

Perform, Achieve and Trade (PAT) Scheme

Energy Conservation Rules, 2012 and Phases

**Bureau of Energy Efficiency
INDIA**

Energy Conservation Rules, 2012

In exercise of powers conferred under the Energy Conservation Act, 2001 (52 of 2001), the Central Government has made the following rules, namely:-

“Energy Conservation (Energy Consumption Norms and Standards for Designated Consumers, Form, Time within which, and Manner of Preparation and Implementation of Scheme, Procedure for Issue of Energy Savings Certificate and Value of Per Metric Tonne of Oil Equivalent of Energy Consumed) Rule, 2012.

Energy Conservation Rules, 2012

These Rules define:

- The procedure for establishment of energy consumption norms and standards and specify such norms and standards for Designated Consumers. (Rule 3 & 4).
- Scheme for preparation and implementation of efficient use of energy and its conservation. (Rule5)
- Assessment of Performance by the Designated Consumers with reference to the energy Consumption Norms and Standards specified for them (Rule6).
- Procedure for Assessment of performance through Monitoring & Verification (M&V) and Check-verification by Empaneled Accredited Energy Auditor. (Rule 7 & 8)
- The Procedure regarding compliance with energy consumption Norms and Standards and for issuance of ESCerts. (Rule 9, 11, 12 & 13).

Energy Conservation Rules, 2012

These Rules define:

- Roles and responsibilities of various stakeholders (Rule10 & 15).
- Establishment of new Baseline for the next PAT Cycle (Rule14).
- The procedure for notifying the price of one tonne of oil equivalent (toe) for purposes of penalty (Rule16).
- The reporting and verification format for compliance with Energy Consumption Norms and Standards (Form A, Form B, Form C and Form D).
- The procedure and formulae for Normalization (Schedule I & II).
- The timelines for various activities under Perform, Achieve and Trade scheme.

Energy Conservation Rules Phases

- Target Setting Phase
- Notification Phase
- Implementation Phase
- Monitoring , Reporting and Verification (MRV) Phase

Target Setting Phase

- Establishment of Baseline
- Review of Baseline
- Finalization of SEC reduction Targets
- Consultation with DC

Target Setting Phase

Role of BEE

- Consultation with DCs regarding PAT Scheme.
- Collection of Energy Consumption and Production details in sector specific pro-forma from DCs.
- Compilation and Analysis of submitted details.
- Formulation of Sector Specific Technical committee and finalization of Target setting methodology.
- Establishment of Energy Consumption Norms and Standards for DCs in consultation with Technical Committee .
- Conducting the Regional Workshops and guiding DCs regarding the PAT Scheme.

Target Setting Phase

Policy Objectives

INDC

Intended Nationally Determined Contribution by India: **targets to lower the emissions intensity of GDP by 33% to 35% by 2030 below 2005 levels**

Goals

Reduction in Energy Intensity between 2016 and 2019 by 7%.

Notification Phase

1. Recommendation by BEE to Central Govt.
2. Notification by Govt.
3. Formal intimation to DCs

Notification Phase

Role of BEE

- The Bureau recommended the Energy Consumption Norms and Standard for DCs to Central Govt.

Role of Central Govt.

The Central Govt. shall by notification :

- Establish and specify the energy consumption norms & standards for every Designated Consumer under clause(g) of section 14.
- Give direction to all DCs for compliance with the energy consumption norms and standards under clause (n) of section 14 and inform the Bureau & all the SDAs.
- With recommendation of Bureau, the central Govt has notified the Target (S.O. 1264(E) dated 31st March, 2016).

Implementation Phase

1. Reporting to BEE / SDA
2. Energy Audit
3. Compliance Mechanism

Major Activity to be Done by DC (Rule 5)

Preparation of scheme for implementation of efficient use of energy and its conservation

Every Designated Consumer, within three months of the issue of notification under sub-rule (6) of rule 4 shall submit a scheme to State designated agency with a copy to Bureau, which may include: -

- ✓ Action Plan containing inter- alia, a brief description of identified energy saving measures to comply energy consumption norms and standards by the target year.
- ✓ The estimated cost of each identified energy saving measures.
- ✓ Implementation plan to Achieve Energy Consumption Norms and Standards

