



Think Bricks, Think E3

**Energy Efficient Enterprise (E3)
Certification Scheme for Burnt Clay
Brick Manufacturing Industry**

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Energy Efficient Enterprise (E3) Certification is an initiative to recognise burnt clay brick manufacturers who adopt energy-efficient manufacturing and encourage customers to source bricks from such E3 certified manufacturing units.

The Bureau of Energy Efficiency (BEE) shall initially pilot the E3 certification scheme in accordance with the guidance provided in this document. Post pilot, the final scheme will be notified by way of formulating necessary regulations for the same under the Energy Conservation Act, 2001.

The Final scheme shall also carry provisions for E3 certificate application fees and in case of non-compliance, Penalties.

Every attempt has been made to provide guidelines for various situations, but many new situations may arise, which may not be covered by the procedures outlined here. Where difficulty arises in arriving at a decision, the direction of the decision-making authority at the Bureau of Energy Efficiency, or any other appropriate authority as delegated by the Bureau with proper recording or justification under intimation to Director General, hereinafter referred to as 'DG' shall be taken.

DG shall have the authority to decide on any issue and permit any deviation from the guidelines. However, the actions proposed, or decisions, at any level must be in the framework of provisions of Energy Conservation Act, 2001, Rules, Regulations and Statutory orders.

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Terminologies & Normative References

Terminologies

For this scheme, the following definitions shall apply.

Act or EC Act, 2001	The Energy Conservation Act, 2001 (52 of 2001)
Accredited Energy Auditor	Means an auditor possessing qualifications specified under clause (p) of sub-section (2) of section 13 of the Act.
Appellate Tribunal	Means Appellate Tribunal for Energy Conservation referred in section 30 of the Act.
Brick	Means any burnt clay masonry unit in the form of a brick or a block of different sizes.
Brick Kiln	Means a kind of furnace or oven used for the firing/sintering of Bricks. It is a structure forming thermally insulated chamber in which required temperature is produced by burning fuel.
Brick Manufacturing Enterprise	Means an enterprise engaged in the production or manufacturing of burnt clay bricks and blocks.
Bulk Density (kg/m³)	Bulk density is defined as the ratio of mass of the dry material of porous body to its bulk volume. Bulk density is to be tested as per IS 1528 (Part 12), Method for determination of bulk density.
Bureau	Means the Bureau of Energy Efficiency (BEE) established under subsection (1) of section 3 of the Energy Conservation Act, 2001.
E3	Means “Energy Efficient Enterprise” as certified by BEE, and for the purpose of this document is applicable to Brick manufacturing sector.
Energy	Means any form of energy derived from fossil fuels, nuclear substances or materials, hydroelectricity and includes electrical energy or electricity generated from renewable sources of energy or biomass connected to the grid.
Energy Audit	Means the verification, monitoring and analysis of use of energy including submission of technical report containing recommendations for improving energy efficiency with cost benefit analysis and an action plan to reduce energy consumption.
Enterprise	Shall include any company, limited liability partnership, partnership firm or proprietary concern, or any joint venture of any of the aforesaid entity.
Gross Calorific Value (GCV)	Number of heat units liberated when a unit mass of the fuel is burnt at constant volume in oxygen saturated with water vapour, the original material and final products being at 25 °C. The residual products are taken as carbon dioxide, sulphur dioxide, nitrogen and water; the residual water other than that originally present as vapour, being in the liquid state. It is assumed that all the heat produced is available, including the heat of condensation of any steam, resulting from the combustion of hydrogen of the fuel, to water at room temperature.
GST	Goods and Services Tax
National Baseline of Specific Energy	Currently is determined as 2350 MJ/m ³ , subject to periodic update as determined by BEE. The National Baseline is determined based on the

Consumption (SEC_{vol} in MJ/m³) for bricks	average specific energy consumption of different kiln technologies, and market share of different kiln technologies and burnt-clay brick product types.
Notification	A notification in the Gazette of India or, as the case may be, the Official Gazette of a State.
Pilot	as per Section 13 (2) (j) of the Energy Conservation Act, 2001.
Regulations	Regulations made by the Bureau under the Energy Conservation Act, 2001.
Scheme	Means this pilot scheme of certification of Brick Manufacturing Enterprise launched under the power set-out in Section 13 (2)(j) of the Act.
Specific Energy Consumption (MJ/kg) (SEC_{Mass})	Is defined as the energy consumed (in MJ) for producing 1 kg of fired Brick. SEC is used as a parameter to compare the energy performance of brick kiln technologies. For the purpose of this Scheme, the Specific Energy Consumption (SEC _{Mass}) of a brick kiln is calculated as: Specific Energy Consumption (SEC _{Mass} , in MJ/kg) = Thermal energy consumed by the brick kiln (MJ) / Total weight of bricks and blocks produced from the kiln (kg).
Specific Energy Consumption (MJ/m³) (SEC_{vol})	E3 certification is awarded to an enterprise based on its volumetric Specific Energy Consumption (MJ/m ³) which is defined as the energy consumed (in MJ) for producing 1 m ³ of burnt-clay brick product. The Specific Energy Consumption (SEC _{vol}) (MJ/m ³) of an enterprise is determined as: Specific Energy Consumption (SEC _{vol} , in MJ/m ³) = Total Thermal energy consumed by the enterprise (MJ) / Total volume of bricks and blocks produced by the enterprise (m ³).
Threshold Specific Energy Consumption (MJ/m³)	Is the E3 certification Qualification Criteria, currently set at 1750 MJ/m ³ , and to be periodically updated as determined by BEE. Brick manufacturing enterprises, committing to meet the specific energy consumption (MJ/m ³) (SEC _{vol}) threshold or lower will be certified as E3 (Energy Efficient Enterprise).

Normative References

This schedule shall be read in conjunction with the following standards with all amendments, for the purpose of E3 certification.

No.	Standard
1.	IS 1077, Common burnt clay building bricks - Specification
2.	IS 2222, Specification for burnt clay perforated building bricks
3.	IS 3952, Specification for burnt clay hollow bricks for walls and partition
4.	IS 13757, Burnt Clay Fly Ash Building Bricks-specification
5.	IS 2248, Glossary of terms relating to clay products for buildings
6.	IS 2691, Burnt Clay Facing Bricks - Specification
7.	IS 3495, Method of test for burnt clay building bricks.
8.	IS 5454, Methods of sampling of clay building bricks
9.	IS 1528 (Part 12), Method for determination of bulk density
10.	ASTM D5865 & Parr 620 Manual, Standard Test Method for Gross Calorific Value of Coal and Coke.
11.	ISO 50001, Energy Management Systems – Requirements with guidance for use.
12.	ISO 50002, Energy Audits – Requirements with guidance for use.

Introduction

The Government of India enacted the Energy Conservation (EC) Act, 2001 to realise the benefits of energy efficiency through reduced energy consumption. The Act provides the legal framework, institutional arrangement and regulatory mechanism to embark upon an energy efficiency drive in the country. Energy efficiency institutional practices and programs in India are being guided through various voluntary and mandatory provisions of the Act.

The Government of India set up the Bureau of Energy Efficiency (BEE), also referred to as 'BEE' or 'Bureau' on 1st March 2002 under the provisions of the EC Act 2001. The mission of the Bureau is to assist in developing policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the EC Act, 2001 with the primary objective of reducing energy intensity of the Indian economy.

