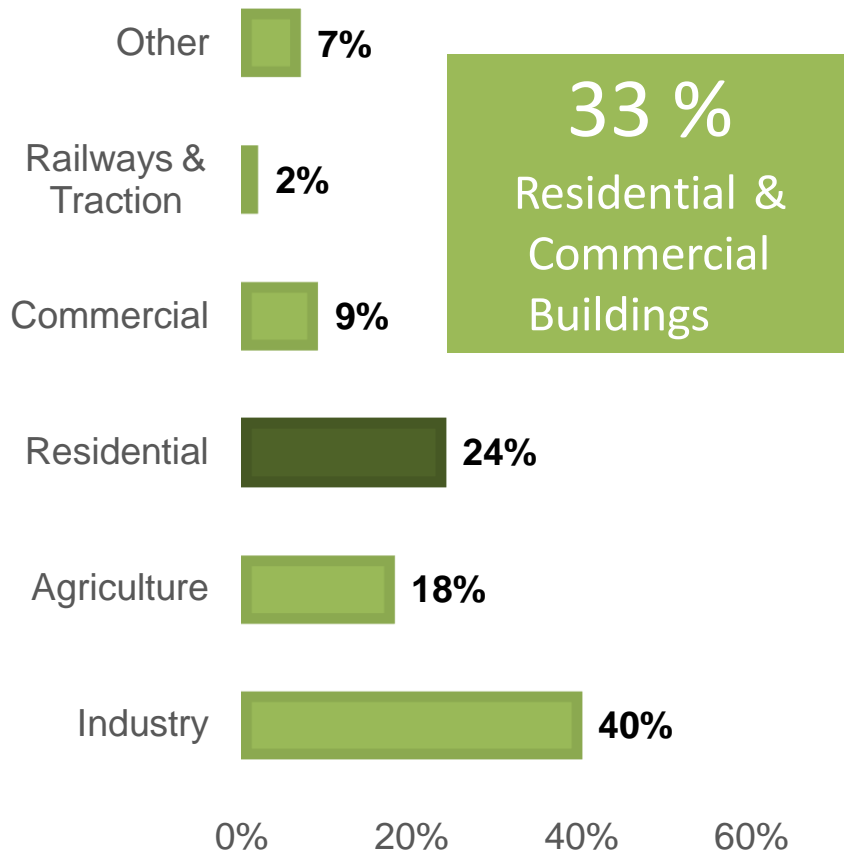




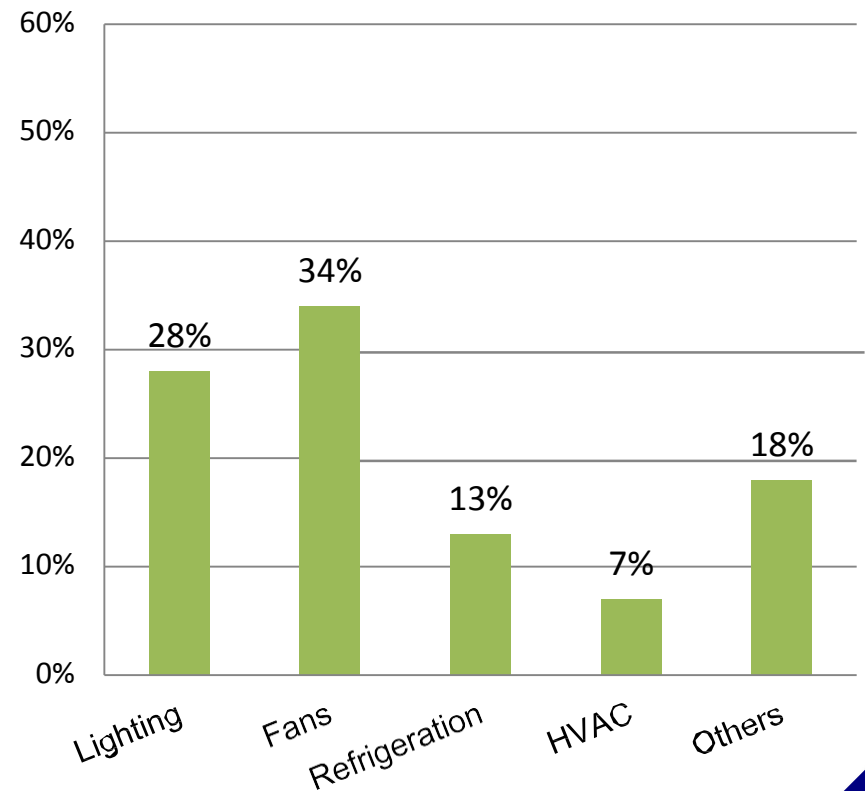
Star Rating for Energy Efficient Homes

Electricity Consumption in 2016-17 = 1066 BU

ELECTRICITY CONSUMPTION (%) IN 2016-17



ELECTRICITY CONSUMPTION IN RESIDENTIAL BUILDINGS

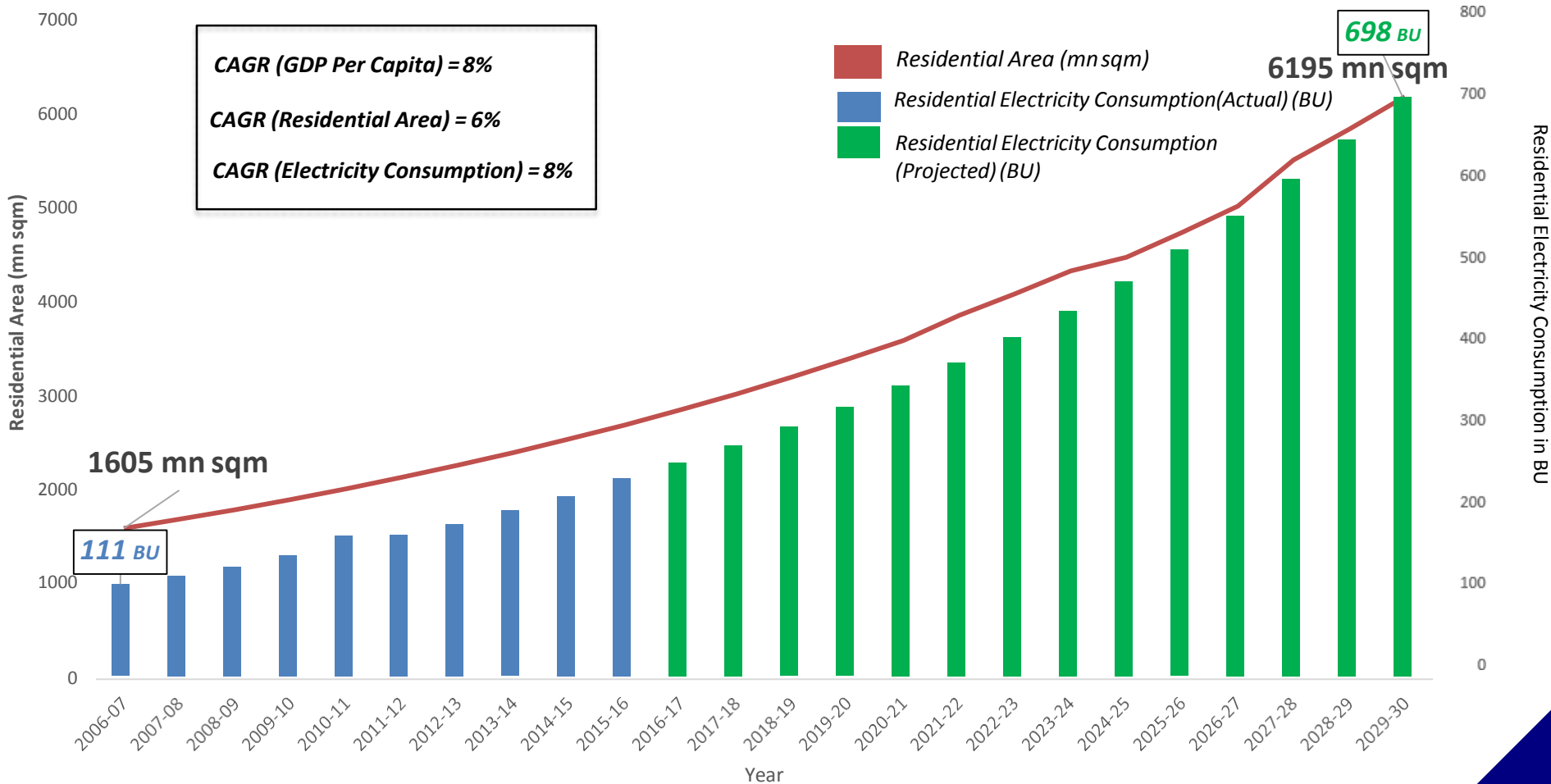


Source: Energy Statistics 2018



Building Sector – Scenario

Residential Electricity Consumption Vs Area



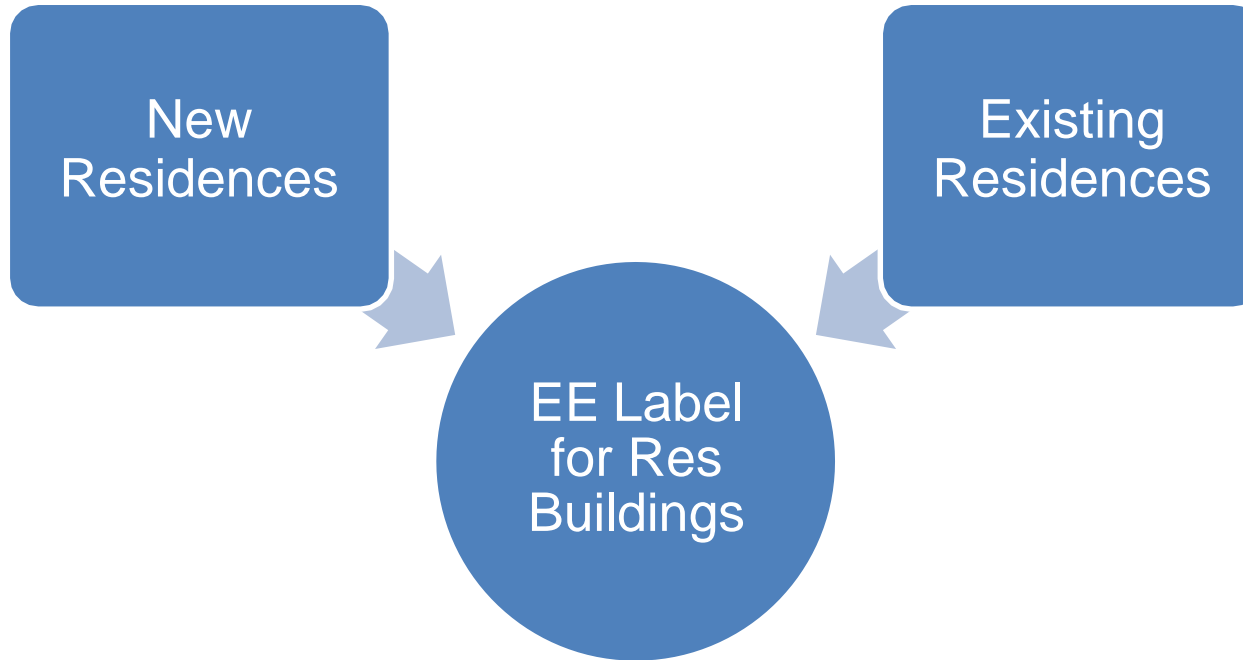
India will add **30 billion m²** by 2030
of New Residential buildings wrt.
Year 2018

- Energy Sustainability for India
- To provide **information to consumers** for EE Homes
- To achieve Indian **NDC Targets**
- **Market Transformation** towards Energy Efficiency in residential sector



- Will help consumers to select EE homes when buying, selling or leasing
- Encourages consumers to improve energy efficiency
- Peer to peer comparison
