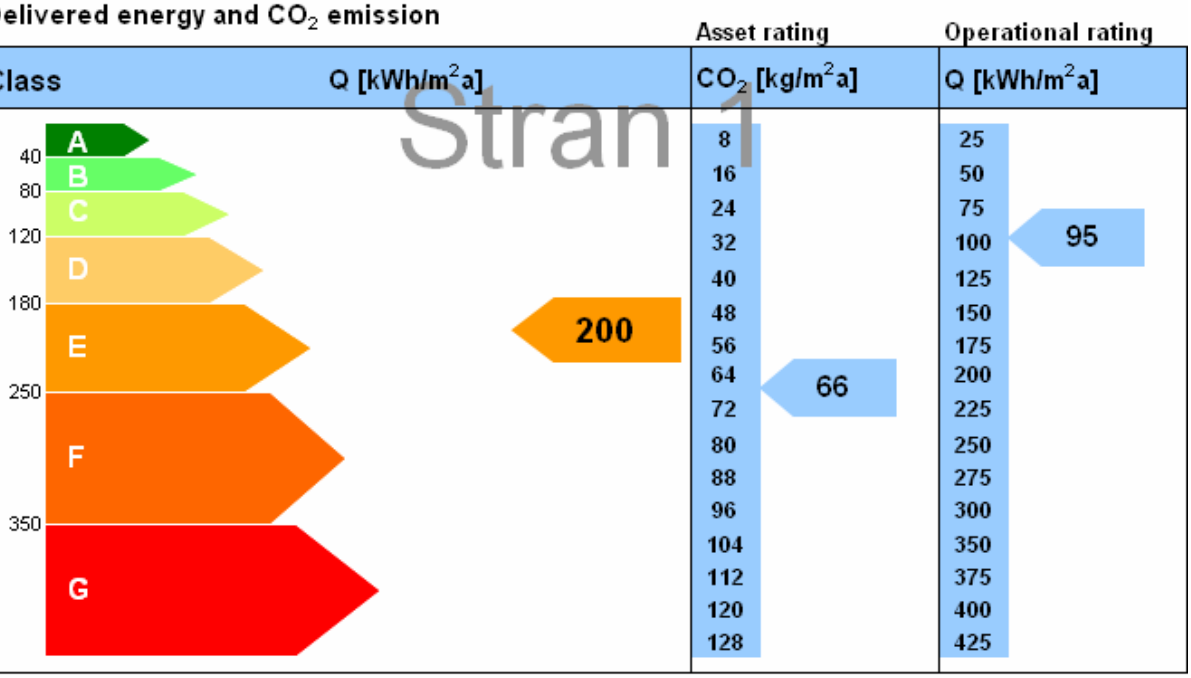
ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Office building
Address	Ambrožev trg 5&7, Ljubljana
Heated area	3298 m^2
Building manager	MOL
Building owner	MOL
Number of stories	4
Year of construction	1826
Year of renovation	~1970

Delivered energy and CO_2 emission



CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0102
Company	GI ZRMK	Date of validity	26.9.2006
Purpose of certificate	Renovation	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,3 1/m	Massive construction 70 cm bricks
Heated area A_u	3298 m^2	Roof with 5 cm insulation
Gross volume V_e	12294 m^3	Facade without insulation
Type of dimensions used	external	Heated basement
Air exchange rate n	0,5 1/h	
Thermal capacity C	1770 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	1,2 W/m^2K	0,629 W/m^2K
Heating demand Q_H	125 kWh/m^2	51 kWh/m^2
Domestic hot water demand Q_{DHW}	16 kWh/m^2	16 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL	1541 m^2	1 W/m^2K
WINDOWS FACING SOUTH	58 m^2	2,6 W/m^2K
WINDOWS FACING NORTH	166 m^2	2,6 W/m^2K
WINDOWS FACING WEST	16 m^2	2,6 W/m^2K
WINDOWS FACING EAST	12 m^2	2,6 W/m^2K
FLOOR ON THE GROUND	545 m^2	1,2 W/m^2K
ROOF	1360 m^2	1,1 W/m^2K
DOORS	8 m^2	3,1 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	District heating	Primary energy	1,58
Heat generation	Boiler for district heating	Generation	0,95
Heat distribution	Pipes	Distribution	0,74
Heat emissivity	Radiators	Emissivity	0,87
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	District heating	Primary energy	1,58
Generation	Boiler for district heating	Generation	0,95
Distribution	Circulation	Distribution	0,80

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FUNDACIÓN CENER CIEMAT

Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	F	E
DELIVERED ENERGY (kWh/m^2)	198,44	111,64

Building name	*Office building*
Owner	*municipal*
Address	*Ambrožev trg 5*
City	*Ljubljana*
Type of building	*Office block*
Year of construction or last renovation	*1970*
Climatized area (m^2)	*3298*

Intelligent Energy Europe

ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Office building
Address	Poljanska 28, Ljubljana
Heated area	2050 m^2
Building manager	MOL
Building owner	MOL
Number of stories	4
Year of construction	1880
Year of renovation	1999

Delivered energy and CO_2 emission

Class	Q [kWh/m^2a]	Asset rating CO_2 [kg/m^2a]	Operational rating Q [kWh/m^2a]
A	40	8	25
B	80	16	50
C	120	24	75
D	180	32	100
E	250	40	125
F	350	48	150
G		56	175
		64	200
		72	225
		80	250
		88	275
		96	300
		104	350
		112	375
		120	400
		128	425
	170	56	140

CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0101
Company	GI ZRMK	Date of validity	25.9.2006
Purpose of certificate	Renovation	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,14 1/m	Massive construction 70 cm bricks
Heated area A_u	2050 m^2	Roof with 10 cm insulation
Gross volume V_e	7177 m^3	Facade without insulation
Type of dimensions used	external	Unheated basement
Air exchange rate n	0,5 1/h	
Thermal capacity C	1033 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	1,9 W/m^2K	0,629 W/m^2K
Heating demand Q_H	85 kWh/m^2	51 kWh/m^2
Domestic hot water demand Q_{DHW}	16 kWh/m^2	16 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL	825 m^2	1,1 W/m^2K
WINDOWS FACING SOUTH	113 m^2	1,4 W/m^2K
WINDOWS FACING NORTH	100 m^2	1,4 W/m^2K
FLOOR ON THE GROUND	325 m^2	1 W/m^2K
ROOF	700 m^2	0,5 W/m^2K
DOORS	8 m^2	3,1 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	District heating	Primary energy	1,58
Heat generation	Boiler for district heating	Generation	0,95
Heat distribution	Pipes	Distribution	0,74
Heat emissivity	Radiators	Emissivity	0,87
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	District heating	Primary energy	1,58
Generation	Boiler for district heating	Generation	0,95
Distribution	Circulation	Distribution	0,80

ENERGY CERTIFICATE

ENERGY SAVING SCENARIO 1

Insulating facade with 12 cm insulation

Initial energy demand	170 kWh/m^2 a	Final energy demand	140 kWh/m^2 a
Initial CO_2 emission	56 kg/m^2 a	Final CO_2 emission	47 kg/m^2 a
Initial benchmark	D	Final benchmark	D

ENERGY SAVING SCENARIO 2

Insulating facade with 12 cm insulation

Insulating pipes for heating distribution

Initial energy demand	170 kWh/m^2 a	Final energy demand	105 kWh/m^2 a
Initial CO_2 emission	56 kg/m^2 a	Final CO_2 emission	35 kg/m^2 a
Initial benchmark	D	Final benchmark	C

2006

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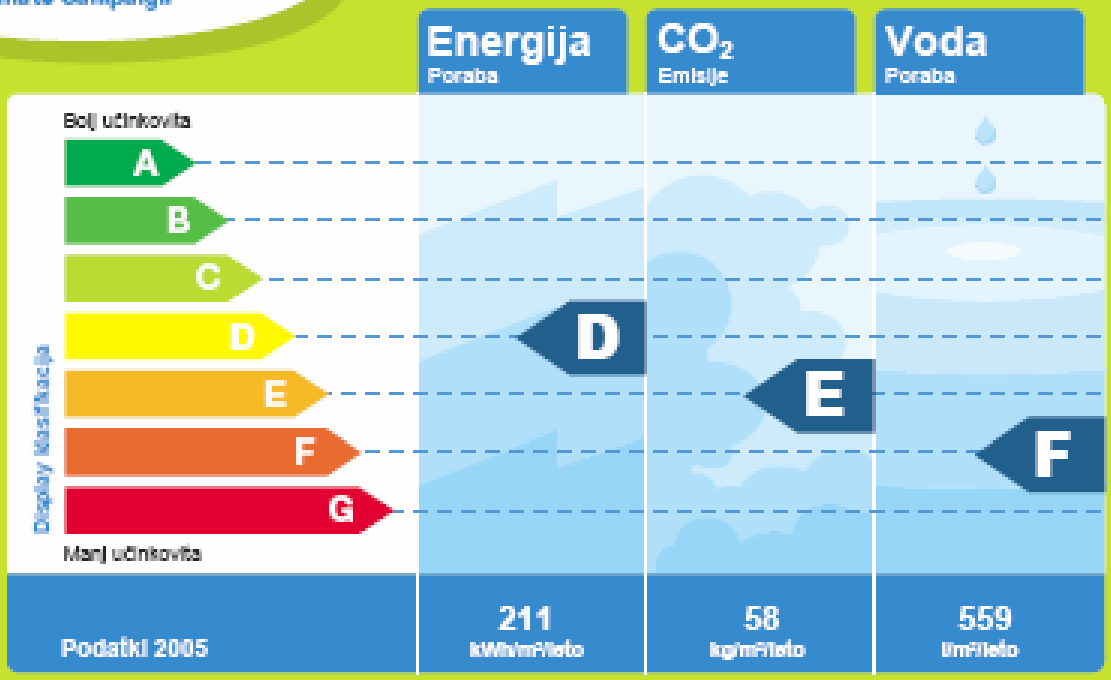
European Municipal Buildings Climate Campaign

Poljanska 28, Ljubljana

Kako učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na dežaj, na vsake 3 ure za 3 do 5 minut,
- Omejitev porabe pitne vode (zapiranje pip)

Tehnične rešitve

- Vgradnja termostatskih ventilov na radiatorje,
- Dodatna toplotna izolacija zunanjih zidov,
- Izolacija razvodnih cevi radiatorskega ogrevanja.

