Harmonisation of legal system in the field of energy efficiency in buildings in the Republic of Croatia

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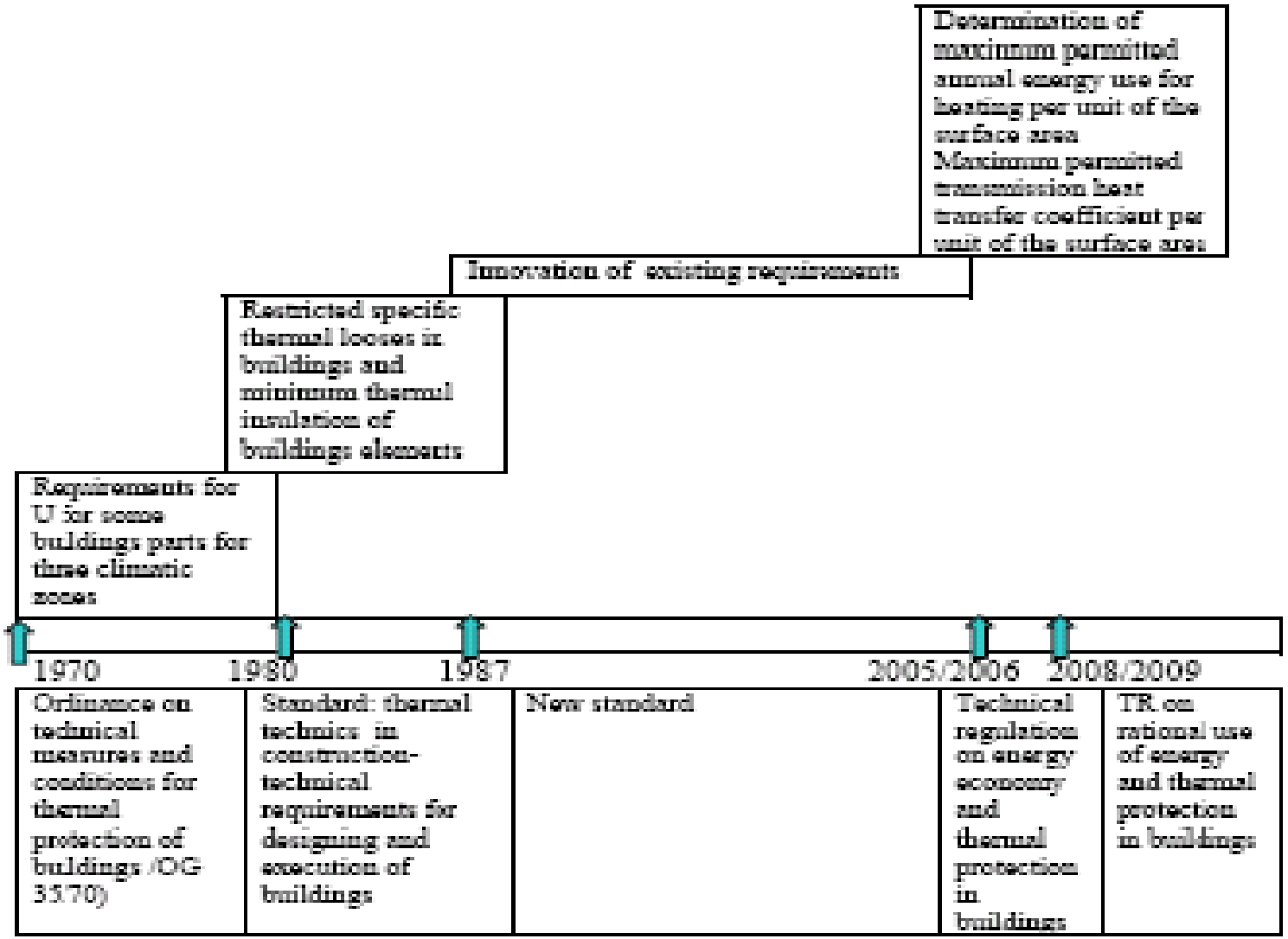
Development of regulations in the field of energy economy in buildings



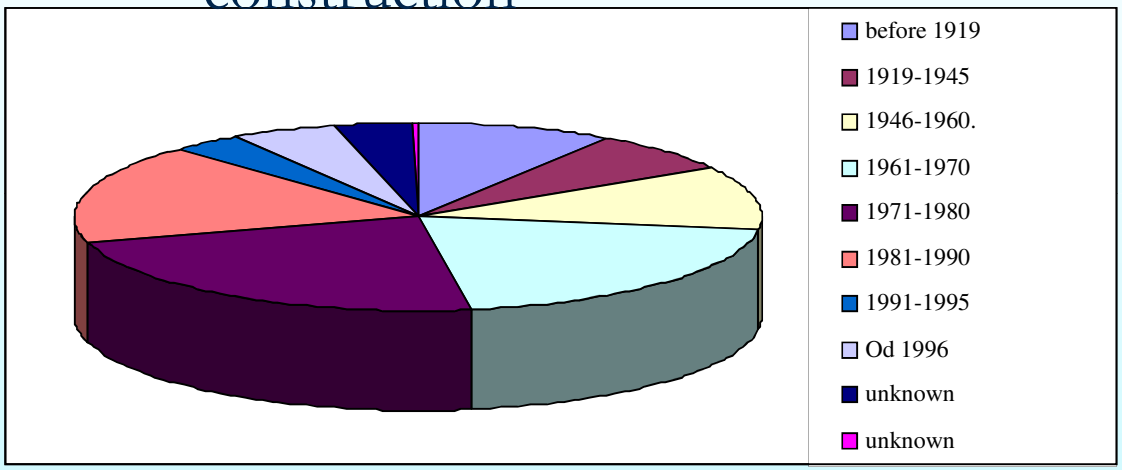
Housing stock in the Republic of Croatia

