## Energy Management Information System (EMIS)

Monitoring and reporting on energy consumption and savings in renovated public buildings in Croatia through EMIS System

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streamSAVE+ Dialogue Meeting #01

22/10/2024





## Energy Management Information System (EMIS) in Croatia

About EMIS



Co-funded by the European Union

## **Energy Management Information System**



- ✤ EMIS is a web based software (www.isge.hr)
- ✤ EMIS is main tool for continuous data gathering, monitoring and analysis of energy and water consumption in buildings (Energy Efficiency Act of 2014.)
- ✤ EMIS provides a transparent oversight and control of energy consumption, which makes it an indispensable tool for systematic energy management
- ✤ EMIS database contains for each Energy Consumption Center (ECC):
- $\boldsymbol{\star}$  energy and water consumption data
  - ✤ static technical data (e.g. construction data, technical systems, certificates, etc.)
  - + data on institutional user (ECC type, geographical and meteorological data, institution that uses it, etc.)
- $\star$  EMIS data is used for a wide range of calculations and analysis





#### **EMIS - Statistics**



			EMIS	database statistics (17.10.2	)24.)			
ECC type	Number of objects	Number of metering points	Automatic Meters Count	Energy bill count	Number of readings	Number of automatic readings	Sensors count	Number of sensor readin
Complex	1.085	3.117 (29)	449 (3)	631.273	23,374.328	22.991.645	0	0
Building in complex	4.566	5.238 (21)	1.644 (5)	797.063	25.396.589	24.797.171	54	2.059.496
ee-standing building	11.731	27.654 (434)	1.328 (8)	5.776.852	36.654.309	34.529.031	843	27.322.482
Part	4.295	7.515 (22)	419	1.385.256	14.239.814	13.975.811	2.585	119.876.983
m - Building stock	21.677 (16.297)	43.524 (506)	3.840 (16)	8.590.444	99.665.040	96.293.658	3.482	149.258.961
Public lighting	24.279	23.370	2	6.379.672	1.165	0	0	0
Sum	45.956	66.894 (506)	3.842 (16)	14.970.116	99.666.205	96.293.658	3.482	149.258.961



#### **EMIS - Modules**



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	HR-10000-0010-1	Objects - buildings		Ulica Vladimira Nazora 53	SDU		10000	Zagreb	2020; HIO	Fre
	HR-10000-0014-1	E Objects - buildings		Orlovac 2	SDU		10000	Zagreb	2020; HIO	Fre
	HR-10000-0019-1	♀ Public lighting		Slavonska avenija bb	SDU		10000	Zagreb	2020; HIO	Fre
	HR-10000-0020-1	Public lighting - overview		Radnička 47	SDU		10000	Zagreb	2020; HIO	Fre
	HR-10000-0021-1	Fublic lighting - overview		Ilica 259	SDU		10000	Zagreb	2020; HIO	Fre
	HR-10000-0022-1	Vehicles		Aleja Bologne 2			10000	Zagreb	2020	Fre
	HR-10000-0022-1-A			Aleja Bologne 2	SDU		10000	Zagreb	2020; HIO	Pa
	HR-10000-0023-0	Add object		Srebrnjak 100	JLRS		10000	Zagreb	2020; HIO	Co
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	HR-10000-0030-1	Sensor Readings		Jankomir 11	JLRS	Djelomična obnova	10000	Zagreb	Energetska obnova i korišten	1
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	HR-10000-0030-3	Klinika za psihijatriju Sveti Ivan - Glavna arhiva		Jankomir 11	JLRS	Djelomična obnova	10000	Zagreb	Energetska obnova i korišten	-
	HR-10000-0030-4	Klinika za psihijatriju Sveti Ivan - Kotlovnica		Jankomir 11	JLRS	Djelomična obnova	10000	Zagreb	Energetska obnova i korišten	-
	HR-10000-0030-5	Klinika za osihijatriju Sveti Ivan - Liekarna i laboral		Jankomir 11	JLRS	Dielomična obnova	10000	Zagreb	Energetska obnova i korišten	1000



## **EMIS - Collection of energy usage data**



- ✤ Energy and water consumption data is collected monthly via monthly bills (manually by users, or remotely sent by energy and water suppliers)
- ✤ EMIS allows monitoring of energy and water consumption via meter readings on a weekly, daily or hourly basis (manually or via remote/smart readings)
- ✤ Monitoring of interior conditions via sensor readings (interior temperature, CO2, interior humidity, VOC, etc.)

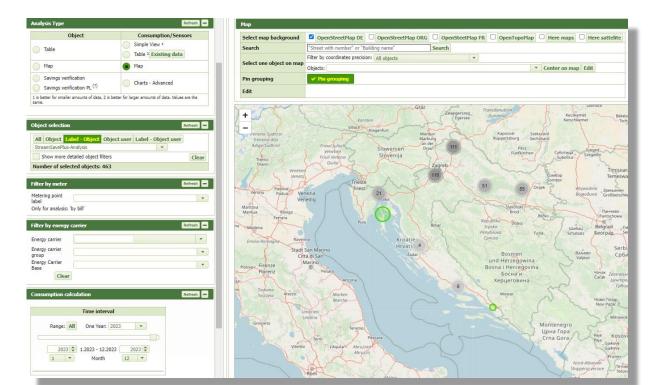




#### **EMIS – Advanced Analyzer**



- ✤ EMIS functionality that allows data overview, customized data export, calculation of indicators and achieved savings weather for a single ECC, for many ECCs (by label or by institutional user) or for all user's ECCs
- ✤ By selecting type of analysis in Analysis Type box user can choose which analytics to perform: tables, maps and charts
- ✤ Depending on selected analytics, EMIS will offer various parameters for user to chose and to tailor analysis according to their need





### **EMIS – Advanced Analyzer**



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✤ Functionality for verification of savings calculates average consumption of electric energy and energy for heating in selected base years which is then compared with consumption in following years

