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Regional Center for Renewable Energy and Energy Efficiency  
المركز الإقليمي للطاقة المتجددة وكفاءة الطاقة



Mitigation Enabling Energy Transition in the MEDiterranean region

# Building Labelling and Standards in Morocco

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## Law 47-09 for energy efficiency

- It encourages the systematic integration of energy efficiency measures in all sectoral development programs, to encourage industrial companies to rationalize their energy consumption, to generalize mandatory energy audits, to establish energy efficiency codes specific to different sectors, to promote the development of solar water heaters, to generalize the use of low-consumption lamps and equipment adapted to the public lighting.

# Thermal Regulations in Construction in Morocco (RTCM)

- Decree No. 2-13-874 approving the general regulation of construction setting the rules of energy performance of constructions and establishing the national committee for energy efficiency in building, was published.
- Through this Decree, compliance with thermal regulations is required at the level of building permits.

# Thermal Regulations in Construction in Morocco (RTCM)

- **Performance approach:** maximum limits of heating and cooling needs in kWh/m<sup>2</sup>.year.
- **Prescriptive approach:** sets the regulatory requirements for the thermal characteristics of the building envelope

Les exigences limites réglementaires des caractéristiques thermiques de l'enveloppe des bâtiments à usage de bureaux

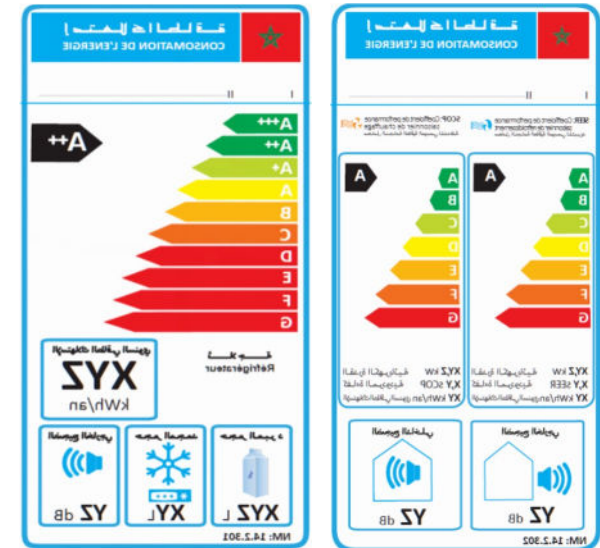
	Taux des baies vitrées TGBV	U des toitures exposées (W/m <sup>2</sup> .K)	U des murs extérieurs (W/m <sup>2</sup> .k)	U des vitrages (W/m <sup>2</sup> .k)	R minimale des planchers sur sol (m <sup>2</sup> .k/W)	Facteur Solaire FS* des vitrages
Zone climatique réglementaire Z1 (Réf. Agadir)	≤ 15 %	≤ 0,75	≤ 1,20	≤ 5,80	NE	NE
	16-25 %	≤ 0,65	≤ 1,20	≤ 5,80	NE	Nord : NE Autres : ≤ 0,7
	26-35 %	≤ 0,65	≤ 1,20	≤ 3,30	NE	Nord : NE Autres : ≤ 0,5
	36-45 %	≤ 0,55	≤ 1,20	≤ 3,30	NE	Nord : ≤ 0,7 Autres : ≤ 0,3
Zone climatique réglementaire Z2 (Réf. Tanger)	≤ 15 %	≤ 0,65	≤ 0,80	≤ 5,80	NE	NE
	16-25 %	≤ 0,65	≤ 0,80	≤ 3,30	NE	Nord : NE Autres : ≤ 0,7
	26-35 %	≤ 0,65	≤ 0,60	≤ 3,30	NE	Nord : NE Autres : ≤ 0,5
	36-45 %	≤ 0,55	≤ 0,60	≤ 2,60	NE	Nord : ≤ 0,7 Autres : ≤ 0,3
Zone climatique réglementaire Z3 (Réf. Fès)	≤ 15 %	≤ 0,65	≤ 0,80	≤ 3,30	≥ 0,75	NE
	16-25 %	≤ 0,65	≤ 0,80	≤ 3,30	≥ 0,75	Nord : NE Autres : ≤ 0,7
	26-35 %	≤ 0,55	≤ 0,70	≤ 2,60	≥ 0,75	Nord : NE Autres : ≤ 0,5
	36-45 %	≤ 0,49	≤ 0,60	≤ 1,90	≥ 0,75	Nord : ≤ 0,7 Autres : ≤ 0,5
Zone climatique réglementaire Z4 (Réf. Ifrane)	≤ 15 %	≤ 0,55	≤ 0,60	≤ 3,30	≥ 1,25	NE
	16-25 %	≤ 0,55	≤ 0,60	≤ 3,30	≥ 1,25	Nord : NE Autres : ≤ 0,7
	26-35 %	≤ 0,49	≤ 0,60	≤ 2,60	≥ 1,25	Nord : ≤ 0,7 Autres : ≤ 0,6
	36-45 %	≤ 0,49	≤ 0,55	≤ 1,90	≥ 1,25	Nord : ≤ 0,6 Autres : ≤ 0,5