Housing stock in the Republic of Croatia according to the population census

year	number of apartments	growth
1971	1 188 743	
1981	1 381 434	16%
1991	1 578 968	14%
2001	1 877 126	19%

Housing stock in the Republic of Croatia

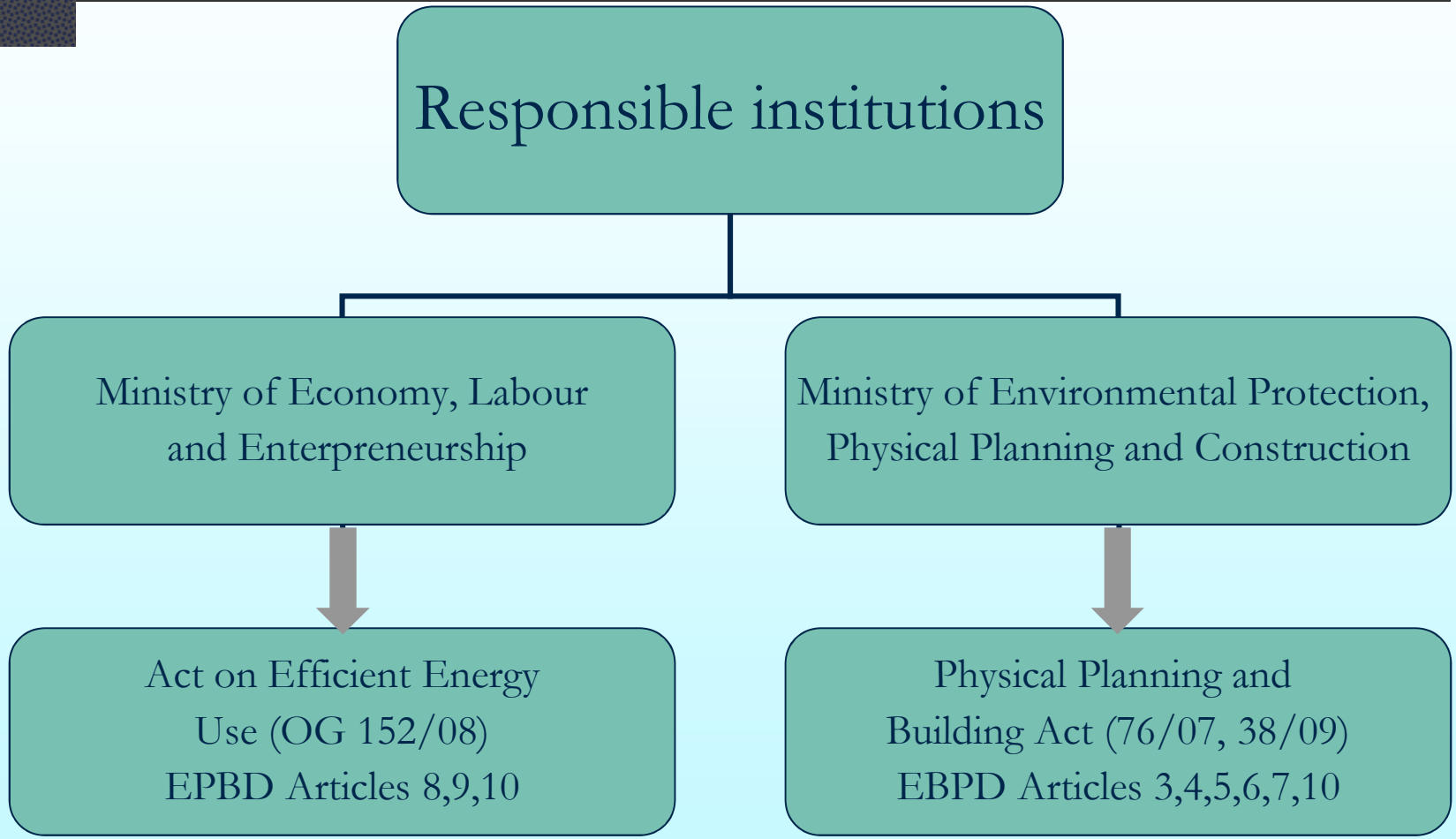
Proportion of inhabited apartments in relation to the year of construction



before 1919	9.1%
1919-1945	7.3
1946-1960	10.9
1961-1970	20.1
1971-1980	23.1
1981-1990	17.2
1991-1995	3.4
after 1996	5.0
unknown	3.5
unfinished apartments	0.4

Nom.normative of heating of ap.	before 1950	1951-1970	1971-1980	1981 –1987	1988-1994
kWh/m^2	250	230	210	200	180