Energetski viri

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO_2 avtomobila med vožnjo	Poraba vode za
3.3 družinske hiše	3.6 krat okrog sveta	6833 kopeli

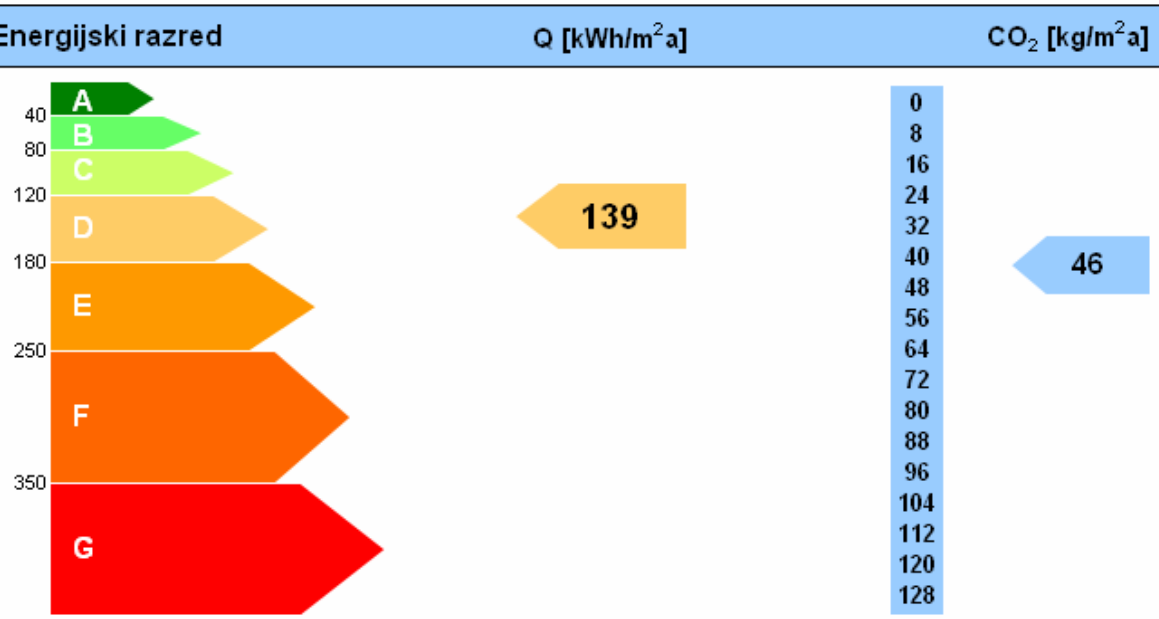
Za nadaljnje informacije
Ljubljana
Oddelek za urbanizem
Igor Cvitić
Tel.: +386 01 306 15 00
igor.cvitic@ljubljana.si

www.display-campaign.org

ENERGETSKA IZKAZNICA

OSNOVNI PODATKI O STAVBI	
Vrsta stavbe	Poslovna stavba
Naslov	Zarnikova 3, Ljubljana
Ogrevana površina	3123 m^2
Lastnik	MOL
Etažnost	K+P + 5
Leto izgradnje	-
Leto obnove	1990

Dovedena energija Q in emisija CO_2



PODATKI O IZKAZNICI			
Izdajatelj	Podjetje	Zaporedna številka	2007-0001
Neodvisni strokovnjak	Ime, licenca	Datum izdaje	15.2.2007
Energijski indikatorji	**Računski**	Kraj izdaje	Ljubljana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,30 1/m	Massive construction
Heated area A_u	3158m^2	Roof with 10 cm insulation
Gross volume V_e	9870 m^3	Facade with 3 cm insulation
Type of dimensions used	external	Unheated basement
Air exchange rate n	0,5 1/h	
Thermal capacity C	2238 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	0,687 W/m^2K	0,629 W/m^2K
Heating demand Q_H	55 kWh/m^2	51 kWh/m^2
Domestic hot water demand Q_{DHW}	16 kWh/m^2	16 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL	1480 m^2	0,5 W/m^2K
WINDOWS FACING SOUTH EAST	14 m^2	1,3 W/m^2K
WINDOWS FACING SOUTH WEST	150 m^2	1,3 W/m^2K
WINDOWS FACING NORTH WEST	14 m^2	1,3 W/m^2K
WINDOWS FACING NORTH EAST	150 m^2	1,3 W/m^2K
FLOOR ON THE GROUND	532 m^2	1 W/m^2K
ROOF	624 m^2	0,4 W/m^2K
DOORS	8 m^2	3,10 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	District heating	Primary energy	1,58
Heat generation	Boiler for district heating	Generation	0,90
Heat distribution	Pipes	Distribution	0,74
Heat emissivity	Radiators	Emissivity	0,87
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	District heating	Primary energy	1,58
Generation	Boiler for district heating	Generation	0,90
Distribution	Circulation	Distribution	0,80

ENERGETSKA IZKAZNICA

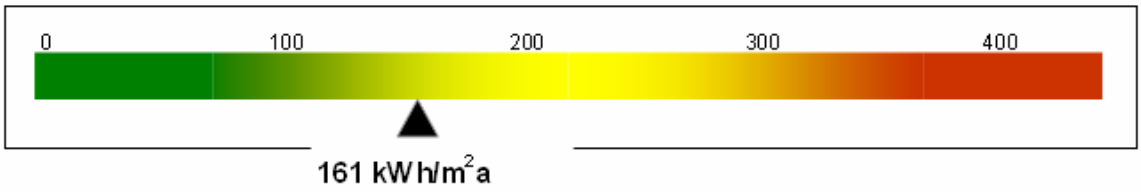
OSNOVNI PODATKI	
Vrsta stavbe	Poslovna stavba
Naslov	Zarnikova 3, Ljubljana
Ogrevana površina	3123 m^2
Lastnik	MOL
Etažnost	K+P+5
Leto izgradnje	-
Leto obnove	1990

DOVEDENA ENERGIJA ZA DELOVANJE STAVBE IN EMISIJA CO_2

Meritev v letu: 2006

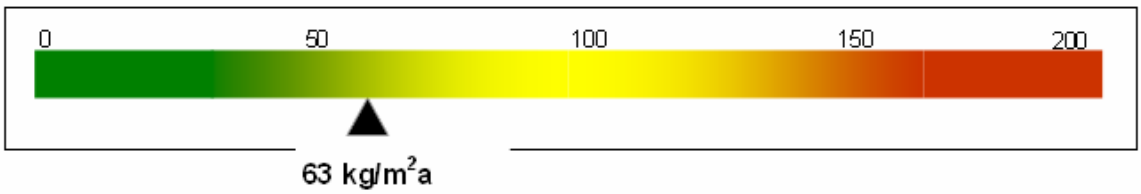
Energent	Količina		Raba energije		Emisija CO_2	
ELKO		m^3		kWh/m^2a		kg/m^2a
UNP		Sm^3		kWh/m^2a		kg/m^2a
Zemeljski plin		Sm^3		kWh/m^2a		kg/m^2a
Daljinska toplota	362.268	kWh	116	kWh/m^2a	38	kg/m^2a
Les		m^3		kWh/m^2a		kg/m^2a
Električna energija	140.535	kWh	45	kWh/m^2a	25	kg/m^2a
				kWh/m^2a		kg/m^2a
				kWh/m^2a		kg/m^2a
		Skupaj	**161**	**kWh/m^2a**	**63**	**kg/m^2a**

Dovedena energija Q



161 kWh/m^2a

Emisija CO_2



63 kg/m^2a

PODATKI O IZKAZNICI			
Izdajatelj	Podjetje	Zaporedna številka	2007-0004
Neodvisni strokovnjak	Ime, licenca	Datum izdaje	15.2.2007
Energijski indikatorji	**Merjeni**	Kraj izdaje	Ljubljana

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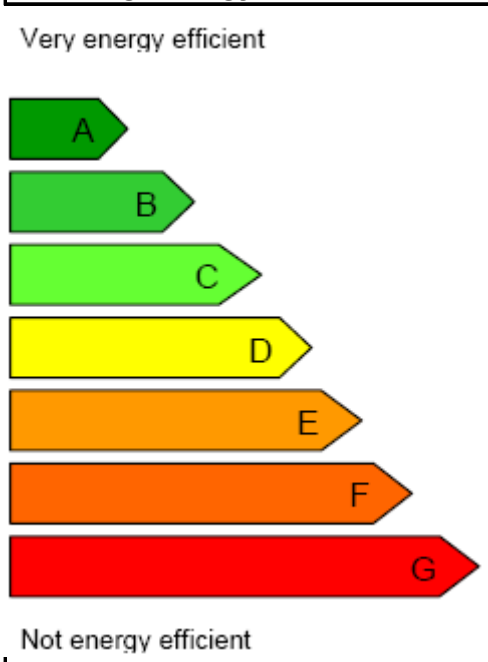
Energy certificate

Building Energy Performance	Initial	Final
	**E**	**E**
DELIVERED ENERGY (kWh/m^2)	159,91	117,47

Building name	*Office building*
Owner	*municipal*
Address	*Zarnikova 3*
City	*Ljubljana*
Type of building	*Office block*
Year of construction or last renovation	*1990*
Climatized area (m^2)	*3158*

Intelligent Energy Europe

OPET Slovenija

ENERGETSKA IZKAZNICA STAVBE

ENERGIE

OBJEKT	Zarnikova
INVESTITOR	MOL
LOKACIJA	Zarnikova 3, Ljubljana
KATASTRSKA OBČINA	Lj-Center
PARCELNA ŠTEVILKA	
OZNAKA PROJEKTNE DOKUMENTACIJE	

KLIMATSKI PODATKI	dejanski	referenčni
temperaturni primanjkljaj	3300 Kdni	3300 Kdni
ogrevalna sezona	235 dni	235 dni

RAČUNSKA LETNA POTREBNA TOPLOTA ZA OGREVANJE NA NETO UPORABNO POVRŠINO STAVBE kWh/m² leto

Nizka raba energije	RAZRED kWh/m²	DEJANSKA LOKACIJA	REFERENČNA KLIMA	PREDPIS* 2002
< 25 kWh/m² leto	< 25			
A	25 - 40			
B	40 - 55			
C	55 - 70			57
D	70 - 85	75	75	
E	85 - 100			
F	100 -115			
G	115 - 130			
> 130 kWh/m² leto Visoka raba energije	> 130			

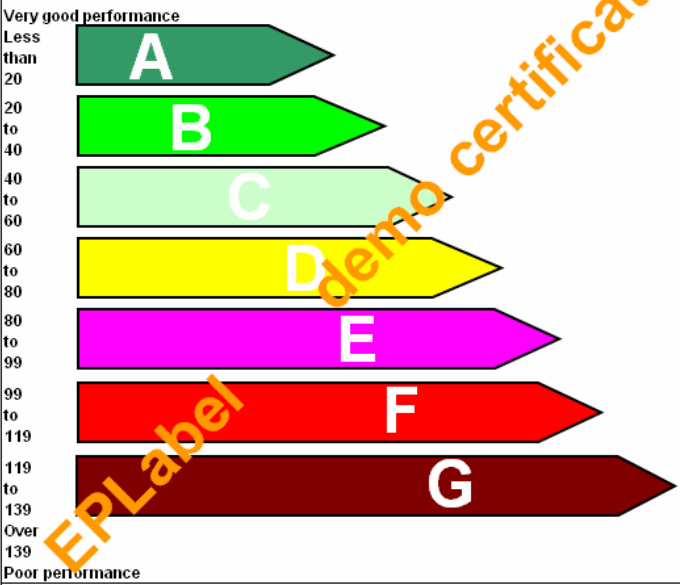
Izdano v skladu z Direktivo EU 76/93/EEC in SIST EN 832

ZRMK INSTITUT

Energy Certificate

Certificate type:	Operational (Measured) energy rating
Certificate method:	EPLabel v1.2d Beta
Building Sector:	Administrative Offices
Building Sub-type:	1 Administrative office, naturally ventilated
Whole or part of building:	Whole building

BUILDING CARBON DIOXIDE EMISSIONS



Measured in use: **D**

Energy performance of this building assessed as Carbon dioxide emissions (kg CO2) per m2 IFA	63
Building thermal energy efficiency grade	ABCDEFGH
Building electrical energy efficiency grade	ABCDEFGH
Overall building energy efficiency grade	ABCDEFGH
Indoor environmental quality	Approved by assessor

Data source: Approved

Certificate date: 20 junij 2007

other country

Directive 2002/91/EC

Gross internal floor area (m²): 3.123
Number of storeys: 6
Year originally constructed: 1990
Year of last major refurbishment: -
Period of energy assessment: 2005-06
Certificate expiry date: 25/6/2007
Licensee: Marjana Sijanec Zavrl

ASSET RATING AVAILABLE? Yes
Asset Rating method: iSBEM
Year of calculation 2006
Asset Grade: C
Asset Rating: 94%

Not an official certificate. EPLabel project reference:

Certifying organisation	ZRMK d.o.o.	Building name	Zarnikova 3
Street address	Zarnikova 3	Occupier	0
PO Box	-	Street address	Zarnikova 3, Ljubljana
Post code	1000	Post code	EC1 1EC
Contact	M. Sijanec	Building reference	Office building
Assessor identifier	0	Contact	MOL
Tel	0	Tel	01 2808 342
email	msijanec@gi-zrmk.si	email	msijanec@gi-zrmk.si
		Building owner	MOL
		Managing agent	-

2007

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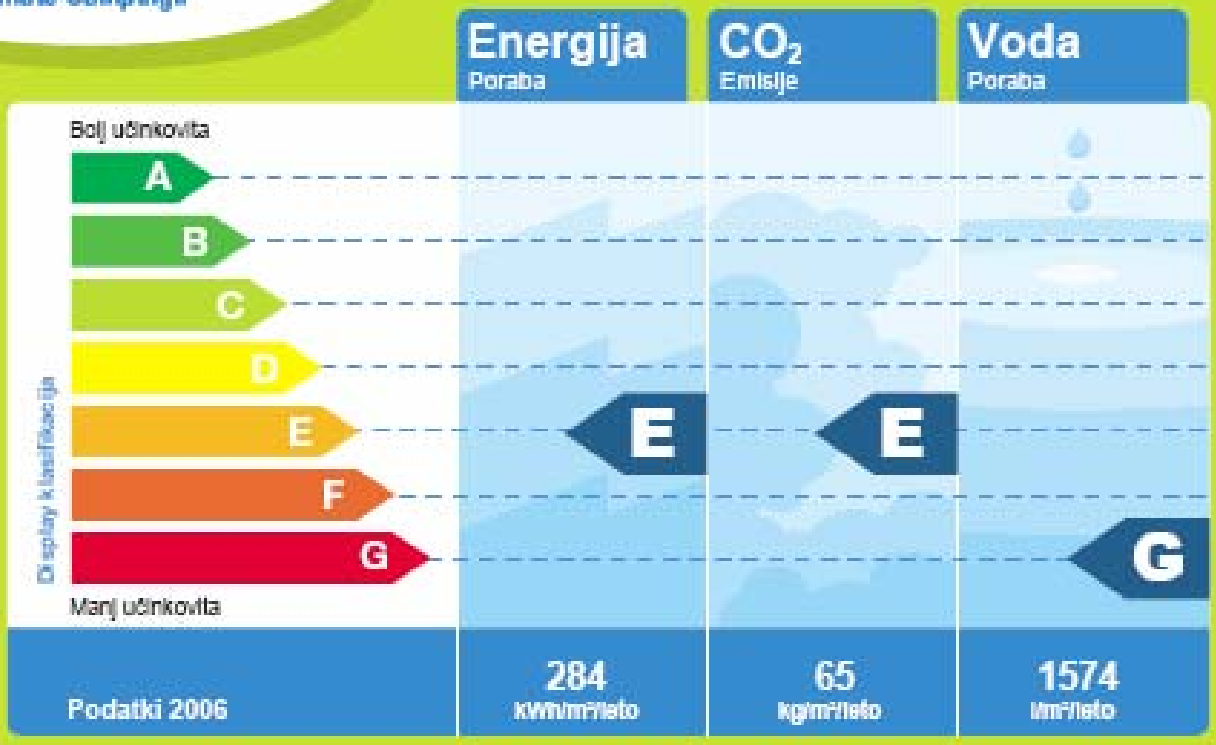
European Municipal Buildings Climate Campaign

Zarnikova 3

Kako energetsko učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Ustrezno naravno prezračevanje
- Varčna raba vode
- Rabo razsvetljave le ko je to potrebno

Tehnične rešitve

- Vgradnja radiatorskih termostatskih ventilov
- Dodatna toplotna izolacija zunanjih zidov
- Izolacija razvodnih cevi radiatorskega ogrevanja

Energetski viri

88 %	8 %	4 %
Fosilni	Nuklearni	Obnovljivi

Izboljšanje stanja za en razred takšno letno prihranijo:

Poraba energije za	Emisija CO_2 avtomobila med vožnjo	Poraba vode za
5.1 družinska hiša	5.5 krat okrog sveta	101393 kopeli

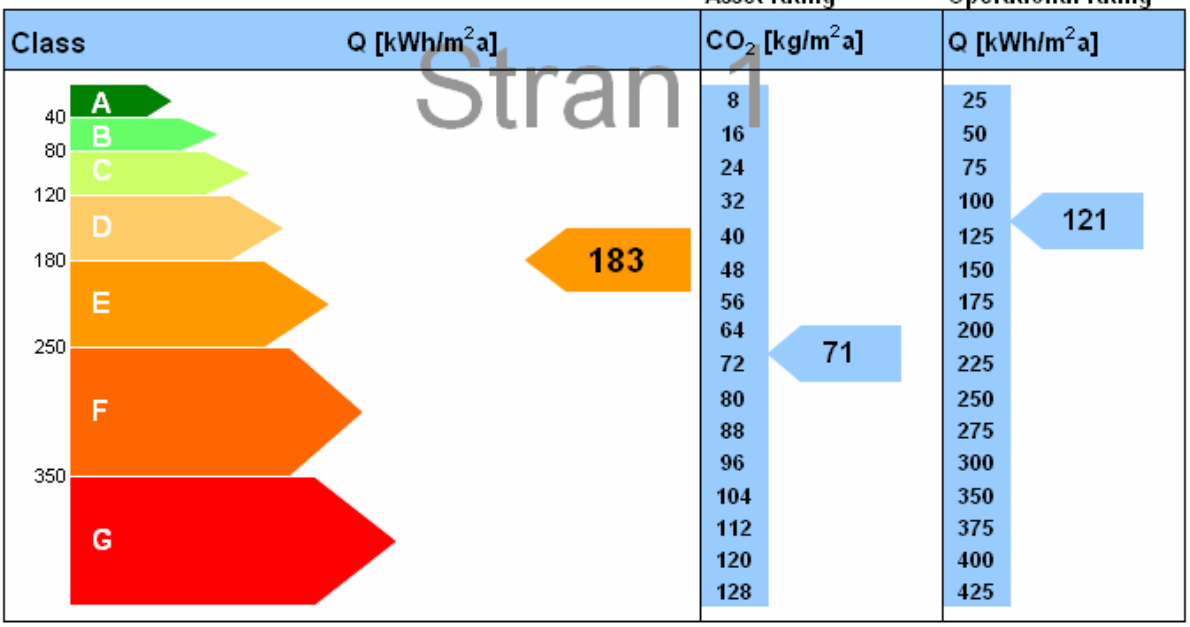
Za nadaljnje informacije
Ljubljana
Oddelek za urbanizem

www.display-campaign.org

ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Public elementary school
Address	Cesta na Brdo 45, Kranj
Heated area	5519 m^2
Building manager	Mestna občina Kranj
Building owner	Mestna občina Kranj
Number of stories	2
Year of construction	1973
Year of renovation	1987

Delivered energy and CO_2 emission



CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0012
Company	GI ZRMK	Date of validity	29.5.2006
Purpose of certificate	Display in a public building	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,56 1/m	Massive construction
Heated area A_u	6225 m^2	Flat roof with 5 cm of insulation
Gross volume V_e	19453 m^3	Facade with 5 cm of insulation
Type of dimensions used	external	Heated basement
Air exchange rate n	0,7 1/h	
Thermal capacity C	3615 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	0,7 W/m^2K	0,6 W/m^2K
Heating demand Q_H	103 kWh/m^2	117 kWh/m^2
Domestic hot water demand Q_{DHW}	16 kWh/m^2	20 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL WITH INSULATION	3214 m^2	0,50 W/m^2K
WINDOWS FACING EAST	145 m^2	2,00 W/m^2K
WINDOWS FACING WEST	52 m^2	2,00 W/m^2K
WINDOWS FACING SOUTH	768 m^2	2,00 W/m^2K
WINDOWS FACING NORTH	93 m^2	2,00 W/m^2K
FLOOR ON THE GROUND	3236 m^2	0,20 W/m^2K
ROOF	3429 m^2	0,60 W/m^2K
DOORS	14 m^2	3,10 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	District heating	Primary energy	1,58
Heat generation	Boiler for district heating	Generation	0,90
Heat distribution	Pipes	Distribution	0,76
Heat emissivity	Radiators	Emissivity	0,78
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	Electricity	Primary energy	2,15
Generation	Local boilers	Generation	0,87
Distribution	No circulation	Distribution	0,98

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FUNDACIÓN CENER CIEMAT

Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	E	B
DELIVERED ENERGY (kWh/m^2)	142,96	90,68

Building name	*Public elemntary school*
Owner	*municipal*
Address	*Cesta na Brdo 45*
City	*Kranj*
Type of building	*School*
Year of construction or last renovation	*1987*
Climatized area (m^2)	*6225*

Intelligent Energy Europe

ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Office building
Address	Slovenski trg 11, Kranj
Heated area	8926 m^2
Building manager	Doni d.o.o.
Building owner	Mestna občina Kranj
Number of stories	3
Year of construction	1965
Year of renovation	-

Delivered energy and CO_2 emission

Class	Q [kWh/m^2a]	Asset rating CO_2 [kg/m^2a]	Operational rating Q [kWh/m^2a]
A	40	8	25
B	80	16	50
C	120	24	75
D		32	100
E	180	40	125
F	250	48	150
G	350	56	175
		64	200
		72	225
		80	250
		88	275
		96	300
		104	350
		112	375
		120	400
		128	425
	131	46	89

CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0011
Company	GI ZRMK	Date of validity	26.5.2006
Purpose of certificate	Display in a public building	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,26 1/m	Massive construction
Heated area A_u	8926 m^2	Roof with 5 cm of insulation
Gross volume V_e	27894 m^3	Facade without insulation
Type of dimensions used	external	Partly heated basement
Air exchange rate n	0,7 1/h	
Thermal capacity C	5021 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	1,0 W/m^2K	0,7 W/m^2K
Heating demand Q_H	90 kWh/m^2	96 kWh/m^2
Domestic hot water demand Q_{DHW}	16 kWh/m^2	20 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL WITHOUT INSULATION	1731 m^2	0,90 W/m^2K
WINDOWS FACING EAST	72 m^2	2,90 W/m^2K
WINDOWS FACING WEST	72 m^2	2,90 W/m^2K
WINDOWS FACING SOUTH	113 m^2	2,90 W/m^2K
WINDOWS FACING NORTH	149 m^2	2,90 W/m^2K
FLOOR ON THE GROUND WITH INSULATION	2510 m^2	0,27 W/m^2K
ROOF	2715 m^2	0,83 W/m^2K
DOORS	18 m^2	2,9 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	District heating	Primary energy	1,58
Heat generation	Boiler for district heating	Generation	0,95
Heat distribution	Pipes	Distribution	0,95
Heat emissivity	Radiators	Emissivity	0,89
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	Electricity	Primary energy	2,15
Generation	Local boilers	Generation	0,87
Distribution	No circulation	Distribution	0,98

Supported by the European Commission under the Intelligent Energy - Europe Programme

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centro nacional de energías renovables
FUNDACIÓN CENER CIEMAT

Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	E	B
DELIVERED ENERGY (kWh/m^2)	149,49	84,93