	Table 2 Existing data	Analysis Type	Ener	9Y	CO2 emi	ssion	Primary	energy		
Map Savings verification Savings verification PL <sup>(?)</sup>	Map Charts - Advanced	Building type / The results	Indicator of energy consumption for heating [Wh/(m <sup>2</sup> HDD)]	Electricity consumption indicator [kWh/m <sup>2</sup> ]	Indicator of CO2 emission for heating [kgCO2/(m <sup>2</sup> HDD)]	Electricity CO <sub>2</sub> emission indicator [tCO <sub>2</sub> /m <sup>2</sup> ]	Indicator primary energy consumption heating [Wh/(m <sup>2</sup> HDD)]	Primary energy electricity consumption indicator [kWh/m <sup>2</sup> ]		
		Bolnica	108,07	70,45	0,03	0,02	119,91	113,71		
better for smaller amounts of data, 2 is bet e.	tter for larger amounts of data. Values are the	Obiteljska	83,06	52,58	0,02	0,01	92,47	84,87		
		Obrazovna	50,92	19,98	0,01	0,005	59,78	32,24		
		Ostale nestambene	34,73	36,67	0,008	0,009	38,06	59,18		
ect selection	Refresh -	Sportska dvorana	70,43	32,76	0,02	0,008	99,79	52,88		
		Uredska	60,60	48,01	0,02	0,01	69,72	77,49		
Object         Label - Object         Object           itreamSavePlus-Analysis         Show more detailed object filters	Clear	Reduction of energy consum	ption in the year: 2	018 <sup>(?)</sup>						
Number of selected objects: 463		Analysis Type		Er	nergy			CO2 er	mission	
ings verification 3 Baseline Calculation 14 Baseline Calculation	Refresh	Building type / Consumptio	Energy consumption for heating [kWh]	Electricity	Corrected	Corrected reference (base electricity consumption [kWh]	) CO2 emission of heating [tCO2]	Electricity CO2 emission [tCO2]	Corrected reference (base) CO <sub>2</sub> emission for heating [tCO <sub>2</sub> ]	Correcte reference (b CO2 emiss for electric [tCO2]
Baseline Calculation		Bolnica	46.506.850	12.198.896	51.379.181	12.307.101	10.430	2.864	12.145	2.890
		Obiteljska	15.984.909	3.982.459	16.405.919	4.100.501	4.012	935	4.103	963
Baseline Calculation		Obrazovna	50.841.003	7.960.244	54.954.143	8.414.051	13.447	1.869	14.835	1.976
Baseline Calculation		Ostale nestambene	680.059	240.615	625.944	233.575	150	56	138	55
Baseline Calculation		Sportska dvorana	2.773.267	447.289	2.585.879	460.492	934	105	866	108
Baseline Calculation		Uredska	13.364.757	3.579.458	11.431.676	3.524.811	3.205	840	2.878	828
Baseline Calculation			Reduction	of energy consum	ption [kWh]:	7.863.464	Reduct	ion of CO2 emission	n [tCO2]:	2.937
1 Baseline Calculation			Reduction	of energy consu	mption [%]:	5 %	Reduc	tion of CO2 emissio	on [%]:	7 %
012 Baseline Calculation 013 Baseline Calculation 014 Baseline Calculation		Reduction of energy consum	ption in the year: 2	019 <sup>(?)</sup>				CO2 er	nission	
D14 Baseline   Calculation     D15   Baseline   Calculation		Analysis Type		Er	nergy					
		Analysis Type Building type / Consumptio	Energy consumption for heating [kWh]	Electricity	Corrected	Corrected reference (base electricity consumption [kWh]	) CO2 emission of heating [tCO2]	Electricity CO2 emission [tCO2]	Corrected reference (base) CO <sub>2</sub> emission for heating [tCO <sub>2</sub> ]	Correcte reference (b CO2 emiss for electric [tCO2]
Baseline     Calculation       Baseline     Calculation       Baseline     Calculation       Baseline     Calculation			n consumption for	Electricity consumption	Corrected reference (base) energy consumption for	reference (base electricity consumption	CO2 emission of		reference (base) CO2 emission for heating	reference (I CO2 emiss for electric
Baseline     Calculation       Baseline     Calculation       Baseline     Calculation       Baseline     Calculation       Baseline     Calculation       Baseline     Calculation		Building type / Consumptio	n consumption for heating [kWh]	Electricity consumption [kWh]	Corrected reference (base) energy consumption for heating [kWh]	reference (base electricity consumption [kWh]	heating [tCO2]	emission [tCO2]	reference (base) CO2 emission for heating [tCO2]	reference (I CO2 emiss for electri [tCO2]
Baseline     Calculation       Calculation     Calculation		Building type / Consumptio Bolnica	consumption for heating [kWh] 41.409.732	Electricity consumption [kWh] 14.157.429	Corrected reference (base) energy consumption for heating [kWh] 48.433.313	reference (base electricity consumption [kWh] 12.307.101	9.223	emission [tCO2]	reference (base) CO <sub>2</sub> emission for heating [tCO <sub>2</sub> ] 11.449	reference ( CO2 emiss for electri [tCO2] 2.890
15     Baseline     Calculation       16     Baseline     Calculation       17     Baseline     Calculation       18     Baseline     Calculation       19     Baseline     Calculation       20     Baseline     Calculation       21     Baseline     Calculation       22     Baseline     Calculation		Building type / Consumptio Bolnica Obiteljska	consumption for heating [kWh] 41.409.732 15.885.155	Electricity consumption [kwh] 14.157.429 3.938.261	Corrected reference (base) energy consumption for heating [kWh] 48.433.313 15.477.968	reference (base electricity consumption [kWh] 12.307.101 4.100.501	9.223 3.980	emission [tCO2] 3.324 925	reference (base) CO <sub>2</sub> emission for heating [tCO <sub>2</sub> ] 11.449 3.871	reference ( CO2 emiss for electri [tCO2] 2.890 963
5     Baseline     Calculation       6     Baseline     Calculation       7     Baseline     Calculation       8     Baseline     Calculation       9     Baseline     Calculation       0     Baseline     Calculation       10     Baseline     Calculation       12     Baseline     Calculation       13     Baseline     Calculation		Building type / Consumptio Bolnica Obiteljska Obrazovna	consumption for heating [kWh] 41.409.732 15.885.155 43.897.475	Electricity consumption [kWh] 14.157.429 3.938.261 7.443.949	Corrected reference (base) energy consumption for heating [kWh] 48.433.313 15.477.968 50.691.679	reference (base electricity consumption [kWh] 12.307.101 4.100.501 8.389.819	9.223 9.223 3.980 11.503	emission [tCO2] 3.324 925 1.748	reference (base) CO2 emission for heating [tCO2] 11.449 3.871 13.685	reference (I CO2 emiss for electri [tCO2] 2.890 963 1.970
Baseline     Calculation       Baseline     Calculation		Building type / Consumptio Bolnica Obiteljska Obrazovna Ostale nestambene	consumption for heating [kWh] 41.409.732 15.885.155 43.897.475 647.326	Electricity consumption [kWh] 14.157.429 3.938.261 7.443.949 247.138	Corrected reference (base) energy consumption for heating [kWh] 48.433.313 15.477.968 50.691.679 597.448	reference (base electricity consumption [kWh] 12.307.101 4.100.501 8.389.819 233.575	9.223 9.223 3.980 11.503 143	emission [tCO <sub>2</sub> ] 3.324 925 1.748 58	reference (base) CO <sub>2</sub> emission for heating [tCO <sub>2</sub> ] 11.449 3.871 13.685 132	reference (I CO2 emiss for electri [tCO2] 2.890 963 1.970 55
15     Baseline     Calculation       16     Baseline     Calculation       17     Baseline     Calculation       18     Baseline     Calculation       19     Baseline     Calculation       20     Baseline     Calculation       21     Baseline     Calculation		Building type / Consumptio Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana	consumption for heating [kWh] 41.409.732 15.885.155 43.897.475 647.326 2.960.406 10.928.612	Electricity consumption [kWh] 14.157.429 3.938.261 7.443.949 247.138 456.761	Corrected reference (base) energy consumption for heating [kWh] 48.433.313 15.477.968 50.691.679 597.448 2.487.869 10.928.389	reference (base electricity consumption [kWh] 12.307.101 4.100.501 8.389.819 233.575 460.492	9,223 9,223 3,980 11,503 143 982 2,655	emission [tCO2] 3.324 925 1.748 58 107	reference (base) CO2 emission for heating [tCO2] 11.449 3.871 13.685 132 833 2.751	reference (I CO2 emisss for electric [tCO2] 2.890 963 1.970 55 108





Use of EMIS system for monitoring, analysis and verification of energy savings

Program for energy refurbishment of public sector buildings



# EMIS – Data selection for calculation of achieved savings on ECC level

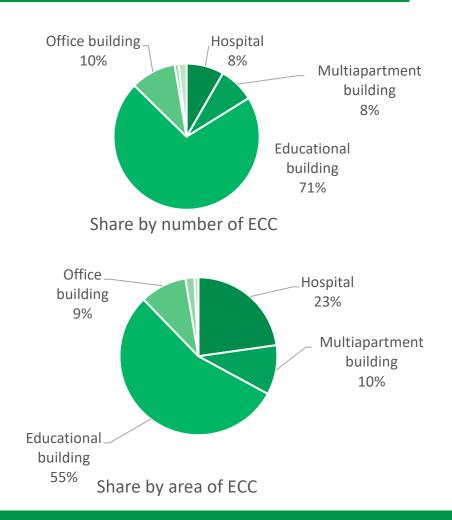


- ✤ 810 public sector buildings renovated under ESCO and Operational Program Competitiveness and cohesion (2016.-2019., calls 4c1.2, 4c1.3 and 4c1.4)
- ✤ 229 renovated public sector ECCs of various purposes selected and labeled for the analysis:
  - ✤ continuous monthly monitoring of energy consumption (2015.-2023.)
  - ✤ data on consumption checked by an admin and "locked"
  - + have written in building's heated surface,  $A_k$
  - ✤ located all over Croatia
- ★ ECC ≠ building EMIS monitors consumption on metering points, building complexes often have only few metering points that are used by many buildings which makes it difficult to know how much of the consumption on a metering point falls on a certain building



# Program for energy refurbishment of public sector buildings

Type of buildings	Number of ECC	Share by number of ECC [%]	Useful floor area A <sub>k</sub> [m <sup>2</sup> ]	Share by A <sub>k</sub> [%]
Hospital	19	8,30%	174.681,86	22,75%
Ambulance	10	4,37%	16.279,83	2,12%
Hospitals	9	3,93%	158.402,03	20,63%
Multiapartment building	18	7,86%	77.982,01	10,16%
Student Dormitory	1	0,44%	1.541,00	0,20%
Residential building	7	3,06%	8766,13	1,14%
Retirement Home	10	4,37%	67.674,88	8,82%
Educational building	163	71,18%	421.193,16	54,86%
Kindergarten	21	9,17%	24.143,74	3,14%
Museums and Libraries	1	0,44%	3.228,70	0,42%
Primary school	126	55,02%	322.848,18	42,05%
Secondary school	15	6,55%	70.972,54	9,24%
Office building	23	10,04%	73.417,36	9,56%
Office building	23	10,04%	73.417,36	9,56%
Sports Hall	2	0,87%	14.055,53	1,83%
Sports Hall	2	0,87%	14.055,53	1,83%
Other non-residential building	4	1,75%	6.370,41	0,83%
Prisons, Penitentiaries and Correctional centres	1	0,44%	2.829,00	0,37%
Buildings for cultural and artistic activities and entertainment	3	1,31%	3.541,41	0,46%
Total	229	100,00%	767.700,33	100,00%



stream



#### Monitoring and reporting of final energy consumption - through table view



The Analytics module offers a range of options for grouping and reorganizing data, allowing for easy report generation regardless of the format in which reporting is required.