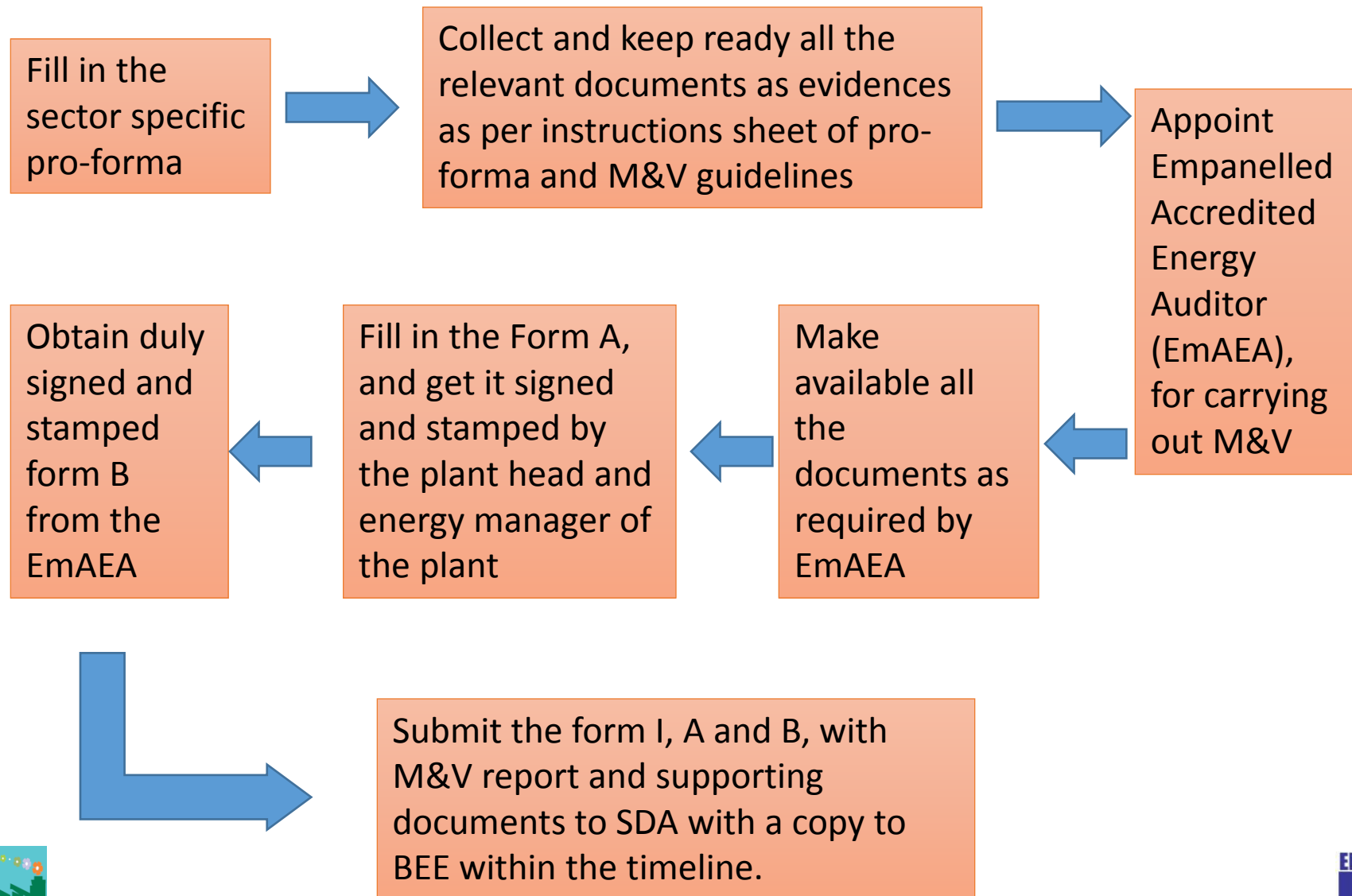
Major Activity to be Done by DC (Rule 7)

Arrangement for Monitoring and Verification

The Designated consumer in consultation with empanelled accredited energy auditor, shall put in place transparent, independent and credible Monitoring and Verification (M&V) for Energy Consumption and Production based on the Bureau of Energy Efficiency (Manner and Intervals of Time for Conduct of Energy Audit) Regulations, 2010 for compliance with the Energy Consumption Norms and Standards.

Monitoring and Verification

Steps for M&V to be taken by the DC



Various Forms to be submitted by DC and EmAEA

- **Form I and Sector Specific Pro-Forma**
- **Performance Assessment Documents (Form A)**
- **Certificate of Verification (Form B)**
- **Certificate of Check-Verification (Form C)**
- **Compliance of Energy Consumption Norms and Standard Document (Form D)**

Comments from State Designated Agency (SDA)

After submission of duly verified Form 'A' by designated consumer, state designated agency may convey its comments, if any, on Form 'A' to the Bureau **within Forty-five days** of the last date of submission of Form 'A' for PAT Cycle 1.