The construction sector contributes about 10% of India's GDP and is growing at the rate of 9% per annum. The Indian burnt clay brick industry is the second largest in the world (next to China).¹ The Brick manufacturing sector employs one of the nation's largest workforce second to agriculture. Given the large projected increase in the building stock, the demand for Bricks is expected to multiply by 3-4 times in the next 20 years. As per a BEE report dated 2017, burnt clay brick manufacturing sector was assessed as having the 2nd largest potential for energy saving amongst the industrial sectors in India.

Introducing a comprehensive energy efficiency strategic approach in burnt clay brick manufacturing will not only reduce energy use but would also result in reductions in raw material use. Given the sizeable opportunity for energy saving in the brick manufacturing sector and considering the projected growth in building stock; the BEE seeks to accelerate the shift in the burnt clay brick manufacturing sector towards energy efficiency. The BEE proposes a two-step strategy to activate market transition:

1. *Brick Manufacturing Enterprise adopting and demonstrating energy-efficient manufacturing shall be endorsed through a BEE certification as "Energy Efficient Enterprise (E3)" and*
2. *Market awareness for E3 certification to encourage customers to source bricks from manufacturing units who have been certified as E3.*

The adoption of the E3 certification is currently voluntary for the Brick industry. Provided that Bureau may in its sole discretion, make E-3 certification mandatory. Energy-efficient transformation in brick manufacturing through BEE's active steering is expected to create an enabling policy environment for promoting manufacturing and utilization of energy efficient Bricks, technologies and practices in India's construction sector. This would further lead to an improved availability of financial and institutional support for initiatives on energy efficient Brick production and utilization; phase out of inefficient technology in Brick production; increase in capacity of energy efficient Brick Kilns and enhance awareness and access of energy efficient Bricks and technology.

This document contains four parts:

¹ UNDP/GEF Project: Energy Efficiency Improvements in the Indian Brick Industry (PIMS 3465), April 2017

1. Part-1: Requirements and process for E3 certification. (example: Basis and criteria for E3 certificate, application process and timelines, Guidelines on use of E3 certificate)
2. Part-2: Monitoring, Verification and Enforcement
3. Part-3: Formats (example: Application form, data log formats, Standard agreements)
4. Part-4: Standard Pledge Format (Pledge to be signed by builders to use Bricks procured from E3 certified Brick Manufacturing Enterprises).

PART 1
“Energy Efficient Enterprise (E3)”
Certification:
Requirements and Process



Accreditation is one of the most cost-effective policy tools that drive energy efficiency. “Energy Efficient Enterprise” (E3) certification is one such accreditation focused on Brick industry. E3 certification will be awarded to Brick Manufacturing Enterprises that meet the minimum Specific Energy Consumption (SEC_{vol}) performance criteria specified in the Scheme. The criterion for awarding E3 certification is based on a national benchmark for energy consumption in the brick manufacturing sector. This program has been developed in a collaborative and consensus-driven approach with active participation from both brick supply and demand side stakeholders including developers, builders, brick manufacturing enterprises, energy efficiency experts, etc.

1. Objective

The overall objective of the “Energy Efficient Enterprise” (E3) certification is to accelerate the shift in the Brick manufacturing sector towards energy efficiency through a market-based approach.

E3 certificate will be awarded to Brick Manufacturing Enterprises that meet the minimum Specific Energy Consumption (SEC_{vol}) performance criteria specified in this Scheme. The minimum Specific Energy Consumption (SEC_{vol}) performance criteria can be met by Brick Manufacturing Enterprises by adopting a combination of measures aimed at a) improving energy efficiency in manufacturing, and b) producing Bricks having lower (bulk) densities e.g. porous, perforated and hollow bricks. Low density Bricks provide better thermal insulation and hence assist in reducing operational energy in buildings.

E3 certificate is therefore a means for the enterprises to differentiate themselves in the eyes of end consumer through superior energy efficiency in Brick production and manufacturing Bricks that saves operational energy of a building during its lifetime.

2 Basis of E3 certificate

2.1 Scope

- a) E3 certification Scheme will be applicable for all types of Brick Manufacturing Enterprises located and/or registered in India.
- b) E3 certificate shall be awarded based on the Specific Energy Consumption (SEC_{vol}) (MJ/m^3) parameter as per the qualification criteria mentioned in sections 2.2 and 2.3.
- c) The adoption of E3 certification **Scheme** is currently **voluntary** for adoption by the Brick Manufacturing Enterprises, and Bureau may in its sole discretion make such requirement mandatory for Brick Manufacturing Enterprise.
- d) A Brick Manufacturing Enterprise may have one or more Brick Kilns or production lines in the same unit or within the same premises. For the purpose of E3 certification, and estimation of Specific Energy Consumption and evaluation of applications, these will be considered as one unit/enterprise unless they are registered as different units under GST.
- e) E3 certificate does not apply to the enterprises where:
 1. The enterprise operates as an aggregator and supplier of Bricks procured from other enterprises and does not manufacture Bricks.
 2. The enterprise does not own/ operate the Brick Kiln(s).

2.2 Specific Energy Consumption (SEC_{vol}) (MJ/m³)

- a) The Brick manufacturing process consists of mining, clay preparation, shaping, drying, and firing operations. Usually more than 90% of the energy utilised in manufacturing is in the form of thermal energy used in Brick Kiln for the firing operation. For the purpose of this Scheme, the Specific Energy Consumption of the Brick Manufacturing Enterprise includes only the thermal energy consumption in the brick manufacturing.
- b) Specific Energy Consumption energy (SEC_{vol}) (MJ/m³) of the Brick Manufacturing Enterprises will depend upon three parameters:
 - (i) Specific energy consumption (SEC_{Mass}) of the Brick Kiln technology (measured in MJ/kg). It will depend upon the type of kiln technology being used for manufacturing of bricks.
 - (ii) Type of Brick products and % share (by volume) of each Brick product in the annual production.
 - (iii) Bulk density of each of the Brick product (measured in kg/m³).

E3 certification shall be awarded to an enterprise based on this calculated specific energy consumption (SEC_{vol}). For an enterprise, the Specific Energy Consumption (SEC_{vol}) (MJ/m³) of the enterprise is defined as:

Specific Energy Consumption (SEC Vol, in MJ/m³)

$$= \frac{\text{Total thermal energy consumed by the enterprise (MJ)}}{\text{Total volume of bricks and blocks produced by the enterprise (m}^3\text{)}}$$

If the applicant enterprise has 'N' number of brick kilns producing various brick products, SEC_{vol} (MJ/m³) of the enterprise can be computed as below:

Calculated Specific Energy Consumption (SEC_{vol})(MJ/m³)

$$= \frac{\sum_{i=1}^N \left[\{SEC_{Mass} \text{ of the Kiln-}i \text{ (MJ/kg)}\} \times \{Total \text{ dry weight of all the products produced in Kiln-}i \text{ (kg)}\} \right]}{\sum_{i=1}^N [Total \text{ bulk volume of all the products produced in Kiln-}i \text{ (m}^3\text{)]}$$

Where,

- i. SEC_{Mass} of the Kiln-i will depend on type of kiln technology and can be determined as per section 2.4.
- ii. Dry weight of the product is the weight of the fired brick in oven dry condition (i.e. at 0% moisture). Total dry weight of all the products produced in Kiln-i can be determined as:

Total dry weight of all the products produced in Kiln-i (kg)

$$= \sum_{j=1}^P \left[\{No \text{ of pieces of product-}j \text{ produced in Kiln-}i \} \times \{Dry \text{ weight of product-}j \text{ produced in Kiln-}i \text{ (kg)}\} \right]$$

Where ' P ' is the number of type of products produced in Kiln- i .

iii. Total bulk volume of all the products produced in Kiln- i can be determined as:

Total bulk volume of all the products produced in Kiln- i (m^3)

$$= \sum_{j=1}^P \left[\{ \text{No of pieces of product-}j \text{ produced in Kiln-}i \} \times \{ \text{Bulk volume of product-}j \text{ produced in Kiln-}i \text{ (}m^3\text{)} \} \right]$$

Where ' P ' is the number of type of products produced in Kiln- i .