Résidentiel: spécifications techniques minimales kWh/m<sup>2</sup>/an

	Zone climatique	Résidentiel
Agadir	Z1	40
Tanger	Z2	46
Fès	Z3	48
Ifrane	Z4	64
Marrakech	Z5	61
Errachidia	Z6	65

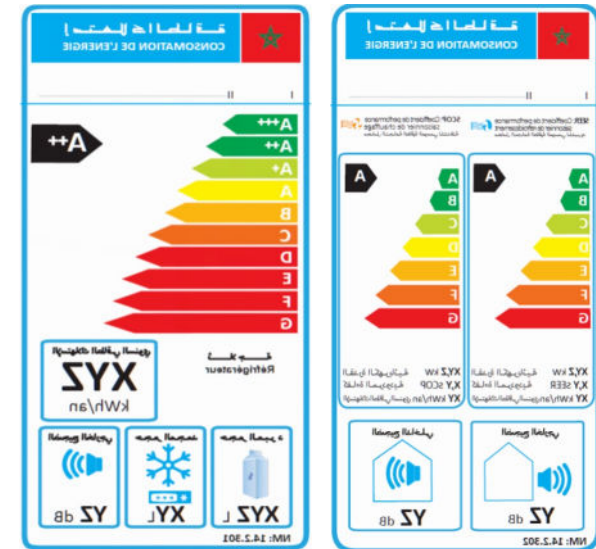
# Energy Labelling Standard

- The energy labeling standard for electrical products and appliances NM 14.2.301 sets out the requirements for labeling mains-operated household refrigerators and freezers with a storage volume between 10 and 1,500 liters.
- This standard provides the classification of household refrigeration appliances and the method of calculating their energy efficiency index (EEI), which defines the energy class of the refrigerator.



# Energy Labelling Standard

- The energy labeling standard for electrical products and household appliances NM 14.2.302 also defines the energy class of the air conditioner according to its SEER and SCOP depending on its type, as well as the different technical characteristics to be defined in the technical data sheets and energy label of the air conditioner.



# Minimum Energy Performance Standards (MEPS)

- Decree No. 2.20.716 relating to the minimum energy performance of appliances and equipment running on electricity, natural gas or liquid or gaseous petroleum products, with definition of a first list of priority equipment:
  - Electric motors and transformers,
  - Air conditioners,
  - Refrigerators / freezers,
  - Tires,
  - Mopeds and three-wheelers.

# Minimum Energy Performance Standards (MEPS)

- This decree aims to define the general obligations to be respected by the parties involved in the marketing of energy appliances and equipment, including producers, importers and distributors, in terms of minimum energy performance and energy labeling.
- AMEE has established the minimum technical requirements and the draft energy label. The draft orders are currently being validated.



## **LABEL ECOBINAYTE**

- AMEE has established an energy performance label for buildings called "Eco-Binayate".
- Aims to put forward good practices in order to make the construction sector evolve towards more comfortable and more energy efficient buildings.
- Guarantee the respect of the principles of bioclimatic comfort and the installation of energy efficient equipment.
- Platform to promote Energy Efficiency and to raise awareness among developers on the integration of energy efficiency techniques in buildings.

# LABEL ECOBINAYTE

- Three classes of label are proposed:
  - The **Fundamental class** is intended to be a class of compliance with the regulations in force with good practices and minimum provisions for energy and water saving to encourage project owners to label their projects.
  - The **Comfort class** requires, in addition to the mandatory requirements, optional provisions to be met, the feasibility of which and the additional costs involved remain relatively moderate.
  - The **Comfort Plus class** is even more ambitious in terms of the energy and water performance of public buildings.



# LABEL ECOBINAYTE

## Organization and management of the project

- Quality of the technical file
- Quality of project management and control

## Quality and performance of the structure

- Thermal performance of the envelope
  - Facade orientation
  - Solar protection
  - Thermal bridges through the building structure
  - Thermal bridges by the frame of the openings
  - Thermal quality of the exterior joinery
  - Thermal inertia of the building
- Roof coverings
  - Color of the facades
  - Quality of insulation and construction materials
  - Implementation of insulation and construction materials
  - Sound insulation of the walls between dwellings
  - Architectural integration of external equipment

## LABEL ECOBINAYTE

Quality and  
performance of  
the interior fittings

- Ventilation for the renewal of air in the premises  
Specific ventilation of kitchens  
Performance of domestic hot water installations (DHW)  
Performance of heating installations  
Performance of air conditioning systems  
Hydro-economical installations  
Lighting installations in common areas  
Control of electrical installations

Environment  
affecting energy  
performance

- Building environment  
Rainwater harvesting



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**Together We Switch to Clean Energy**



# Thank you for you attention!

For any inquires or comments, please don't hesitate to  
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