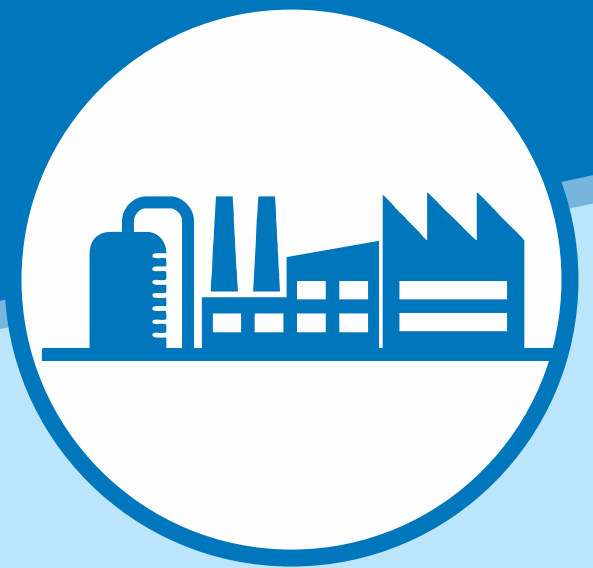
Q.13 Who can appeal before the Appellate Tribunal for Energy Conservation?

Ans. The concerned party (i.e. the designated consumer, the permittee, the owner of the building) or the SDA has the right, under Section 31 (1) of the Act to appeal before the 'Appellate Tribunal for Energy Conservation' against the Order issued by Adjudicating Officer appointed by SERC.

Q.14 What is the procedure for filing an Appeal to Appellate Tribunal for Energy Conservation?

Ans. The Ministry of Power vide notification G.S.R. 510 (E) dated 28th June 2012 has notified Appellate Tribunal for Energy Conservation (Procedure, Form, Fee and Record of Proceeding) Rules, 2012, wherein all the procedures for filing an appeal and the proceedings to be carried out by the Appellate Tribunal for Energy Conservation for passing a judgment under this Act is detailed out.

FREQUENTLY ASKED QUESTIONS ON ESCOs



Q.1 What is an ESCO?

Ans. An ESCO is an energy service company that offers energy services, usually design, retrofitting and implementation of energy efficiency projects after identifying energy saving opportunities through energy audit of existing facilities. It also includes energy infrastructure outsourcing, power generation and energy supply, financing or assist Facility's Owners in arranging finances for energy efficiency projects. ESCOs operates by providing a savings guarantee, risk management in implementation of the energy efficiency projects and also perform measurement & verification (M&V) activities to quantify actual energy savings post implementation of energy efficiency projects etc.

Q.2 How does ESCO model function?

Ans. The fundamental core concept of the ESCO business model is that the Facility's Owner may not have to fund any of upfront capital cost for the Energy Efficiency Projects and is only responsible to pay for this investment from actual savings it realizes from the implemented Energy Efficiency Projects. ESCOs provide their services under the Energy Saving Performance Contracting (ESPC) model. "Energy Savings Performance Contract (ESPC)" means a contract entered into by the beneficiary and the borrower under which payments to the borrower are based on meeting specified performance guarantees related to the implementation of energy efficiency project. It is basically a budget-neutral approach to make existing facilities energy efficient by partnering with an ESCO. The ESCO conducts a comprehensive energy audit for the Facility Owner and identifies improvements to save energy. In consultation with the Facility's Owner, the ESCO designs and implements a project assuring guaranteed savings that meets the Facility's Owner needs and arranges the necessary financing.

The ESCO guarantees that the improvements will generate energy cost savings sufficient to pay for the project over the term of the contract. After the contract ends, all additional cost savings accrue to the Facility Owner.

Q.3 What is the background and status of ESCO market in India?

Ans. Over the years, ESCO market profile has varied from country to country. The Energy Efficiency market in India is estimated to be worth INR 160,000 Crore, out of which only 5% potential has been tapped by ESCOs so far. The ESCO industry in India is relatively small and young compared with those in other nations and has so far not been able to succeed in developing a vibrant market for energy saving performance contract projects through ESCO route. BEE is carrying out empanelment of ESCOs since 2008 and currently 125 ESCOs are empaneled with BEE. The list of empaneled ESCOs is available on BEE website (www.beeindia.gov.in).

Q.4 Why are ESCOs needed for uptake of Energy Efficiency Projects across different sectors?

Ans. In India, many consumers are unable to implement EE projects despite significant energy saving opportunities due to:

- Lack of technical ability
- Financial limitation
- Devoid of time to focus
- Higher transaction cost

Hence significant EE potential is left untapped and Energy Service Companies (ESCOs) are the main vehicle to harness this EE potential.

ESCOs provide one of the better solutions to many of the above mentioned barriers and risks of implementing Energy Efficiency Projects (EEPs) because they develop, finance and implement multiple Energy Efficiency technologies on a bundled and turnkey basis at Facility owner's premises and receive payment for their services on the savings being achieved from the Energy Efficiency Projects.

Q.5 What are the major initiatives of BEE for development of ESCO market in India?

Ans. Major initiatives of BEE for development of ESCO market are as follows:

- i BEE initiated empanelment of ESCOs since a decade ago to assist Project Facility's Owners in implementing energy efficiency projects in their existing facilities. In order to create a sense of credibility among the prospective agencies that are likely to secure the services of an ESCO as well as the financial institutions, BEE has undertaken a process of rating the ESCOs in terms of their capacity and experience in the implementation of energy efficiency projects based on performance contracting, availability of technical manpower, financial strength, etc. The rating exercise was done through SEBI accredited agencies viz. CARE, CRISIL and ICRA. The results of the exercise are being made available in public domain and to the various State Governments/SDAs, so as to facilitate them in implementing EE programs in their respective states.
- ii BEE is also carrying out capacity building of ESCOs in technical and financial aspects to promote uptake of Energy Efficiency Projects in India.