- Provide information on the potential and actual energy use of the building or residential unit
- A step forward from ECO NIWAS SAMHITA 2018





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



Estimated Savings in 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	278347	228

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



Ancillary benefits of the labelling 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 & technologies and thus support MAKE IN INDIA movement

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



EE Label Criteria

There is **no minimum requirement** with respect to Area or Connected load (kW) for a dwelling unit to be covered under this labeling program.

ECBC-R technical specifications have been kept as the minimum thresholds for any building dwelling unit to be covered under this labeling program.

- ✓ Star Rating awarded in the basis on EPI (**Energy Performance Index**)
- ✓ Energy Performance Index = Annual Energy Consumption (**kWh**)/Built up area (**m²**)
- ✓ BEE has prepared an **online platform** for the User of Label to apply for seeking an award of label under this program
- ✓ The online platform consists of a **Simulation Based Tool** which will calculate the EPI of respective dwelling unit



- **Star Rating awarded on the basis on EPI (Energy Performance Index)**
- **Energy Performance Index = Annual Energy Consumption (kWh)/Built up area (m²)**
- **EPI Calculation**
 - **EPI for AC spaces at 24 degrees set-point (E1) +**
 - **EPI for other spaces at IMAC NV set-points (E2)**
 - **E1 and E2 includes following systems**
 - **Building envelope characteristic**
 - **Lighting system**
 - **Comfort system (AC)**

Energy consumed by appliances is not included for EPI calculations

Hot & Dry

★	$55 < \text{EPI} \leq 67$
★★	$47 < \text{EPI} \leq 55$
★★★	$38 < \text{EPI} \leq 47$
★★★★	$29 < \text{EPI} \leq 38$
★★★★★	$\text{EPI} \leq 29$

