

# ELIH-MED

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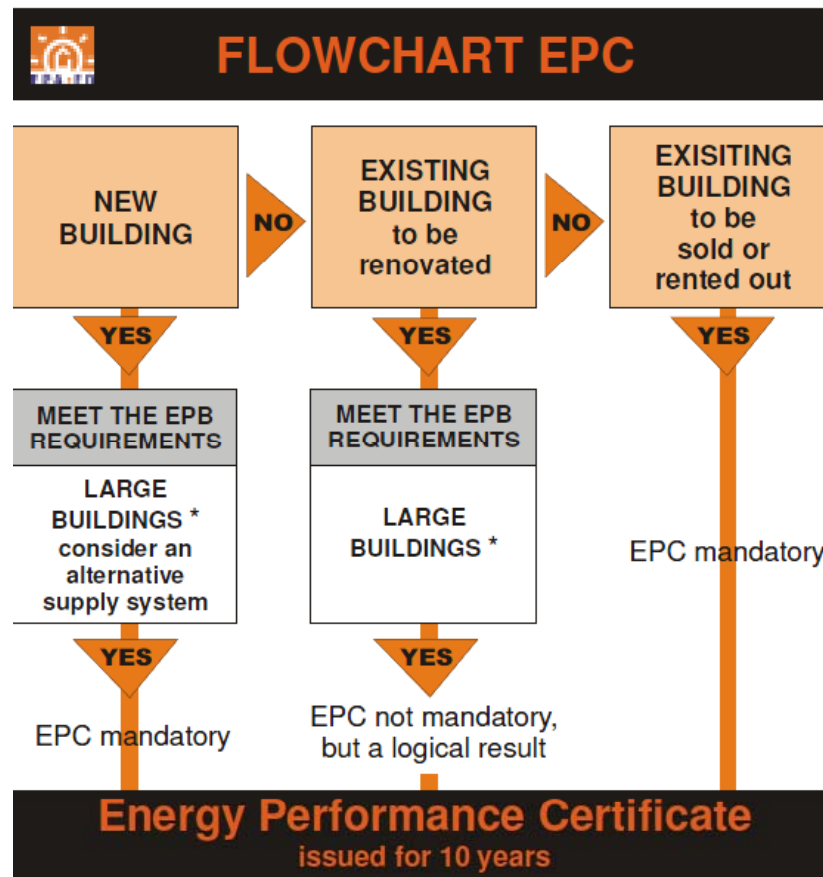
## Implementation of the EPBD in Europe