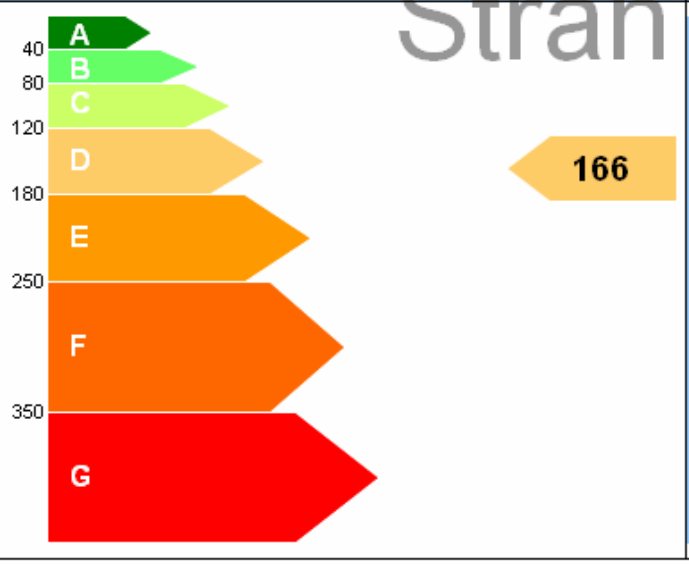
Building name	*Office building*
Owner	*partly municipal*
Address	*Slovenski trg 11*
City	*Kranj*
Type of building	*Office block*
Year of construction or last renovation	*1965*
Climatized area (m^2)	*8926*

Intelligent Energy Europe

ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Public elementary school
Address	Grajska cesta 1, Oplotnica
Heated area	3670 m^2
Building manager	Občina Oplotnica
Building owner	Občina Oplotnica
Number of stories	3
Year of construction	1974
Year of renovation	-

Delivered energy and CO_2 emission



Asset rating		Operational rating	
Class	Q [kWh/m^2a]	CO_2 [kg/m^2a]	Q [kWh/m^2a]
		8	25
		16	50
		24	75
		32	100
		40	125
		48	150
		56	175
		64	200
		72	225
		80	250
		88	275
		96	300
		104	350
		112	375
		120	400
		128	425
		38	163

CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0013
Company	GI ZRMK	Date of validity	22.11.2006
Purpose of certificate	Renovation	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,23 1/m	Massive construction
Heated area A_u	3670 m^2	Roof with low insulation
Gross volume V_e	11488 m^3	Facade without insulation
Type of dimensions used	external	Unheated basement
Air exchange rate n	0,5 1/h	
Thermal capacity C	2238 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	0,647 W/m^2K	0,629 W/m^2K
Heating demand Q_H	90 kWh/m^2	51 kWh/m^2
Domestic hot water demand Q_{DHW}	12 kWh/m^2	12 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL	586 m^2	0,44 W/m^2K
WINDOWS FACING NORTH	193 m^2	2,42 W/m^2K
WINDOWS FACING EAST	49 m^2	2,42 W/m^2K
WINDOWS FACING WEST	207 m^2	2,42 W/m^2K
WINDOWS FACING SOUTH	76 m^2	2,42 W/m^2K
FLOOR ON THE GROUND	1300 m^2	0,55 W/m^2K
ROOF	610 m^2	0,35 W/m^2K
DOORS	11 m^2	4,00 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	Fuel oil	Primary energy	1,00
Heat generation	Central boiler	Generation	0,90
Heat distribution	Pipes	Distribution	0,74
Heat emissivity	Radiators	Emissivity	0,87
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	District heating	Primary energy	1,00
Generation	Central boiler	Generation	0,90
Distribution	Circulation	Distribution	0,80

ENERGY CERTIFICATE

ENERGY SAVING SCENARIO 1

Insulating facade with 12 cm insulation

Insulating roof with 25 cm insulation

Initial energy demand	**166 kWh/m^2 a**	**Final energy demand**	**158 kWh/m^2 a**
Initial CO_2 emission	**38 kg/m^2 a**	**Final CO_2 emission**	**31 kg/m^2 a**
Initial benchmark	**D**	**Final benchmark**	**D**

ENERGY SAVING SCENARIO 2

Insulating facade with 12 cm insulation

Insulating roof with 25 cm insulation

Insulating floor on the ground

Change windows

Initial energy demand	**166 kWh/m^2 a**	**Final energy demand**	**97 kWh/m^2 a**
Initial CO_2 emission	**38 kg/m^2 a**	**Final CO_2 emission**	**22 kg/m^2 a**
Initial benchmark	**D**	**Final benchmark**	**C**

Pohorskega bataljona, Oplotnica

2006

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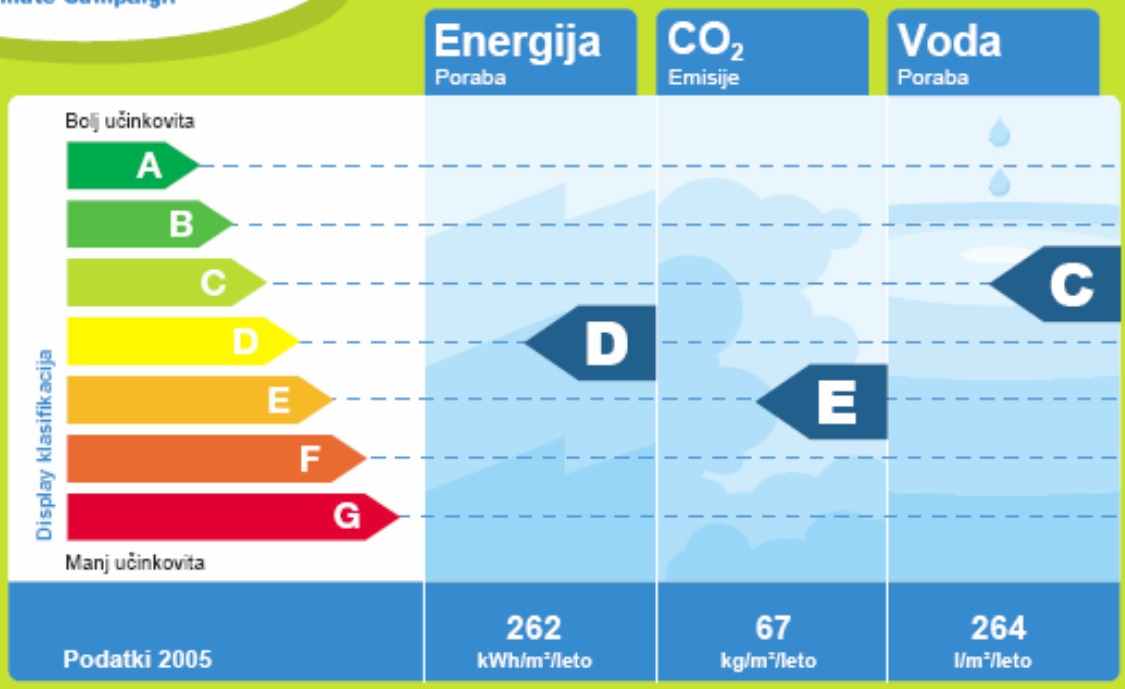
Kako učinkovita je ta stavba?



Proti stavbi razreda A

▶ Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na stežaj, na vsake 3 ure za 3 do 5 minut,
- omejitev porabe pitne vode (zapiranje pip)

▶ Tehnične rešitve

- Dodatna toplotna izolacija zunanjih zidov, strehe, stropov proti neogrevanem podstrešju in poda v kletni etaži
- zamenjava starih lesenih oken, ki še niso bila zamenjana, z novimi PVC okni,
- zamenjava rad. sistema ogrevanja za stari del objekta,
- vgradnja nove lokalne regulacije v sistem novega dela,
- sanacija kotlovnice na kurilno olje,
- možen ukrep: sistem prisilnega prezračevanja za obe stavbi,

Energetski viri

Fosilni	Nuklearni	Obnovljivi
95 %	3 %	2 %

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO2 avtomobila med vožnjo	Poraba vode za
6 družinske hiše	6.5 krat okrog sveta	15292 kopeli

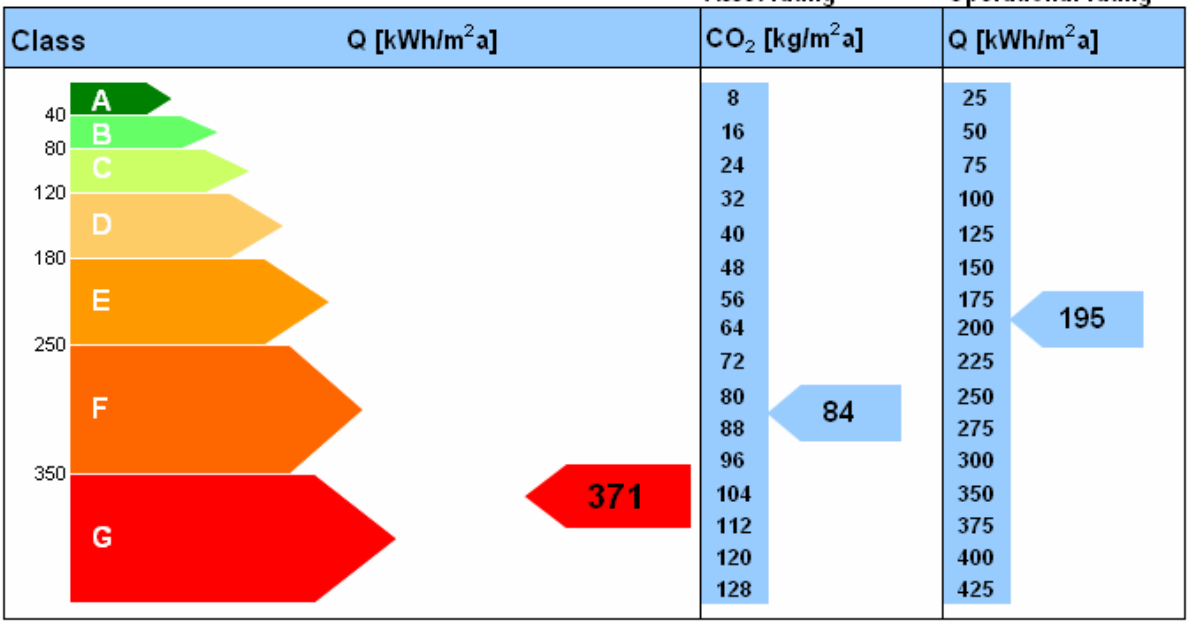
Za nadaljnje informacije
Ljubljana
Oddelek za urbanizem
Igor Cotič
Tel: +386 01 306 15 05
igor.cotic@ljubljana.si

www.display-campaign.org

ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Kindergarten Pivka
Address	Pot na Orlek 1, Pivka
Heated area	860 m^2
Building manager	Občina Pivka
Building owner	Občina Pivka
Number of stories	3
Year of construction	1999
Year of renovation	

Delivered energy and CO_2 emission



CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0108
Company	GI ZRMK	Date of validity	12.12.2006
Purpose of certificate	Renovation	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,60 1/m	Massive construction
Heated area A_u	860 m^2	Roof with low insulation
Gross volume V_e	2687 m^3	Facade partly insulated
Type of dimensions used	external	
Air exchange rate n	0,5 1/h	
Thermal capacity C	484 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	1,458 W/m^2K	0,530 W/m^2K
Heating demand Q_H	241 kWh/m^2	60 kWh/m^2
Domestic hot water demand Q_{DHW}	12 kWh/m^2	12 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL	518 m^2	0,8 W/m^2K
EXTERNAL WALL	100 m^2	0,5 W/m^2K
WINDOWS FACING NORTH	50 m^2	2,65 W/m^2K
WINDOWS FACING WEST	20 m^2	2,65 W/m^2K
WINDOWS FACING SOUTH	50 m^2	2,65 W/m^2K
FLOOR ON THE GROUND	430 m^2	1,2 W/m^2K
ROOF	430 m^2	2,0 W/m^2K
DOORS	13 m^2	4,0 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	Fuel oil	Primary energy	1,00
Heat generation	Central boiler	Generation	0,90
Heat distribution	Pipes	Distribution	0,79
Heat emissivity	Radiators	Emissivity	0,78