Warm & Humid

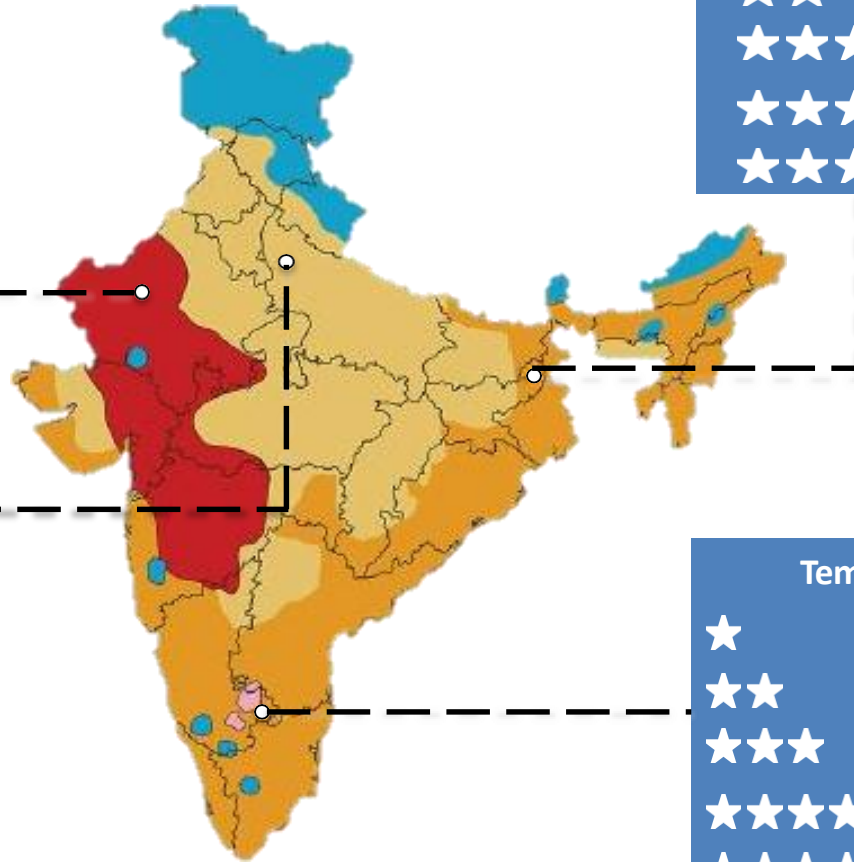
★	$58 < \text{EPI} \leq 64$
★★	$49 < \text{EPI} \leq 58$
★★★	$39 < \text{EPI} \leq 49$
★★★★	$30 < \text{EPI} \leq 39$
★★★★★	$\text{EPI} \leq 30$