# Directive on the Energy Performance of Buildings

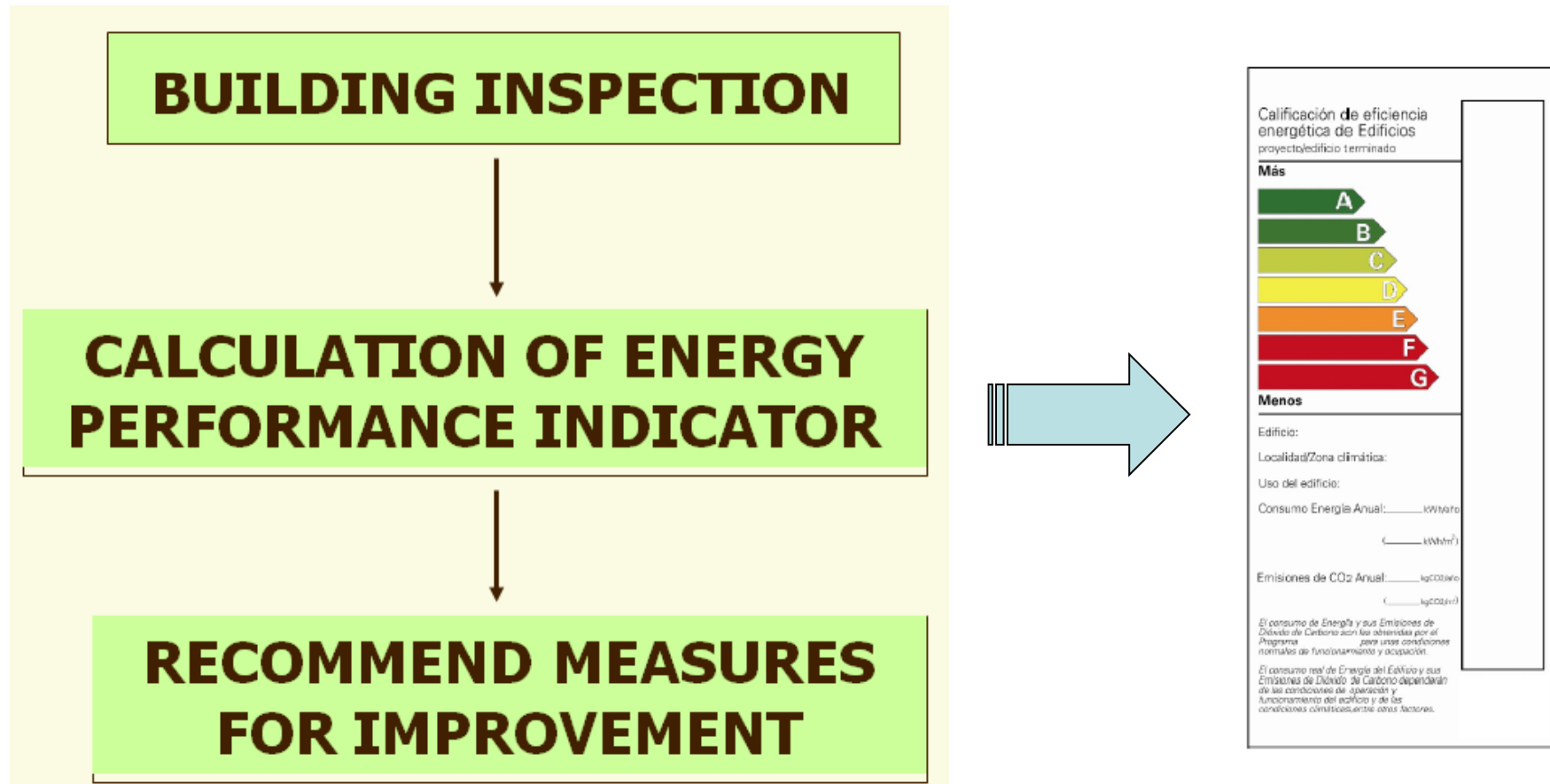
The European Directive 2002/91/EC on the Energy Performance of Buildings (EPBD) requires that all member states of the EU by January 2006 include the following in their legislation on building:

- a methodology for the calculation of the energy performance of buildings;
- the application of minimum requirements on the energy performance of new buildings, **and of existing buildings that are subject to major renovation**;
- **energy certification of buildings**;
- regular inspection of boilers, air-conditioning systems and assessment of heating systems with boilers that are more than 15 years old.

## Energy Performance Certificate



## Energy Performance Certificate



## Energy Performance Certificate

**Implementation of EPBD in EU member states does not progress at the same velocity**

EPC is mandatory in case of rental or sale since:

Denmark: 2006

France: 2006-2007

Germany: 2007

Malta: 2009

Italy: 2009

Spain: 2010

Slovenia: 2010

Cyprus: 2010

Greece: 2011

# Implementation of EPBD in France (Existing buildings)

**For all buildings**, an energy performance certificate (EPC) is mandatory since September 2006 when it is sold.

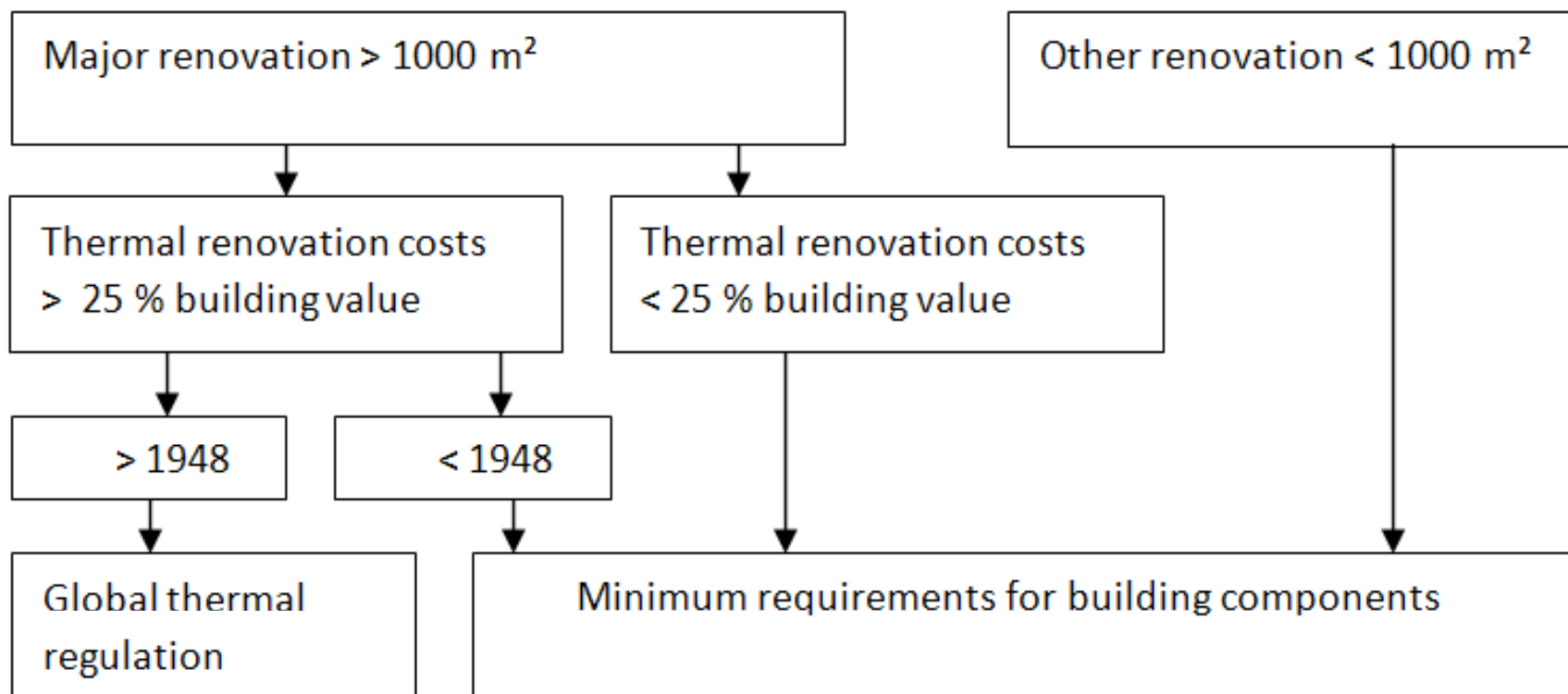
**Only for residential buildings**, an EPC is mandatory since May 2007 when it is rented.

New energy code for **major renovations** (>1000 m<sup>2</sup>) set out in June 2008.