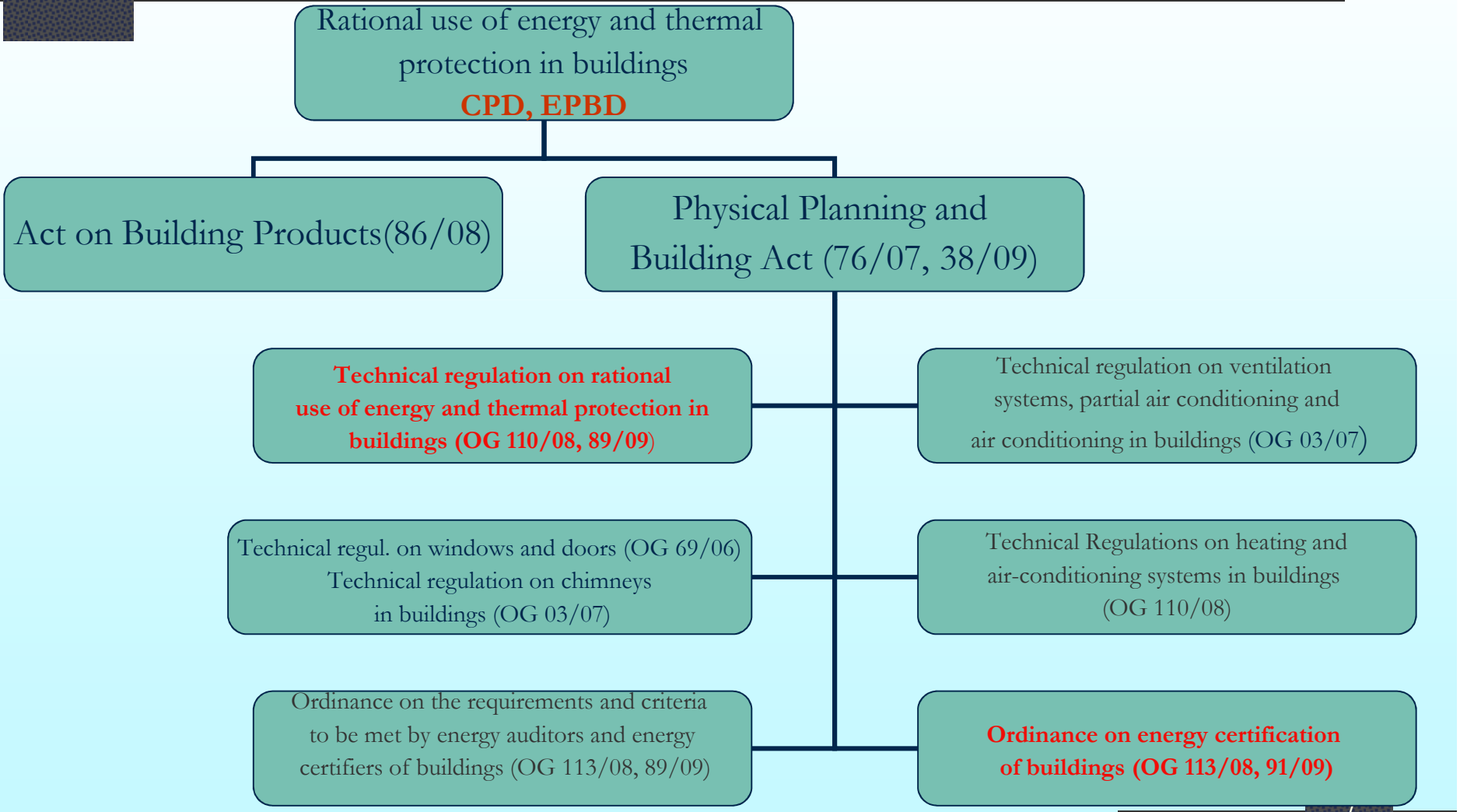
Transposition of the EPBD



Action Plan

- completed in July 2007 at MEPPPC
- activity for transposition and implementation of the EPBD and the schedule
- adopted at the 14 session of the Government of RC 10 April 2008.

Transposition and implementation



PPaBA (OG 76/07, 38/09), EPBD

" the main objective of building is to promote good quality design and construction through which.....and energy characteristics of construction works are achived.... in a way which ensures: ....energy efficiency of construction works.."

Article 15 energy performance of buildings

"each building, depending on its type and purpose, shall be designed, built and maintained in such a way to have , during its use, its energy performance ..."

Article 272

"the minister shall prescribe, by ordinance, requirements relating to maintenance and improvement with the essential requirements for a construction work, the energy performance of buildings.."

PPaBA (OG 76/07), CPD

Article 14 essential requirements for building

" *Any construction work depending on its intended purpose must, during its duration time, meet the essential requirements for a construction work as well as any other requirements prescribed by the Act, technical regulations and other regulations*

"***energy economy and heat retention*** *in such a way that the amount of energy required for the use of heating, cooling and ventilation, having regard to the climatic conditions of the location , is equivalent to the level prescribed or lower; while occupants of the construction work are provided with adequate heating conditions*"

Technical regulation on rational use of energy and thermal protection in buildings

- technical requirements relating to rational use of energy and thermal protection
- technical properties and other requirements relating to certain building products
- the content of the building design in relation to energy economy in heating and cooling and thermal protection,
- the content of a certificate of energy need for heating and cooling of buildings,
- the need to prepare technical, environmental and economic feasibility studies of alternative systems for energy supply of new buildings with a surface area of useable floor area over 1,000 m2

Technical regulation on rational use of energy and thermal protection in buildings

- Technical requirements for rational use of energy and thermal protection in buildings are established through:
- maximum permitted annual energy use for heating per unit of the surface area of usable floor area of a building or a unit of volume of a heated part of a building,
- maximum permitted transmission heat transfer coefficient per unit of the surface area of a heated part of the building
- prevention of overheating the building area due to solar radiation during summer,
- limitation of air-tightness of the building envelope,
- maximum permitted thermal transmittance for individual building components of the building envelope,
- minimization of impacts of thermal bridges,
- maximum permitted water vapour condensation inside a building element, and
- prevention of surface condensation of water vapour

Technical regulation on rational use of energy and thermal protection in buildings

- Requirements for buildings heated at a temperature of 18°C or higher:
  - a residential building
  - a non-residential building
- Requirements for buildings heated at a temperature above 12°C and below 18°C
- Requirements for buildings that are not heated or are heated up to a temperature of 12 °C the requirements under this Regulation relating to
  - heat retention in buildings during summer and
  - prevention of the construction damage due to water vapour condensation

  shall be met taking into consideration the intended use of the building.