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	ted objects: 465																			
a or selec	ted objects. 405			Selection of pivot re	ows and column	15	Order of pive	t rows	Order of pi	ivot columns		Selection of								
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All	One Year:		-	Bolnica Obiteljska Obrazovna	291.900	83,4	146.625	85	12.122.879,62 4.118.055,94 8.310.767,34	12.122.879,62 4.118.055,94 8.310.767,34	1.991.286,17 1.548.870,66 12.431.260,75	195.189 151.822,74 1.218.531,72	1.159.420	Quantity [UOM]	105.696	22,02	27.536,7 1.622,96	2.147,95 126,6	44.126.599,03 11.279.295,01 26.944.599,03	4.764.9 1.217.9 2.909.5
All	One Year:		2015	Bolnica Obiteljska Obrazovna Ostale nestambene					12.122.879,62 4.118.055,94 8.310.767,34 240.463,45	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45	1.991.286,17 1.548.870,66	195.189 151.822,74					27.536,7	2.147,95	44.126.599,03 11.279.295,01 26.944.599,03 647.449	4.764.9 1.217.9 2.909.5 69.91
	One Year:		-	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana					12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59	195.189 151.822,74 1.218.531,72 20.039	1.159.420	1.586,98	105.696	22,02	27.536,7 1.622,96	2.147,95 126,6	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396	4.764.9 1.217.9 2.909.5 69.91 61.37
5 🗘 1.2			-	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska					12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17	195.189 151.822,74 1.218.531,72 20.039 18.895,54			105.696	22,02	27.536,7 1.622,96	2.147,95 126,6	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396 12.761.133,01	4.764.9 1.217.9 2.909.5 69.91 61.37 1.377.9
5 \$ 1.2	015 - 12.2023 2023 🗘		-	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica					12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110	1.159.420	1.586,98	105.696 823.430,4	22,02 171,55	27.536,7 1.622,96 20.640,2	2.147,95 126,6 1.610	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396 12.761.133,01 45.602.779,04	4.764.9 1.217.9 2.909.5 69.91 61.37 1.377.9 4.924.3
5 \$ 1.2	015 - 12.2023 2023 Month 12 •		2015	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska		83,4	146.625	85	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.145,71	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52	1.159.420	1.586,98 219,16	105.696	22,02 171,55 23,15	27.536,7 1.622,96 20.640,2 31.148,57	2.147,95 126,6 1.610 2.429,69	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396 12.761.133,01 45.602.779,04 11.771.231,01	4.764.9 1.217.9 2.909.5 69.91: 61.37 1.377.9 4.924.3 1.271.0
5 \$ 1.2	015 - 12.2023 2023 🗘		-	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica	291.900				12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110	1.159.420	1.586,98	105.696 823.430,4 111.120	22,02 171,55	27.536,7 1.622,96 20.640,2	2.147,95 126,6 1.610	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396 12.761.133,01 45.602.779,04	4.764.9 1.217.9 2.909.5 69.913 61.377 1.377.9 4.924.3 1.271.0 3.036.1
-5 \$ 1.2 -	015 - 12.2023 2023 Month 12 •		2015	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Obrazovna	291.900	83,4	146.625	85	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267,754,72 4.073.210,24 8.496.581,04	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.581,04	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.145,71 12.991.022,19	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41	1.159.420	1.586,98 219,16	105.696 823.430,4 111.120 462.720	22,02 171,55 23,15 96,4	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84	2.147,95 126,6 1.610 2.429,69 113,4	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396 12.761.133,01 45.602.779,04 11.771.231,01 28.116.422,7	4.764.9 1.217.9 2.909.5 69.913 61.377 1.377.9 4.924.3 1.271.0 3.036.1 68.315
5 \$ 1.2 - ars All 5	015 - 12.2023 2023 Month 12 •		2015	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Obrazovna Ostale nestambene	291.900	83,4	146.625	85	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.581,04 229.702,01 468.255 3.455.135,76	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.581,04 229.702,01 468.255 3.455.135,76	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.145,71 12.991.022,19 20.007,23 226.038,39	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41	1.159.420	1.586,98 219,16	105.696 823.430,4 111.120 462.720	22,02 171,55 23,15 96,4	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84	2.147,95 126,6 1.610 2.429,69 113,4	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396 12.761.133,01 45.602.779,04 11.771.231,01 28.116.422,7 632.649 483.777 13.835.235,56	4.764.9 1.217.9 2.909.5 69.91: 61.37 1.377.9 4.924.3 1.271.0 3.036.1 68.31: 52.23 1.493.9
5 🗘 1.2 - ars All E carrier	Noth 12		2015	Bolnica Obriteljska Obrazovna Ostale nestambene Sportska dvorana Utredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Utredska Bolnica	291.900	83,4	146.625	85	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.581,04 229.702,01 468.255 3.455.135,76 12.530.667,76	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.581,04 229.702,01 468.255 3.455.135,76 12.530.667,76	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.145,71 12.991.022,19 230.097,23 226.038,39 1.961.751,85	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.156,64 192.294	1.159.420 160.117,22 1.173.036,78	1.586,98 219,16 1.605,62	105.696 823.430,4 111.120 462.720 722.424	22,02 171,55 23,15 96,4 150,51	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2	2.147,95 126,6 1.610 2.429,69 113,4 1.610	44.126.599,03 11.279.295,01 26.944.599,03 647.449 568.396 12.761.133,01 45.602.779,04 11.771.231,01 28.116.422,7 632.649 483.777 13.835.235,56 42.871,783,03	4,764,9 1,217,9 2,909,5 69,911 61,377 1,377,9 4,924,3 1,271,0 3,036,1 68,311 52,239 1,493,9 4,629,4
5 2 1.2 - ars All carrier group	015 - 12.2023     2023       Month     12 -       Show only locked       State       Series       Chart       Series       Chart		2015	Bolnica Obrizovna Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obriteljska	291.900 394.980,25	83,4	43.125	85	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 7.510.758,77 4.073.210,24 8.496.581,04 229.702,01 468.255 3.455.135,76 12.530.667,76 4.110.237,53	12.122.879,62 4.118.055,94 8.310.767,94 4.30.88 3.510.758,77 4.073.210,24 8.496.581,04 229,702,01 468.255 3.455.135,76 12.530.667,76 4.110.237,53	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.145,71 12.991.022,19 230.097,23 226.038,39 1.961.751,85 1.401.095,99	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.156,64 192.294 137.337,63	1.159.420 160.117,22 1.173.036,78 189.839,8	1.586,98 219,16 1.605,62 259,85	105.696 823.430,4 111.120 462.720 722.424 168.432	22,02 171,55 23,15 96,4 150,51 35,09	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36	44.126.599,03 11.279.255,01 26.94.595,01 26.94.595,01 26.94.595,01 45.002.779,04 11.771.231,01 28.116.422,7 6.32.649 483.777 13.835.235,56 42.871,783,03 11.830,432,01	4.764.9 1.217.9 2.909.5 69.912 61.37 1.377.9 4.924.3 1.271.0 3.036.1 68.312 52.233 1.493.9 4.629.4 1.277.4