Q.6 What are the different ESCO models for implementation of energy efficiency projects?

Ans. ESCOs provide their services under Energy Savings Performance Contract (ESPC) model. There are few variants of the ESPC model as described below: -

i Shared savings model: -

Energy Savings Performance Contracting (ESPC) approach is implemented on turnkey basis by energy service providers. ESCO services include energy audit and determination of baseline energy consumption following which the projects are identified for execution as per mutual agreement between the ESCO and the Facility's Owner. ESCO thereafter undertakes design, engineering, installation/construction, commissioning, and measurement & verification of energy savings post commissioning. In certain cases, and subject to the comfort of the ESCO and the Facility Owner, ESCOs also undertake operations and maintenance, providing/ arranging financing and training and training of O&M staff of Facility's Owner for sustaining the energy savings post completion of the contract period. The key criteria here are to share the value of the energy savings, and this is what constitutes the revenue stream for the ESCOs. The Facility's Owner gets to retain all the savings beyond the contract period. However, the Facility's Owners are obligated to provide some security of cash flow to the ESCO, which is provided either through an Escrow or Trust and Retention Account (TRA) account.

ii Guaranteed savings model: -

The basic model is the same as in case of shared savings model except that financing of the project is provided by the Facility's Owner. ESCOs implementing the projects offer a guarantee in energy savings, and these translate to cost savings.

The Facility's Owner pays ESCO a sum agreed upon, based on the service being provided, linked to the guaranteed energy savings from the energy efficiency project. If savings are lower than the guarantee, the ESCO pays the difference. If the savings are higher, the ESCO may get (but not entitled to) a bonus payment. The M&V protocol and terms of payment to the ESCO will be specified in ESPC. In this model, Facility's Owners may mobilize margin money for the debt and the Financial Institution (FI) will lend debt to the ESCO. The Facility's Owner then provides for loan repayments and interest to the FI from its savings.

iii Deemed savings model: -

Similar to the shared savings model, ESPC will be executed between the ESCO and Facility's Owner with a fixed price for services provided and financial agreement will be executed between the ESCO and FI for debt. The former will make loan repayments and interest from Facility's Owner and utility/government payments. The ESCO will execute the agreement between itself and the government or utility, for which it receives payments based on deemed savings. The fixed price (annuity) is determined on the basis of demonstration of energy savings on sample basis due to replacement of an inefficient device by the more efficient device and calculating the savings by multiplying the demonstrated reduction in power (KW) with the normative annual usage hours and the prevalent tariff at the time of execution of the project. This model helps in simplifying the contracting arrangement as it would not be necessary to develop complex baseline and M&V protocol.

iv Outsourced energy model

This model is also known as energy supply contracting. An agreement will be executed between the ESCO and Facility's Owner facility under which the former takes over operation and maintenance of the energy using equipment in the Facility's Owner facility. The ESCO pays for equipment upgrades, repairs, and related expenses and sells the energy output, such as steam, heating, cooling, and lighting, to the Facility's Owner under a long-term contract at an agreed price. The ownership of equipment ultimately remains with the ESCO (build-own-operate model) or is transferred to the Facility's Owner (build-own-operate-transfer model).

Q.7 What are the basic steps involved for implementation of Energy Efficiency Projects (EEP) through ESCO mode?

Ans. The typical steps for an ESCO to develop, fund and implement an EEP under the ESPC model is shown in below table: -

Sr. No.	Steps	Remarks
1.	Selection of ESCO through bidding	Facility Owner shall float the RfP for selection of qualified ESCOs after financial and technical bid evaluation. Then, project shall be awarded to qualified ESCO.
2.	Initial meeting with Project Facility's Owner	ESCO being a third party, which is developing and implementing the Energy Efficiency Project, screens the Project Facility's Owner for interest and Energy Efficiency Project opportunity.

3.	Credit assessment of Project Facility's Owner	Obtain credit assessment of analysis by a prospective Financial Institution for long-term Energy Efficiency Project financing. If Yes, go to Step 4. If No, no further actions.
4.	Reviewing energy usage data provided by Facility's Owner	ESCO collects historical energy use for two to three years and checks for any anomalies.
5.	Conduct of walk through audit	ESCO performs a walk-through audit of site to observe operating conditions and asks questions relevant to Energy Efficiency opportunities.
6.	Preparation of energy efficiency report (EER)	Energy efficiency report provides approximate scope of savings and cost reduction potential and is used to screen potential Energy Saving Measures to be included in Energy Efficiency Project.
7.	Present Energy Efficiency Report to Project Facility's Owner	Key assumptions and figures are confirmed upon which potential savings are estimated.
8.	Check whether energy savings justify an Energy Efficiency Project to be implemented under an ESPC?	If Yes, go to Step 9. If No, no further action is taken.
9.	ESCO signs Letter of Intent (LOI)	ESCO presents a LOI to Project Facility's Owner containing terms and conditions for ESCO to carry out an Investment Grade Energy Audit (IGEA). It includes such things as scope of work, IGEA fee reimbursement and minimum criteria to be met by IGEA such as Internal Rate of Return (IRR) for Project Facility's Owner, minimum savings and so on.
10.	IGEA, also known as a Detailed Energy Study (DES), is prepared by ESCO	ESCO takes four to eight weeks to complete the IGEA.
11.	IGEA meets minimum criteria in LOI	If No, ESCO stops work with no IGEA fee paid by Project Facility's Owner unless Project Facility's Owner elects to continue to Step 11. If Yes, go to Step 12.
12.	Project Facility's Owner agrees to implement Energy Efficiency Project in IGEA with ESCO	If No, Project Facility's Owner pays IGEA fee in Letter of Intent (LOI). If Yes, go to Step 13.
13.	ESCO secures financing of Energy Efficiency Projects	If No, and no fault of Project Facility's Owner, ESCO stops work with no IGEA fee from Project Facility's Owner. If No, due to fault of Project Facility's Owner, Project Facility's Owner pays IGEA fee in Letter of Intent. If Yes, go to Step 14.