Note:

1. In addition to brick products, an enterprise may be manufacturing other clay products such as roof tiles, cladding tiles, etc. However, for the purpose of E3 certification and estimation of specific energy consumption (SEC_{vol}) of the enterprise, only the brick products will be considered.
2. Dry weight, bulk volume and bulk density of brick products mentioned in above equations should be measured in accordance with IS 1528 (Part 12).

2.3 Qualification Criteria

An enterprise will be awarded the E3 certificate if it qualifies on the following two criteria:

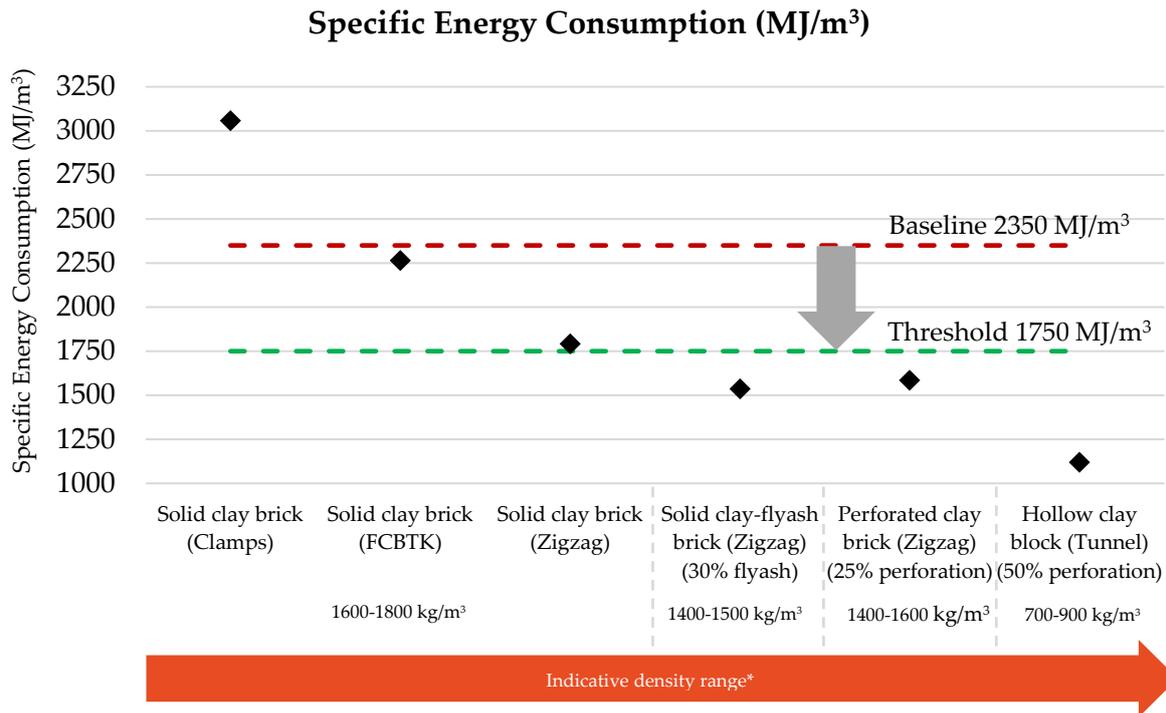
1. Meeting the Threshold Specific Energy Consumption (MJ/m^3), And
2. Meeting statutory compliances (environmental and other legal compliances)

2.3.1 Threshold Specific Energy Consumption (SEC_{vol}) (MJ/m^3)

The National Baseline of Specific Energy Consumption (SEC_{vol}) (MJ/m^3) for brick manufacturing enterprises has been determined based on the available primary and secondary data sources, and industry experts' estimations on market share of different types of brick products and contribution of different kiln technologies in the annual brick production. The current national baseline is estimated to be approximately $2350 MJ/m^3$. The threshold for award of the E3 certificate to an enterprise is kept at $1750 MJ/m^3$, which is 25% lower than the national baseline.

That means for an enterprise to qualify for E3 accreditation, its specific energy consumption (SEC_{vol} , MJ/m^3) should be less than or equal to the threshold value, i.e. $1750 MJ/m^3$. The national baseline and the threshold value will be periodically revised by the BEE every three years.

The specific energy consumption of some of the "brick product-kiln technology" combinations along with the national baseline and threshold for E3 certificate are plotted in the figure for illustration purpose:



*Please note that these are indicative density ranges based on a limited number of samples, and the actual density may vary depending on clay property, clay preparation, shaping methods, etc

2.3.2 Statutory compliances

To apply and qualify for the E3 certificate, an enterprise shall provide evidence of meeting regulatory permissions/clearances *inter-alia*

- a) Valid "Consent to Operate" certificate issued from the concerned state pollution control board/committee.
- b) Valid mining permit for extraction of clay / Receipt of payment of mining royalty
- c) Environment Clearance issued from State Environment Impact Assessment Authority or other authorised agency as notified by the government.
- d) Goods and Services Tax (GST) registration number

The above regulatory permissions/clearances should be valid for the entire duration of the proposed E3 certification validity period. Where, any of these is due for expiring during the E3 certificate validity period, then it is the responsibility of the enterprise to get these renewed and submit the evidence to the BEE. It is hereby clarified that it is the responsibility of the Brick Manufacturing Enterprise to apply for renewal of expiring regulatory permissions/clearances, within the minimum time period available under the applicable law for applying for renewal, and where no such time period mentioned, the renewal application should be filed with the concerned authority at least 60(sixty) days prior to the expiry of such permission/clearance so that the relevant permission/clearance gets renewed before it gets expired. **It is hereby clarified that the E-3 Certification shall in no case be considered as expressly or impliedly certifying compliance with the applicable laws by the Brick Manufacturing Enterprise, and the same shall be the obligation of Brick Manufacturing Enterprise only.**

2.4 E3 Certificate Award and Compliance Cycle

The E3 certification cycle is carried over a four-stage process, based on the PDCA (Plan, Do Check and Act) approach as represented below:



There are two criteria for qualification for E3 as stated in section 2.3:

1. Meeting the Threshold for Specific Energy Consumption (SEC_{vol}), and
2. Meeting statutory compliances

The statutory compliances will be checked by desk verification of relevant documents. To verify the compliance with the specific energy consumption criteria, there are two approaches:

- a) 'Deemed SEC' Approach or
- b) Energy Audit Approach

At the time of application, the applicant Brick Manufacturing Enterprise shall opt for the approach under which the application is being submitted. This approach shall be fixed for the 3-year certification period.