5 2 1.2 - ars All carrier group	Noth 12	-	2015	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Obrazovna	291.900	83,4	146.625	85	12.122.879,62 4.118.055,94 8.310.757,34 240.463,45 443.088 5.510.758,77 12.267,754,72 4.073.210,24 8.496.5581,04 229.702,01 468.255 3.455.135,76 12.530.667,76 4.110.237,53 8.434.803,13	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 4.073.210,24 4.073.210,24 4.082,55 3.455.135,76 12.530.667,76 4.110.237,53 4.434.803,13	1.991.286,17 1.548,870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448,145,71 12.991.022,19 230.097,23 226.038,39 1.961.751,85 1.401.095,59 12.731.717,47	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.156,64 192.294 137.337,63 1.247.982,96	1.159.420 160.117,22 1.173.036,78	1.586,98 219,16 1.605,62	105.696 823.430,4 111.120 462.720 722.424 168.432 1.118.640	22,02 171,55 23,15 96,4 150,51 35,09 233,05	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36 80	44.126.599,03 11.279.295,01 26.941.599,03 647,449 566.396 12.761.133,01 45.602.779,04 11.771.231,01 28.116.422,7 632.649 483.777 13.635.225,56 42.871,783,03 11.830.432,01 11.830.432,01 28.031.678,52	4.764.9 1.217.9 2.909.5 69.912 61.37 1.377.9 4.924.3 1.271.0 3.036.1 68.312 52.232 1.493.9 4.629.4 1.277.4 3.026.9
5 🗘 1.2	015 - 12.2023     2023       Month     12 -       Show only locked       State       Series       Chart       Series       Chart		2015	Bolnica Obrezovna Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Obrazovna Ostale nestambene	291.900 394.980,25	83,4	43.125	85	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.0705,210,24 8.949,581,04 229.702,01 468.255 8.494,5135,76 12.530.667,76 4.110.237,53 8.434.803,13 230.558,92	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496,581,024 8.496,581,024 8.496,581,024 12.530.667,76 4.110.237,53 8.434.803,13 230.556,92	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.145,71 12.991.022,19 230.097,23 226.038,39 1.961.751,85 1.401.095,99	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.156,64 192.294 137.337,63	1.159.420 160.117,22 1.173.036,78 189.839,8	1.586,98 219,16 1.605,62 259,85	105.696 823.430,4 111.120 462.720 722.424 168.432	22,02 171,55 23,15 96,4 150,51 35,09	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36	44.126.599,03 11.279.255,01 26.94.599,03 647.449 568.396 12.761.133,01 45.602.779,04 11.771.231,01 28.116.42,27 632.649 483.777 13.835.235,56 42.871.783,03 11.830.452,01 28.031.678,52 642.059	4.764.90 1.217.91 2.909.55 69.913 61.377 1.377.90 3.036.10 68.315 52.235 1.493.91 4.629.41 1.277.44 3.026.91 69.331
5 \$ 1.2 ars	Show only locked Show only locked Stries Chart Series Chart Series Chart		2015	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Obiteljska Obrazovna Ostale nestambene Sportska dvorana	291.900 394.980,25	83,4	43.125	85	12.122.879,62 4.118.055,94 8.310.757,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.077.210,754,72 4.073.210,754,72 4.073.210,754,72 4.073.210,754,72 4.073.210,754,72 4.073.210,754,72 4.073.210,754,72 4.110,237,53 8.434.803,13 200.558,92 470.132	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.581,04 229,702,01 468.255 3.455.135,76 12.530.667,76 4.110.237,53 8.434.803,13 230.558,92 470.132	1.991.286,17 1.548,870,66 12.431,260,75 204.434,59 192.769,17 1.980.278,39 1.448,145,71 12.991.022,19 230.097,23 226.038,39 1.961.751,85 1.401.095,99 12.731.717,47 316.475,17	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.156,64 192.294 137.337,63 1.247.982,96 31.021,39	1.159.420 160.117,22 1.173.036,78 189.839,8 1.086.164,33	1.586,98 219,16 1.605,62 259,85 1.486,71	105.696 823.430,4 111.120 462.720 722.424 168.432 1.118.640	22,02 171,55 23,15 96,4 150,51 35,09 233,05	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36 80	44.126.599,03 11.279.295,01 26.941.599,03 647.449 568.396 12.761.133,01 45.602.779,04 11.771.231,01 28.116.422,7 632.649 483.777 13.835.235,56 42.871,783,03 11.830.432,01 28.031.678,52 642.059 537.707	4.764.9 1.217.9 2.909.5 69.911 61.37 1.377.9 4.924.3 1.271.0 3.036.1 68.311 52.233 1.493.9 4.629.4 1.277.4 3.026.9 69.33 58.063
5 \$ 1.2 ars	Show only locked Study of Couping Series Chart Series Chart Series Chart Series Chart		2015	Bolnica Obrezovna Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Obrazovna Ostale nestambene	291.900	83,4	43.125	85	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.0705,210,24 8.949,581,04 229.702,01 468.255 8.494,5135,76 12.530.667,76 4.110.237,53 8.434.803,13 230.558,92	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496,581,024 8.496,581,024 8.496,581,024 12.530.667,76 4.110.237,53 8.434.803,13 230.556,92	1.991.286,17 1.548,870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448,145,71 12.991.022,19 230.097,23 226.038,39 1.961.751,85 1.401.095,59 12.731.717,47	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.156,64 192.294 137.337,63 1.247.982,96	1.159.420 160.117,22 1.173.036,78 189.839,8	1.586,98 219,16 1.605,62 259,85	105.696 823.430,4 111.120 462.720 722.424 168.432 1.118.640	22,02 171,55 23,15 96,4 150,51 35,09 233,05	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36 80	44.126.599,03 11.279.255,01 26.94.599,03 647.449 568.396 12.761.133,01 45.602.779,04 11.771.231,01 28.116.42,27 632.649 483.777 13.835.235,56 42.871.783,03 11.830.452,01 28.031.678,52 642.059	4.764.9 1.217.9 2.909.5 69.91: 61.377 4.924.3 1.271.0 3.036.1 68.31! 52.233 1.493.9 4.629.4 1.277.4 3.026.9 69.333 58.066 1.471.9
ars All : carrier group nergy type	Show only locked Show only locked Stries Chart Series Chart Series Chart		2015	Bolnica Obrte2vora Obrazova Sportska dvorana Sportska dvorana Bolnica Obrte1jska Obrazovna Ostale nestambene Sportska dvorana Obrazovna Obrazovna Ostale nestambene Sportska dvorana Uredska	291.900	83,4	43.125	85	12.122.879,62 4.118.055,94 8.310.757,34 240.463,45 3.510.758,77 12.2667,754,72 4.073.210,24 8.496,581,04 229,702,01 469,255 14.250,667,76 4.110.237,53 2.455,135,76 4.101.0237,53 2.30,667,76 4.110.237,53 2.30,657,86 4.34,403,13 2.30,558,92 4.70,132 3.660,538,87	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.551,04 229.702,01 229.702,01 229.702,01 229.702,01 229.055,87 4.110.237,53 4.033,13 230.558,87 4.01,32 3.608.538,87 4.01,32 3.608.538,87 4.01,32 3.608.538,87 4.01,32 3.608.538,87 4.01,32 3.608.538,87 4.01,32 3.608.538,87 4.01,32	1.991.286,17 1.948,870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448,145,71 1.991.022,19 230.097,23 226.038,39 1.961.751,85 1.401.095,99 1.2731.717,47 316.475,17 217.942,27	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.156,64 192.294 137.337,63 1.247.982,96 31.021,39 21.363,04	1.159.420 160.117,22 1.173.036,78 189.839,8 1.086.164,33	1.586,98 219,16 1.605,62 259,85 1.486,71	105.696 823.430,4 111.120 462.720 722.424 168.432 1.118.640	22,02 171,55 23,15 96,4 150,51 35,09 233,05	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36 80	44,126,599,03 11,279,295,01 26,94,599,03 647,449 563,396 12,761,133,01 45,602,779,04 11,771,231,01 28,116,422,7 632,649 483,777 13,835,235,56 42,871,783,03 11,830,432,01 28,031,676,52 642,059 642,05	4.764.9: 1.217.9: 2.909.5: 69.913 61.377.9: 4.924.3: 1.271.0: 3.036.1: 68.315 52.235 1.493.9: 4.929.4: 1.277.4: 3.026.9: 69.333 5.06.9: 1.471.9: 4.785.9: 4.775.9: 4.77
IS I 1.20 ars All I carrier group nergy type type	015 - 12.2023     2023       Month     12       Show only locked       Stries Chart       Series Chart       Series Chart       Series Chart       Series Chart       Series Chart       Series Chart		2015 2016 2017	Bolnica ObiteJjska Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Ostale nestambene Sportska dvorana Uredska ObiteJjska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica	291.900	83,4	43.125	85	12.122.879,62 4.118.055,94 8.310.757,34 240,463,45 4.3510.758,77 12.267.754,72 4.073.210,247,44 8.496,581,04 29.702,01 468.255 3.455.135,76 4.110.237,53 8.434,803,13 230.558,92 470.132 230.558,92 470.132 230.558,92	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 8.496.581,04 229.702,01 468.255 3.455.135,76 4.51.253,0.667,76 4.110.237,53 8.434.803,13 230.555,92 470.132 3.608.538,87 12.198.885,54	1.991.286,17 1.548.870,66 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.145,71 12.991.022,19 226.038,39 1.961.751,85 1.401.095,99 12.731.717,47 316.475,17 217.942,27 1.942.133,72	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.156,64 192.294 137.337,63 1.247.982,96 31.021,39 21.363,04 190.371	1.159.420 160.117,22 1.173.036,78 189.839,8 1.086.164,33	1.586,98 219,16 1.605,62 259,85 1.486,71	105.696 823.430,4 111.120 462.720 722.424 168.432 1.118.640 926.400	22,02 171,55 23,15 96,4 150,51 35,09 233,05 193	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6 18.589	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36 80 1.450	44,126,599,03 11,279,295,01 26,944,599,03 647,449 568,396 12,761,133,01 45,602,779,04 11,777,231,01 28,116,422,7 632,649 483,777 13,635,225,56 42,671,783,03 11,830,432,01 28,031,678,52 642,059 537,707 13,631,572,05	4.764.90 1.217.91 2.909.55 69.912 61.377 1.377.90 4.924.33 1.271.01 3.036.11 68.311 52.239 1.493.91 4.629.41 1.277.44 3.026.91 69.331 58.065 1.471.91 4.71.92 4.725.92 1.249.77
