



Energy Efficiency Labels for Residential Buildings

Overview

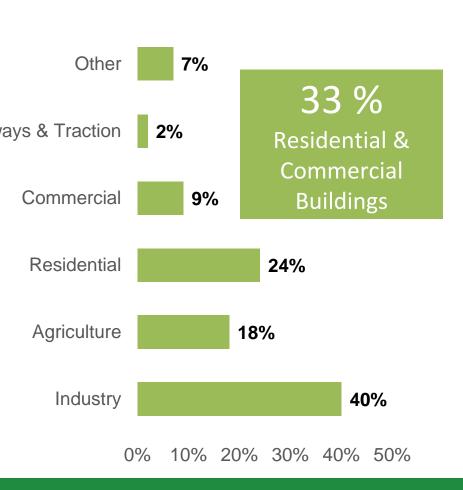
Bureau of Energy Efficiency



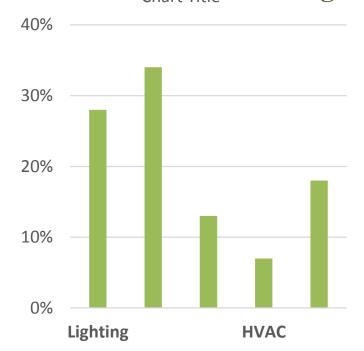
India's Electricity Scenario



Electricity Consumption in 2016-17=1066 BU 2016-17



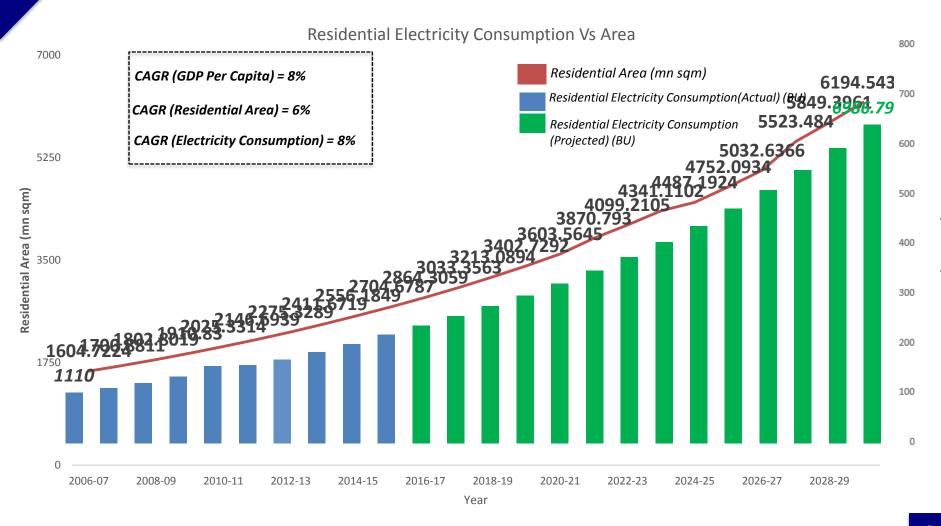
Electricity Consumption Pattern In Residential Buildings



Source: Energy Statistics 2018











India will add 3 Billion m² by 2030 of New residential building w.r.t Year 2018



Objective of labelling Program-Passport



- To provide information to consumers for EE Homes
- Energy Sustainability for India
- To achieve Indian NDC Targets
- Market Transformation for Energy Efficiency in each Home







Features of labelling Program



Choice for Consumers to select EE Homes Encourages consumers to improve EE Peer to Peer Comparison Provide information on the potential and actual energy use of buildings



Scope of labelling Program



New Residences

EE Label for Res Buildings

- Program covers all types of residential buildings.
- Making EE label a mandatory information required during real estate transaction/leasing will help in achieving the program's objectives



Need of labelling Program



Making energy efficient homes to tackle the soaring energy consumption in the residential sector

Helping consumers make an informed decision while buying/leasing through the provision of direct, reliable & costless information

A step forward from EcoNiwas Samhita 2018 launched by Ministry of Power on 14th December 2018 by motivating consumers to move towards energy efficient designs





Potential Savings from Labelling Program

3



Potential of Energy Savings in New residential buildings



Summary of energy savings considering 2018-19 as base year

Year	Savings (MU)	CO2 million tonnes
2019-20	408.9	0.3
2020-21	1469.3	1.2
2021-22	3517.5	2.9
2022-23	6699.9	5.5
2023-24	11398.8	9.3
2024-25	20122.5	16.5
2025-26	30788.5	25.2
2026-27	37058.8	30.4
2027-28	44957.1	36.9
2028-29	55200.1	45.3
2029-30	66725.8	54.7