DHW SYSTEM		Energy performance factor	
Fuel used for DHW	Fuel oil	Primary energy	1,00
Generation	Central boiler	Generation	0,90
Distribution	Circulation	Distribution	0,80

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FUNDACIÓN CENER CIEMAT

Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	F	E
DELIVERED ENERGY (kWh/m^2)	244,7	169,28

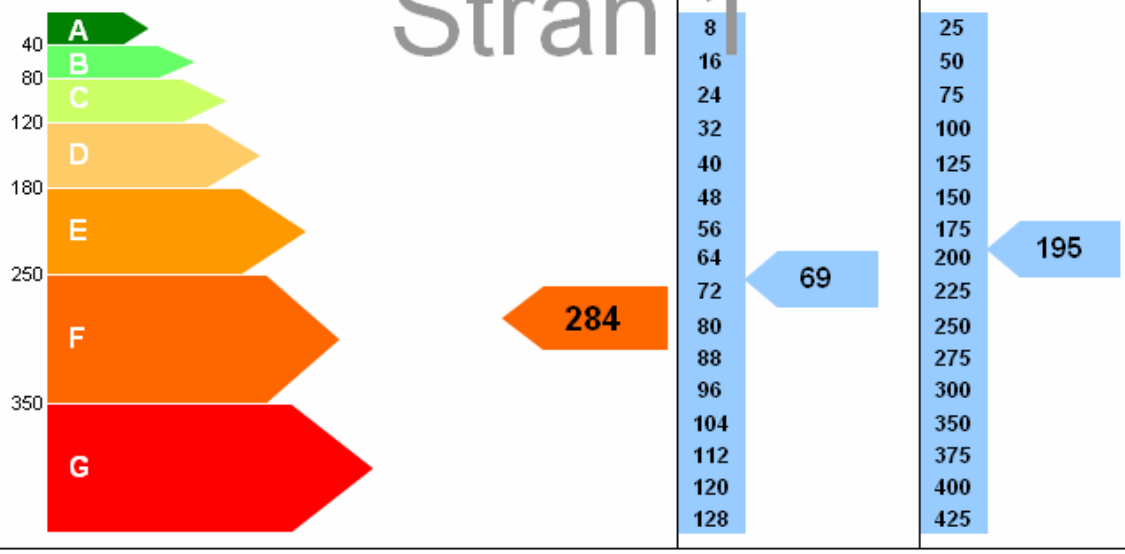
Building name	*Kindergarten*
Owner	*partly municipal*
Address	*Pot na Orlek 1*
City	*Pivka*
Type of building	*School*
Year of construction or last renovation	*1999*
Climatized area (m^2)	*860*

Intelligent Energy Europe

ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Public elementary school
Address	Prečna ulica 3, Pivka
Heated area	5086 m^2
Building manager	Občina Pivka
Building owner	Občina Pivka
Number of stories	3
Year of construction	1961
Year of renovation	1987

Delivered energy and CO_2 emission



CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0105
Company	GI ZRMK	Date of validity	29.11.2006
Purpose of certificate	Renovation	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,58 1/m	Massive construction
Heated area A_u	5086 m^2	Roof with low insulation
Gross volume V_e	15893 m^3	Facade without insulation
Type of dimensions used	external	Unheated basement
Air exchange rate n	0,5 1/h	
Thermal capacity C	2861 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	1,066 W/m^2K	0,541 W/m^2K
Heating demand Q_H	160 kWh/m^2	59 kWh/m^2
Domestic hot water demand Q_{DHW}	12 kWh/m^2	12 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL	1586 m^2	1,2 W/m^2K
EXTERNAL WALL	991	0,5 W/m^2K
WINDOWS FACING NORTH	410 m^2	2,65 W/m^2K
WINDOWS FACING EAST	79 m^2	2,65 W/m^2K
WINDOWS FACING WEST	28 m^2	2,65 W/m^2K
WINDOWS FACING SOUTH	454 m^2	2,65 W/m^2K
FLOOR ON THE GROUND	2794 m^2	0,6 W/m^2K
ROOF	2794 m^2	0,75 W/m^2K
DOORS	58 m^2	5,00 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	Fuel oil	Primary energy	1,00
Heat generation	Central boiler	Generation	0,90
Heat distribution	Pipes	Distribution	0,77
Heat emissivity	Radiators	Emissivity	0,87

DHW SYSTEM		Energy performance factor	
Fuel used for DHW	District heating	Primary energy	1,00
Generation	Central boiler	Generation	0,90
Distribution	Circulation	Distribution	0,80

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Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	E	B
DELIVERED ENERGY (kWh/m^2)	132,85	66,09

Building name	*School*
Owner	*partly municipal*
Address	*Prečna ulica 3*
City	*Pivka*
Type of building	*School*
Year of construction or last renovation	*1987*
Climatized area (m^2)	*5086*

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ENERGY CERTIFICATE

BASIC BUILDING DATA

Type of the building	Office building
Address	Proletarska 1, Ljubljana
Heated area	3326 m^2
Building manager	Mestna občina Ljubljana
Building owner	Mestna občina Ljubljana
Number of stories	3
Year of construction	1950
Year of renovation	-

Delivered energy and CO_2 emission

Class	Q [kWh/m^2a]	Asset rating CO_2 [kg/m^2a]	Operational rating Q [kWh/m^2a]
A	40	8	25
B	80	16	50
C	120	24	75
D	180	32	100
E	250	40	125
F	350	48	150
G		56	175
		64	200
		72	225
		80	250
		88	275
		96	300
		104	350
		112	375
		120	400
		128	425
	125	40	137

CERTIFICATE INFORMATION

Issued by	EIE BUDI	Certificate number	2006 - 0106
Company	GI ZRMK	Date of validity	30.11.2006
Purpose of certificate	Renovation	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,28 1/m	Massive construction
Heated area A_u	3326 m^2	Pitched roof with 5 cm of insulation
Gross volume V_e	10395 m^3	Facade with 5 cm of insulation
Type of dimensions used	external	Unheated basement
Air exchange rate n	0,5 1/h	
Thermal capacity C	1871 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	1,164 W/m^2K	0,675 W/m^2K
Heating demand Q_H	86 kWh/m^2	42 kWh/m^2
Domestic hot water demand Q_{DHW}	16 kWh/m^2	16 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL WITH INSULATION	940 m^2	1,10 W/m^2K
WINDOWS FACING SOUTH	30 m^2	2,32 W/m^2K
WINDOWS FACING EAST	150 m^2	1,60 W/m^2K
WINDOWS FACING NORTH	10 m^2	2,32 W/m^2K
WINDOWS FACING WEST	150 m^2	1,60 W/m^2K
FLOOR ON THE GROUND	720 m^2	1,10 W/m^2K
ROOF	900 m^2	1,00 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	District heating	Primary energy	1,58
Heat generation	Boiler for district heating	Generation	0,95
Heat distribution	Pipes	Distribution	0,94
Heat emissivity	Radiators	Emissivity	0,88
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	Gas oil	Primary energy	1,00
Generation	Central boiler	Generation	0,90
Distribution	Circulation	Distribution	0,85

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Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	F	E
DELIVERED ENERGY (kWh/m^2)	202,38	142,07

Building name	*Office building*
Owner	*partly municipal*
Address	*Proletarska 1*
City	*Ljubljana*
Type of building	*Office block*
Year of construction or last renovation	*1950*
Climatized area (m^2)	*3080*

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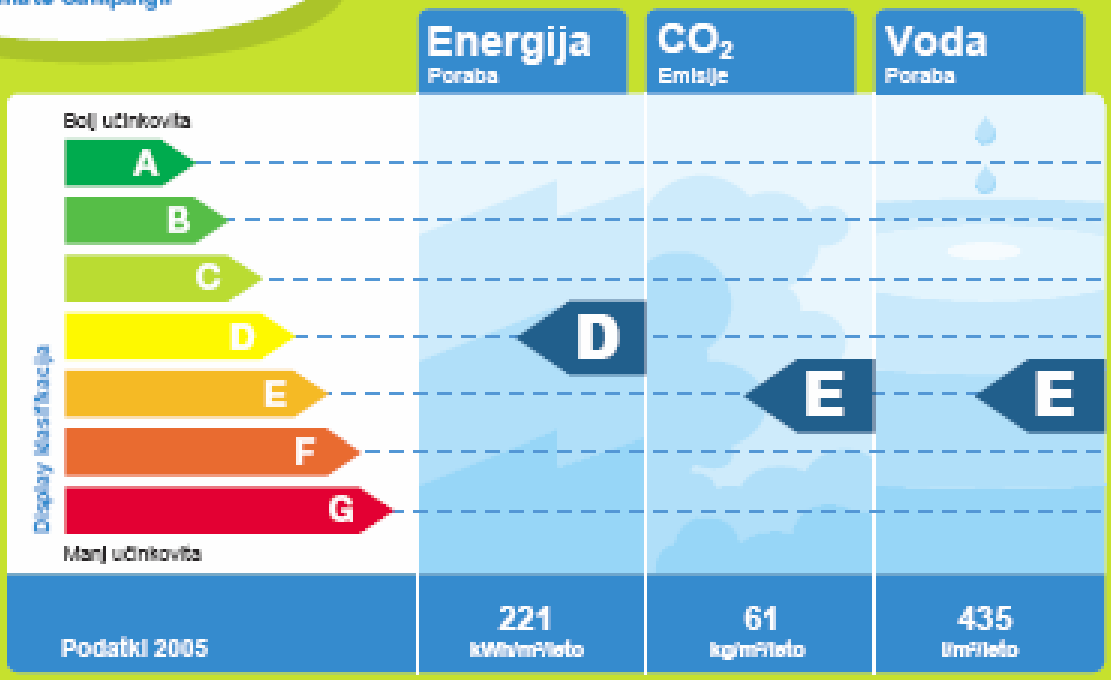
Proletarska 1, Ljubljana

Kako učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na dežaj, na vsake 3 ure za 3 do 5 minut,
- Omejitev porabe pitne vode (zapiranje pip)

Tehnične rešitve

- Vgradnja termostatskih ventilov na radiatorje,
- Toplotna izolacija zunanjih zidov in strehe,
- Izolacija razvodnih cevi radiatorskega ogrevanja

Energetski viri

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO_2 avtomobila med vožnjo	Poraba vode za
5 družinske hiše	5.4 krat okrog sveta	10267 kopeli