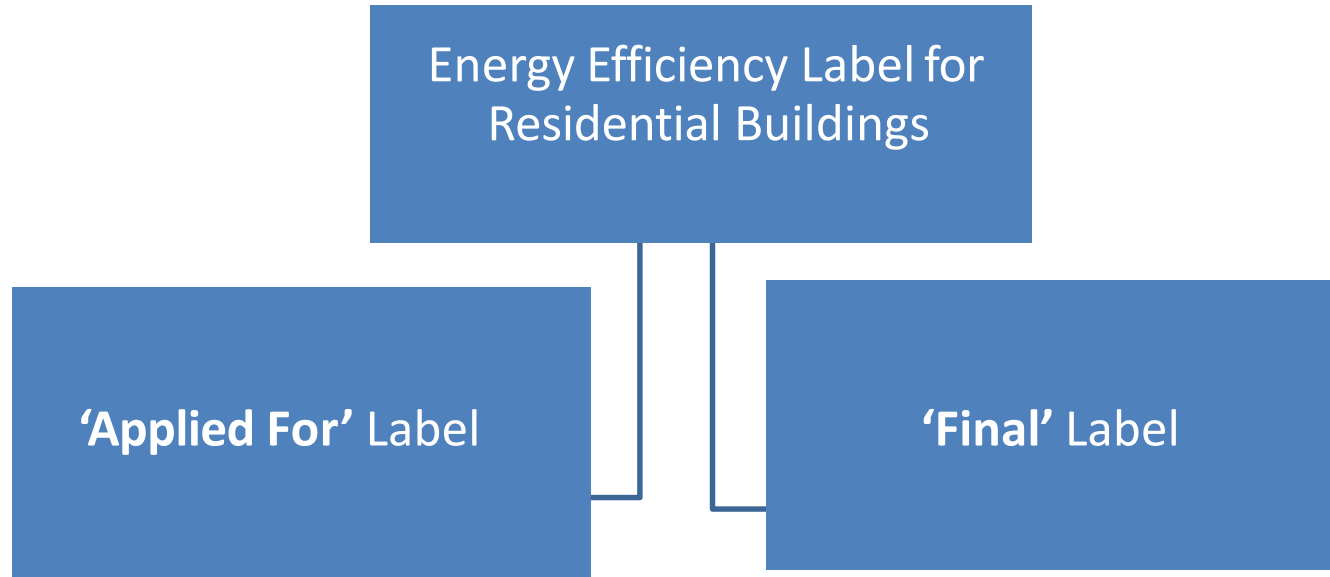
Composite

★	$52 < \text{EPI} \leq 60$
★★	$45 < \text{EPI} \leq 52$
★★★	$37 < \text{EPI} \leq 45$
★★★★	$29 < \text{EPI} \leq 37$
★★★★★	$\text{EPI} \leq 29$

Temperate

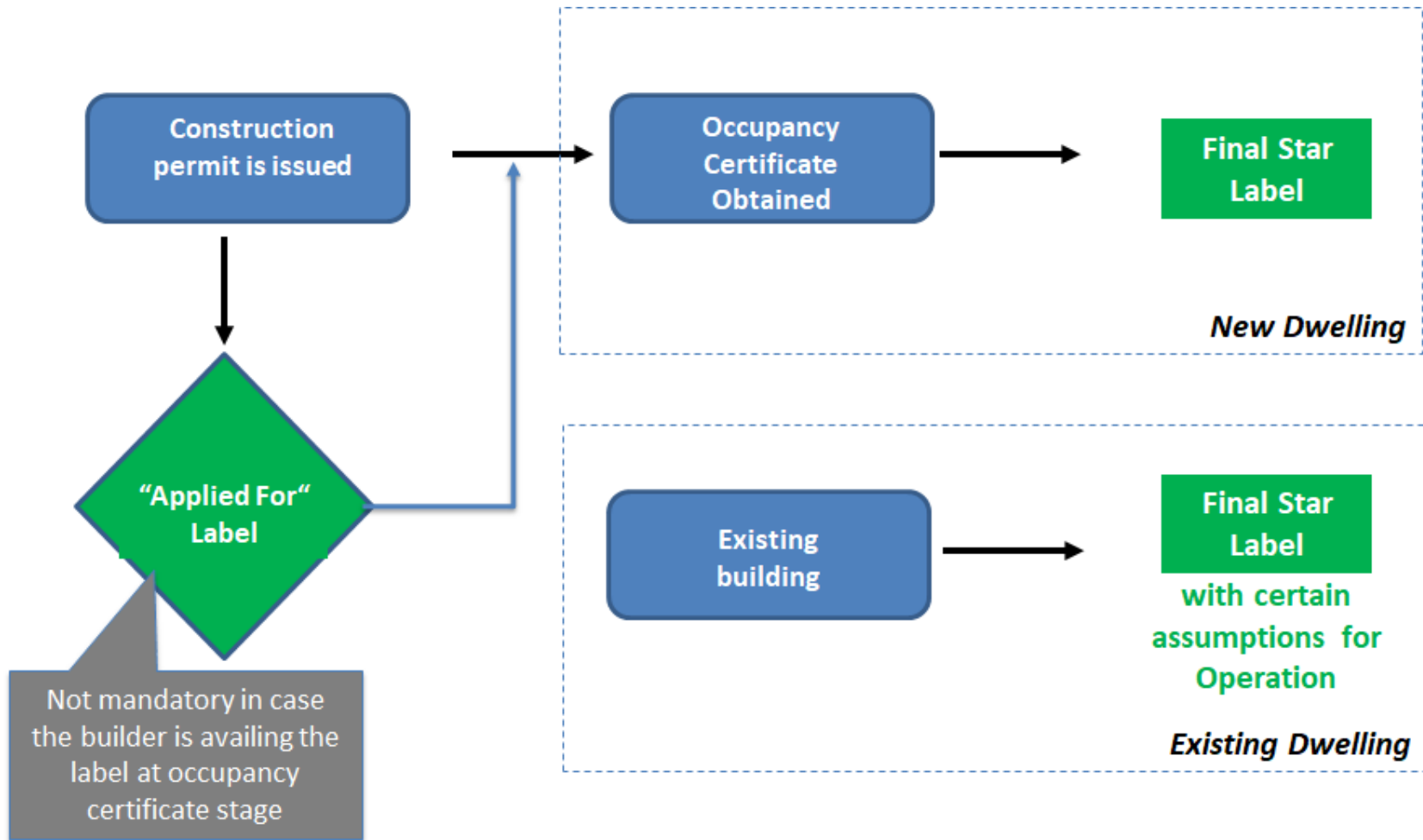
★	$28 < \text{EPI} \leq 31$
★★	$24 < \text{EPI} \leq 28$
★★★	$21 < \text{EPI} \leq 24$
★★★★	$17 < \text{EPI} \leq 21$
★★★★★	$\text{EPI} \leq 17$





'Applied For' Label: This label is applicable for new buildings with construction permit issued by the authorities having jurisdiction. This label shall be mainly used for marketing of the property.