2.4.1 'Deemed SEC' Approach

The deemed SEC approach is a simplified approach to apply for E3 certification. As stated in section 2.2, specific energy consumption (SEC_{vol}) (MJ/m^3) of the Brick Manufacturing Enterprises will depend upon three parameters:

- (i) Specific Energy Consumption (SEC_{Mass}) of the kiln technology (measured in MJ/kg). It will depend upon the type of kiln technology being used for manufacturing of bricks.
- (ii) Type of brick products and % share (by volume) of each brick product in the annual production.
- (iii) Bulk density of each of the brick product (measured in kg/m^3).

Under this approach, the actual measured value of the first parameter - specific energy consumption (SEC_{Mass}) of kiln technology (MJ/kg), is not required. Based on the analysis of secondary data of SEC_{Mass} (MJ/kg) of various kiln technologies available with the BEE, a deemed SEC_{Mass} value has been assigned for each of the major kiln technologies, as provided below, which shall be considered for determining the specific energy consumption (MJ/m^3) of an enterprise.

Kiln Technology	Deemed SEC_{Mass} (MJ/kg)
Clamp & Down Draught Kilns	2.08
Fixed Chimney Bull's Trench Kilns (FCBTK)	1.34

Kiln Technology	Deemed SEC _{Mass} (MJ/kg)
Zigzag kilns (both natural and induced draught)	1.06
Hoffman Kiln	1.70
Tunnel Kiln	1.40
Vertical Shaft Brick Kiln (VSBK)	0.88

The other two parameters - % share (by volume) of each product in the product mix and bulk density of each product, will be based on the production forecast by the enterprise in the upcoming year at the time of applying for E3 certificate.

2.4.2 Energy Audit Approach

Instead of assigning the deemed SEC_{Mass} value (MJ/kg) as per the kiln technology, an Energy Audit of the enterprise to determine the SEC_{Mass} will be carried out by a third-party energy auditor, as mentioned below. This approach can be utilized where:

- i. Brick Manufacturing Enterprise claims that their brick kiln technology operation is more efficient than the BEE deemed Specific Energy Consumption (SEC_{Mass}) values (refer section 2.4.1).
- ii. Brick Manufacturing Enterprise uses a brick kiln technology for which deemed SEC values are not available.

The Energy Audit can be done through a BEE empaneled energy auditing agency under the PAT scheme², or ISO 50001 accredited auditing agency³. The energy audit agency may refer the following documents for guidance:

- a) Provisions of Act and regulations made thereunder with respect to Energy Audit.
- b) ISO 50002 or
- c) Guidelines on energy monitoring of brick kilns developed under the Brick Production Initiative of the Climate and Clean Air Coalition⁴.

The applicant Brick Manufacturing Enterprise will hire the services of a qualified agency for Energy Audit, as mentioned above and the cost incurred for this will be borne by the Brick Manufacturing Enterprise.

The other two parameters (% share (by volume) of each product in the product mix and bulk density of each product) shall be determined as stated under the deemed SEC approach.

² The list is available at

[https://beeindia.gov.in/sites/default/files/Approved%20List%20of%20Empanelled%20Accredited%20Energy%20Auditor%20Firms%20for%20PAT%20M&V%20%20\(1\).pdf](https://beeindia.gov.in/sites/default/files/Approved%20List%20of%20Empanelled%20Accredited%20Energy%20Auditor%20Firms%20for%20PAT%20M&V%20%20(1).pdf)

³ The list is available at http://nabcb.qci.org.in/accreditation/reg_bod_enms.php

⁴ The guideline is available at: <https://www.ccacoalition.org/en/resources/brick-kiln-measurement-guidelines-black-carbon-emissions-and-energy-performance>

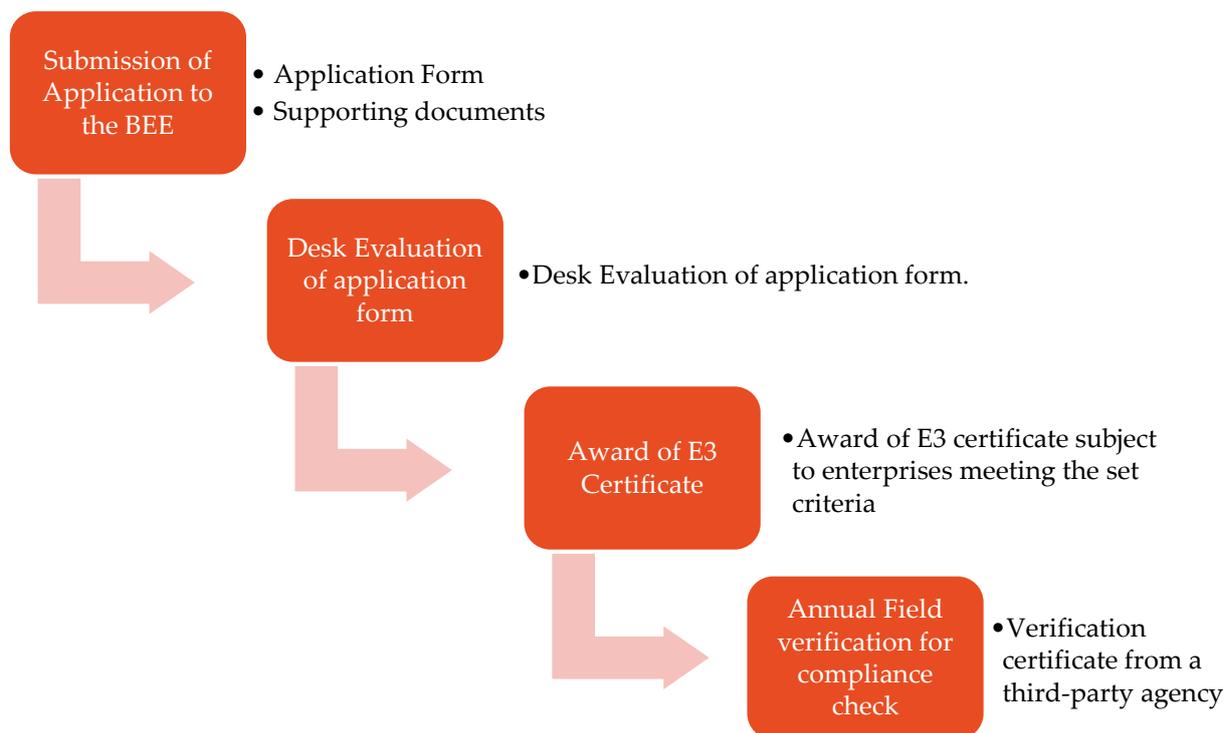
3 E3 certification: Application process

Brick Manufacturing Enterprises (Applicant) can apply for the E3 certification to the Bureau, using the following guidelines:

1. Documents, including copies submitted to the BEE shall be signed and stamped by the authorized signatory in original.
2. All the documents must be submitted (as mentioned in Part 3) and shall be filed properly.
3. Deviation from the obligations of Brick Manufacturing Enterprise as mentioned in this Scheme, would be treated as non-compliance to application, unless notified otherwise by the BEE, and section 6.3 Non-Compliance clause will be applicable.
4. Submission of any incorrect/misleading information or any misrepresentation during the application process or field verification process by the Brick Manufacturing Enterprise shall entitle BEE to reject the application or withdraw the E-3 certification (as per section 6.3). In addition to this, BEE may, if it deems fit, disallow such Brick Manufacturing Enterprise from applying for E-3 certification for a limited period. Provided that in concerned Brick Manufacturing Enterprise shall be given proper hearing.