Recommendation for issue of Energy Saving Certificates (ES Certs)

The Bureau on satisfying itself about the correctness of verification report, and check-verification report, wherever sought by it, send its recommendation to the Central Government, based on the claim raised by the designated consumer in Form 'A', **within two months** from the last date of submission of said Form 'A' by the concerned state designated agency, for issuance of energy savings certificates.

Procedure for issue of Energy Savings Certificates (ESCerts)

- Central Govt. after receiving recommendation from Bureau issue ESCerts of desired value to DC **within 45 days**.
- ESCerts shall only be in electronic form
- 1 ESCerts = 1 tonne of Oil Equivalent (toe) = 10968 INR
- The DC who has been issued energy savings certificates may sell them through the power exchange.
- ESCerts issued in current cycle shall remain valid till compliance period of next cycle.
- ESCerts purchased by DC for compliance shall after their submission to Bureau stand expire.

Compliance of energy consumption norms and standards (Form D)

The designated consumer for the purpose of achieving the compliance with the energy consumption norms and standards during the target year, in the relevant cycle shall take the following action and after completing the said action, furnish the status of compliance to the concerned state designated agency with a copy to the Bureau in Form 'D' by the end of one month from the completion of trading of ESCerts of respective cycle as may be specified by CERC.

(a) by implementation of energy conservation and energy efficiency improvement measures or;

(b) where the measures implemented in terms of clause (a) are found inadequate for achieving compliance with the energy consumption norms and standards, the designated consumer shall purchase the energy savings certificates equivalent in full satisfaction of the shortfall in the energy consumption norms and standards worked out in terms of metric ton of oil equivalent.

Timelines and Activities

Activity		Description	Tentative Dates for PAT Cycle II	Activity by	Where
Form 1, Action plan submission	3 Months	Within 3 month from Notification	30 June 2016	DC	SDA/BEE
Form 1 submission	3 Months	Yearly submission of Form 1 within 3 months from last financial year	30 June (Every Year)	DC	SDA/BEE
Form A, Form B along with others documents	4 Months	Within 4 month from conclusion of target year	31 st July 2019	DC	SDA/BEE
Submission of Form A, Form B with SDA comments	45 Days	Within 45 days of the last date of submission of Form A	15 th Sept 2019	SDA	BEE
Recommendation of ESCerts to MoP, GOI	Two Months	Within two months from the date of the receipt of the comments from SDA	15 th Nov 2019	BEE	MoP
Issuance of ESCerts by MoP	45 Days	Within 45 days from the date of the recommendation of Escerts from BEE	31 st Dec 2019	MoP	
Form D Submission	One Month	After 1 month from the Completion of Trading		DC	SDA/BEE

Check-Verification

The Bureau may on its own or receipt of a complaint within 1 yr from date of submission of compliance report from the date of issue of ESCerts shall initiate action in accordance with following procedures:

Issue a Notice to DC and EmAEA , asking for comments



Within two months from receipt of comment, Bureau shall after taking into consideration the said comments, decide to undertake or not to undertake review and the Bureau shall record the reasons in writing for its decision

It shall be competent for the State Designated Agency to supervise the completion of check-verification through its Inspecting Officer, who shall, if need be, may submit its inspection report under the Energy Conservation (Inspection, Rules), 2010 to the State Designated Agency who shall take further necessary action under intimation to the Bureau.

Check-Verification

Bureau appoints EmAEA to conduct Check Verification



EmAEA shall assess and verify that the activities performed by the DC



The DC shall furnish full and complete data, provide necessary documents and other facilities required by the AEA for the purpose of performing the function of check-verification under these rules.



The AEA in-charge of check-verification function shall report the results of his assessment (Form C) in a check-verification report to BEE.

Various Forms Format

Form-I

Form-1

Details of information regarding total energy consumed and specific energy consumption per unit of production
(See Rule 3)