14.	ESCO and Project Facility's Owner execute ESPC Agreement and ESCO implements Energy Efficiency Project	If No, Project Facility's Owner pays IGEA fee in LOI If Yes, go to Step 15
15.	Post implementation - M&V	-

Q. 8 How long an ESCO based project typically takes for accomplishment?

Ans. The typical time for an ESCO to implement an Energy Efficiency Project with a Facility's Owner under the ESPC model can be anywhere from 12 to 24 months as illustrated below:

1. Initial call to feasibility agreement 2 to 3 Months.
2. Complete investment grade audit 2 to 6 Months.
3. Close ESPC agreement and project financing 2 to 3 Months.
4. Total development time 6 to 12 Months.
5. Project commissioning time 6 to 12 Months.
6. Total project implementation time 24 to 60 months.

Q. 9 How can SDA utilize the services of BEE empaneled ESCOs for implementation of Energy Efficiency projects?

Ans. SDA can float RfP for selecting qualified ESCOs and can go under Energy Saving Performance Contracting with ESCO directly or as third party, in case the project to be implemented in any other's Facility to ensure actual quantification of energy savings and mitigating payment security risks to ESCOs. SDA may also request respective DISCOM to become tripartite in Energy Saving Performance Contract, if the project to be implemented is any private industry/establishment to reduce payment security risks to the ESCOs.

Q. 10 What are the roles of SDA in promoting ESCOs?

Ans. SDAs may carry out following endeavors for promoting ESCO business model in their respective states:

1. Standard documents for preparing RfP (Request for proposal) and Energy Saving Performance Contracting (ESPC) modules may be provided to various government departments and establishments as well as to private facility owners to assist them in implementing Energy Efficiency projects through ESCO route.
2. SDAs may request DISCOMs in their jurisdiction to become a stakeholder in Energy Saving Performance Contracting (ESPC) as third party to mitigate the payment security risks to ESCOs and resolving any other disputes arises between ESCOs and Facility Owners.
3. SDA may implement pilot projects on energy efficiency through ESCO route to demonstrate the success of technology, business model etc.
4. SDA may conduct workshops putting all stakeholders like ESCOs, Industries, Facility Owners, Financial Institutions, DISCOMs, etc. on same platform for identifying and facilitating execution of Energy Efficiency projects through ESCO route.
5. SDA may constitute a Technical Expert Committee to evaluate Energy Efficiency Reports (EERs) and provide technical assistance to existing Facility Owners in executing Energy Efficiency Projects through ESCO model.

**FREQUENTLY ASKED QUESTIONS
ON FRAMEWORK FOR ENERGY EFFICIENT ECONOMIC
DEVELOPMENT (FEEED) AND ENERGY EFFICIENCY
FINANCING PLATFORM (EEFP)**



Q.1 Under FEEED how many financing initiatives have been taken up by BEE?

Ans. Under FEEED, BEE has institutionalized financing initiatives like Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE) and Venture Capital Fund for Energy Efficiency (VCFEE).

Q.2 What is PRGFEE?

Ans. It is a risk sharing mechanism to provide financial institutions (banks & NBFCs) with a partial coverage of risk involved in extending loans for energy efficiency projects. PRGFEE Rules have been notified by Ministry of Power in May 2016.

Q.3 How many banks are empanelled with BEE under PRGFEE?

Ans. Till date, Andhra Bank, YES Bank, IDFC Bank, Tata Cleantech Capital Ltd and IndusInd Bank are empanelled banks with BEE.

Q.4 How much is PRGFEE guarantee and how many sectors are covered?

Ans. PRGFEE guarantees 50% of loan amount or Rs. 10 crores per project, whichever is less. PRGFEE support has been provided to government buildings, private buildings (commercial or multi-storied residential buildings), municipalities, SMEs and industries. For more details, please visit BEE's website and link i.e. <https://beeindia.gov.in/content/prgfee>

Q.5 What is VCFEE?

Ans. VCFEE is a fund to provide equity capital for energy efficiency projects. The Fund shall provide last mile equity support to specific energy efficiency projects, limited to a maximum of 15% of total equity required, through Special Purpose Vehicles or Rs. 2 crores, whichever is less. Venture Capital Fund for Energy Efficiency (VCFEE) Rules got notified on 31st March 2017. For more details, please visit BEE's website and link i.e. <https://beeindia.gov.in/content/vcfee>

Q.6 What is PRSF?

Ans. Partial Risk Sharing Facility (PRSF) provides guarantees to the Participating Financial Institutions (PFIs) i.e. Banks/NBFCs for the Energy Efficiency loans extended by them to Energy Service Companies (ESCOs). The World Bank is the implementing entity of the project with SIDBI being the Project Executing Agency and Technical Assistance Executing Agency and EESL being the Technical Assistance Executing Agency.

Q.7 How much loan is being guaranteed under PRSF?

Ans. The extent of guarantee coverage under PRSF is 75% of the loan amount or Rs 15 crore, whichever is minimum.

Q.8 How many reports are published by BEE for Energy Efficiency financing?

Ans. Under EEFP, BEE has published following reports readily available on BEE's website under EEFP:

- a. Training Manual for Energy Efficiency Financing in India.
- b. Success stories of Energy Efficiency Projects Financed in India.

- c. Market Assessment for Partial Risk Guarantee Fund for Energy Efficiency and Venture Capital Fund for Energy Efficiency.
- d. Guidelines for Financing Energy Efficiency Projects in India.

Q.9 How many officials from Banks/NBFCs have been trained under Training Programme for FIs on Energy Efficiency Financing?

Ans. Approximately 700 bankers have been trained from more than 50 banks till Jan 2019 under this Training Programme.

Q.10 What platform is available with BEE for assisting industries and other establishments to access EE financing?