New buildings - requirement for energy economy

HRN EN 13790: 2008- calculation by monthly method

Requirements for buildings heated at a temperature of 18 ℃ or higher		
f_0*	***Residential building***	***Non- residential building***
	Q_h'' [kW·h/(m²·a)]	Q_h' [kW·h/(m³·a)]
$f_0 \leq 0{,}20$	$Q_h'' = 51{,}31$	$Q_h' = 16{,}42$
$0{,}20 < f_0 < 1{,}05$	$Q_h'' = (41{,}03 + 51{,}41 \cdot f_0)$	$Q_h' = (13{,}13 + 16{,}45 \cdot f_0)$
$f_0 \geq 1{,}05$	$Q_h'' = 95{,}01$	$Q_h' = 30{,}40$
Temperature**	$H_T' = H_T/A$ [W/(m²·K)]	***f*****>30%** $H_T' = H_T/A$ [W/(m²·K)]
> 3°C	$H_T' = 0{,}45 + 0{,}15/f_0$	$H_T' = 0{,}45 + 0{,}24/f_0$
≤ 3°C.	$H_T' = 0{,}30 + 0{,}15/f_0$	$H_T' = 0{,}35 + 0{,}24/f_0$

annual energy need for heating per unit of the surface area of usable floor area of a building Q''H,nd [kWh/(m2·a)],

annual energy need for heating per unit of the volume of a heated part of a building Q'H,nd [kW·h/(m3·a)], depending on the building shape factor f0

Maximum permitted thermal transmitance values *U*

No.	Building component	*U* [W/(m²•K)]			
		$\Theta_i \geq 18$ °C		12°C < Θ_i < 18 °C	
		$\Theta_{e,mon,min}$ >3 °C	$\Theta_{e,mon,min}$ ≤3 °C	$\Theta_{e,mon,min}$ >3 °C	$\Theta_{e,mon,min}$ ≤3 °C
1	External walls, walls towards garage and attic	0.60	0.45	0.75	0.75
2	Windows, balcony doors, skylight, transparent facade elements	1.80	1.80	3.00	3.00
3	Flat and sloping roofs above heated spaces, ceilings towards attic	0.40	0.30	0.50	0.40
4	Ceilings above outdoor air, ceilings above garage	0.40	0.30	0.50	0.40
5	Walls and ceilings towards unheated spaces and unheated stairwell at a temperatures above 0°C	0.65	0.50	2.00	2.00
6	Walls towards the ground, floors on the ground	0.50[1)]	0.50[1)]	0.80[1)]	0.65[1)]
7	External doors, door towards unheated staircase with opaque door wing	2.90	2.90	2.90	2.90
8	Walls of roller shutter box	0.80	0.80	0.80	0.80
9	Ceilings between dwellings, ceilings between heated working premises of diverse users	1.40	1.40	1.40	1.40

Θe,mon,min means the mean monthly temperature of the outdoor air in the coldest month at the building location.

Maximum permitted thermal transmitance values *U* of building elements of new buildings, small buildings, and after works performed on existing buildings

CERTIFICATE OF ENERGY NEED FOR HEATING AND COOLING

in accordance with Chapter VII of the Technical Regulation on Energy Economy and Heat Retention in Buildings, for buildings heated at temperatures of 18 °C or higher

1. DESIGN CODE	
2. BUILDING DESCRIPTION	
Name of a building or a part thereof	
Location of a building (cadastral plot, street, street number, place and postal code)	
Month and year of design	
Area of a heated part of building A (m^2)	
Volume of a heated part of a building V_e (m^3)	
Building shape factor f_0 (m^{-1})	
Surface area of a usable floor area of a building A_K (m^2)	
Type of heating (local, central, floor, district)	
Type and way of using renewable energy sources	
Share of renewable energy sources in energy need for heating (%)	
Mean monthly temperature of outdoor air in the coldest month at the building location $\Theta_{e,mm,min}$ (°C)	
Mean monthly temperature of outdoor air in the hottest month at the building location $\Theta_{e,mm,max}$ (°C)	

3. ENERGY NEED FOR HEATING A BUILDNG AND CALCULATED ENERGY NEED FOR COOLING		
Annual energy need for heating based on actual climatic data $Q_{H,nd}$ [kW·h/a]		
Annual energy need for heating per unit of surface area of usable floor area of a building $Q'_{H,nd}$ [kW·h/m^2·a] based on actual climatic data (for residential buildings)	*Maximum permitted*	*Calcula*
Annual thermal energy need for heating per unit of volume of a heated part of a building based on actual climatic data $Q'_{H,nd}$ [(kW·h/m^3·a)] (for on-residential buildings)	*Maximum permitted*	*Calculated*
Calculated annual energy need for cooling $Q_{C,nd}$ [kW·h/a] (for buildings equipped with a cooling system		