A.	General Details	Description						
1	Name of the Unit							
2	i) Year of Establishment ii) Registration No (As provided by BEE) ii) Dat							
3	Sector and Sub-Sector in which the Designated Consumer falls	<table> <tr> <th>Sector</th><th>Sub-Sector</th></tr> <tr> <td></td><td></td></tr> </table>	Sector	Sub-Sector				
Sector	Sub-Sector							
4. (i)	Complete address of DCs Unit location (including Chief Executive's name & designation) with mobile, telephone, fax numbers. and e-mail address.							
(ii)	Registered Office address with telephone, fax numbers. and e-mail address							
(iii)	Energy Manager's Name, designation, EM/EA Registration No., Address, Mobile, Telephone, Fax numbers and e-mail address							
B.	Production details							
5	Manufacturing Industries specified as Designated Consumers							
	Products	<table> <tr> <th>Unit</th><th>Previous Year (20...)</th><th>Current Year (20.</th></tr> <tr> <td>(1)</td><td>(2)</td><td>(3)</td></tr> </table>	Unit	Previous Year (20...)	Current Year (20.	(1)	(2)	(3)
Unit	Previous Year (20...)	Current Year (20.						
(1)	(2)	(3)						
(i)	Product 1	Tonne						
(ii)	Product 2	Tonne						
(iv)	Product (Please add extra rows in case of additional products)	Tonne						
(v)	Total Equivalent Product	Tonne						

Form-I

Form-1

C Energy Consumption Details of Manufacturing Industries specified as Designated Consumers

		(1)	(2)	(3)
6.	Total Electricity Purchased from Grid/Other Source	Million kWh		
(i)				
(ii)	Total Electricity Generated	Million kWh		
(iii)	Total Electricity Exported	Million kWh		
(iv)	Total Electrical Energy Consumption	Million kWh		
(v)	Total Solid Fuel Consumption	Million kcal		
(vi)	Total Liquid Fuel Consumption	Million kcal		
(vii)	Total Gaseous Fuel Consumption	Million kcal		
(viii)	Total Thermal Energy Consumption	Million kcal		
(ix)	Total Energy Consumption (Thermal + Electrical)	TOE		
(x)	Total Normalized Energy Consumption (Thermal + Electrical)	TOE		

D Specific Energy Consumption Details

7. i	Specific Energy Consumption(Without Normalization)	TOE/Tonne		
ii	Specific Energy Consumption (Normalized)	TOE/Tonne		

E Power Plants specified as Designated Consumer

8. i.	Total Capacity	MW	2	3
ii	Unit Configuration	No. of units with their capacity		
iii	Annual Gross Generation	Million kWh		
iv	Annual Plant Load Factor (PLF)	%		
v	Station Gross Design Heat Rate	kcal/kWh		
vi	Station Gross Operative Heat Rate	kcal/kWh		
vii	Auxiliary Power Consumption	%		
viii	Operative Net Heat Rate	kcal/kWh		
ix	Operative Net Heat Rate (Normalized)	kcal/kWh		

Form-I

Form-1

F Sector specific details

S. No	Name of the Sector	Sub-Sector	Pro- forma in which the details shall be furnished
a	Aluminum	Refinery/Smelter	Sa ₁
		Cold Rolling Sheet	Sa ₂
b.	Cement	Cement	Sb
c.	Chlor-Alkali	Chlor-Alkali	Sc
d.	Fertilizer	Fertilizer	Sd
e.	Iron and Steel	Integrated Steel	Se ₁
		Sponge Iron	Se ₂
f.	Pulp and Paper	Pulp and Paper	Sf
g.	Textile	Composite	Sg ₁
		Fiber	Sg ₂
		Spinning	Sg ₃
		Processing	Sg ₄
h.	Thermal Power Plant	Thermal Power Plant	Sh

Performance Assessment Documents (Form A)

To be filled by DCs

1.	Name of designated consumer		
2.	Registration number		
3.	Sector		
4.	Sub-sector		
5.	Accredited energy auditor		
	Name		
	Registration number		
6.	List of documents submitted		
a.	Baseline data (three years)	Submitted/Not submitted	Date of submission
b.	Form I () Specify the year in the bracket	Submitted/Not submitted	Date of submission
c.	Form I () Specify the year in the bracket	Submitted/Not submitted	Date of submission
d.	Form I () Specify the year in the bracket	Submitted/Not submitted	Date of submission
e.	Form II	Submitted/Not submitted	Date of submission
f.	Form III	Submitted/Not submitted	Date of submission

Performance Assessment Documents (Form A)

7	Target Year	Notified target specific energy consumption for the cycle	Energy savings certificates issued	Revised target specific energy consumption for the cycle		
		toe/ton of product or Net Kcal/kWh	Nos	toe/ton of product or Net Kcal/kWh		
a.	Mention the year ()		-			
b.	Mention the year ()					
c.	Mention the year ()		-			
8.	Specific energy consumption					
a.	Specific energy consumption (baseline)			toe/ton or Net kcal/kWh		
b.	Production (baseline)			ton or Million kWh		
c.	Revised target SEC (from 7.b)			toe/ton or Net kcal/kWh		
d.	Target after normalisation, if any			toe/ton or Net kcal/kWh		
e.	Achieved specific energy consumption			toe/ton or Net kcal/kWh		
f.	Energy savings certificates			nos		
9.	Energy Efficiency Project implemented during current cycle					
	Project	Year of Implementation	Annual Energy consumption (before)	Annual Energy consumption (after)	Energy tariff	Investment