Ans. BEE has floated willingness survey for seeking project proposals from various stakeholders where EE financing is required. This form is available on BEE's website at link:<https://beeindia.gov.in/content/feeed>.

Q.11 What are new financing mechanism being developed by BEE for EE projects?

Ans. BEE is in process of developing new financing instruments such as – interest subvention scheme, Capital subsidy scheme, on-bill financing scheme, etc.

Q.12 What are the roles/responsibilities of BEE in financing of EE projects?

Ans. BEE plays an important role in facilitating the financing of EE projects through its various schemes like Energy Efficiency Financing Facility (EEFF) and Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE). Interested parties are requested to go through the schemes documents available on BEE's.

FREQUENTLY ASKED QUESTIONS ON MSME



Q.1 What are the BEE's Programmes to improve Energy Efficiency of MSMEs in India?

Ans. SMEs in India are existing in form of clusters which are spread across the length and breadth of the country. Technology need assessment and technology development to suit the requirements of the local MSMEs at the cluster level has emerged as one of the most important aspects that needs to be addressed in the MSME sector.

Driven by the need of the sector, "National Program on Energy Efficiency and Technology Upgradation in SMEs" have been undertaken by Bureau of Energy Efficiency towards the aim of accelerate the adoption of energy efficient technologies and practices in a few chosen industry clusters through focused studies, knowledge sharing, preparation of detailed project reports and facilitating in the process of developing innovative financing mechanisms.

For maximum effectiveness and widespread adoption of the energy efficient technologies in SME sector under BEE – SME Programme, BEE has adopted cluster-specific approach for technology deployment as demonstration projects towards creation of an enabling environment at the cluster level to aid in replications.

Bureau of Energy Efficiency has also made interventions and implemented EE technologies in other energy intensive clusters of India with the support of UNIDO (GEF – UNIDO – BEE Programme) and World Bank (GEF – World Bank – BEE Programme) towards the common goal of facilitating the development of the SME sector in India through the promotion and adoption of clean, energy efficient technologies and practices.

Q.2 Which activities BEE is carrying out in these programmes?

Ans. BEE has adopted multi-pronged approach under all of three (3) above programmes to improve energy efficiency of MSMEs in India. The major areas identified for intervention are –

1. Energy Use and Technology Analysis (Situation Analysis/Baseline Energy Audits)
2. Capacity building and Outreach awareness (Knowledge Dissemination Tools, B2B Exhibitions, Training Programmes, Energy Management Centres)
3. Implementation of EE measures (Pilot Projects)
4. Development of Innovative Financing Mechanisms
5. Strengthening of Local Service Providers.
6. Access to Finance and Financial Support.
7. Scaling Up project activities for transformational results.
8. Defining Key Performance Indicators and Implementation support for ISO 50001

Q.3 How many energy intensive clusters are in my state?

Ans. The list may be downloaded from <http://www.sameeksha.org/>.

Q.4 Whether BEE has made interventions under SME programme in my state? If yes, from where I can download these reports?

Ans. Under XI plan, BEE has conducted situation analysis survey in MSME clusters of India. These reports and list of clusters may be downloaded from <http://www.sameeksha.org/> and <https://www.beeindia.gov.in/content/energy-efficiency-smes> respectively. Also 375 DPRs were prepared on different energy efficient technologies.

Further, during XII plan interventions were made in Pali (Textile), Indore (Food), Jalandhar (Forging) and Varanasi (Brick) clusters. BEE has extended its reach in MSME clusters through two GEF supported programmes. Key findings of these interventions (case studies, DPRs and sector specific reports) are available at <http://www.indiasavesenergy.in/> and <https://www.beeindia.gov.in/content/energy-efficiency-smes>. The clusters covered under these programmes are as below.

GEF – World Bank – BEE Programme		
Sr. No.	Sector	Clusters
1	Forging	Pune
2	Chemical	Ankleshwar
3	Limekiln	Tirunelveli
4	Foundry	Kolhapur
5	Mixed Industries	Faridabad
6		Delhi NCR
7		Varanasi, Uttar Pradesh
8		Kundali, Panipat
9		Ludhiana, Jalandhar, Chandigarh
10		Mumbai Thane
11		Morbi, Rajkot
12		Dehradun, Uttarakhand
13		Coimbatore, Erode, Virudhachalam, Tirupur
14		Surat, Vapi, Valsad

Q.5 Are DPRs and Case Studies developed by BEE available in public domain?

Ans. Yes, Same may be downloaded from <http://www.indiasavesenergy.in/> and <https://www.beeindia.gov.in/content/energy-efficiency-smes>

GEF – World Bank – BEE Programme		
Sr. No.	Sector	Clusters
1	Brass	Jamnagar, Gujarat
2	Ceramics	Khurja, Uttar Pradesh
3		Thangarh, Gujarat
4		Morbi, Gujarat
5	Dairy	Sikkim
6		Gujarat
7		Kerala
8	Foundry	Belgaum, Karnatka
9		Coimbatore, Tamilnadu
10		Indore, Madhya Pradesh
11	Hand Tools	Nagaur, Rajasthan
12		Jalandhar, Punjab

Q.6 How can SDA support BEE in improving energy efficiency of SMEs?

Ans. Demonstration Projects pertaining to Energy Efficient Technologies may be implemented in MSMEs. After implementation, benefits realised (monetary and energy savings) may be disseminated to MSMEs through Capacity Building and Awareness Outreach programmes.

SDA may also establish a helpline to address the various concerns of MSMEs pertaining to energy efficiency and technology upgradation. Also, policy framework may be developed by SDAs to improve energy efficiency of MSMEs.

Expertise of Energy Auditors/Managers may also be leveraged by organizing Energy Clinics in these clusters in technology gap assessment and dissemination of best operating practices.

Q.7 Whether MoMSME can assist SDAs for institutionalising policies for improving energy efficiency of MSMEs of my state?