TOTAL 279247 229

The energy saving potential through proposed labelling program is around 278 BU per year



Ancillary benefits of the program



Embryo to stimulate the larger energy efficient material & technologies market

Additional set of professionals to expedite the complete the process of residential label granting shall be a stimulant to Indian job market

Will encourage manufacturers to invest in energy efficient materials & thus support Make in India program

Disposable income generated from the energy savings will help stimulate other sections of the economy

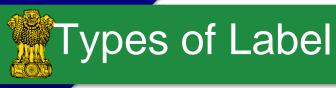
Helps the nation work towards fulfilment of Global Sustainable Development Goals 7 of United Nations: Affordable & Clean Energy



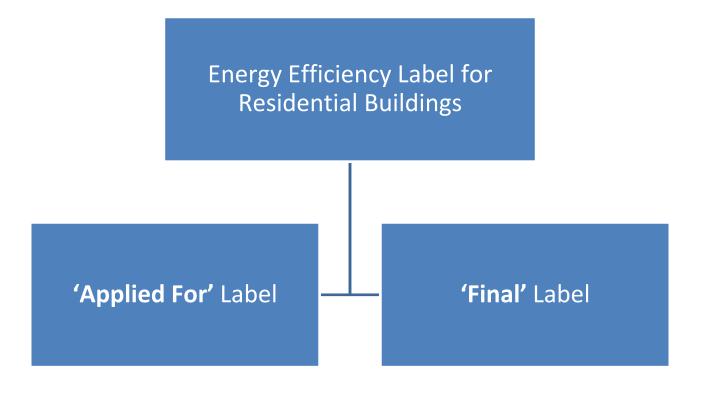


Energy Efficiency Labels for Residential Buildings Scope, methodology & framework

Bureau of Energy Efficiency



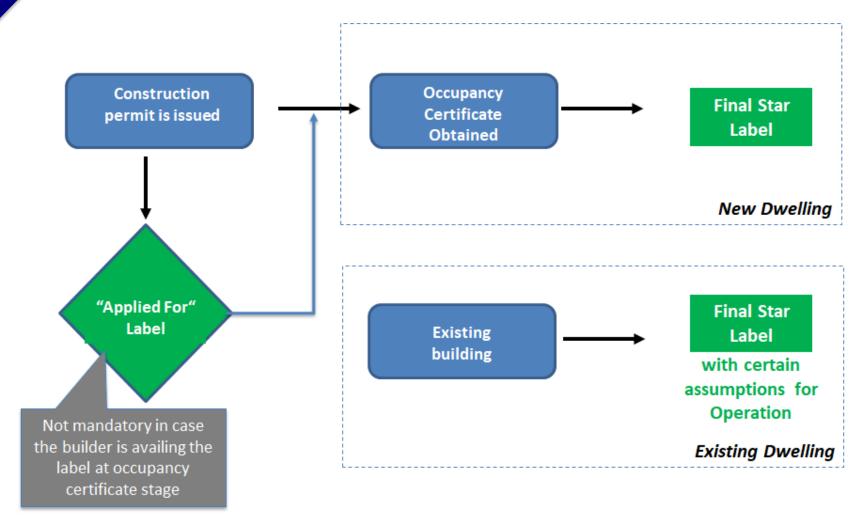






Classification of labelling stages







Star Rating Criteria & Calculation



Star Rating awarded in the basis on EPI (Energy Performance Index)

Energy Performance Index = Annual Energy Consumption (kWh)/Built up area (m²)

EPI Calculation = EPI for air conditioned spaces (~20% area) with 24 °C as set point (**E1**) with Air conditioner switched ON during occupied hours + EPI for other spaces (~80%) with natural ventilation (**E2**) set points defined by IMAC. And EPI for other appliances: E3

E1 & E2 includes following systems: Building envelope characteristics, Lighting system, and comfort system (AC)