15 1.2	015 - 12.2023     2023       Month     12       Show only locked       3111_083 / Grouping       Series Chart		2015	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obiteljska Obitazovna Ostale nestambene	291.900 394.980,25 765.961,7	83,4 112,85 218,85	146.625 43.125 124.200	25	12.122.879,62 4.118.055,92 4.310.676,34 240.463,45 443.088 3.510.758,77 4.073.210,24 8.496,581,04 229.702,01 468.255 12.520,657,76 4.130.237,53 230.558,92 470.132 3.606,538,87 12.198.895,54 3.982,459,49 7.966,254,09 240.615,22	12.122.879,62 4.118.055,94 8.310.767,24 240.463,45 443.088 3.510.758,77 4.073.210,24 8.496.581,04 229.702,01 468.255 4.110.237,53 4.450.358,92 4.110.237,53 5.0667,76 4.110.237,53 5.0665,76 4.110.237,53 5.065,76 4.110.237,53 5.065,78 4.121,98.895,54 3.982,459,49 7.960,244,09 240.615,52 240.615,52	1.991.286,17 1.548,870,66 1.2431.260,75 204.434,59 192.789,47 1.980.273,39 1.448.45,71 1.980.273,39 1.448.45,71 1.980.273,39 1.961.751,85 1.401.095,99 1.273.172,74 217.942,27 1.942.137,72 1.556.331,86	195.189 151.822,74 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.556,64 192.294 137.337,63 1.247.982,96 31.021,39 21.363,04 190.371 150.564,26	1.159,420 160.117,22 1.173.036,78 189,839,8 1.086.164,33 168.294,84	1.586,98 219,16 1.605,62 259,85 1.486,71 230,36	105.696 823.430,4 111.120 462.720 722.424 168.432 1.118.640 926.400 110.400	22,02 171,55 23,15 96,4 150,51 35,09 233,05 193 233	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6 18.589 31.352,91	2.147,95 125,6 1.610 2.429,69 113,4 1.610 2.351,36 80 1.450 2.445,63	44,126,599,03 11,279,295,01 26,344,599,03 647,449 556,396 12,761,133,01 45,602,779,04 11,771,231,01 28,116,422,7 632,649 483,777 13,383,225,56 42,871,783,03 11,830,432,01 28,331,675,52 642,059 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 13,633,1572,05 537,707 14,522,103,103 11,573,286,01 12,572,103 14,522,103 14,5	4.764.9: 1.217.9: 2.909.5: 69.912 61.377 1.377.9: 4.924.3: 1.271.0: 3.036.1: 68.315 52.233 1.493.9: 4.629.4: 1.277.4: 3.026.9: 69.333 58.063 1.271.4: 3.026.9: 69.333 58.063 1.271.4: 3.026.9: 69.331 58.063 1.271.4: 3.026.9: 69.331 58.063 1.277.4: 4.785.9: 1.249.7: 2.821.2: 71.649.7: 3.821.2:
15 ÷ 1.2/ • 1.2/ • arrier / carrier / group mergy t type type type	015 - 12.2023     2023       Month     12 -       Show only locked       Stries Chart       Series Chart       Series Chart       Series Chart       Series Chart       Series Chart       Series Chart		2015 2016 2017	Bolnica Obitelyka Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana	291.900 394.980,25 765.961,7	83,4 112,85 218,85	146.625 43.125 124.200	25	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443,088 3.510.758,77 4.2267.754,72 4.077.210,24 4.077.210,24 4.075,210,	12.122.879,62 4.118.055,94 8.310.767,34 240,463,45 443.088 3.510.758,77 4.073.210,24 4.073.210,24 4.073.210,24 4.095,581,04 229,702,01 4.682,55 3.455,135,76 12.530.667,76 4.110.237,53 8.434.803,13 230.555,92 470.132 3.3668,554 3.988,855,44 3.982,459,49 3.982,49,440,45,452 3.982,459,440,452,55 3.982,440,453,452,453,454,453,454,453,454,453,454,453,454,453,454,453,454,454	1.991.288,17 1.598.87,06 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448.45,71 1.991.022,19 230.097,23 226.038,39 1.961.751,85 1.440.195,99 12.731.727,47 315.475,135 1.556.031,86 9.947.827,16 484.200,71	195.189 195.182,274 1.218.551,72 20.039 18.895,54 194.110 141.1945,22 1.273.400,41 22.156,64 192.294 123.2354,49 22.156,64 192.374 1.247.982,96 31.027,31 150.564,26 975.106,06 47.462,11	1.159.420 160.117,22 1.173.036,78 189.839,8 1.086.164,33 168.294,84 648.169,12	1.586,98 219,16 1.605,62 259,85 1.486,71 230,36 887,19	105.696 823.430.4 111.120 462.720 722.424 1168.432 1.118.640 926.400 110.400 1.033.680	22,02 171,55 23,15 96,4 150,51 35,09 233,05 193 233,05 193 23,215,23	27.536,7 1.622,95 1.622,95 1.622,95 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6 18.589 1.352,91 857,52	2.147,95 125,6 1.610 2.429,69 113,4 1.610 2.351,36 80 1.450 2.445,63 66,89	44,126,599,03 11,272,295,01 26,944,599,03 647,449 556,396 12,761,133,01 45,602,779,04 11,777,231,01 28,116,422,7 532,649 42,877,78,00 11,830,432,01 28,031,678,52 642,055 537,707 13,631,572,05 44,321,103,04 11,573,286,01 26,126,506,4 665,521 502,115	4.764.9: 1.217.9: 2.909.5: 69.913 61.377.9: 4.924.3: 1.271.0: 3.036.1: 68.315 52.233 1.493.9: 4.629.4: 1.277.4: 3.026.9: 69.331 58.063 1.471.9: 4.71.9: 4.724.9: 1.249.7: 1.249.7: 2.821.2: 71.644 54.215
15 ÷ 1.2/ • 1.2/ • arrier / carrier / group mergy t type type type	bit - 12.2023 2023 bit in the second		2015 2016 2017	Bolnica Obitejjska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska dvorana Uredska dvorana	291.900 394.980,25 765.961,7	83,4 112,85 218,85	146.625 43.125 124.200	25	12.122.879,62 4.118.055,94 8.310.757,34 240.463,45 443.088 3.510.758,77 4.073.210,24 4.074.210,24 4.074.21	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 4.073.210,24 8.496.581,04 229.702,01 468.255 3.455.155,76 12.530.667,76 4.110.237,53 8.4394.803,13 230.558,92 470.132 3.668,538,87 7.950.244,09 240.615,22 447.289 3.579.458,52	1.991.286,17 1.548.870,66 1.2431.260,76 204.434,59 192.769,17 1980.278,39 1.448.455,71 12.991.022,19 203.097,23 203.097,23 203.097,23 203.097,23 1.941.751,85 1.941.751,85 1.941.751,85 1.942.87,17 21.594.2,27 1.942.30,31,86 9.947.872,16 1.942.30,18 9.947.872,16 1.942.30,17 1.74.882,26	195.189 151.822,74 151.822,74 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.156,64 192.294 12.2354,49 22.156,64 192.294 12.33,63 1.247,882,96 31.021,39 21.363,04 199.371 150.564,26 975.105,06 47.462,11 17.142,23	1.159,420 160.117,22 1.173.036,78 189,839,8 1.086.164,33 168.294,84	1.586,98 219,16 1.605,62 259,85 1.486,71 230,36	105.696 823.430,4 1111.120 462.720 722.424 168.432 1.118.640 926.400 103.080 946.464	22,02 171,55 23,15 96,4 150,51 35,09 233,05 193 233,05 193 245,23 197,18	27.536,7 1.622,95 1.622,95 1.622,95 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6 18.589 1.352,91 857,52	2.147,95 125,6 1.610 2.429,69 113,4 1.610 2.351,36 80 1.450 2.445,63 66,89	44,126,599,03 11,279,295,01 26,944,599,03 647,449 566,396 12,761,133,01 45,602,779,04 11,771,231,01 28,116,422,7 632,649 483,777 13,383,225,56 42,871,783,03 11,830,432,01 28,031,678,52 642,059 537,707 13,633,1572,05 642,059 537,707 13,633,1572,05 642,059 537,707 13,633,1572,05 642,059 643,211,03,04 11,5472,328,01 26,126,550,4 663,521 502,115 11,444,759,26	4.764.93 1.217.97 2.909.26 69.913 61.377 1.377.98 4.924.33 1.271.00 3.036.10 68.315 52.239 1.493.93 4.493.93 4.493.93 1.471.98 4.785.93 1.471.98 4.785.93 1.471.98 4.785.93 1.271.649 54.219 1.235.8