Ans. MSME has development institutes (MSME – DIs) in the states. The support from these institutions may be leveraged for preparing any policy framework for improving energy efficiency of MSMEs.

FREQUENTLY ASKED QUESTION ON MUNICIPAL DEMAND SIDE MANAGEMENT (MuDSM)



Q.1 What is DSM?

Ans. Demand Side Management (DSM) is described as the planning, implementation and monitoring of utility’s activities designed to encourage customers to amend their electricity consumption patterns, both with respect to timing and level of electricity demand so as to help the customers to use electricity more efficiently.

Q.2 What is the necessity of Municipal Demand Side Management (MuDSM) programme?

Ans. The growing demand for public utilities due to rising population and improved standards of living of the population has increased the energy demand for the service provided by the urban local bodies.

Q.3 Which portion of electricity consumption comes under MuDSM?

Ans. The Municipality sector/urban local bodies (ULBs) consume electricity for various utility services like street lighting, water pumping, sewage treatment, and in various public buildings.

Q.4 What kind of activities and programmes can be undertaken under MuDSM programme?

Ans. The MuDSM scheme would target the 200 cities covered under the AMRUT project to build awareness among ULBs, SDAs and DISCOMs towards adoption of EE technologies in municipalities. The scheme would also conduct training programs for pump technicians and operators of municipal systems.

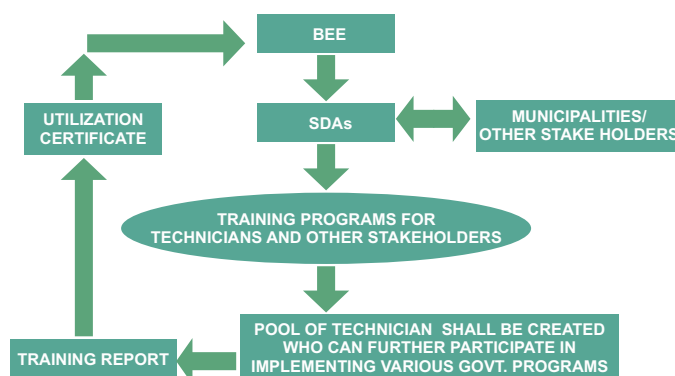
Q.5 What would be the role of SDAs for successful implementation of programme under MuDSM?

Ans. SDAs should undertake stakeholder consultation meetings and capacity building sessions for DISCOMS, SERCs and manufacturers to ensure the mandate the of EE pumps for new connections’. Further, SDAs shall conduct wide-scale training programs for pump technicians and operators of municipal systems.

Q.6 What initiatives should be undertaken by SDAs to overcome the barriers faced in implementation of MuDSM pilot projects?

- Ans.**
- Facilitate State Designated Agencies/State governments to mandate the use of star labeled (EE) pump sets.
 - Technical assistance and capacity development of all stakeholders i.e. SDAs, SERCs and DISCOMs.
 - Open house session for ULBs officials to increase awareness and encourage their participation in MuDSM scheme.

Q.7 What is the channel for the financing of awareness programs for ULBs, pump technicians and targeted stakeholders?



FREQUENTLY ASKED QUESTIONS ON PAT SCHEME



Q.1 What is PAT scheme?

Ans. PAT is a regulatory instrument to reduce specific energy consumption in energy intensive industries, with an associated market-based mechanism to enhance the cost effectiveness through certification of excess energy saving which can be traded. It is an indigenously developed programme to enhance the cost effectiveness of improvements in energy efficiency in energy intensive large industries listed in schedule of EC Act 2001. The energy savings is translated into tradable instruments called Energy Savings Certificates (ESCerts). Those industries which over achieve their targets are issued energy saving certificates and those who under achieve are entitled to purchase such certificates for compliance. The platform for trading is the existing power exchanges under the regulation of Central Electricity Regulatory Commission (CERC).

Q.2 Who can participate in the PAT scheme?

Ans. Bureau of Energy Efficiency has notified threshold limits of energy consumption for all the sectors covered under the PAT scheme. Thus, any industry where annual energy consumption crosses the threshold limit is eligible for participating under the PAT scheme.

Q.3 What is a PAT cycle?

Ans. PAT cycle means a period of three years available with a Designated Consumer or (DC) to comply with the energy consumption norms and standards.

Q.4 What do you understand by a rolling cycle?

Ans. Rolling cycle means that new Designated Consumers and / or new sectors would be included every year under the PAT scheme. Every year new PAT cycle will be notified with inclusion of DCs from existing sectors and new sectors.

Q.5 Which are the various timelines that needs to be adhered by DCs for submission of forms and reports to the SDA?

Ans. The DC needs to submit the following forms and reports to the SDAs during the period of their notification as a DC:

- Action Plan within three months of notification as a DC.
- Form 1 within three months of notification as a DC and after that yearly submission (within 3 months of completion of the financial year) till the completion of the cycle.
- Mandatory Energy Audit report along with Form 2 – within 18 months of notification as a DC.
- Form 3 every year within 3 months of completion of financial year.
- Performance Assessment Documents at the time of Monitoring & Verification consisting of Form–A, Form –B (certificate of verification duly signed by accredited energy auditor).
- Form –C - in case the DC has undergone check-verification.
- Form–D- compliance form to be at the end of every cycle (1 month after completion of trading).

Q.6 Will the DCs get benefit of unforeseen circumstances that had not been mentioned in the baseline year? What is the process for the same?

Ans. For any unforeseen circumstances if DC provide documentary evidence then it will be taken into account during the normalization process. Normalization is the process of rationalization of energy and production data of Designated Consumer taking into account the impact of quantifiable external variables that are beyond the control of a designated consumer.

Q.7 What do you mean by MEA and when is it required to be carried out?

Ans. Mandatory Energy Audit or MEA is a compulsory energy audit that has to be conducted by every Designated Consumer in their plant premises within 18 months from the date the DC has been notified. Thereafter, MEA has to be carried out every three years.