4. OTHER ENERGY PROPERTIES OF THE BUILDING		
Transmission heat transfer coefficient per unit of surface area of a heated part of a building H_T' [W/(m^2·K)]	*Maximum permitted*	*Calculated*
Transmission heat transfer coefficient H_T (W/K)		
Ventilation heat transfer coefficient H_V (W/K)		
Total annual thermal losses Q_l (J)		
Annual usable internal heat gains Q_i (J)		
Annual usable solar heat gains Q_s (J)		
Total annual usable heat gains Q_g (J)		

5. ACCOUNTABILITY FOR INFORMATION	
Construction design company (name and address)	
Project engineer for a general design section relating to energy economy and heat retention (signature and seal)	
Main building project engineer (signature and seal)	
Date and seal of construction design company	

Transitional provisions

The main design containing a technical solution for the building according to the Regulation shall be deemed to be a valid document:

- for the commencement of works on a building whose construction (gross) area does not exceed 400 m2 and for buildings intended solely for agricultural activities whose construction (gross) area does not exceed 600 m2, when the investor possesses a legally valid ruling on construction conditions and notifies the begin of construction works by 31 March 2010,
- for the granting of a main design approval or the issuance of a building permit, if the application for such an approval or a permit has been submitted along with the main design by 31 March 2010

Ordinance on energy certification of buildings

lays down requirements as regards:

- buildings for which an energy certificate is required, and exemptions from energy certification,
- energy classes of buildings,
- the content and format of an energy certificate, the issuance and validity period thereof,
- energy certification of new and existing buildings that are sold, rented out or leased,
- public sector buildings obliged to display the energy certificate to the public, the display method and energy certification,
- obligations of investors or owners of buildings,
- energy certification procedure, and
- register of energy performance certificates for buildings.

Energy certification of buildings – new buildings

	all buildings	buildings $\leq$ 400 (600m^2)
Issued when?	before technical inspection, and shall accompany the application for a use permit	before the final report of a supervisory engineer
Delivered to?	To the authority that issued the document on the basis of which the construction works were initiated	
Obligation of keeping the e.c.	Investor (owner) and authority which issued the document on the basis of which the construction works were initiated / use permit	

Energy classes

A+: $Q_{H,nd,ref} \leq 15$ kWh/(m²a)

A: $Q_{H,nd,ref} \leq 25$ kWh/(m²a)

B: $Q_{H,nd,ref} \leq 50$ kWh/(m²a)

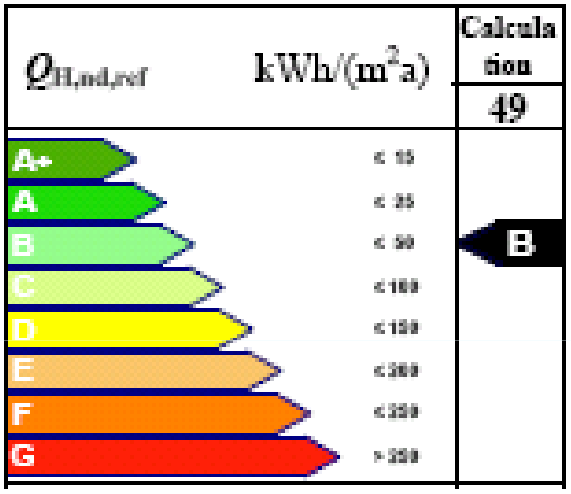
C: $Q_{H,nd,ref} \leq 100$ kWh/(m²a)

D: $Q_{H,nd,ref} \leq 150$ kWh/(m²a)

E: $Q_{H,nd,ref} \leq 200$ kWh/(m²a)

F: $Q_{H,nd,ref} \leq 250$ kWh/(m²a)

G: $Q_{H,nd,ref} > 250$ kWh/(m²a)



$Q_{H,nd,ref}$ – specific annual energy need for heating expressed in kWh/(m2a) for reference climatic data continental Croatia or littoral Croatia)