15 1.2	015 - 12.2023 2023 5 Nonth 12 Show only locked Series Chart Series Chart		2015 2016 2017	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Obraželska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obražova Ostale nestambene Sportska dvorana Uredska Obražovna Ostale nestambene Sportska dvorana Uredska Obražovna Ostale nestambene Sportska dvorana Uredska	291.900 394.980,25 765.961,7	83,4 112,85 218,85	146.625 43.125 124.200	25	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.100.237,53 8.434.803,13 2.058,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 4.070.244,09 2.06,615,22 4.127,289 3.579,458,32 4.157,429,25 4.147,274,29,25 4.147,274,29,25 4.147,274,29,25 4.147,249,25 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,44	$\begin{array}{c} 12.122.879,62\\ +1.18.055,94\\ +3.310.767,34\\ 240.463,45\\ +43.088\\ -3.510.758,77\\ +4.033.210,24\\ +0.754,72\\ +0.73.210,24\\ +0.754,72\\ +0.73.210,24\\ +0.754,72\\ +0$	1.991.288,17 1.598,87,06 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448,457,11 2.991.022;19 2.991.022;19 2.991.022;19 2.991.022;19 2.991.022;19 1.461.955,051 1.461.956,057 1.9794,272 1.9794,272 1.942,270 1.	195.189 195.182,74 1.218.531,72 2.0.039 18.895,54 194.110 141.949,52 1.22.554,49 22.156,64 192.249 22.156,64 192.235 1.247.962,96 31.021,39 21.363,04 190.371 190.544,22 19.564,66 47.462,11 17.142,23 157.881	1.159.420 160.117,22 1.173.036,78 189.839,8 1.086.164,33 168.294,84 648.169,12	1.586,98 219,16 1.605,62 259,85 1.486,71 230,36 887,19	105.696 823.430,4 1111.120 462.720 722.424 168.432 1.118.640 926.400 110.400 1.033.080 946.464 252.720	22,02 171,55 23,15 96,4 150,51 35,09 233,05 193 23 215,23 197,18 52,65	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6 18.599 31.152,91 857,52 16.537,8	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36 80 1.450 2.445,63 66,89 1.290	44,126,599,03 11,272,295,01 26,944,599,03 647,449 568,396 12,761,133,01 45,002,779,04 11,777,231,01 28,116,422,7 532,649 42,877,778,30 11,830,432,01 28,031,678,52 642,055 642,055 537,707 13,631,572,05 44,321,103,04 11,572,268,01 26,126,595,4 665,521 502,115 11,1444,759,26	4.764.92 1.217.92 2.909.52 69.913 61.377 1.377.94 4.924.32 1.271.05 3.225.95 4.629.42 1.277.45 3.266.99 69.331 58.063 1.471.94 59.25.95 1.471.94 54.219.72 2.821.22 71.645 54.219 1.235.85 4.252.25 54.219 55.255 56.255 57.
15 1.2	bit - 12.2023 2023 bit in the second		2015 2016 2017	Bolnica ObiteJjska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska	291.900 394.980,25 765.961,7 919.954	83,4 112,85 218,85 262,84	146.625 43.125 124.200	25	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,72 4.073.210,24 8.496.581,04 229.702,01 468.255 4.110.237,53 8.436.581,04 229.702,01 468.255 4.110.237,53 8.434.803,13 20.558,92 470.132 7.566.538,92 470.132 7.566.538,92 470.132 7.566.538,92 470.132 7.566.538,92 470.132 3.569.458,92 470.132 3.569.458,92 470.132 3.569.458,93 4.110.7429,25 3.559.458,93 4.157.429,25 4.579.458,93 4.579.459,93 4.579.459,	12.122.879,62 4.118.055,94 8.310.767,34 240,463,45 443.088 3.510.758,77 4.073.210,24 8.496,581,04 229,702,01 468.255 3.455,155,76 12.530,667,76 4.110.237,53 8.434.803,13 230,558,92 470,152 3.660,558,92 470,152 3.660,558,92 470,152 3.660,558,92 470,152 3.660,558,92 470,152 3.590,456,92 472,289 3.579,456,32 447,289 3.579,456,32 447,289 3.579,456,32 447,289 3.579,456,32 415,7429,25	1.991.298,17 1.549.870,65 1.549.870,65 1.2431.260,75 204.434,55 192.769,17 1.980.278,39 1.448,145,71 12.991.022,19 203.087,23 20	195.189 195.182,274 1.218.531,72 20.039 18.895,54 194.110 141.949,52 1.273.400,41 22.554,49 22.554,49 22.554,26 31.021,39 21.363,04 190.371 150.564,26 37.510,60 47.462,11 17.142,23 152.81 122.91,91 122.91,91 122.91,91 122.91,91 122.91,91 122.91,91 123.91,91 12	1.159.420 160.117,22 1.173.036,78 189.839,8 1.096.164,33 168.294,84 648.169,12 149.237,61	1.586,98 219,16 1.605,62 259,85 1.486,71 230,36 887,19 204,27	105.696 823.430,4 1111.120 462.720 722.424 168.432 1.118.640 926.400 946.464 10.33.080 946.464	22,02 171,55 23,15 96,4 150,51 35,09 233,05 193 233,05 193 233,25,23 197,18 52,65 31,56	27.536,7 1.622,96 20.640,2 31.148,57 1.453,87 1.453,87 1.453,87 1.025,6 18.589 30.144,39 1.025,6 18.589 20.540,2 20.557,8	2.147,95 126,6 1.610 2.429,69 113,4 1.610  2.351,36 80 1.450 2.445,63 66,89 1.290 2.198	44,126,599,03 11,279,295,01 26,944,599,03 647,449 556,396 12,761,133,01 45,602,779,04 11,771,231,01 28,116,422,7 6,32,649 483,777,133,01 13,335,235,56 42,871,783,03 11,830,432,01 28,031,676,52 642,059 537,707,133,1572,05 642,059 537,707,135,126,50 11,547,759,26 39,376,485,03 11,527,265,01	4,764,92 1,217,97 2,809,56 69,913 61,377 4,924,33 1,271,06 3,036,11 (88,315 52,239 1,493,97 4,629,43 1,493,97 4,629,43 1,497,98 (9,331 58,063 1,471,98 (9,331 58,063 1,471,98 (4,785,93) 1,471,98 (4,785,93) 1,471,98 (4,785,93) 1,471,98 (4,785,93) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95 (4,785,95) 1,474,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,474,95(4,785,95) 1,475,95(4,785,95) 1,475,95(4,785,95) 1,475,95(4,785,95) 1,475,95(4,785,95) 1,475,95(4
15 🗘 1.2	015 - 12.2023 2023 5 Nonth 12 Show only locked Series Chart Series Chart		2015 2016 2017	Bolnica Obiteljska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obrazovna Ostale nestambene Sportska dvorana Uredska Obrazovna Obraželska Obrazovna Ostale nestambene Sportska dvorana Uredska Bolnica Obražova Ostale nestambene Sportska dvorana Uredska Obražovna Ostale nestambene Sportska dvorana Uredska Obražovna Ostale nestambene Sportska dvorana Uredska	291.900 394.980,25 765.961,7	83,4 112,85 218,85	146.625 43.125 124.200	25	12.122.879,62 4.118.055,94 8.310.767,34 240.463,45 443.088 3.510.758,77 12.267.754,72 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.073.210,24 4.100.237,53 8.434.803,13 2.058,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 3.066,758,92 4.070.132 4.070.244,09 2.06,615,22 4.127,289 3.579,458,32 4.157,429,25 4.147,274,29,25 4.147,274,29,25 4.147,274,29,25 4.147,249,25 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,449,45 4.147,44	$\begin{array}{c} 12.122.879,62\\ +1.18.055,94\\ +3.310.767,34\\ 240.463,45\\ +43.088\\ -3.510.758,77\\ +4.033.210,24\\ +0.754,72\\ +0.73.210,24\\ +0.754,72\\ +0.73.210,24\\ +0.754,72\\ +0$	1.991.288,17 1.598,87,06 12.431.260,75 204.434,59 192.769,17 1.980.278,39 1.448,457,11 2.991.022;19 2.991.022;19 2.991.022;19 2.991.022;19 2.991.022;19 1.461.955,051 1.461.956,057 1.9794,272 1.9794,272 1.942,270 1.	195.189 195.182,74 1.218.531,72 2.0.039 18.895,54 194.110 141.949,52 1.22.554,49 22.156,64 192.249 22.156,64 192.235 1.247.962,96 31.021,39 21.363,04 190.371 190.544,22 19.564,66 47.462,11 17.142,23 157.881	1.159.420 160.117,22 1.173.036,78 189.839,8 1.086.164,33 168.294,84 648.169,12	1.586,98 219,16 1.605,62 259,85 1.486,71 230,36 887,19	105.696 823.430,4 1111.120 462.720 722.424 168.432 1.118.640 926.400 110.400 1.033.080 946.464 252.720	22,02 171,55 23,15 96,4 150,51 35,09 233,05 193 23 215,23 197,18 52,65	27.536,7 1.622,96 20.640,2 31.148,57 1.453,84 20.640,2 30.144,39 1.025,6 18.599 31.152,91 857,52 16.537,8	2.147,95 126,6 1.610 2.429,69 113,4 1.610 2.351,36 80 1.450 2.445,63 66,89 1.290	44,126,599,03 11,272,295,01 26,944,599,03 647,449 568,396 12,761,133,01 45,002,779,04 11,777,231,01 28,116,422,7 532,649 42,877,778,30 11,830,432,01 28,031,678,52 642,055 642,055 537,707 13,631,572,05 44,321,103,04 11,572,268,01 26,126,595,4 665,521 502,115 11,1444,759,26	4.764.9: 1.217.9: 2.909.5: 69.913 61.377 1.377.9: 4.924.3: 1.271.0: 3.036.11 68.315 52.233 1.493.9; 4.629.4: 1.277.4: 3.026.9; 4.629.4: 1.277.4: 3.026.9; 4.629.4: 1.277.4: 3.026.9; 4.629.4: 1.277.4: 3.026.9; 4.629.4: 1.277.4: 3.026.9; 4.629.4: 1.277.4: 3.026.9; 4.629.4: 1.471.9; 1.471.9; 1.47