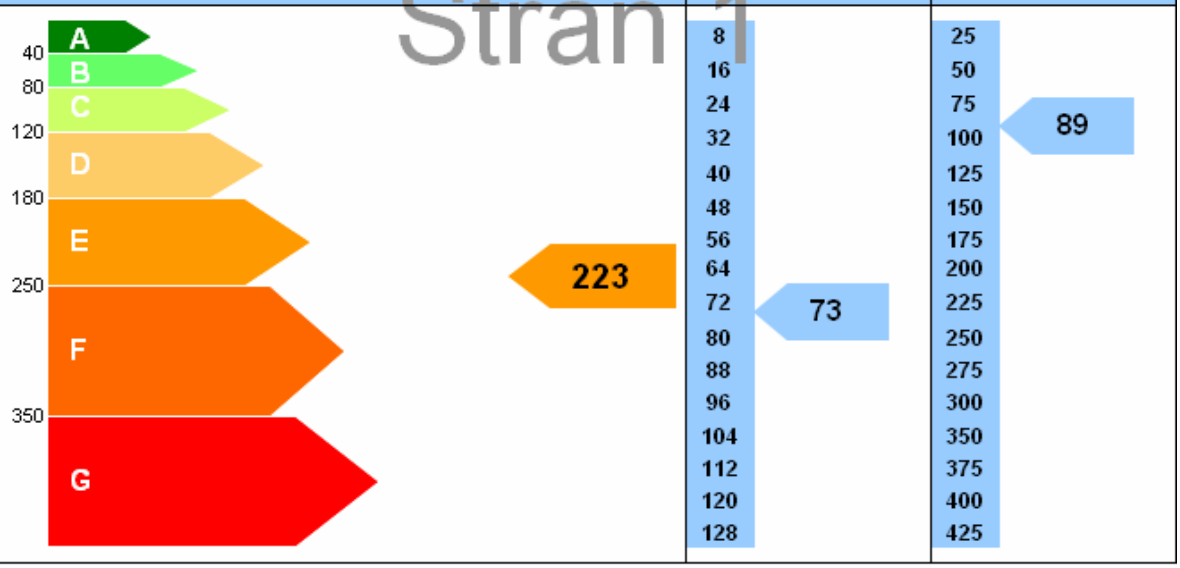
Za nadaljnje informacije
Ljubljana
Oddelek za urbanizem

www.display-campaign.org

ENERGY CERTIFICATE

BASIC BUILDING DATA	
Type of the building	Office building
Address	Resljeva 18, Ljubljana
Heated area	2268 m^2
Building manager	Mestna občina Ljubljana
Building owner	Mestna občina Ljubljana
Number of stories	4
Year of construction	1950
Year of renovation	2001

Delivered energy and CO_2 emission



CERTIFICATE INFORMATION			
Issued by	EIE BUDI	Certificate number	2006 - 0107
Company	GI ZRMK	Date of validity	1.12.2006
Purpose of certificate	Renovation	Place of issue	Ljubjana

ENERGY CERTIFICATE

ASSET RATING METHOD DETAILS		Building description
Shape factor A/V_e	0,23 1/m	Massive construction
Heated area A_u	2268 m^2	Flat roof without insulation
Gross volume V_e	7088 m^3	Facade with 3 cm of insulation
Type of dimensions used	external	Unheated basement
Air exchange rate n	0,5 1/h	
Thermal capacity C	1276 MJ/K	
Internal temperature	20 °C	**Regulations**
Heat transmission H_T'	2,222 W/m^2K	0,675 W/m^2K
Heating demand Q_H	136 kWh/m^2	40 kWh/m^2
Domestic hot water demand Q_{DHW}	16 kWh/m^2	16 kWh/m^2

BUILDING ENVELOPE	Area	U
EXTERNAL WALL WITH INSULATION	553 m^2	1,00 W/m^2K
ROOF	500 m^2	4,00 W/m^2K
WINDOWS FACING EAST	53 m^2	2,60 W/m^2K
WINDOWS FACING WEST	150 m^2	2,60 W/m^2K
FLOOR ON THE GROUND	120 m^2	0,38 W/m^2K

HEATING SYSTEM		Energy performance factor	
Fuel used for heating	District heating	Primary energy	1,58
Heat generation	Boiler for district heating	Generation	0,90
Heat distribution	Pipes	Distribution	0,94
Heat emissivity	Radiators	Emissivity	0,78
DHW SYSTEM		**Energy performance factor**	
Fuel used for DHW	Gas oil	Primary energy	1,00
Generation	Central boiler	Generation	0,90
Distribution	Circulation	Distribution	0,85

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Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	G	F
DELIVERED ENERGY (kWh/m^2)	226,93	179,69

Building name	*Office building*
Owner	*partly municipal*
Address	*Resljeva*
City	*Ljubljana*
Type of building	*Office block*
Year of construction or last renovation	*2001*
Climatized area (m^2)	*1200*

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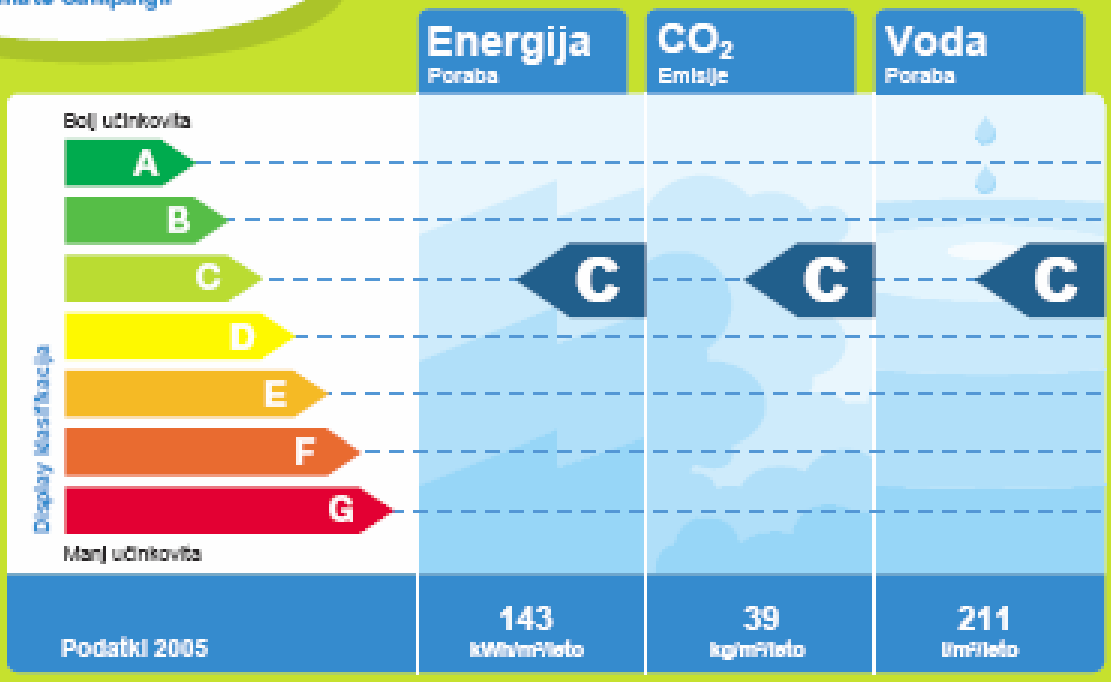
European Municipal Buildings Climate Campaign

Resljeva 18, Ljubljana

Kako učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na dežaj, na vsake 3 ure za 3 do 5 minut,
- Omejitev porabe pitne vode (zapiranje pip)

Tehnične rešitve

- Vgradnja termostatskih ventilov na radiatorje,
- Dodatna toplotna izolacija zunanjega zidu in stene,
- zamenjava obstoječih lesenih oken z novimi PVC okni,
- Izolacija razvodnih cevi radiatorskega ogrevanja

Energetski viri

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO2 avtomobila med vožnjo	Poraba vode za
3.4 družinske hiše	3.7 krat okrog sveta	7000 kopeli

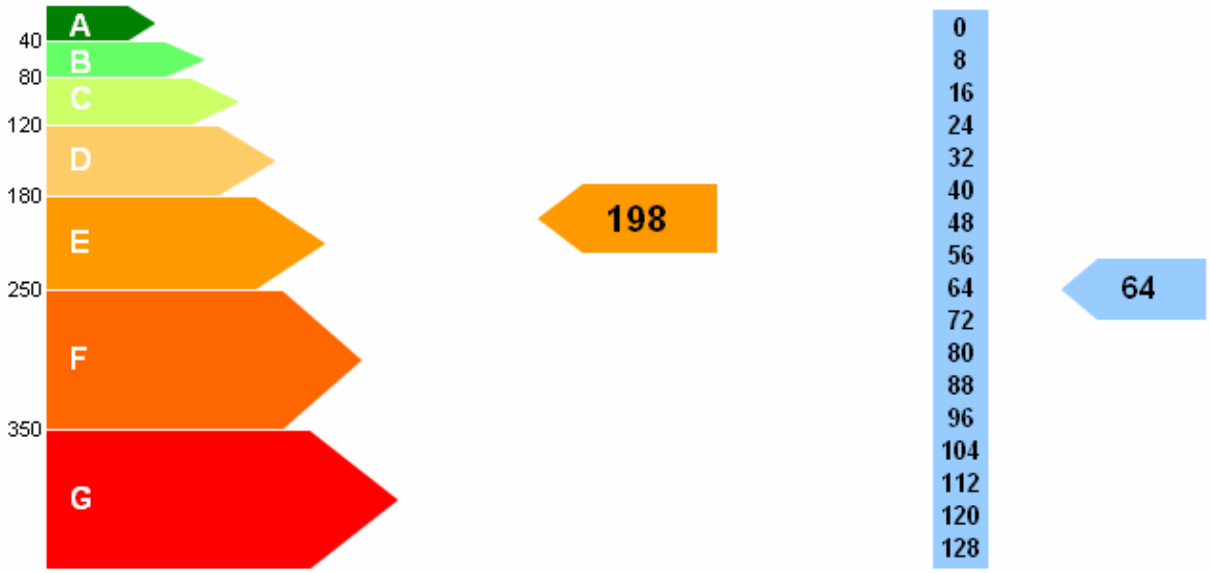
Za nadaljnje informacije
Ljubljana
Oddelek za urbanizem
Igor Cvitić
Tel.: +386 01 306 15 00
igor.cvitic@ljubljana.si

www.display-campaign.org

ENERGETSKA IZKAZNICA

OSNOVNI PODATKI O STAVBI	
Vrsta stavbe	Poslovna stavba
Naslov	Mestni trg 1, Ljubljana
Ogrevana površina	3330 m^2
Lastnik	MOL
Etažnost	P + 3
Leto izgradnje	1478
Leto obnove	1969

Dovedena energija Q in emisija CO_2



PODATKI O IZKAZNICI			
Izdajatelj	Podjetje	Zaporedna številka	2007-0002
Neodvisni strokovnjak	Ime, licenca	Datum izdaje	15.2.2007
Energijski indikatorji	**Računski**	Kraj izdaje	Ljubljana

ENERGETSKA IZKAZNICA

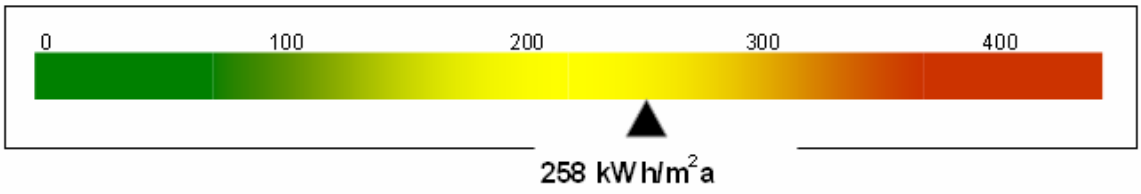
OSNOVNI PODATKI	
Vrsta stavbe	Poslovna stavba
Naslov	Mestni trg 1, Ljubljana
Ogrevana površina	3330 m^2
Lastnik	MOL
Etažnost	P+3
Leto izgradnje	1478
Leto obnove	1969

DOVEDENA ENERGIJA ZA DELOVANJE STAVBE IN EMISIJA CO_2

Meritev v letu: 2006

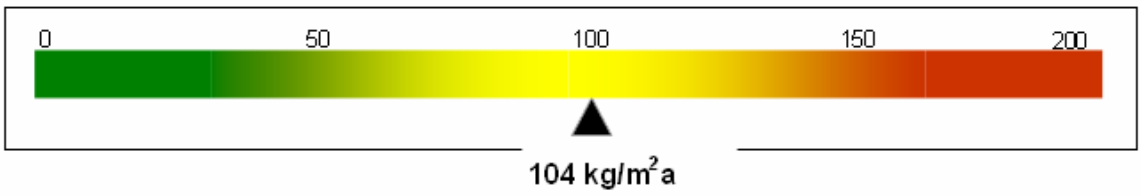
Energent	Količina		Raba energije		Emisija CO_2	
ELKO		m^3		kWh/m^2a		kg/m^2a
UNP		Sm^3		kWh/m^2a		kg/m^2a
Zemeljski plin		Sm^3		kWh/m^2a		kg/m^2a
Daljinska toplota	592.740	kWh	178	kWh/m^2a	59	kg/m^2a
Les		m^3		kWh/m^2a		kg/m^2a
Električna energija	266.400	kWh	80	kWh/m^2a	45	kg/m^2a
				kWh/m^2a		kg/m^2a
				kWh/m^2a		kg/m^2a
		Skupaj	**258**	**kWh/m^2a**	**104**	**kg/m^2a**