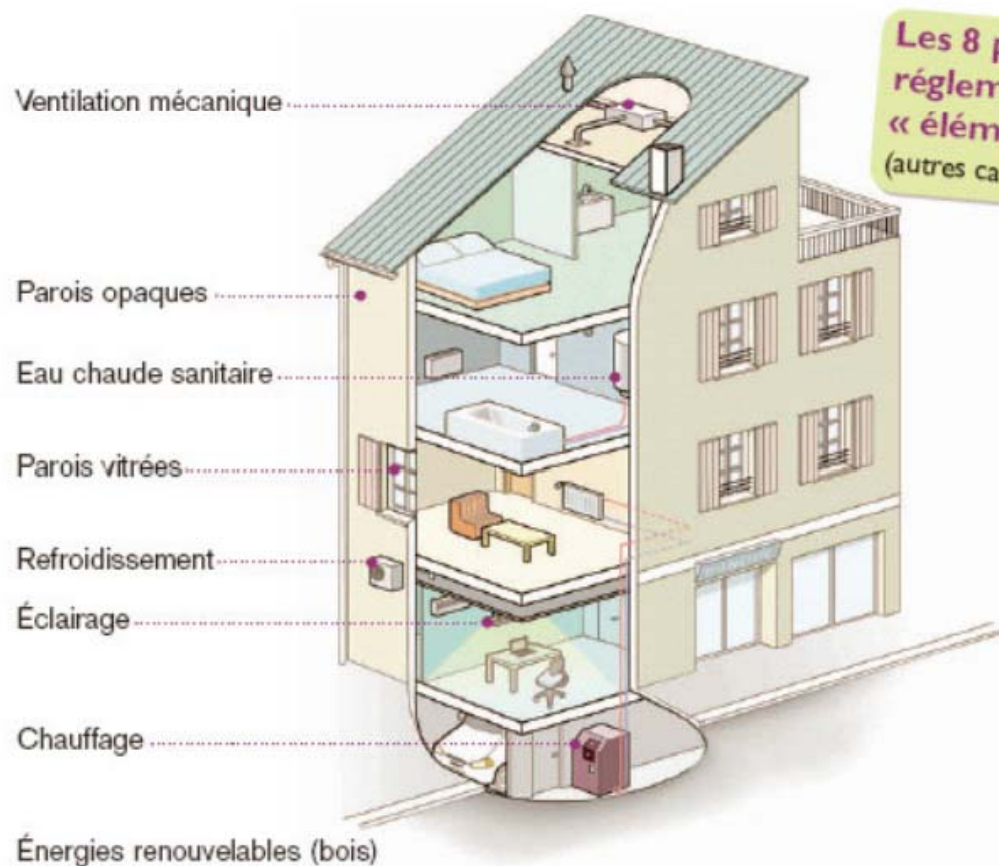
Upper limits for annual building energy consumption (expressed in kWh/m<sup>2</sup> of primary energy) have been fixed

CHAUFFAGE	Type de chauffage	Consommation d'Énergie Primaire maximale (CEPmax) Exprimée en kWh énergie primaire/m <sup>2</sup> /an <i>Chiffres pour la zone climatique H1 - IdF</i>
	Combustibles fossiles ou bois	130
	Chauffage électrique (y compris Pompes à chaleur ou Réseau de chaleur à partir du 1er janvier 2010)	165
	Chauffage électrique (y compris Pompes à chaleur ou Réseau de chaleur jusqu'au 31 décembre 2009)	195

# Implementation of EPBD in France (Existing buildings)



# Minimum requirements for building components in France



**Example for glazing  
 $U < 2 \text{ W/m}^2\text{K}$   
(eq. to double  
glazing with low  
emissivity or  
strengthened  
insulation)**



# Minimum requirements for building components in France

Component	Climatic zone	Minimum requirement
Insulation materials of external opaque walls	H1, H2	$R^* = 2.3 \text{ m}^2\text{K/W}$
	H3	$R^* = 2 \text{ m}^2\text{K/W}$
Glazing	H1, H2, H3	$U^* = 2 \text{ W/m}^2\text{K}$ For example: low-emissivity double glazing or double glazing with strengthened insulation
Boiler	H1, H2, H3	Minimal return from 89.0% to 90.9% for a nominal power from 20 to 400kW Minimal return over 90.9% for a nominal power over 400kW For example : low temperature boiler or condensing boiler

(\* R : thermal resistance, U : coefficient of thermal transmission)

## Minimum requirements for some building components