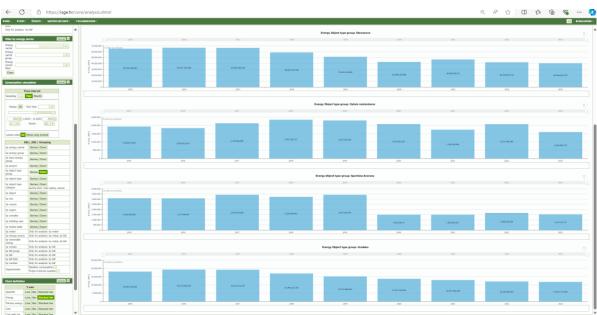


## Monitoring and reporting of final energy consumption - through chart view





This level provides a quick visual overview of the data, allowing for immediate identification of any reduction in consumption, whether for a group sample or an individual building.



In the next step, it is possible to disaggregate the data with one click by, for example, types of buildings, and see which of them and how much affects the reduction in consumption.

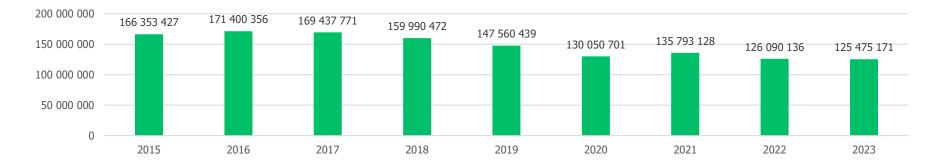


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## The impact of renovation on the reduction of final consumption – after 2017

2	Year	Number of	<b>A</b> <sub>k</sub> [m <sup>2</sup> ]	2015_2016_2017 (baseline)	Year	Savin Year/Bas		
consumption - adjustments		ECC		Energy consumption - total (kWh)	Energy consumption - total (kWh)	Energy savings - total (kWh)	Energy savings - total (%)	
en	2015	229	767.700,33	169.063.851,63	166.353.427			
ĒĒ	2016	229	767.700,33	169.063.851,63	171.400.356			Baseline
su ist	2017	229	767.700,33	169.063.851,63	169.437.771			
consum adjustm	2018	229	767.700,33	169.063.851,63	159.990.472	9.073.379	5,37%	
adc	2019	229	767.700,33	169.063.851,63	147.560.439	21.503.412	12,72%	
a	2020	229	767.700,33	169.063.851,63	130.050.701	39.013.151	23,08%	
Final	2021	229	767.700,33	169.063.851,63	135.793.128	33.270.723	19,68%	
ш.	2022	229	767.700,33	169.063.851,63	126.090.136	42.973.716	25,42%	
	2023	229	767.700,33	169.063.851,63	125.475.171	43.588.680	25,78%	





stream

## The impact of renovation on the reduction of final consumption – after 2021



			2021 (baseline)		Savings	2022/2021
Group of ECC by purpose	Number of ECC	<b>A</b> <sub>k</sub> [m <sup>2</sup> ]	Energy consumption - total (kWh)	Energy consumption - total (kWh)	Energy savings - total (kWh)	Energy savings - total (%)
Hospitals (Outpatient clinic, Hospital)	19	174.681,86	55.145.875	52.587.024	2.558.851	4,64%
Multiapartment buildings (Student Dormitory, Residential building, Retirement Home)	18	77.982,01	17.957.357	15.493.545	2.463.812	13,72%
Educational buildings (Kindergarten, Museum and Libraries, Primary school)	163	421.193,16	46.893.983	42.162.053	4.731.930	10,09%
Office buildings	23	73.417,36	12.971.382	12.106.086	865.296	6,67%
Sports Hall	2	14.055,53	1.500.416	1.668.282	-167.866	-11,19%
Other non-residential building (Prisons, Penitentiaries and Correctional centres; Buildings for cultural and artistic activities and entertainment)	4	6.370,41	1.740.039	2.073.146	-333.107	-19,14%
Total	229	767.700,33	136.209.051	126.090.136	10.118.915,57	7,43%
			2021 (baseline)	2023	Savings	2023/2021
Group of buildings by purpose	Number of buildings	<b>A</b> <sub>k</sub> [m <sup>2</sup> ]	Energy consumption - total (kWh)	Energy consumption - total (kWh)	Energy savings - total (kWh)	Energy savings - total (%)
Hospitals (Outpatient clinic, Hospital)	19	174.681,86	55.145.875	54.789.307	356.567	0,65%
Multiapartment buildings (Student Dormitory,						
Residential building, Retirement Home)	18	77.982,01	17.957.357	15.136.810	2.820.547	15,71%
Residential building, Retirement Home) Educational buildings (Kindergarten, Museum and Libraries, Primary school)	18 163	77.982,01 421.193,16			2.820.547 6.349.979	15,71% 13,54%
Residential building, Retirement Home) Educational buildings (Kindergarten, Museum and Libraries, Primary school) Office buildings	163 23	421.193,16	46.893.983 12.971.382	40.544.004		13,54% 8,47%
Residential building, Retirement Home) Educational buildings (Kindergarten, Museum and Libraries, Primary school) Office buildings Sports Hall	163	421.193,16	46.893.983 12.971.382	40.544.004	6.349.979	13,54%
Residential building, Retirement Home) Educational buildings (Kindergarten, Museum and Libraries, Primary school) Office buildings	163 23	421.193,16	46.893.983 12.971.382 1.500.416	40.544.004 11.872.773 1.527.318	6.349.979 1.098.609	13,54% 8,47%



#### **Calculation of achieved savings with** adjustments to final consumption



An analytical module is currently **under** development in which the methodology for calculating energy savings is integrated