3.1 Application process

The application process is presented in the figure below:



1. Submission of application to the BEE
 - a. The applicant enterprise will prepare the application for E3 Certificate in the prescribed form provided in Part-3 of this document along with the required supporting documents.
 - b. The applicant enterprise will submit the application form along with the required supporting documents to BEE for E3 Certification.

- c. In case of submission of application under the Energy Audit Approach, the applicant enterprise should submit the energy audit report for SEC_{Mass} (MJ/kg) of the kiln technology in accordance with section 2.4.2.
2. Desk Evaluation of the application by BEE / BEE appointed agency.
The BEE / BEE appointed agency will do the desk evaluation of application as per guidance provided in section 6.1.1.
3. Award of E3 Certificate subject to Brick Manufacturing Enterprise meeting the set criteria.
Based on the desk evaluation of applications, BEE will award the E3 Certificate to the applicant enterprises meeting the set criteria.

4. Field Verification:

To check the compliance, E-3 awardee Brick Manufacturing Enterprise shall be required to undertake an annual field verification of the E3 awardee Brick Manufacturing Enterprise which shall be conducted a third-party agency from among the following:

- a) BEE empaneled energy auditing agencies⁵ under PAT scheme, or
- b) ISO 50001 accredited auditing agencies⁶

Brick Manufacturing Enterprise can engage services of any of the third-party agencies mentioned above and the fee for field verification will be paid directly by the E3 awardee enterprise to the third-party agency as agreed between the two parties. The third-party agency will conduct the field verification as per the guidance provided in section 6.1.2.

The frequency of verification can be more than once per annum where the appointed Third Party or BEE deem it to be necessary to fulfil compliance criteria.

5. Submission of the Field Verification Report to BEE

The first field verification is required post end of 1 year from the date of award of E3 certificate. Subsequent verifications should follow the annual frequency. The E3 awardee enterprise should submit the field verification report to BEE, within 3 months' time from the completion of each certification year. In case multiple field verification is required in a year as per section 4, the provisions of this section 5 with respect to frequency and submission of report shall apply *mutatis mutandis* on each of such field verification.

3.2 Timelines for application processing

The application to E3 certification process is expected to be completed within 30-45 days provided the information furnished in the application is complete and supported by all the necessary documents.

Timelines associated at each step are tabulated below.

⁵ The list is available at

[https://beeindia.gov.in/sites/default/files/Approved%20List%20of%20Empanelled%20Accredited%20Energy%20Auditor%20Firms%20for%20PAT%20M&V%20%20\(1\).pdf](https://beeindia.gov.in/sites/default/files/Approved%20List%20of%20Empanelled%20Accredited%20Energy%20Auditor%20Firms%20for%20PAT%20M&V%20%20(1).pdf)

⁶ The list is available at http://nabcb.qci.org.in/accreditation/reg_bod_enms.php

S. No.	Activity	Timeline (Working days)	Responsibility
1.	Submission of application	0	Applicant
2.	Scrutiny of applications (fresh application submissions or re-submissions)	10 days from date of submission at BEE	BEE or BEE appointed entities
2.a	In case of incompleteness or any discrepancies, the application will be returned.	10 days from the date of submission at BEE	BEE or BEE appointed entities
2.b	Re-submission of complete application to the BEE by Applicant (Return application case only)	15 days from the date of return of application	Applicant
3.	Approval/ rejection for Issuance of E3 Certificate	15 days from date of submission at BEE	BEE
4.	Annual Field Verification (starting at the end of year 1 of certificate award)		Third party verifiers paid for by Applicant
5.	Scrutiny of field verification report (as and when applicable).		BEE or BEE appointed entities

3.3 Fee

The E3 certificate scheme application fee is Rupees Thirty-Five Thousand (Rs. 35,000). The fee covers charges towards services rendered by BEE in evaluation of applications and granting the E3 certification.

The application fee has been waived off for the pilot phase. Thus, no application fee is to be paid by the applicant (Brick Manufacturing Enterprise) to the BEE for applications submitted during the pilot phase.

Fees/ charges, payable to third parties towards field/ data verification or energy audit shall be agreed between the Brick Manufacturing Enterprise and such third-party agency and paid directly by applicant to that agency.

Upon completion of the validity period of E3 certificate, the E3 awardee Brick Manufacturing Enterprises will be required to apply for renewal of the certificate. The fee for renewal of E3 certificate will same as the application fee mentioned above.

4 Validity of E3 Certificate

The national baseline of specific energy consumption and the threshold for qualification for E3 certificate shall be revised every three years. BEE will initiate the process of revising the baseline and threshold one year before the expiry of its validity.

The E3 certificates issued to brick manufacturing enterprises will be valid for three years from the date of issue of certificate. As and when the new thresholds for E3 certification will be notified, the E3 awardee Brick Manufacturing Enterprises will be required to get their certificate renewed by submitting the supporting documentation to show compliance with the new thresholds within four months of the notification. The validity of renewed certificate will be three years from the

date of renewal. As required in the case of fresh application, in case of renewal also, the E3 awardee enterprise must get its plant field verified by the third-party after one year from the date of renewal of certificate.

5 Guidance pertaining E3 certification use

5.1 Purpose of Certification

Certification is a useful tool to lend credibility by virtue of association. The E3 certification seeks to convey achievement and maintenance of energy performance thresholds by the Brick Manufacturing Enterprise in the eyes of end-customers.

At no point should the use of the E3 certification by the Brick Manufacturing Enterprise mislead, create false impressions, or cause confusion on this objective.

BEE will take appropriate action if it considers/ gains information that the (mis-) use of E3 certification puts its reputation or that of the E3 certification Scheme at risk.

5.1.1 Nomenclature and Display of certification

The Energy Efficient Enterprise can be referred as E3 in short form.

The E3 certification is for the Brick Manufacturing Enterprise and is linked to the geographical location of its manufacturing unit. (example – location of Brick Kiln).

The E3 certification is not for individual products.

The award of E3 certification to Brick Manufacturing Enterprises does not authorise them the use of the BEE logo in totality or in parts thereof.

Keeping the above in mind, the following do's and don'ts apply:

DOs:

- Say that the "<Name of Brick Manufacturing Enterprise at geographic location> is E3 certified" or "has received E3 certification".
- Refer to E3 as a certificate.
- Display E3 certification logo in the premises of the enterprise / unit / plant receiving the award and/ or in the enterprise marketing documents / materials.

E3 Certification Logo		BEE Logo
 <p>(With text)</p>	 <p>(Without text)</p>	

The E3 certification logo is the word E3 written in the colour palette of shades of red and arranged in the form of a building block. The logo is especially designed to support the market

transformation intent by conveying -- association with bricks (for both supply and demand side) and simplicity for pan-India recognition.