Certificate of Verification (Form B)

Form B

(See rule 5)

CERTIFICATE OF VERIFICATION

I/We _____ the accredited energy auditor, have undertaken a thorough independent evaluation of the activities undertaken by M/s. _____, a designated consumer for compliance with the energy consumption norms and standards specified under the Government of India Ministry of Power notification number _____, dated the _____ during the target year compared to the baseline year and consequent entitlement or requirement of energy savings certificates and certify that-

- (a) the verification of the data collection in relation to energy consumed and specific energy consumption per unit of production in the baseline year and in the target year in Form 1 under Rules 2007 or Rules 2008, has been carried out diligently and truthfully;
- (b) the verification of the identified energy efficiency measures, and the progress of their implementation given in Form II and Form III under Rules 2008 has been carried out diligently and truthfully;
- (c) the verification of the compliance with energy consumption norms and standards during the target year has been carried out diligently and truthfully;
- (d) the verification of the total amount of energy saved, year-wise, after the baseline year and until target year or otherwise and request made by the designated consumer, the entitlement of _____ (Nos) energy savings certificate (s) required to be issued or purchased by him have been carried out diligently and truthfully;
- (e) all reasonable professional skill, care, and diligence have been taken in verifying the various verification activities, findings and conclusions, documents, reports, preparing the documents including the performance assessment document in Form 'A' and verification report and the contents thereof are a true representation of the facts.

Check Verification Form: Form-C

Form C
(See rule 7)
Certificate of Check – Verification

I/We _____ the accredited energy auditor, have undertaken a thorough independent evaluation of the activities undertaken by M/s. _____, a designated consumer for compliance to the energy consumption norms and standards specified under the Government of India, Ministry of Power notification numbers _____, dated the _____ during the target year compared to the baseline year and consequent entitlement or requirement of energy savings certificates, mentioned in the Performance Assessment Document in Form 'A' and compliance of energy consumption norms and standard document in Form 'D' and certify that-

- (a) the check-verification of the data collection in relation to energy consumed and specific energy consumption per unit of production in the baseline year and in the target year in Form 1 under Rules 2007 or Rules 2008, has been carried out diligently and truthfully;
- (b) the check-verification of the identified energy efficiency measures, and the progress of their implementation given in Form II and Form III under Rules 2008 has been carried out diligently and truthfully;
- (c) the check-verification of the compliance with energy consumption norms and standards during the target year has been carried out diligently and truthfully;
- (d) the check-verification of the total amount of energy saved, year-wise, after the baseline year and until target year or otherwise and request made by the designated consumer, the entitlement of _____ (Nos) energy savings certificate (s) required to be issued or purchased by him have been carried out diligently and truthfully;
- (e) all reasonable professional skill, care, and diligence have been taken in check-verifying the various verification activities, findings and conclusions, documents, reports, preparing the documents including the information given in the Performance Assessment Document in Form 'A' and verification report submitted by the accredited energy auditor appointed by the designated consumer for verification and the contents thereof are a true representation of the facts.

Signature:

Name of accredited energy auditor for check-verification

Designation:

Compliance of Energy Consumption Norms and Standard Document (Form D)

1.	Name of designated consumer		
2.	Registration number		
3.	Sector		
4.	Sub-sector		
5.	List of documents submitted		
a.	Performance Assessment Document (Form 'A')	Submitted/Not Submitted	Date of Submission
6.	Compliance		
a.	Energy Savings Certificates		Issued/Recommended for purchase
b.	Energy Savings Certificates submitted for compliance		If recommended for purchase
c.	Balance Energy Savings Certificates		Nos

Penalties and Adjudication

As per Section 26 of EC Act,

- If any DC fails to comply with the timelines of M&V procedure, he shall be liable for a penalty of Rs. 10 lakh, in addition to Rs. 10,000 per day
- If any DC fails to comply with the provisions, he shall be liable to a penalty of Rs. 10 lakh rupees and, in the case of continuing failure, with an additional penalty of the price of every metric ton of oil equivalent of energy
- Any amount payable under this section, if not paid, may be recovered as if it were an arrear of land revenue.

Thank You