'Final' Label: This label is applicable for existing and new buildings. For new building, this label can only be awarded after the occupancy certificate is issued by the authorities having jurisdiction.



BEE may appoint an **Independent Agency (third party)** to support the overall implementation of Residential Building labelling program



Communication with BEE and its appointed organization for entire process AND handholding the applicants

Creation of a **helpdesk** for responding queries

Sample of **filled applications (illustrative)** to be provided

Answers to FAQ's to be provided

Brief guideline on key steps



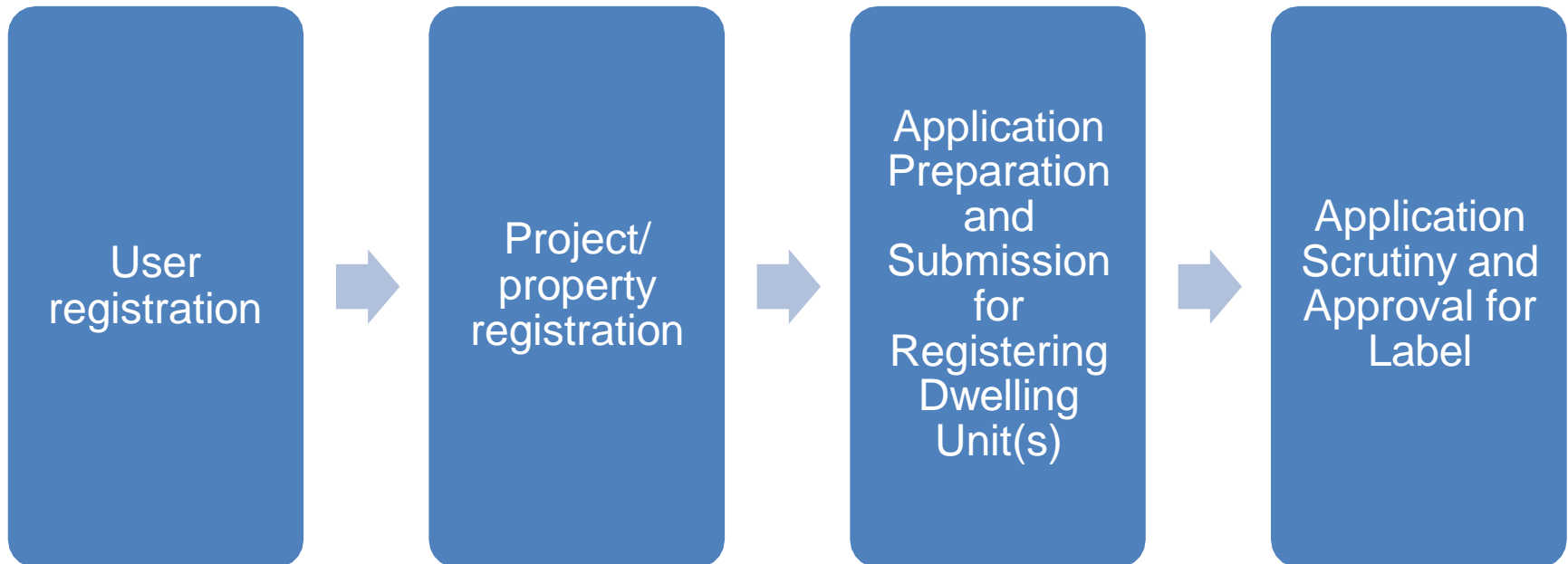
Application Process

Application scrutiny scope:

- **Check for eligibility (for example: RERA in case of developers)**
- **Whether the data is complete or not**
- **Supporting documents are genuine and complete**
- **Data redundancy check**
- **Check for errors in calculation of EPI**
- **Check for complete authenticity**

To check this, all documents are duly checked by the administrator of third party. If some information is missing, it is cross checked from the original information provided by the applicant.