Q.8 Will the DC get benefit under PAT scheme if it has installed solar plant outside the boundary of the plant?

Ans. As per current provisions under the EC Act, there is no provision of benefits if the solar plant is outside the boundary of the plant and its supply gets interacted with the grid.

Q.9 How many Energy Managers can be employed by a DC?

Ans. As per EC Act, 2001, designated consumer has to designate or appoint energy manager in charge of activities for efficient use of energy and its conservation. The DC may employ either one or more Energy Manager in their plant, but they have to designate at least one of them as in charge of activities for efficient use of energy and its conservation.

Q.10 What are the penalty provisions and mechanisms for non-complying Dcs?

Ans. The penalty provisions and the Adjudication process is already included for non-complying DCs in the EC Act. Draft enforcement manual of the same has already been prepared and circulated to all SDAs and SERCs wherein all clauses covered under the EC Act and Rules have been covered in one document. As per the EC Act 2001, the power of applying penalty to the non-complying DCs is vested by the State Designated Agencies (SDAs).

Q.11 Who is the adjudicating officer?

Ans. An adjudication officer is required to be appointed by the SERC among one of its members. Wherever the state commission has not been appointed, the state government is required to appoint an adjudication officer.

Q.12 What is the criterion of calculation of the number of ESCerts?

Ans. The Central Government, on the receipt of recommendation from the Bureau under rule 10 of PAT Rules, shall on satisfying itself in this regard, issue energy savings certificates of required value to the concerned designated consumer. The energy savings certificate shall be issued in electronic form. The value of one energy savings certificates shall be equal to one metric ton of oil equivalent of energy consumed.

The exact number of energy savings certificates to be issued to the designated consumer and the entitlement for such energy savings certificates after determining by the following formula:

- i For thermal power plant sector:
Number of energy savings certificates =
(Heat rate notified for the target year – Heat rate as achieved in the target year) ×
Production in the baseline year in million kWh/10).
- ii For other sectors:
Number of energy savings certificates =
(Specific energy consumption notified for the target year – Specific energy
consumption as achieved in the target year) × Production in the baseline year.

Q.13 Can a DC transfer ESCerts to its sister concern?

Ans. As per current provisions under PAT Rules, bilateral trading is not permitted. All trading will be done through the power exchanges which are the common platform.

Q.14 Can the DCs bank their ESCerts in PAT Cycle-I and sell them in PAT Cycle-II?

Ans. Yes. However, ESCerts once sold cannot be resold.

Q.15 What will happen to the unsold ESCerts?

Ans. The unsold ESCerts of a DC will get banked only up-to its next cycle.

Q.16 Can the banked ESCerts of a DC be used for itself?

Ans. Yes, the DCs can use the banked ESCerts for compliance purpose of themselves.

Q.17 What is the life span of ESCerts that have been bought by the Dcs?

Ans. It is till the next compliance period that is till the submission of Form-D in the immediate next cycle.

Q.18 What is Monitoring & Verification? Who will conduct the Monitoring & Verification (M&V)?

Ans. Monitoring & Verification or M&V is carried out after completion of a PAT cycle in order to assess the energy savings done by DC. The M&V would be done by the Accredited Energy Auditors empaneled by BEE.

Q.19 Who is an empaneled accredited energy auditor (EmAEA)?

Ans. EmAEA are accredited energy auditors that have been empaneled by BEE and who can conduct M&V audit of DCs under PAT scheme.

Q.20 What is the role of SDA before notification of PAT cycle?

Ans. The SDA may assist BEE in identification of probable DCs who could be included under PAT and assigned mandatory SEC reduction targets. The SDAs must also pursue with such plants for conducting baseline verification audit for fixing targets of the probable DCs and meet other statutory requirement under Rules and Regulations framed under ECAct.

Q.21 What is the role of SDA immediately after notification of PAT targets?

Ans. The SDA after notification of PAT targets by the Central Government should communicate with their state DCs about the same. Subsequently, the SDA should also apprise their state DCs about the Action Plan, Form-1 and other submissions as per Rules/Act.

Q.22 What is the role of SDA during M&V?

Ans. The SDA must make sure that all the DCs in their respective states has engaged and EmAEA for conducting M&V. After the M&V has been completed, the SDA must also make sure that the DC submits all the required forms and reports to the SDA with a copy to BEE. After receiving the reports, the SDA needs to scrutinize all the reports and also send their recommendations to BEE.

Q.23 What is the obligation of DCs before and after notification of PAT cycle?

Ans. Before notification, felicitate the empanelled agencies of BEE for conducting baseline verification audit and submit necessary documents to complete the verification process. After notification, the DC has to submit Action Plan and Form -1 within three months of its notification as a DC. Subsequently, the DC has to undergo Mandatory Energy Audit with 18 months of notification as a DC and submit the MEA report along with Form -2 to the SDA with a copy to BEE. In addition to this, the DC has to submit Form-3 (every year) which will include the measure undertaken by the DC within one year. The DC upon completion of the PAT cycle will engage an EmAEA for conducting Monitoring and Verification Audit. The DC will submit the PADs which includes Form A, Form B and the audit report to SDA with a copy to BEE within 4 months of the completion of the cycle. After issuance and trading of ESCerts, every DC will submit the Form –D i.e. compliance report within one month of the completion of trading.

Q.24 How many PAT cycles already rolled out? How many of the DCs- Sector Wise are included?

Ans. Presently, four cycles of PAT have already been notified, out of which the first cycle starting from April 2012 was completed on 31st March 2015. After the successful completion of PAT Cycle-I, the second cycle of PAT was notified in April 2016. Further, upon recommendations of various committees on climate change, PAT is being implemented on a rolling cycle basis i.e. notification of new DCs/sectors every year. Therefore, the third cycle of PAT was notified in March, 2017 followed by the notification of the fourth cycle of PAT in March, 2018.