Places with 2200 heating degree days

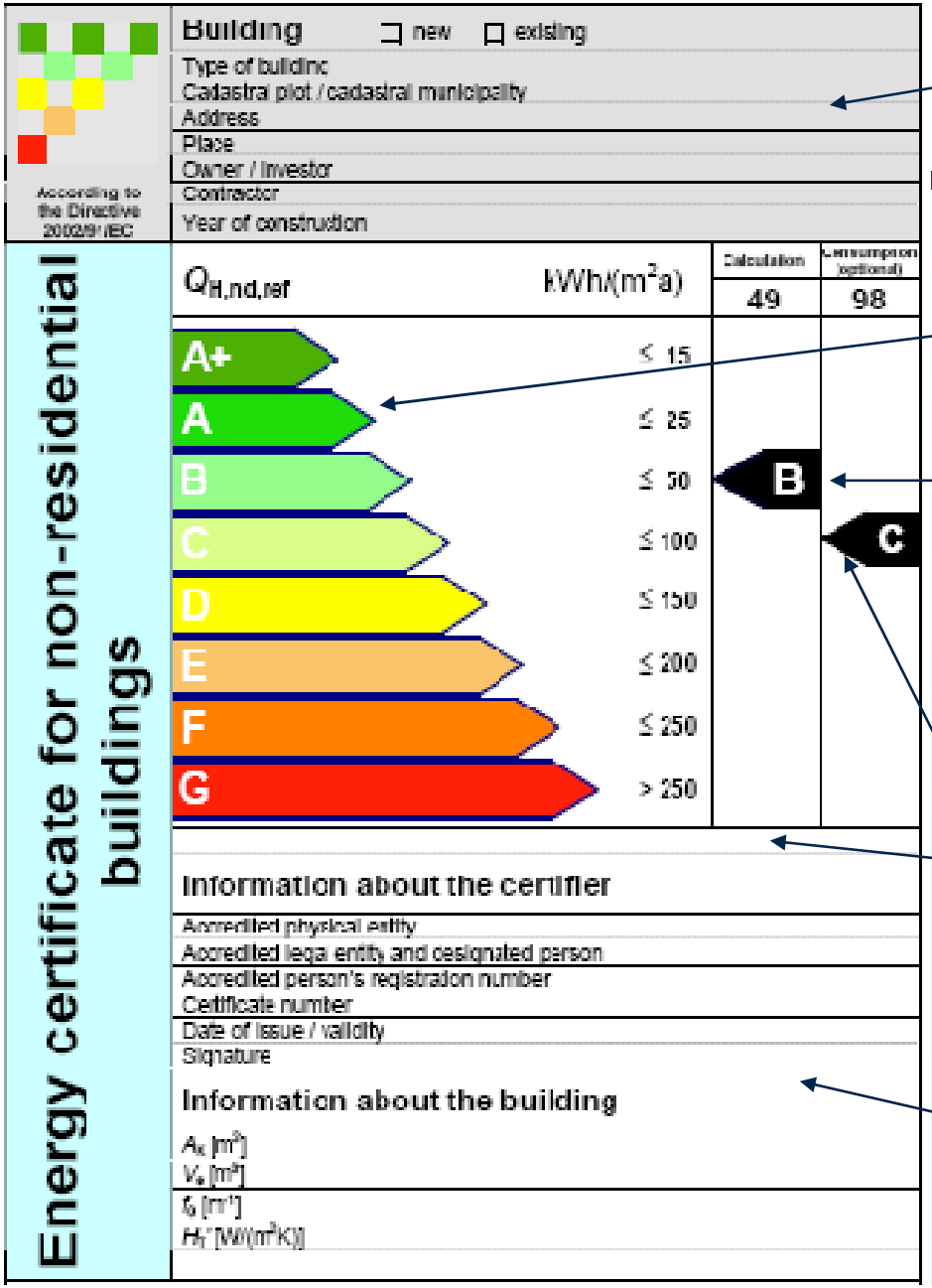
less

mre or equal

Littoral Croatia **1600** ref.number of heating degree days

Continental Croatia **2900** ref.number of heating degree days

Energy certificate for non-residental buildings



general data about the building

energy class on a scale from A+ to G

specific energy need for heating, QH,nd,ref [kWh/(m2a), for a defined profile of use for reference climatic data

energy class based on energy consumption

data relating to the energy certifier

data relating to the building
surface area of a usable floor area of a building
volume of a heated part of the building
building shape factor
transmission heat transfer coefficient

Energy certificate for non-residental buildings

Certification of public sector buildings

Article 24

-Energy classes for existing public sector buildings shall be determined by specific annual energy need for heating expressed in kWh/(m2a) for reference climatic data continental Croatia or littoral Croatia)

using the methodology set out in Annex 6.B to the Ordinance.

- An energy certificate for buildings shall contain data according to the graphical presentation given in Annex 2 to the Ordinance.

-Energy classes for buildings may also be determined by using data on energy consumption of the building.

- For additional determination of energy classes based on energy consumption, according to energy bills by the type of consumption (heating, cooling, etc.) and the types of energy sources in the period of at least three subsequent previous years.

Climatic data	
Climatic data (continental or littoral Croatia)	
Number of heating degree days SD [Kd/a]	
Number of days per heating season Z [d]	
Mean outdoor temperature in the heating season [°C]	
Indoor design temperature in the heating season [°C]	

climatic data

Information about heat engineering systems of the building	
Type of heating (local, flat-contained, central, long-distance heat source)	
Energy sources used for heating and domestic hot water production	
Type of cooling (local, flat-contained, central, long-distance heat source)	
Energy sources used for cooling	
Type of ventilation (natural, with or without heat recovery)	
Type and method of using systems of renewable energy sources	
Share of renewable energy sources in energy need for heating [%]	

data relating to heat engineering systems of a building

Energy requirements	For reference climatic data		For actual climatic data		Requirement	
	Total	Specific	Total	Specific	Approved	Met
$Q_{H,nd}$ [kWh/a]						
Q_W [kWh/a]						
$Q_{H,ls}$ [kWh/a]						
$Q_{W,ls}$ [kWh/a]						
Q_H [kWh/a]						
$Q_{C,nd}$ [kWh/a]						
$Q_{C,ls}$ [kWh/a]						
Q_C [kWh/a]						
Q_{Vs} [kWh/a]						
E_H [kWh/a]						
E_{aux} [kWh/a]						
E_{prim} [kWh/a]						
CO_2 [kg/a]						

Explanation: ☐ to be completed ☐ to be completed optionally

data relating to energy need

Building element	U [W/(m²K)]	U_{max} [W/(m²K)]	Requirement met
External walls, walls towards a garage, an attic			
Flat and sloping roofs above heated space, ceilings towards attics			
Walls towards the ground, floors towards the ground			
Ceilings above outdoor air, ceilings above garages			
Walls and ceilings to non-heated rooms and non-heated stairwell of a temperature above 0 °C			
Windows, balcony door, skylights, transparent façade elements			
External doors with opaque door panels			

data relating to thermal transmittance values for individual building elements

Recommended measures

Recommended measures for the cost-effective improvement of energy performance of the building
1.
2.
3.
4.
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19.