Dovedena energija Q



258 kWh/m^2a

Emisija CO_2



104 kg/m^2a

PODATKI O IZKAZNICI			
Izdajatelj	Podjetje	Zaporedna številka	2007-0003
Neodvisni strokovnjak	Ime, licenca	Datum izdaje	15.2.2007
Energijski indikatorji	**Merjeni**	Kraj izdaje	Ljubljana

OPET Slovenija

ENERGETSKA IZKAZNICA STAVBE

ENERGIE

OBJEKT	Magistrat
INVESTITOR	MOL
LOKACIJA	Mestni trg 1, Ljubljana
KATASTRSKA OBČINA	Lj-Center
PARCELNA ŠTEVILKA	
OZNAKA PROJEKTNE DOKUMENTACIJE	

KLIMATSKI PODATKI	dejanski	referenčni
temperaturni primanjkljaj	3300 Kdni	3300 Kdni
ogrevalna sezona	235 dni	235 dni

RAČUNSKA LETNA POTREBNA TOPLOTA ZA OGREVANJE NA NETO UPORABNO POVRŠINO STAVBE kWh/m² leto

Nizka raba energije	RAZRED kWh/m²	DEJANSKA LOKACIJA	REFERENČNA KLIMA	PREDPIS* 2002
< 25 kWh/m² leto	< 25			
A	25 - 40			
B	40 - 55			
C	55 - 70			66
D	70 - 85			
E	85 - 100			
F	100 -115	112	112	
G	115 - 130			
> 130 kWh/m² leto Visoka raba energije	> 130			

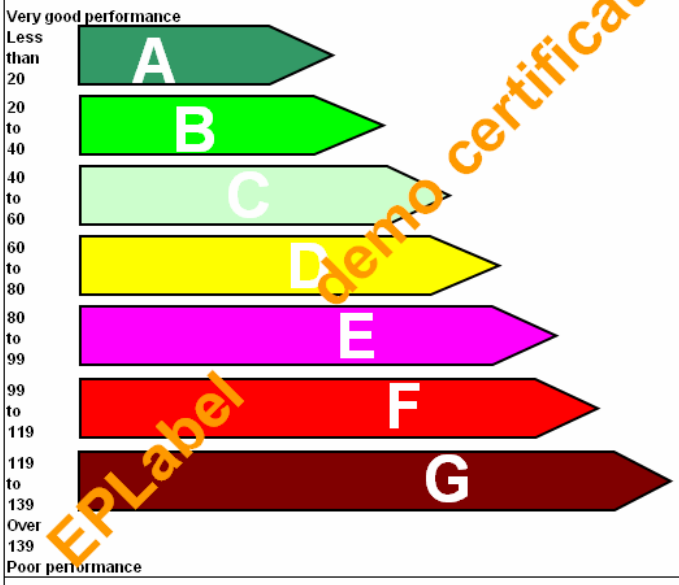
Izdano v skladu z Direktivo EU 76/93/EEC in SIST EN 832

ZRMK INSTITUT

Energy Certificate

Certificate type:	Operational (Measured) energy rating
Certificate method:	EPLabel v1.2d Beta
Building Sector:	Administrative Offices
Building Sub-type:	1 Administrative office, naturally ventilated
Whole or part of building:	Whole building

BUILDING CARBON DIOXIDE EMISSIONS



Measured in use: F

Energy performance of this building: 104
assessed as Carbon dioxide emissions (kg CO2) per m2 IFA

Building thermal energy efficiency grade	ABCD**E**FGH
Building electrical energy efficiency grade	ABCD**E**FGH
Overall building energy efficiency grade	ABCD**E**FGH
Indoor environmental quality	Approved by assessor

Data source: Approved

Certificate date: 28 junij 2007

other country

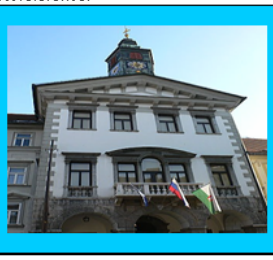
Directive 2002/91/EC

Gross internal floor area (m²): 3.330
Number of storeys: 4
Year originally constructed: 1478
Year of last major refurbishment: 1969
Period of energy assessment: 2005-06
Certificate expiry date: 28/6/2007
Licensee: Marjana Sijanec Zavrl

ASSET RATING AVAILABLE? Yes
Asset Rating method: iSBEM
Year of calculation 2006
Asset Grade: C
Asset Rating: 94%

Not an official certificate. EPLabel project reference:

Certifying organisation	ZRMK d.o.o.	Building name	Mestna hiša
Street address	Mestni trg 1	Occupier	0
PO Box	-	Street address	Mestni trg 1, Ljubljana
Post code	1000	Post code	0
Contact	M. Sijanec	Building reference	Office building
Assessor identifier	0	Contact	MOL
Tel	0	Tel	01 2808 342
email	msijanec@gi-zrmk.si	email	msijanec@gi-zrmk.si
		Building owner	MOL
		Managing agent	-



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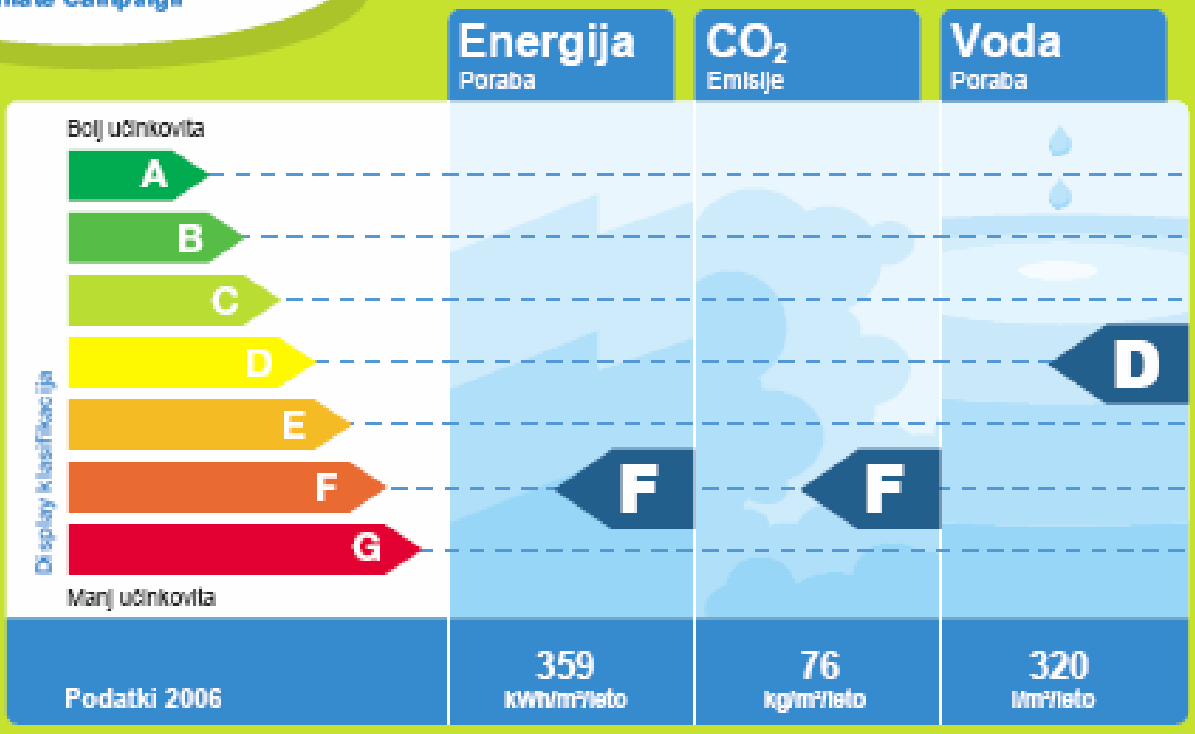
Magistrat

Kako energetsko učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Ustrezno naravno prezračevanje
- Varčna raba vode
- Raba razsvetljave le v primeru, ko je to potrebno

Tehnične rešitve

- Dodatna toplotna izolacija stropa proti podstrešju in neogrevani kleti
- Vgradnja energetsko učinkovitih oken

Energetski viri

83 %	11 %	6 %
Fosilni	Nuklearni	Obnovljivi

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO_2 avtomobila med vožnjo	Poraba vode za
5.4 družinske hiše	5.9 krat okrog sveta	11100 kopeli

Za nadaljnje informacije
Ljubljana
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igor.cvitic@ljubljana.si

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Pohorskega bataljona, Oplotnica

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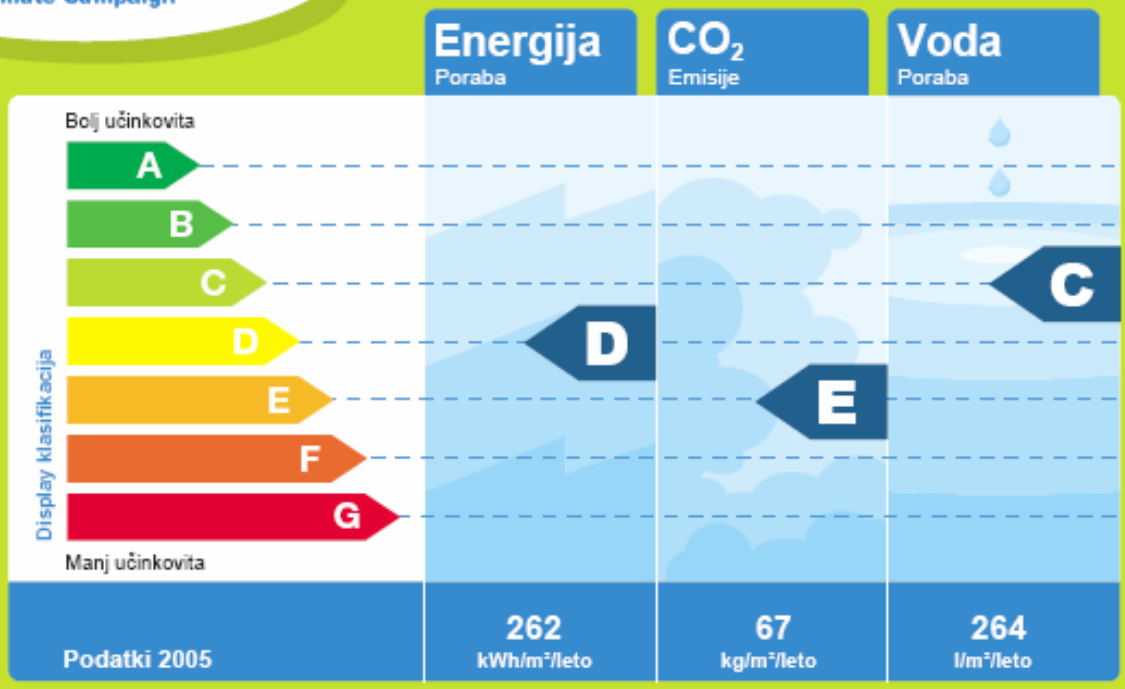
Kako učinkovita je ta stavba?