The number of DCs sector wise under PAT cycle –II, III and IV is given in the following table:

S. No	Sectors	Dcs in PAT Cycle II (2016-19)	Dcs in PAT Cycle III (2017-20)	Dcs in PAT Cycle IV(2018-21)
1	Aluminum	12	1	0
2	Cement	111	14	1
3	Chlor-Alkali	24	0	2
4	Fertilizer	37	0	0
5	Iron and Steel	71	29	35
6	Pulp and Paper	29	1	2
7	Textile	99	34	7
8	Thermal Power	154	37	17
9	Railways	22	0	0
10	Refineries	18	0	0
11	DISCOMs	44	0	0
12	Buildings	-	-	37
13	Petrochemical	-	-	8
	Total	621	116	109

Q.25 Which are the probable new sector to be included in the next PAT cycle?

Ans. The possible sectors that could be included in the subsequent PAT cycles are Sugar, Mining, chemicals, Ceramics, glass and Non-Ferrous. BEE is undertaking a feasibility study for inclusion of the above sectors under PAT.

Q.26 What are the brief outcomes of PAT Cycle I and PAT Cycle II?

Ans. Outcomes of PAT cycle –I:

The implementation of PAT cycle –I in large industries has led to energy saving of 8.67 MTOE by year 2014-15 which is about 1.25% of total primary energy supply to the country. This energy saving also translates in to avoiding of about 31 million tonne of CO₂ emission. Also, the reported investment figure from the DCs of PAT cycle - I is approx. Rs. 26100 crores and savings of about Rs. 9500 crores from saved energy consumption.

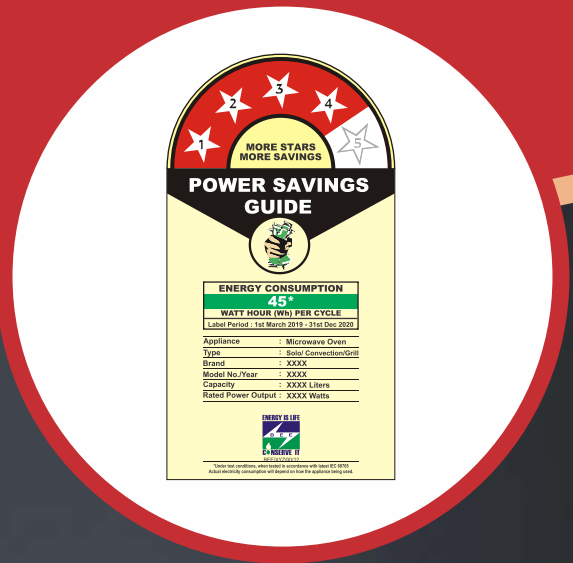
The energy savings of the DCs of PAT Cycle-I have been converted to tradable instruments called Energy Saving Certificates (ESCerts) and also have been traded at the power exchanges. The trading that took place at the power exchange has resulted into a total traded volume of about 12.98 lakh ESCerts and a business of about INR 100 crores.

Outcomes of PAT cycle –II:

PAT cycle –II seeks to achieve an overall energy consumption reduction of 8.869 MTOE for which energy reduction targets have been assigned to DCs. PAT cycle –II will complete on 31st March 2019 after which the verification of energy savings will be calculated. It is expected that energy savings of PAT cycle –II will translate in to avoiding of about 30 million tonnes of CO₂. Also, the expected investment on energy efficient project and technologies, under PAT cycle-II is around Rs. 30,000 crores.



FREQUENTLY ASKED QUESTIONS ON STANDARD & LABELING SCHEME



Q.1 What is Star Rating?

Ans. Star Rating is a process of conveying to the end user, the energy performance of an appliance through the display of Labels affixed on them. BEE star rating rates an appliance on a scale of 1 to 5 with 5 star labeled appliances being the most efficient one available in the market.

Q.2 Whether the manufacturing company is rated or the instrument?

Ans. Only appliances/equipment is assigned a star label by BEE under its Standards and labeling program based on the disclosures made by the manufacturers and test reports of an appliance.

Q.3 What is an equipment or appliance?

Ans. An equipment or appliance may be a device which consumes, generates, transmits or supplies energy and includes any device that consumes any form of energy and produces a desired work.

Q.4 What parameters are considered for issue of a star rating by BEE?

Ans. Star Rating for equipment is based on its annual energy performance index which may differ from appliance to appliance. Example-For Refrigerator and Colour Television star labeling parameter considered for the purpose of star labeling is Annual Energy Consumption (kWh), similarly in case of an AC it is its Seasonal Energy Efficiency Ratio (ISEER).

Q.5 What is a label?

Ans. Label is any written, printed, marked, stamped or graphic matter affixed to, or appearing upon the appliance/equipment.

Q.6 What information is included on a label?

Ans. Information of Energy performance parameters under standard test conditions like Annual Energy Consumption, Efficacy, Brand & Model details, Technical Parameters like compressor type, label period/validity, Manufacturing year and a unique series code is included on a Label.

Q.7 What is Label Period?

Ans. It is the validity period of the particulars approved for display on a star label in terms of the energy consumption Standard specified by the Central Government under clause (a) of Section 14 under the EC Act 2001.

Q.8 In which appliances/equipment is Star Rating given?

Ans. The appliances are divided into mandatory and voluntary product category. Under the mandatory category, Room Air Conditioners (fixed and split speed), Frost Free Refrigerator, Tubular Florescent Lamp, Distribution Transformer, Room Air Conditioner (Cassette, Floor Standing), Direct Cool Refrigerator, Color TV, Electric Geysers, Variable speed Air-Conditioner and LED are included.

However, under voluntary category, Induction Motors, Pump Sets, Ceiling Fans, LPG-Stoves, Washing Machine, Computer (Notebook/Laptops), Ballast (Electronic/Magnetic), Office Equipment (Printer, Copier, Scanner, MFD's), Diesel Engine-Driven Mono-set Pumps, Solid State Inverter, DG Sets, and chillers are included.