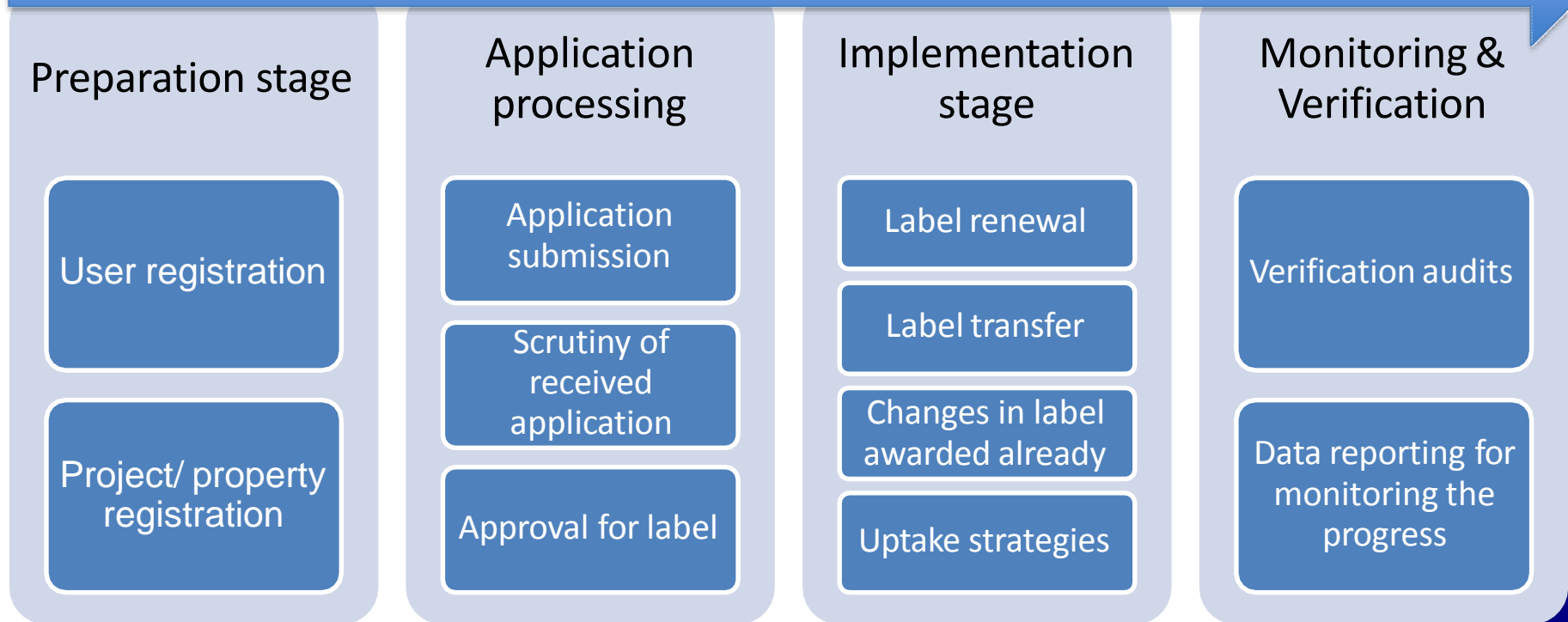
In case, the information is incomplete, the applicant shall be informed of the same and the processing of respective application is kept on-hold until the required details are submitted.