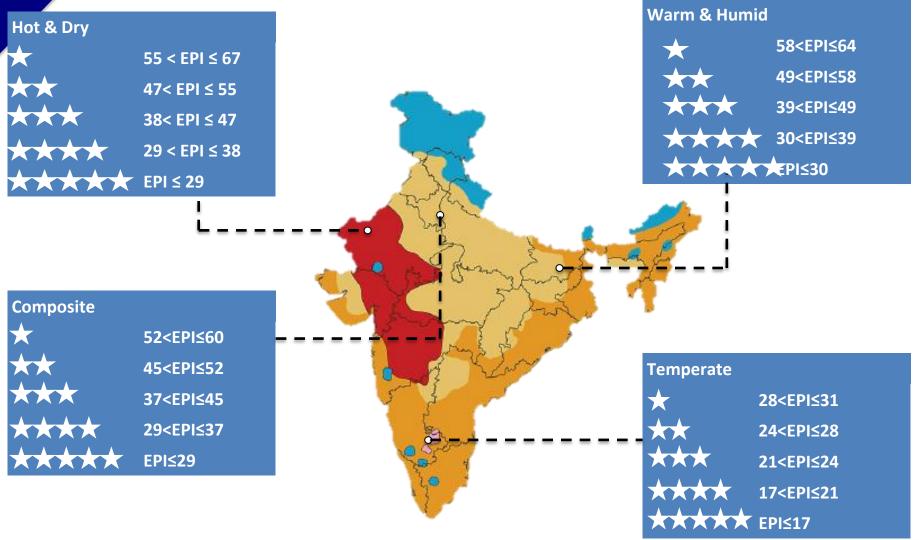
E3 includes appliances such as: Microwave oven, Grinder, , Refrigerators, TV, Water Pump, Washing Machine, etc.

E3 is not considered in EPI calculation for the Label



Residential Building Star Rating Plan

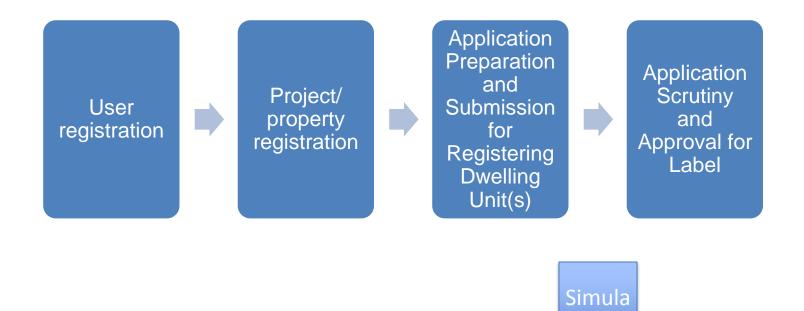






Application Process





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User Registration Stage



Process A: User Registration

Applicant - Developer



Access BEE Residential Building Labeling program
Portal



Sign-up for Creation of an Account /Registration with BEE (applicant to provide basic details of the developer - name, information of authorized personal, company details, communication details, etc.)



Email /mobile based OTP verification of the User



Generation of Unique Identification Number for the User through online portal.

Password Setting (option for change of password)



User-id to be emailed and sent via SMS to User



User account created / registration completed



Project Registration Stage



Process B: Project /Property Registration

Login the Portal

1

Access the link for Project Registration

1

Enter the details of respective Project (s) in the given Form

1

Project registration completed. Unique reference-id for each project is generated through online portal

Application for New Building (Applied For Label)

Application for Existing Building (Final Label)



Outline of process for awarding BEE Star Label



BEE Star Label for Residential Building:

- Applied For Label (specifically for developers or under construction residential buildings – Voluntary)
- Final Asset Label

Outline of process for awarding BEE Star Label

Preparation stage

Pre-requisites for applying to BEE

Evaluation for eligibility requirements

Application processing

Application submission

Scrutiny of received application

Approval for label

Implementation stage

Label renewal

Label transfer

Changes in label awarded already

Uptake strategies

Monitoring & Verification

Verification audits

Data reporting for monitoring the progress



Preparation Stage

Who will apply

Applicant in case of SINGLE DWELLING unit

- DU Owner OR
- DU owner may appoint a Certified Professional

Applicant in case of MULTI DWELLING unit

- **Developer** OR
- Developer may appoint a Certified Professional

Preparation Stage

Applicant - Developer, House owner /User of Label (appointed certified professional)

Creation of an Account /Registration with BEE (applicant to provide requisite details)

DU owner

Details of owner & project

Generation of Unique Identification Number through online portal

Developer

Details of developerDetails of project (s)

Details of owner (if exist)

Creation of:

- Developer ID OR Dwelling Owner ID
- Project ID (New Dwelling)
- Individual Dwelling ID