Attachment

Explanation of technical terms
Surface area of a usable floor area of a building, A_K [m²], is a total surface of net floor area heated part of a building.
Volume of a heated part of a building, V_e [m³], is the gross volume, i.e. the volume of a heat of the building with the envelope area **A**.
Building shape factor $f_o = A / V_e$ [m⁻¹], is a quotient of an envelope area A and the volume of heated part of a building V_e.
Transmission heat transfer coefficient, H_T [W/K], means a quotient of the heat flow transf transmission from a heated building towards the outdoor space and the difference between the indoor heating and outdoor temperature in a heating season.
Mean outdoor temperature, θ_e [°C], means the averaged outdoor temperature of the air mea a meteorological station closest to the building location in the period observed.
Indoor design temperature in the heating season, θ_i [°C], is the indoor air temperature of a spaces of a heated part of a building provided for by the design.
Annual energy need for heating for actual climatic data, H_{nd} [kWh/a], is a calculated an heat to be delivered to a building during a year by means of a heating system in order to main indoor design temperature of the building during the heating period.
Annual energy need for domestic hot water heating, Q_w [kWh/a], means a calculated amo heat to be delivered to a building during a year by means of a domestic hot water production syst the purpose of water heating.
Annual thermal losses of heating system, $Q_{h,k}$ [kWh/a], are energy losses of a heating during a year that cannot be used to maintain the indoor temperature of a building.
Annual thermal losses of domestic hot water heating system, $Q_{w,k}$ [kWh/a], are energy l a domestic hot water heating system during a year that cannot be used for water heating.
Annual heating energy need, Q_H [kWh/a], is a sum of an annual heat need and annual therma of a heating system and a system for domestic hot water heating in a building.
Annual energy need for cooling, $Q_{C,nd}$ [kWh/a], is a calculated amount of heat to be delive building during a year by means of a cooling system in order to maintain the indoor design temp of the building during the cooling period.
Annual cooling system losses, $Q_{C,k}$ [kWh/a], are energy losses of a cooling system during a y cannot be used to maintain the indoor temperature of a building.
Annual cooling energy need, Q_C [kWh/a], is a sum of an annual energy need for cooling and a cooling system losses in a building.
Annual energy use for ventilation, Q_{Ve} [kWh/a], is a calculated energy input for air transp forced ventilation system, partial air-conditioning and air-conditioning during a year in order to ma comfort level in the building.
Annual lighting energy use for lighting, E_l [kWh/a], is a calculated energy input to a lighting of a building during a year.
Annual delivered energy, E_{del} [kWh/a], means energy supplied by technical building systems d year, in order to satisfy energy needs for heating, cooling, ventilation, domestic hot water, lighting operation of auxiliary systems.
Annual primary energy, E_{prim} [kWh/a], is a calculated amount of energy need for a building year, which is not subjected to any conversion process.
Annual carbon dioxide emission, CO_2 [kg/a], is the amount of carbon dioxide emitted to the atmosphere during a year as a result of energy needs of a building.

Attachment

Detailed description of regulations, standards and calculation procedures applied for determination of data indicated in the energy certificate.

Methodology of energy class determination for non-residental buildings

Description	Calculation method
Transmission heat transfer coefficient H_T' [W/(m²K)]	According to HRN EN ISO 13789:20XX $H_T = L_D + L_S + H_U$ [W/K] $H_T' = \frac{H_T}{A}$ [W/(m²K)] A ... surface area of a heated part of a building [m²]
Annual energy need for heating $Q_{H,nd}$ [kWh/a]	According to HRN EN ISO 13790:2008. $Q_{H,nd} = (Q_{ht} + Q_{Ve}) - \eta(Q_{int} + Q_{sol})$ [kWh/a] Specific value: $\frac{Q_{H,nd}}{A_K}$ [kWh/(m²a)] Specific value: $\frac{Q_{H,nd}}{V_e}$ [kWh/(m³a)] $\eta_{H,gn}$ ... heat gain utilization factor [-] A_K ... surface are of usable floor area of a building [m²] V_e .... volume of a heated part of a building [m³] Simplified: $\eta = 1.00$ for a massive building $\eta = 0.98$ for a medium-heavy building $\eta = 0.90$ for a light building
Annual energy need for domestic hot water heating Q_W [kWh/a]	According to HRN EN 15316-3-1:2007 $Q_W = \rho_W c_W V_W (\theta_W - \theta_0)$ [kWh/a] $\rho_W c_W = 1{,}16$ kWh/(m³K) V_W .... annual water consumption [m³/a] θ_W ... water temperature in a tank[°C] θ_0 ... temperature of mains water [°C]
Annual thermal losses of a heating system $Q_{H,ls}$ [kWh/a]	According to HRN EN 15316:2007 $Q_{H,ls} = Q_{H,em,ls} + Q_{H,dis,ls} + Q_{H,st,ls} + Q_{H,gen,ls}$ [kWh/a] $Q_{H,em,ls}$ ... thermal losses due heat exchange in the space including regulation according to HRN EN 15316-2-1:2007 [kWh/a] $Q_{H,dis,ls}$ ... thermal losses due to heat distribution, includ regulation according to HRN EN 15316-2-3:2007 [kWl $Q_{H,st,ls}$ ... thermal losses due to heat storages, including regulation according to HRN EN 15316-3-3:2007 [kWl $Q_{H,gen,ls}$ ... thermal losses due to heat generation and distribution, including regulation according to HRN EN 15316-4-1:2007 [kWh/a]
Annual thermal losses of domestic hot water heating system $Q_{W,ls}$ [kWh/a]	According to HRN EN 15316:2007 $Q_{W,ls} = Q_{W,dis,ls} + Q_{W,st,ls} + Q_{W,gen,ls}$ [kWh/a] $Q_{W,dis,ls}$ ... thermal losses due to service hot water distribution, including regulation according to HRN EN 15316-3-2:2007 [kWh/a] $Q_{W,st,ls}$ ... thermal losses due to domestic hot water tanks, including regulation according to HRN EN 15316-3-3:2007 [kWh/a] $Q_{W,gen,ls}$ ... thermal losses due to domestic hot water production and distribution, including regulation according to HRN EN 15316-3-3:2007 [kWh/a]
Annual heating energy need Q_H [kWh/a]	Calculated as a sum of heat needed for heating and domestic hot water heating, and losses of both systems, using the equation: $Q_H = Q_{H,nd} + Q_W + Q_{H,ls} + Q_{W,ls}$ [kWh/a]
Annual energy need for cooling $Q_{C,nd}$ [kWh/a]	According to HRN EN ISO 13790:2008. $Q_{C,nd} = (Q_{int} + Q_{sol}) - \eta_{C,ls}(Q_{tr} + Q_{Ve})$ [kWh/a] Specific value: $\frac{Q_{C,nd}}{A_K}$ [kWh/(m²a)] $\eta_{C,ls}$ ... heat loss utilization coefficient [-] A_K ... surface area of a usable floor area of a building [m²]
Annual cooling system losses $Q_{C,ls}$ [kWh/a]	According to HRN EN 15243:2007.
Annual energy need for cooling Q_C [kWh/a]	Calculated as a sum of heat needed for cooling and cooling system losses: $Q_C = Q_{C,nd} + Q_{C,ls}$ [kWh/a]
Annual energy use for ventilation within the system of forced ventilation, partial air-conditioning and air-conditioning, including losses $Q_{V,\bullet}$ [kWh/a]	According to HRN EN ISO 13790:2008, HRN EN 15241:2007, HRN EN 15243:2007.
Annual energy use for lighting E_l [kWh/a]	According to HRN EN 15193:20XX
Annual delivered energy E_{del} [kWh/a]	Calculated using the equation: $E_{del} = Q_H + Q_C + Q_{Ve} + E_l + Q_{aux}$ [kWh/a]