Note: The BEE and E3 logos are registered with the BEE and cannot be used by anyone unless authorised.

Don'ts:

- a) "Name of product / brick type is E3 certified" or "has received E3 certification" or "is compliant with E3 certification"
- b) Refer to E3 certificate as a label.
- c) Say that the products and processes are endorsed, approved or certified by BEE.
- d) Register E3 as, or in, the domain name, website, or company name.
- e) Display E3 certificates/ logo that have expired or exceeded their validity period.
- f) Display of E-3 certificate/logo post expiry of E-3 certification (without any renewal) or withdrawal of E-3 certification in accordance with the provisions of this Scheme.

5.2 Sample E3 certificate for Award

BEE's E3 certificate provides details such as the name of the enterprise, unique identification number of the manufacturer, date of award, validity period, BEE logo, etc.

Sample Certificate



(Sample Text for editing / suggestions is below)

Bureau of Energy Efficiency Logo

E3 Identifiable Logo

Energy Efficient Enterprise (E3) Certificate

This certificate is presented to

“Name of Enterprise”

Brick Manufacturing Plant “Unit / Identification Name” located at

*Has committed to demonstrate energy efficiency in **brick manufacturing process** and meet the threshold established under Bureau of Energy Efficiency’s Energy Efficient Enterprise (E3) certification scheme.*

This certificate does not certify compliance with applicable laws by the Brick Manufacturing Enterprise.

Day, Month, Year

Valid till Day Month, Year

.....

Mr. / Mrs. ABC, Designation,

Bureau of Energy Efficiency, New Delhi, India

PART 2

Monitoring, Verification and Enforcement



6 Monitoring, Verification and Enforcement

6.1 Verification Process

The process of verification and evaluation is described below.

6.1.1 Desk Evaluation of Application⁷

At the time of submission of application, BEE / BEE appointed agency will verify the following:

1. Statutory requirements: The agency will check the original copies of all the regulatory permissions/ clearances as required in section 2.3.2.
2. Production process related information: The agency will verify the
 - a. information furnished by the applicant Brick Manufacturing Enterprise in the application form related to kiln technologies, production processes and machineries commissioned.
 - b. related documents as required in Form-A.

The application will also be checked with respect to its completeness.

3. Meeting E3 Certification threshold: Based on data provided by the applicant related to kiln technology, brick properties and production forecast of various brick products, the agency will estimate the Specific Energy Consumption (SEC_{vol} , MJ/m³) of the enterprise using the formula (refer section 2.2), and verify the compliance with E3 certification threshold.

If all the above criteria are met, BEE will issue the E3 certificate to the applicant.

6.1.2 Field Verification after award of E3 Certificate

Under the E3 Certification scheme, the field verification will be conducted by a third-party agency identified as eligible by the BEE (refer point 5 of section 3.1). It is the responsibility of the Brick Manufacturing Enterprise to hire the services of a field verification agency of its choice from among the identified eligible agencies, at a mutually agreed fee.

First field verification will take place at the end of 1 year from the date of issue of E3 certificate. It is the responsibility of the E3 awardee enterprise to get this verification conducted within 3 months after completion of the first year of receipt of E3 certificate. Further, field verification during the validity of the E-3 certification shall be undertaken by the Brick Manufacturing Enterprise at such frequencies as mentioned in Section 4 of this Scheme.

The third-party verification agency would verify the following:

1. Statutory requirements: The verification agency would verify the original copies of all the regulatory permissions/ clearances as required in section 2.3.2 and cross-check the validity periods of these documents.
2. Records/logs of production data and fuel use: The brick manufacturers are required to maintain daily logs of production and fuel use in prescribed formats (Part-3). The

⁷ In the pilot phase (or contracted tenure), the desk evaluation of applications will be done by the TSA (technical support agency) engaged for developing the E3 certification scheme. Post Pilot (or end of contract), this will be done by BEE identified entities.

verification agency would check the daily logs, sales invoices and unsold inventory to verify the production capacity.

3. Lab test reports for brick properties: The lab test reports for properties such as bulk density, dry weight, compressive strength (as required by Form-A in Part-3) for all the brick products would be verified. The test reports should not be more than one year old at the time of verification.
4. Plant, machinery and equipment details: The verification agency will verify the details of plant, machinery, equipment and process submitted at the time of initial E3 application.
5. Meeting E3 Certification threshold: Based on the actual production data of various brick products, the verification agency would estimate the Specific Energy Consumption (SEC_{vol} , MJ/m³) of the enterprise using the formula mentioned in section 2.2, and verify the compliance with E3 certification threshold.
6. Use of E3 certificate and logo: The verification agency would check whether the E3 certificate and logo are used in accordance with the guidelines furnished in section 5.

After the field verification, the verification agency will submit its recommendation to BEE on continuation or withdrawal of the E3 certificate for the concerned enterprise. In case the applicant fails to demonstrate the meeting of E3 qualifying threshold in field verification or any other requirement, section 6.3 Non-Compliance clause will be applicable.

6.2 Process, Activities and Timelines

All applications will be evaluated as per timelines specified in Part 1 of this document. BEE / BEE appointed Agency will be evaluating the application.

6.3 Non-Compliance

Brick manufacturing enterprise is required to meet all E3 certification compliance criteria mentioned in this document. Following is a summary of some of the compliance requirements (inter-alia):

- Field verification and submission of report of third-party agency within the stipulated timeframes.
- Adherence to guidance on use and display of E3 certificate.
- Complying with all the required statutory requirements.
- Submission of data logs and supporting documentation requested within this document, and any additional requirements that may be requested by BEE / third party agency for verification within stipulated timeframe.
- Updating/ Renewing the E3 certificate to meet the latest threshold for qualification as and when notified by BEE.

In case of non-compliance to E3 certification commitments, the Third-party agency may seek a follow-on audit to verify compliance. The Brick manufacturer is required to provide an explanation and meet all compliance requirements within the said period. If the same is not satisfactorily adhered to, the Third-party agency shall bring the non-compliance to the attention of the BEE. The E3 certification shall be withdrawn by the BEE with public notice issued stating that the Brick Manufacturing Enterprise is no longer E3 certified.

PART 3

Standard Agreements, Forms and Formats



7 List of Sample documents, Forms and Formats

7.1 Covering letter format for fresh application

(to be furnished on the letterhead of the brick manufacturing enterprise)

Ref. No: _____

Date: _____

To,

The Director General
Bureau of Energy Efficiency,
(Ministry of Power, Government of India)
4th Floor, Sewa Bhawan,
Sector-I, R.K. Puram,
New Delhi – 110 066, India

Subject: Application of E3 Certification

Dear Sir / Madam,

With reference to the above subject, I on behalf of M/s.....
..... submit the following documents for your consideration.

Organization Name

Location of the Brick Manufacturing Enterprise

Applied under: Deemed SEC Approach Energy Audit Approach

Enclosure details	Tick if provided	Validity Period
Self-attested copy of Goods and Service Tax Registration Certificate		
Self-attested copy of Mining Permit / Receipt of payment towards mining royalty		
Self-attested copy of Consent to Operate Certificate issued by state pollution control board/committee		
Self-attested copy of Environment Clearance issued from State Environment Impact Assessment Authority or any other authorised agency		
Completed Form A and documents requested thereunder		

Thanking you,

(Name, Designation & Signature of Authorized Signatory with company seal)

7.2 Fresh Application Form: Sector Specific Proforma A

(To be submitted along with cover letter and requested documents.)