Proti stavbi razreda A

▶ Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na stežaj, na vsake 3 ure za 3 do 5 minut,
- omejitev porabe pitne vode (zapiranje pip)

▶ Tehnične rešitve

- Dodatna toplotna izolacija zunanjih zidov, strehe, stropov proti neogrevanem podstrešju in poda v kletni etaži
- zamenjava starih lesenih oken, ki še niso bila zamenjana, z novimi PVC okni,
- zamenjava rad. sistema ogrevanja za stari del objekta,
- vgradnja nove lokalne regulacije v sistem novega dela,
- sanacija kotlovnice na kurilno olje,
- možen ukrep: sistem prisilnega prezračevanja za obe stavbi,

Energetski viri

Fosilni	Nuklearni	Obnovljivi
95 %	3 %	2 %

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO2 avtomobila med vožnjo	Poraba vode za
6 družinske hiše	6.5 krat okrog sveta	15292 kopeli

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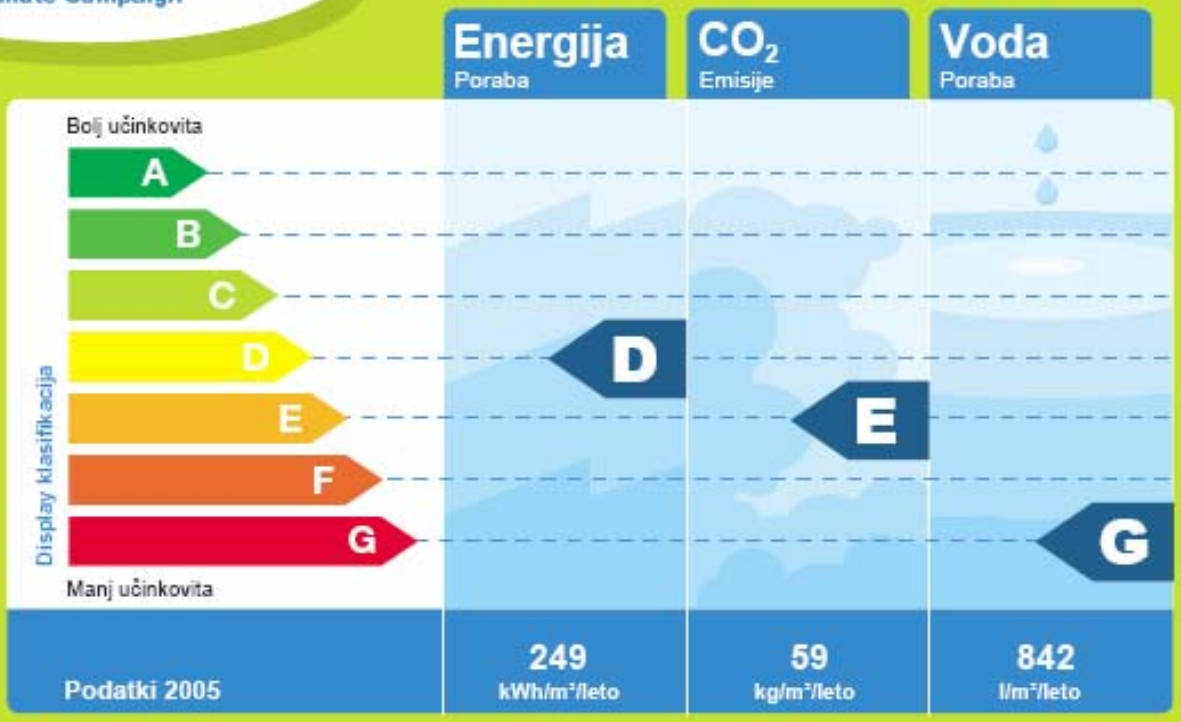
OŠ Gornja Radgona

Kako učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na stežaj, na vsake 3 ure za 3 do 5 minut,
- Omejitev porabe pitne vode (zapiranje pip)

Tehnične rešitve

- dodatna toplotna izolacija zunanjih zidov, strehe in stropov proti neogrevanemu podstrešju,
- zamnejava starih lesenih oken z novimi PVC okni,
- vgradnja termostatskih ventilov na ogrevala,
- vgradnja sprejemnikov sončne energije za pripravo tople vode

Energetski viri

Fosilni	Nuklearni	Obnovljivi
89 %	7 %	4 %

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO2 avtomobila med vožnjo	Poraba vode za
9.2 družinske hiše	10 krat okrog sveta	23508 kopeli

Za nadaljnje informacije
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Supported by the European Commission under the Intelligent Energy - Europe Programme

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centro nacional de energías renovables
FUNDACIÓN CENER CIEMAT

Energy certificate

Building Energy Performance	Initial	Final
Very energy efficient A B C D E F G Not energy efficient	E	B
DELIVERED ENERGY (kWh/m^2)	155,81	96,35

Building name	*School*
Owner	*partly municipal*
Address	*Prežihova 1*
City	*Gornja Radgona*
Type of building	*School*
Year of construction or last renovation	*1974*
Climatized area (m^2)	*5120*

Intelligent Energy Europe

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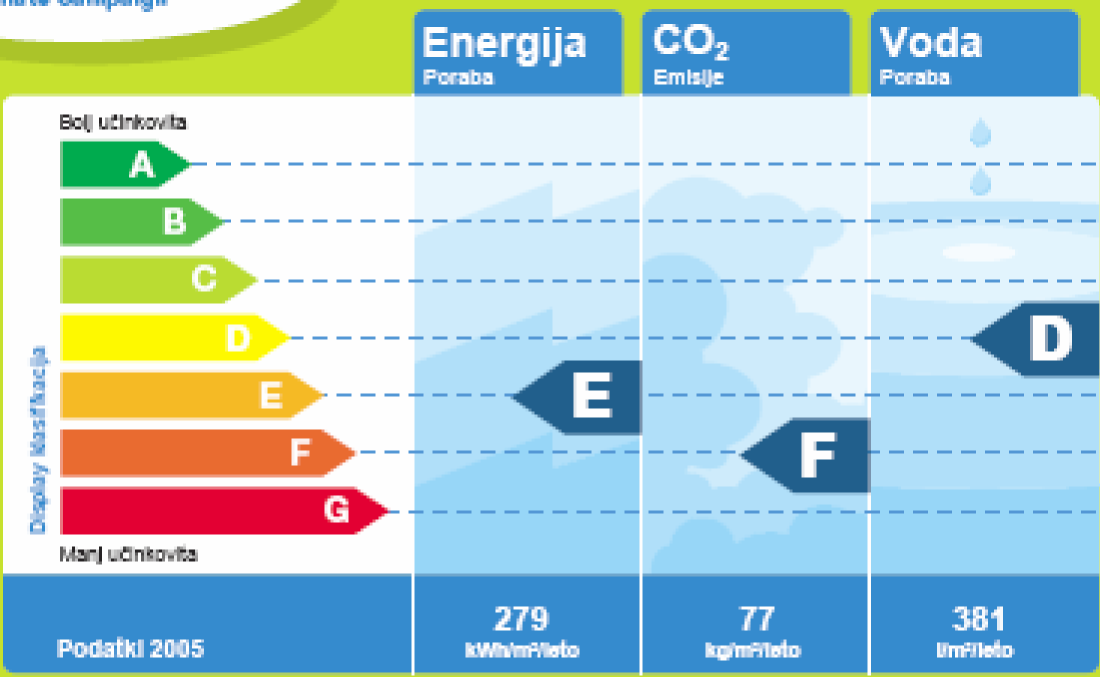
Dalmatinova 1, Ljubljana

Kako učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na stežaj, na vsake 3 ure za 3 do 5 minut,
- Omejitev porabe pitne vode (zapiranje pip)

Tehnične rešitve

- Vgradnja termostatskih ventilov na radiatorje,
- Dodatna toplotna izolacija zunanjega zidu,
- Izolacija razvodnih cevi radiatorskega ogrevanja,
- Zamenjava starih oken, ki še niso bila zamenjana z novimi PVC okni

Energetski viri

Fosilni	Obnovljivi
100%	0%

Izboljšanje stanja za en razred lahko letno privarčuje:

Poraba energije za	Emisije CO2 avtomobila med vožnjo	Poraba vode za
3.1 družinske hiše	3.4 krat okrog sveta	6360 kopeli

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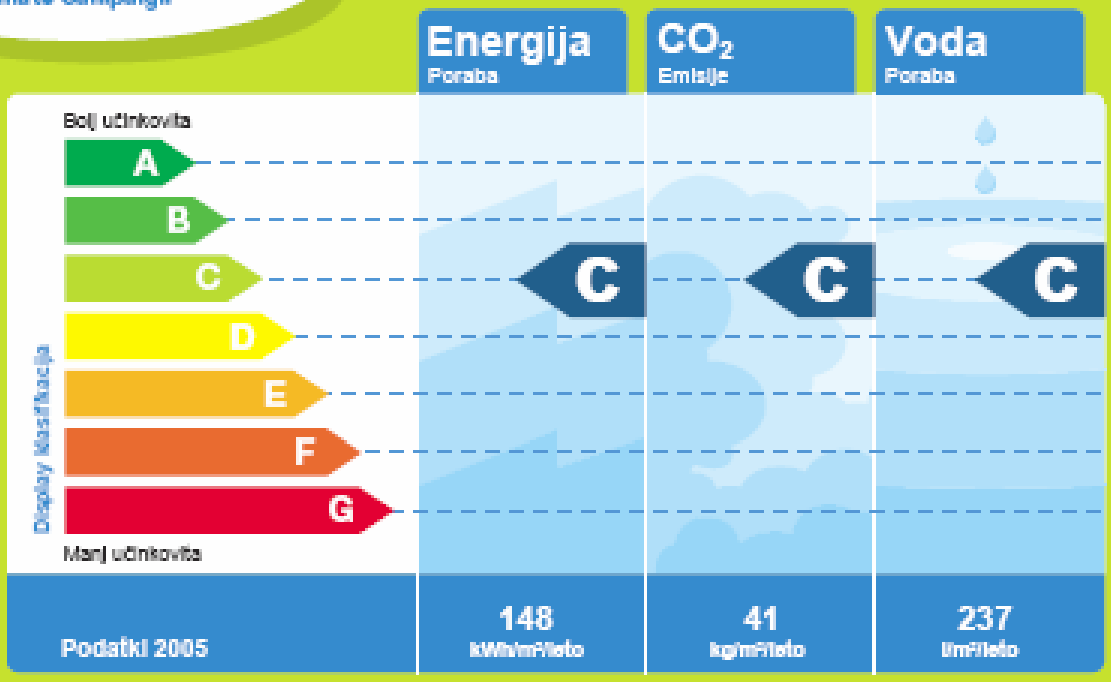
Linhartova 13, Ljubljana

Kako učinkovita je ta stavba?



Proti stavbi razreda A

Enostavni ukrepi

- Pravilno zračenje in prezračevanje - odpiranje oken in vrat na dežaj, na vsake 3 ure za 3 do 5 minut,
- Omejitev porabe pitne vode (zapiranje pip)

Tehnične rešitve

- Dodatna toplotna izolacija zunanjih zidov in strehe,
- Zamenjava starih lesenih oken, id tehnično bila zamenjana, z novimi PVC okni,
- Vgradnja termostatskih ventilov na radiatorje,
- Izolacija razvodnih cevi radiatorjev lega ogrevanja

Energetski viri

Izboljšanje stanja za en razred letno letno privarčuje:

Poraba energije za	Emisije CO2 avtomobila med vožnjo	Poraba vode za
10.3 družinske hiše	11.2 krat okrog sveta	21123 kopeli

Za nadaljnje informacije
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