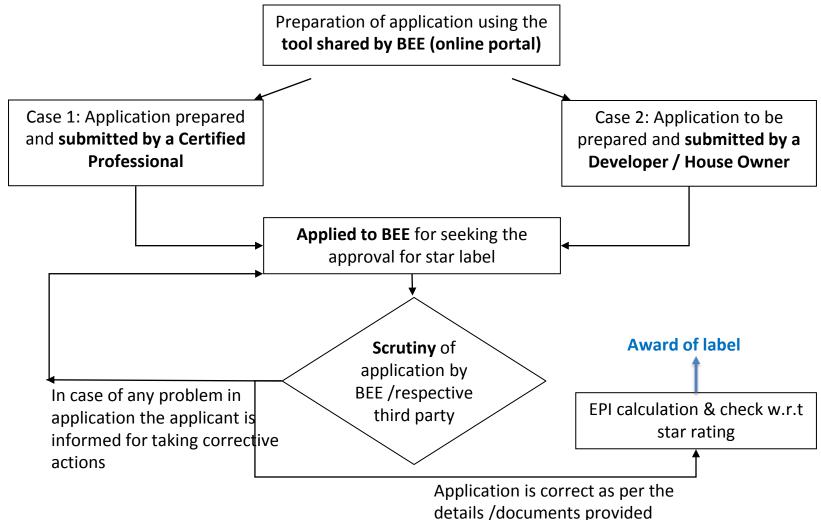
User account created / registration completed

Using the user-id, Applicant shall collate information as per the requirements and check the qualification of eligibility



Application processing stage







Application processing stage contd...



	New Dwelling stages			Existing Dwelling
Label	Developer	Developer	Owner	Owner
generation	"Applied For" Label	Final Star Label	Final Star Label	Final Star Label
Approval letter for the Label	Yes	Yes	Yes	Yes
Dwelling Passport (soft copy)	NA	Yes	Yes	Yes
Dwelling Name Plaque	NA	Yes	Yes	Yes



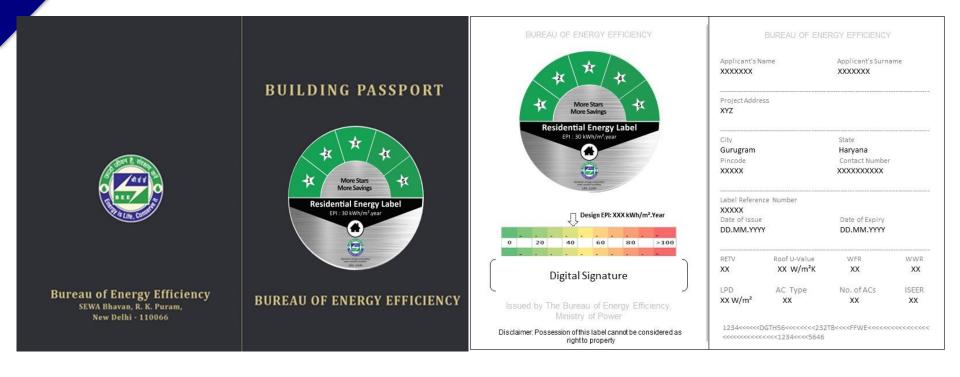




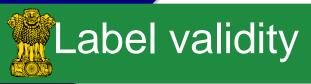
 The plaque will be provided to the applicant (developer / owner) of the respective residential dwelling upon approval of 'Final' label. The developer or owner would be required to submit request to BEE for the plaque.







- Upon approval from BEE, a building passport will be generated based on the details provided by label applicant.
- The e-passport will be auto-emailed to the applicant





Validity of label and plaque from the date of approval by BEE

'Applied For' Label (New Construction)	3 Years
'Final' Star Label (existing construction)	5 Years
Name plaque	Linked with validity of respective Final Star Label



Dwelling ownership & transfer related cases



	Ownership Transfer cases			
Label Stage	Developer to owner	Developer to Developer	Owner to Owner	
'Applied For'	NA	The already awarded 'Applied for' label stands OBSOLETE. The new developer shall submit application to seek the updated label.	NA	
'Final' Label	The owner after seeking the ownership shall submit request to BEE for change of identity details linked with the respective label which was earlier issued to the developer and also submit request for reissue of passport and name plaque	NA	The earlier issued passport and name plaque stands OBSOLETE. The new owner shall submit ownership change documents and respective form to BEE for change in records. Thereafter, the new owner shall submit request for seeking fresh "Name Plaque"	





Sr No	Description	Application fee (INR)		
		For dwelling unit with built- up area up to 100 m ² (Column A)	For dwelling unit with built-up area more than 100 m ² (in addition with amount mentioned in column A)	
1	Fresh application for 'Applied For' Label	2 2000	5 per m² for area above 100 m²	
2	Transfer of label stage from 'Applied For' to 'Final Star Label' by developer	1000 The charges is inclusive of cost of name plaque to be developer (irrespective of plaque size)	No extra charges (not applicable)	





	Sr No	Description	Application		on fee (INR)	
3		Fresh application for 'Final Star Label' either by developer or existing owner	2500	With small size name plaque	② 5 per m² for area above 100 m²	
	3		2800	With medium size name plaque		
			2 3000	With large size name plaque		
	4	Application for change in label details due to transfer of dwelling ownership	? 1000		Not applicable	





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