To,

The Director General
Bureau of Energy Efficiency,
(Ministry of Power, Government of India)
4th Floor, Sewa Bhawan,
Sector-I, R.K. Puram,
New Delhi – 110 066, India

1. Details of the Brick Manufacturing Enterprise

Name of the organization	
Address of the manufacturing unit	
Pincode	
State	
Phone Number	
Fax Number	
Email	
Website	

2. Production data of brick products*: Estimated annual production forecast of each brick product type starting from the date of issue of E3 certificate

S. No.	A. Type of product	B. Dry Weight of one piece of product (kg)	C. Dimensions of the product (L x B x H) (mm)	D. Product Bulk Density (kg/m ³)	E. Estimated Annual Production (No. of pieces/ year)	F. Kiln Technology	G. Moulding Method	H. Drying Method
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

S. No.	A. Type of product	B. Dry Weight of one piece of product (kg)	C. Dimensions of the product (L x B x H) (mm)	D. Product Bulk Density (kg/m ³)	E. Estimated Annual Production (No. of pieces/ year)	F. Kiln Technology	G. Moulding Method	H. Drying Method
17								
18								
19								
20								

* **Brick Products:** Means any burnt clay masonry unit. It may be bricks or blocks of different sizes. In addition to the brick products, an enterprise may be manufacturing other clay products such as roof tiles, cladding tiles, etc. However, for the purpose of E3 certification and evaluation of applications, only the brick products will be considered.

A. Mention the product type such as solid bricks, perforated bricks, multi-hole bricks, hollow blocks, etc. Each product type needs to be mentioned in a separate row.

B. Dry weight of the product is the weight of the fired brick in oven dry condition (i.e. at 0% moisture). Mention the dry weight of each brick product as per the lab test report. In case the product has not been manufactured in the past and product sample is not available for lab test, mention the estimated dry weight in kg (up to 2 decimal places). However, at the time of field verification lab test reports for all brick products need to be furnished.

C. Product Dimensions: Mention the product dimensions (in mm) in the form L x B x H (Length x Breadth x Height).

D. Mention the Bulk Density of each brick product as per the lab test report. In case the product has not been manufactured in the past and product sample is not available for lab test, mention the estimated/indicative Bulk Density in kg/m³. However, at the time of field verification lab test reports for all brick products need to be furnished. Bulk density is defined as the ratio of mass of the dry material of porous body to its bulk volume. Bulk density is measured as per IS 1528 (Part 12).

E. Estimated Production: No of pieces of each product type that will be produced in one year starting from the date of application of E3 certificate.

F. Mention the type of kiln technology that will be used for firing of bricks for each type brick product (e.g. FCBTK, Chamber kiln, Zigzag kiln, Tunnel kiln, Hoffman kiln, VSBK, etc.).

G. Mention the moulding method that will be used for moulding of bricks for each type of brick product (e.g. manual/hand moulding, soft mud moulding machine, extruders, Dry press, etc.).

H. Mention the type of drying method that will be used for drying of bricks for each type of brick product (e.g. drying in open, drying in shade, tunnel dryer, chamber dryer, etc.).

3. Process and Machinery/Equipment Details

S. No.	A. Process Details	B. Type of machinery/equipment	C. Make of machinery/equipment	D. Rated Production Capacity	E. Photograph
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

A. Mention the name of the process for which the machinery/equipment is being used (e.g. clay-mix preparation, brick shaping/moulding, drying, firing (kiln), etc.)

B. Mention the type of machinery being used for each process (e.g. pugmill, soft mud moulding machine, extruder, tunnel dryer, chamber dryer, tunnel kiln, etc.). In some cases, more than one machinery may have been used for same process. For example, for moulding process both extruder and soft mud moulding machines may have been used, or two different extruders may have been used. Mention details of each machinery in a separate row.

C. Mention the 'Make' of each machinery/equipment.

D. Mention the rated production capacity of each machinery/equipment.

E. Attach photograph of each machinery/equipment along with the application form. The photograph should be attached in the same sequence in which details are provided in above table. Also, mention the "S. No." and "Type of Machinery" on the photograph as corresponding to the above table.

4. Specific Energy Consumption (SEC_{vol}, MJ/m³) of the Enterprise

Specific Energy Consumption (SEC_{vol}) of the enterprise is MJ/m³.

[Based on the estimated annual production data provided in the previous section (point 2) of this form, the Specific Energy Consumption (SEC_{vol}) of the enterprise should be calculated in accordance with the method prescribed in section 2.2 of the E3 Scheme document.]

5. Fuel Used currently in the facility

S. No.	A. Type of fuel	B. Method/Type of fuel use	C. GCV of fuel (kcal/kg)
1			
2			
3			
4			
5			

A. Mention the type of fuel (e.g. coal, sawdust, mustard stalk, etc.)

B. Mention the method of fuel use, i.e. whether the fuel is being used as external fuel, or internal/body fuel

C. Mention the GCV of fuel (if available)

6. Enclosure details (please tick)

1. Kiln plan ()
2. Sectional drawing of the kiln trench/tunnel/chamber ()
3. Photograph of the kiln with date stamp in which the entire kiln should be visible ()
4. Self-attested copy of Test report for bulk density and dry weight (as per IS 1528 Part 12) of all types of brick products (if available). ()
5. Self-attested copy of Test report for compressive strength (as per IS 3495 for bricks or IS 3952 for blocks) of all types of brick products (if available). [*The compressive strength must comply with the BIS standards for respective products.*] ()
6. Self-attested copy of GCV certificate of fuel as per ASTM D5865 & Parr 620 Manual, Standard Test Method for Gross Calorific Value of Coal and Coke. (if available) ()
7. Third party energy audit report for Specific Energy Consumption (SEC_{Mass} , in MJ/kg) (required for applicants submitting the application under energy audit approach) ()

Thanking you,

(Name, Designation & Signature of Authorized Signatory with company seal)

7.3 Standard Agreement between the Bureau and E3 Awardee Enterprise. (Pilot)

[This agreement has to be prepared by the applicant brick manufacturing enterprise on a stamp paper of Rs 150.]

AGGREEMENT BETWEEN BUREAU OF ENERGY EFFICIENCY, A STATUTORY BODY UNDER THE MINISTRY OF POWER AND APPLICANT ORGANIZATION NAME, THE APPLICANT OF THE E3 CERTIFICATE UNDER THE ENERGY EFFICIENT ENTERPRISE (E3) PILOT PROGRAM.

Whereas the Bureau of Energy Efficiency, Ministry of Power (hereinafter referred to as the Bureau), a statutory body established under the provisions of the Energy Conservation Act 2001, (52 of 2001) with its office at 4th floor, Sewa Bhavan, R.K. Puram, New Delhi -110066, India has launched Energy Efficient Enterprise (E3) certification pilot Scheme for brick manufacturing enterprises.

Whereas applicant organization name engaged in Brick manufacturing having its registered office at Registered office address has agreed to enter the E3 pilot program and use the E3 certificate, (herein referred to as the user of E3 certificate) in accordance with the Pilot Scheme.