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



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

Process B: Project /Property Registration

Login the Portal



Access the link for Project Registration



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

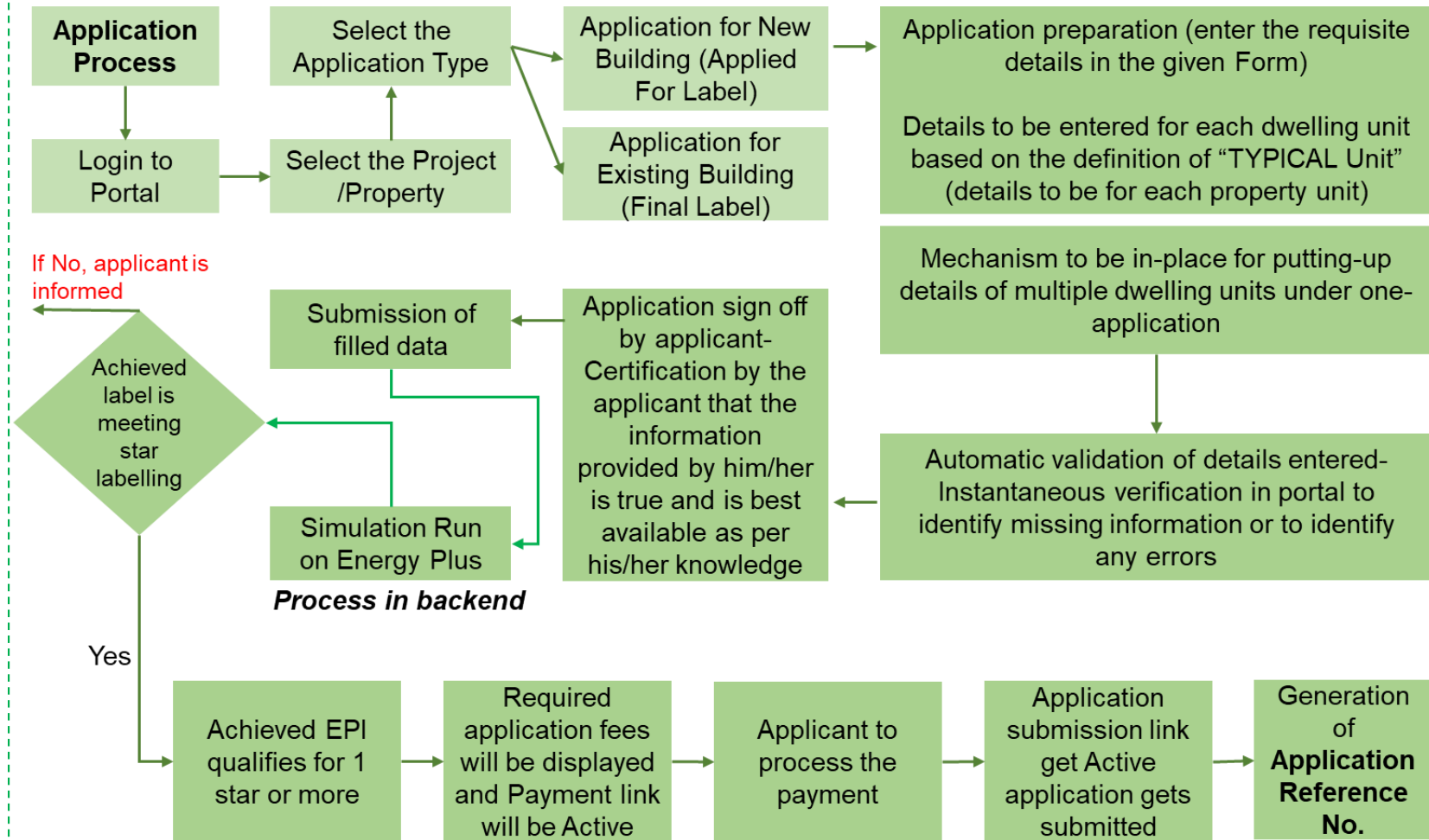


Project registration completed. Unique reference-id for each project is generated through online portal

Application for New Building (Applied For Label)

Application for Existing Building (Final Label)

Process C: Application Preparation and Submission for Registering Dwelling Unit under S&L



BEE Star Label Approval

Approval by Competent Authority of BEE



Generation of label through tool

Unique Label Reference no. generated

Approval letter

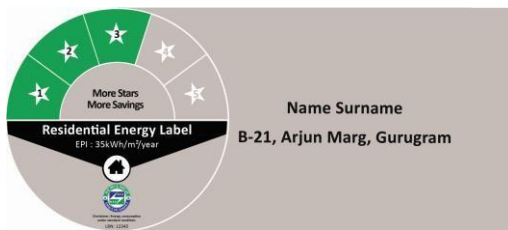
- An online copy of label shall be sent to the applicant through the portal

Name plaque

- Name plaque generated

Passport

- Passport generated online – will include all details of the applicant. Soft copy of the passport auto-emailed to the applicant





Application processing stage contd..

Label generation	New Dwelling Unit	Existing Dwelling Unit
	“Applied For” Label	Final Star Label
Approval letter	Yes	Yes
Passport	NA	Yes
Plaque	NA	Yes



NAME: ABC
ADDRESS: XXX

- 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.

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



Label Stage	Ownership Transfer cases		
	Developer to owner	Developer to Developer	Owner to Owner
'Applied For' Label	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	Rs. 2000	Rs. 5 per m ² for area above 100 m ²
2	Transfer of label stage from 'Applied For' to 'Final Label' by developer	Rs. 1000 The charges is inclusive of cost of name plaque to be developer (irrespective of plaque size)	No extra charges (not applicable)

Fees

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



Verification

- **Verification of label affixed by Building Developer post award of “Applied For” label through actual site visit**
- **Random /stratified sampling of dwellings awarded by BEE label**
- **Audit of new /existing dwelling: Verification of technical details and complete data submitted to BEE for certain % of residential dwelling awarded “Final Asset Label”**
- **“Applied For” – Monitoring and Verification of Marketing and Advertisement campaigns of the Developer**

Review of work by Certified Professionals (if considered) – Quality Control / regular inspection

Implemented by



Supported by



Thank You

Knowledge Partner