Methodology of energy class determination for non-residental buildings

	Q_H ... annual energy need for heating [kWh/a] Q_C ... annual energy need for cooling [kWh/a] Q_{Ve} ... annual energy use for ventilation according to HRN EN ISO 13790:2008, HRN EN 15241:2007, HRN EN 15243:2007 [kWh/a] E_l ... annual energy use for lighting according to HRN EN 15193:20XX [kWh/a] Q_{aux} ... annual energy use for operation of auxiliary systems (pumps, fans, compressors, regulation, etc.) according to HRN EN 15316:2007, HRN EN 15241:2007, HRN EN 15243:2007 [kWh/a]
Annual primary energy E_{prim} [kWh/a]	Calculated by using the primary energy factor in dependence of the energy source according to the formula: $E_{prim} = \sum_i E_i \cdot e_{p,i}$ [kWh/a] E_i ... annual energy from energy source i [kWh] $e_{p,i}$ ... primary energy factor for energy source i [-]

Energy source		Primary energy factor [-]
Fuel	Light fuel oil	1.1
	Natural gas	1.1
	Liquefied gas	1.1
	Pit coal	1.1
	Brown coal	1.2
	Wood	0.2
Local/district heat from heat and power plant	Renewable fuels	0.7
	Fossil fuel	0
Local/district heat from boiler house/heating plant	Renewable fuels	1.3
	Fossil fuel	0.1
Electricity		3.0 (2.0 when using heat storage systems)

nnual CO_2 emission [kg/a]	Annual carbon dioxide emission is calculated using the data indicated in the table below:

Energy source	By unit of fuel	By unit of energy
Natural gas	1.9 kg/m^3 *	0.20 kg/kWh
Liquefied petroleum gas	2.9 kg/kg	0.215 kg/kWh
Extra light fuel oil	2.6 kg/l	0.265 kg/kWh
Light fuel oil	3.2 kg/kg	0.28 kg/kWh
Long-distance heating	0.33 kg/kWh	0.33 kg/kWh*
Electrical energy	0.53 kg/kWh	0.53 kg/kWh
Brown coal (domestic)	1.5 kg/kg	
Brown coal (foreign)	1.88 kg/kg	
Lignite (domestic)	1.0 kg/kg	
* Gas volume under standard conditions (at a temperature of 15 °C and pressure of 1.01325 bar).		

Information, data base, issuing of energy certificates

Energy certificate shall be issued for :

-new buildings, for which an application for a document allowing the construction works (building permit or a general design approval) are submitted after 31 March 2010

-buildings with construction (gross) area that does not exceed 400 m2 and buildings for agricultural activities whose construction (gross) area does not exceed 600 m2, which are not exempt from energy certification and whose construction start is scheduled after 31 March 2010

-public buildings, not later than 36 months upon adoption of the methodology for conducting energy audits

-existing buildings sold, rented out or leased not later than the date of the Croatian accession to the EU

Ordinance on the requirements and criteria to be met by energy auditors and energy certifiers of buildings

Authorisation categories:

Energy audits of buildings:
- with simple technical system
- with complex technical system

Energy certificatons of buildings:
- with simple technical system
- with complex technical system

Thank you for your attention!

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