Now therefore, the parties hereto mutually agree as follows:

1. General

1.1. Commencement and duration

The agreement shall be valid for a period of 3 years commencing from the date it is signed or until Notification under clause (j) and clause (i) of section 13 of the Energy Conservation Act is issued by the Government of India, whichever is earlier. Notwithstanding anything contained above, Bureau can terminate this agreement anytime upon withdrawal of E-3 certification in accordance with the terms and conditions of the Pilot Scheme.

1.2. Objective

The objective of this agreement is that brick manufacturing enterprises commit to meet and adhere to the requirements of the E3 certification provided by the Bureau, in accordance with the details of the Scheme attached. For non-compliance to meet the commitments under the E3 certification, section 6.3 of the Scheme document will apply.

1.3. Energy Efficient Enterprise (E3) certificate

E3 certificate is assigned to Applicant organization name for brick manufacturing unit located at location of the brick kiln/ unit for committing to achieve the objective defined in Section 1.2 of this agreement.

1.4. Indemnity

The Applicant and its promoters/directors/partners, as applicable, hereby agree to indemnify Bureau of Energy Efficiency its officers, directors, employees. agents harmless from and against any and all claims, damages, losses, costs, expenses (including attorney fees and costs), and liabilities arising on account of (a) submission of false information/document; (b)

misrepresentation or breach of any conditions of this Agreement or Scheme for E-3 Certification issued by Bureau; or (c) third party claim with respect to grant/use of E-3 Certification to the Applicant.

2. Amendments / Additions

- 2.1. If any or some provision of the Scheme are coming in the way of achievement of objective defined in Section 1.2; Bureau may, adjust or amend provisions of the Scheme at any stage during the pilot implementation of the Scheme in consultation with the other stakeholders. The Bureau will notify the user of the E3 certificate of the adjustment or amendment of such provisions that shall contribute towards the achievement of the objective defined in Section 1.2.
- 2.2. Any such adjustment or amendment shall be made in writing and will be notified through public notice and on Bureau's website.

3. Notes

- 3.1. Any notice given by any of the parties hereunder shall be sent in writing at the address given as follows:

(1) Bureau of Energy Efficiency

Director General
Bureau of Energy Efficiency
4th Floor, Sewa Bhawan,
R.K. Puram,
New Delhi 110066

(2) Applicant Organization Name

Registered Address

Tel:

Email:

In witness whereof the parties hereto have signed this agreement.

Signature

Signature

Bureau of Energy Efficiency

**Applicant organization name
(date of signing)**

Witness: 1.

Witness: 1.

Witness: 2.

Witness: 2.

7.4 Periodical (Annual) submission formats for brick manufacturing enterprise.

7.4.1 Annual production data summary

Reporting period: (From date dd/mm/yyyy) to (date dd/mm/yyyy)

Sr. No.	A. Type of product	B. Dry Weight of one piece of product (kg)	C. Dimensions of the product (L x B x H) (mm)	D. Product Bulk Density (kg/m ³)	E. Production during reporting period (No. of pieces)	F. Kiln Technology	G. Moulding Method	H. Drying Method
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

A. Mention the type of brick product such as solid bricks, perforated bricks, multi-hole bricks, hollow blocks, etc. Each product type needs to be mentioned in a separate row. Brick Products means any burnt clay masonry unit. It may be bricks or blocks of different sizes. In addition to the brick products, an enterprise may be manufacturing other clay products such as roof tiles, cladding tiles, etc. However, for the purpose of E3 certification and evaluation of applications, only the brick products will be considered.

B. Mention the dry weight of each brick product as reported in the lab test report.

C. Product Dimensions: Mention the product dimensions (in mm) in the form L x B x H (Length x Breadth x Height).

D. Mention the Bulk density of each product as reported in the lab test report [measured as per IS 1528 (Part 12)].

E. Mention the number of pieces of each product type that has been produced during the reporting period. 'Produced' means the final product coming out of the kiln.

F. Mention the type of kiln technology that has been used for firing of bricks for each type brick product (e.g. FCBTK, Chamber kiln, Zigzag kiln, Tunnel kiln, Hoffman kiln, VSBK etc.).

G. Mention the moulding method that has been used for moulding of bricks for each type of brick product (e.g. manual/hand moulding, soft mud moulding machine, extruders, Dry press, etc.).

H. Mention the type of drying method that has been used for drying of bricks for each type of brick product (e.g. drying in open, drying in shade, tunnel dryer, chamber dryer, etc.).

7.4.2 Annual Fuel Use Summary

Reporting period: (From date dd/mm/yyyy) to (date dd/mm/yyyy)

S. No.	A. Type of fuel	B. Method/Type of fuel use	C. Fuel quantity used during reporting period (ton)	D. GCV of fuel (kcal/kg)
1				
2				
3				
4				

A. Mention the type of fuel (e.g. coal, sawdust, mustard stalk, etc.).

B. Mention the method of fuel use, i.e. whether the fuel is being used as external fuel, or internal/body fuel.

C. Mention the quantity of fuel used for each fuel type during the reporting period.

D. Mention the GCV of fuel.

7.5 Daily logs maintained on site by brick manufacturing enterprise

7.5.1 Daily production data - Log format

DD/MM/YR	Type of Product	Number of pieces produced/unloaded from the kiln	Kiln Technology	Moulding Method	Drying Method

DD/MM/YR	Type of fuel	Method/Type of fuel use	Fuel quantity used (ton)	GCV of fuel (kcal/kg)

PART 4

Standard Pledge Format

[for brick users (builders)]



8 Standard Pledge by Builder (brick user) to procure bricks from E3 Awardee Enterprise. (Pilot)

[BEE shall make aware and encourage builders to take pledge to procure bricks from E3 awardee enterprises. The objective is to enhance the market for E3 awardee enterprises and accelerate the shift towards energy efficiency. The standard editable format of the pledge is provided below. Annually the BEE shall seek information from those taking the pledge to provide details of sourcing bricks from E-3 certified Manufacturing Enterprises.]



Logo of company taking Pledge

Pledge to procure bricks/blocks from E3 Awardee Enterprises

We <Company's Name> are aware that the BEE is implementing Energy Efficient Enterprise (E3) certification scheme for the brick manufacturing enterprises, with an objective to accelerate the shift towards energy efficiency in the brick manufacturing sector and reduced operational energy in building end-use.

With a commitment to contribute towards energy efficiency in the national interest, we pledge to procure bricks/blocks manufactured in E3 awardee enterprises for the project

Name of the project:

Address:

Director General
Bureau of Energy Efficiency

Authorised Signatory of the Company

Editable Text of the Pledge:

Pledge to procure bricks/blocks from E3 Awardee Enterprises

We <Company's Name> are aware that the BEE is implementing Energy Efficient Enterprise (E3) certification scheme for the brick manufacturing enterprises, with an objective to accelerate the shift towards energy efficiency in the brick manufacturing sector and reduced operational energy in building end-use.

With a commitment to contribute towards energy efficiency in the national interest, we pledge to procure bricks/blocks manufactured in E3 awardee enterprises for the project

Name of the project:

Address:

Director General
Bureau of Energy Efficiency

Authorised signatory of the Company