Q. 9 Who develops Star Rating program?

Ans. Star Rating is regulated by BEE (Bureau of Energy Efficiency) under its Standards & labeling (S&L) program. Bureau or BEE is an agency of the Government of India, under the Ministry of Power, created in March 2002 under the provisions of the Energy Conservation Act, 2001.

Q. 10 What are the key responsibilities of Bureau (BEE) related to standard and labeling scheme?

Ans. The key responsibilities include-

- i. Define the eligibility, scope of work and empanelment process for IAME and test laboratories.
- ii. Approve/reject/cancel/withdraw empanelment of Independent Agency for.
- iii. Monitoring and Evaluation (IAME) and test laboratories.
- iv. Develop and issue the product schedules for all the products, statutory orders and regulations for mandatory products.
- v. Approve/reject/cancel/withdraw the registration of the permittee.
- vi. Manage monitoring, verification and enforcement activities to ensure Effectiveness of the scheme and provide enforcement guidelines to State Designated Agencies (SDA).
- vii. Define the procedures relating to disposal of sample after the check and challenge testing;
- viii. Maintain an online database of the registered/labeled products as an open source of information to the public;
- ix. Dissemination of information on failed products in public domain/S&L web portal of the Bureau.

Q. 11 What is an IAME?

Ans. For effective and efficient implementation of S&L program, the Bureau uses/can use the services of independent agencies called Independent Agencies for Monitoring and Evaluation (IAME) to carry out the day to day activities of the labeling program. These activities may range from processing of application to monitoring and verification and any other allied activities assigned by the Bureau as per the Provisions of EC Act.

Q. 12 What are the roles and responsibilities of IAME?

Ans. The roles and responsibilities include:

Application Scrutiny: Processing of applications shall include scrutiny of applications and related documents, providing recommendations to Bureau for granting permission to affix the label or suspension and cancellation of product registration.

Market Surveillance: Once the labeled products reach the market place market surveillance shall be carried out in order to ensure a high degree of compliance with the policy intent of S&L scheme.

Check Testing: The purpose of check testing is to assess the compliance of product performance against the relevant BEE product schedule/ regulation on the basis of which the label was awarded.

Challenge Testing: Challenge testing is carried out as and when any written complaint is received regarding issues in the information on the star rating label and/or requirement given in the respective product schedule of the Bureau.

Q. 13 Who is a permittee?

Ans. Permittee is a person who has been granted the permission to affix the label by the Bureau.

Q. 14 What are the roles and responsibilities of an permittee?

Ans. The role of permittee includes:

- a. Submit details of the registered model wise data of products manufactured/ imported on a quarterly basis, duly certified by third party-chartered accountant to the Bureau.
- b. Ensure that a registered model would be available in the market for a period of at least one year. The model cannot be withdrawn during the period.
- c. Provide information about the availability of the models with its location details.
- d. In case, no production is carried out during the first six month after the award of the label, permittee has to revalidate and confirm that the production has started and the condition of validation would then apply. This process would continue for a period of maximum three years or as mentioned in notification, whichever is earlier, which coincide with the validity of the label.

Q. 15 What is the role of SDA in Standards and Labeling Scheme?

Ans. Under the purview of the EC Act, 2001 SDAs are set up at the state level including Union Territories to serve as the nodal agencies to coordinate and implement various state schemes or those initiated by the Bureau. Under the S&L scheme, functions of SDAs are as follows:

- i. Create complaint cell and complaint redressal mechanism for S&L related issues.
- ii. Conduct market surveillance either and/or based on complaints received within the state.
- iii. Maintain list of non-complying products/permittee and submit quarterly report on the outcome of market surveillance to the Bureau.
- iv. Ensure that non-compliant products are not sold in the market, as per the instructions of the Bureau.
- v. On intimation by the Bureau, in case of non-compliance by permittee, SDA shall monitor and report to the Bureau on corrective actions taken by the permittee within stipulated time.

Q. 16 How does BEE insure compliance with standard?

Ans. BEE insures compliance with standard through MV&E framework. The MV&E framework consists of the following key elements:

- a. Market Surveillance: Market surveillance is the process of checking that the products in the market are correctly labeled as they are offered for sale to consumers.

- b. Check testing and Challenge Testing: Check testing assesses whether the claims made for the energy performance of individual products by the permittee are accurate under the conditions stipulated in the relevant product regulation/schedule.

Challenge testing is carried out as and when, any written complaint is received regarding the information on the star label and/or requirement given in the respective product schedule of the Bureau.

- c. Enforcement: Enforcement is the action taken by program administrators against manufacturers for non-compliant products. Non-compliance may be identified as a result of either monitoring or verification activities, following which enforcement activities may be taken to remove the non-compliant products from the market.
- d. Monitoring and Verification (M&V): M&V is important to ensure that all the requirements of the scheme are being met. It relates both to the product performance as well as to the process that helps to ensure the integrity of the program.

Q. 17 What is the role of the Inspector and who appoints him?

Ans. Inspector or Inspecting Officer is one who ensures there is no non-compliance of the S&L scheme and is appointed by State Designated Agency under sub-section (1) of section 17 of the EC (Energy Conservation) Act.

Q. 18 What action shall an inspector take upon identifying noncompliance by manufacturer?

Ans. The designated agency shall examine the inspection report submitted by the inspecting officer and if it is satisfied on such examination and forms an opinion on the basis of the material facts contained in the said report that there is conclusive material in support of non-compliance with any of the provisions referred to in section 26(EC Act), then, it shall within two months from the date of receipt of inspection report, give directions to the inspecting officer, to file a case before the State Commission against the person concerned for such non-compliance under section 27(EC Act) and submit all material facts to prove its non-compliance against the said person, during the inquiry held by the adjudicating officer appointed by the State Commission for the purpose of imposing any penalty specified under section 26(EC Act).

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