adjustment of thermal energy for heating according to the heating degree days

Multiple possibilities of defining the baseline year

🛊 USERS 🔹 🗐 OBJECTS 🔹 🖃 REPORTS AND CHARTS 👻 🛹	GED ADMINISTRATION -													9	A VANJA.HART
Object Consumption/Sensors															
able Simple View 1	Statistics of selected objects	;													
Table 2			in at least one				229								
lap Map	Objects with consumption in	n at least one y	ear, which hav	e an entered	heated area	Ak (under ana	lysis) 229								
avings verification O Charts - Advanced	Export														
tter for smaller amounts of data, 2 is better for larger amounts . Values are the same.															
	Consumption indicators <sup>(?)</sup>														
	Year			201	5					20	16				
t selection Refresh	Analysis Type	Ener	.gy	CO2 emi	ission	Primary	energy	Ene	rgy	CO2 en	nission	Primary	energy	Ener	gy
Object     Label - Object     Object user       I - Object user     Itina.madgzevic - StreamSavePlus-An •       ow more detailed object filters     Clear       per of selected objects:     465		Indicator of energy consumption of for heating [Wh/(m <sup>2</sup> HDD)]	Electricity consumption e indicator	heating	Electricity CO2 emission indicator [tCO2/m2]	Indicator primary energy consumption heating [Wh/(m <sup>2</sup> HDD)]	energy	Indicator of energy consumption for heating [Wh/(m <sup>2</sup> HDD)]	Electricity consumption indicator [kWh/m²]	Indicator of CO2 emission for heating [kgCO2/(m <sup>2</sup> HDD)]	Electricity CO2 emission indicator [tCO2/m2]	Indicator primary energy consumption heating [Wh/(m <sup>2</sup> HDD)]	Primary energy electricity consumption indicator [kWh/m <sup>2</sup> ]	Indicator of energy consumption for heating [Wh/(m <sup>2</sup> HDD)]	Electricity consumption indicator [kWh/m²
	Bolnica	106,41	69,40	0,03	0,02	118,02	112,01	109,47	70,23	0,03	0,02	121,38	113,35	108,33	71,73
verification Refresh	Obiteljska	81,44	52,81	0,02	0,01	92,47	85,23	85,49	52,23	0,02	0,01	94,84	84,30	82,24	52,71
	Obrazovna	51,36	19,71	0,01	0,005	61,07	31,81	50,54	20,15	0,01	0,005	59,48	32,52	50,66	20,00
seline Calculation	Ostale nestambene	39,53	37,75	0,009	0,009	43,32	60,92	31,86	36,06	0,007	0,008	34,92	58,20	32,80	36,19
aseline Calculation	Sportska dvorana	69,15	31,52	0,02	0,007	97,38	50,88	65,39	33,31	0,02	0,008	92,85	53,77	76,77	33,45
aseline Calculation	Uredska	58,54	47,82	0,01	0,01	67,34	77,18	62,14	47,06	0,02	0,01	71,41	75,96	61,12	49,15
aseline Calculation															•
aseline Calculation	🖈 Export														
aseline Calculation															
aseline Calculation	Consumption <sup>(?)</sup>														
aseline Calculation	Year			20	D15					:	2016				
aseline Calculation	Analysis Type	En	ergy	CO2 e	mission	Prima	ry energy	E	nergy	CO2	emission	Prima	ry energy	Er	ergy
aseline Calculation aseline Calculation aseline Calculation	Building type / Consumption	Energy consumption for heating [kWh]	Electricity consumption [kWh]	CO2 emission of heating [tCO2]	Electricity CO2 emission [tCO2]	Primary energy consumptio for heating [kWh]		Energy consumption for heating [kWh]			Electricity f CO2 emission [tCO2]	Primary energy consumptio for heating [kWh]		Energy consumption for heating [kWh]	Electri consum [kWł
Paseline Calculation	Bolnica	46.329.230	12.122.880	10.390	2.847	50.900.459	19.566.328	47.816.313	12.267.755	10.720	2.881	52.537.083	19.800.156	45.123.322	12.530.
seline Calculation	Obiteljska	15.581.983	4.118.056	3.943	967	18.218.448	6.646.542	16.134.938		4.040	956	18.722.024	6.574.161	16.289.528	4.110.2
seline Calculation	Obrazovna	56.798.478	8.310.767	15.788	1.951	68.140.159	13.413.578	58.420.782		16.060	1.995	69.312.764	13.713.482	58.171.743	8.434.8
	Ostale nestambene	668.089	240.463	148	56	732.899	388.108	653.289	229.702	145	54	716.693	370.739	660.648	230.5
seline Calculation	Sportska dvorana	2.649.338	443.088	879	104	3.731.321	715.144 5.666.365	2.609.195	468.255	877	110	3.705.110	755.764	2.959.882	470.1
								15.822.679	3.455.136	3.752	811	17.887.621	5.576.589	15.604.835	3.608.5
seline Calculation	Uredska	14.552.431	3.510.759	3.447	824	16.453.881	5.000.505	10.022.073	5.155.150	01102	011	17.007.021	0107 01007	20100 11000	DIOCON
aseline Calculation		14.552.431	3.510.759	3.447	824	10.453.881	5.000.305	10.022.075	5.155.150	0.002	011	17.007.021	0107 01007	2010011000	•



## Calculation of achieved savings with adjustments to final consumption



Object	Consumption/Sensors	▲ 🕅 Exp	port													
Table	Simple View 1     Table 2	Referen	nce (base indicators) <sup>(;</sup>	າ												
Мар	Мар					00	laslas	Delman								
Savings verificat	ation 🔵 Charts - Advanced		Analysis Type	Ene	rgy	CO2 em	ISSION	Indicator	energy							
better for smaller am ata. Values are the sa ect selection	mounts of data, 2 is better for larger amounts same.	Buildin	a type / The results	Indicator of energy consumption for heating [Wh/(m <sup>2</sup> HDD)]	Electricity consumption indicator	Indicator of CO2 emission for heating [kgCO2/(m <sup>2</sup> HDD)]	Electricity CO2 emission indicator [tCO2/m2]	primary energy consumption heating [Wh/(m <sup>2</sup> HDD)]	Primary energy electricity consumption indicator [kWh/m <sup>2</sup> ]			Cal	culate	d indic	ators b	y buildin
Object Label	l - Object Object user		Bolnica	108,07	70,45	0,03	0,02	119,91	113,71							'
el - Object use	ser		Obiteljska	83,06	52,58	0,02	0,01	92,47	84,87					tv	pe	
ntina.madzarevi	vic - StreamSavePlus-An 🔻		Obrazovna	50,85	19,96	0,01	0,005	59,71	32,21					c y		
how more detail	ailed object filters Clear		tale nestambene	34,73	36,67	0,008	0,009	38,06	59,18							
her of selecte	red objects: 465	Sp	ortska dvorana	70,43	32,76	0,02	0,008	99,79	52,88							
iber of selecte	eu object3, 405		Uredska	60,60	48,01	0,02	0,01	69,72	77,49							
Baseline Cal	alculation	Reducti	ion of energy consump	otion in the ye	ear: 2018 ···											
Baseline Cal Baseline Cal Baseline Cal	alculation alculation		Analysis Type	Energy	Electricity		Corrected reference (base)		Electricity	corrected reference (base) CO2	Corrected reference (base) CO <sub>2</sub>		<b>.</b>		•	oy type o ar - witl
Baseline Calo Baseline Calo Baseline Calo Baseline Calo Baseline Calo	alculation alculation alculation alculation alculation		Analysis Type	Energy consumptio for heating [kWh]	Electricity consumptio [kWh]	Corrected reference (base) n energy consumptio for heating [kWh]	reference (base) electricit consumpti [kWh]	e CO: emission y heating on [tCO]	Electricity of CO2 emission	Corrected reference (base) CO <sub>2</sub> emission for beating [tCO <sub>2</sub> ]	reference (base) CO <sub>2</sub> emission for electricity [tCO <sub>2</sub> ]		ilding	in sele	•	ar - witl
Baseline Cale Baseline Cale Baseline Cale Baseline Cale Baseline Cale Baseline Cale Baseline Cale	alculation alculation alculation alculation alculation alculation		Analysis Type Ig type / Consumption Bolnica	Energy consumptio for heating [kWh] 46.506.850	Electricity consumptio [kWh] 12.198.896	Corrected reference (base) n energy consumption for heating [kWh] 51.379.181	reference (base) electriciti consumpti [kWh] 12.307.10	e CO: emission y heating on [tCO]	electricity CO2 emission ftCO2	Corrected reference (base) CO <sub>2</sub> emission for boating [tCO <sub>2</sub> ] 12.145	reference (base) CO <sub>2</sub> emission for electricity [tCO <sub>2</sub> ] 2.890	Pri bu	ilding and v	in sele vithou	t adjust	ar - witl
Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal	alculation alculation alculation alculation alculation alculation		Analysis Type Ig type / Consumption Bolnica Obiteljska	Energy consumptio for heating [kWh] 46.506.850 15.984.909	Electricity consumptio [kWh] 12.198.896 3.982.459	Corrected reference (base) n energy consumptio for heating [kWh] 51.379.181 16.405.919	reference (base) electricit consumpti [kWh] 12.307.10 4.100.501	e CO: emission y heati g on [tCO] 1 10.430	electricity CO2 emission tCO2 2.864 935	Corrected reference (base) CO2 emission for boating [tCO2] 12.145 4.103	reference (base) CO2 emission for electricity [tCO2] 2.890 963	Pri bu 51.105./14 18.555.056	ilding and v <sup>19.089.017</sup> 6.427.690	in sele vithou 18.264.751	t adjust	ar - witl
Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal	alculation alculation alculation alculation alculation alculation alculation	Buildin	Analysis Type Ig type / Consumption Bolnica Obiteljska Obrazovna	Energy consumptio for heating [kWh] 46.506.850 15.984.909 50.841.003	Electricity consumptio [kwh] 12.198.896 3.982.459 7.960.244	Corrected reference (base) energy consumptio for heating [kWh] 51.379.181 16.405.919 54.950.572	reference (base) electricit consumpti [kWh] 12.307.10 4.100.501 8.414.051	e CO: emission heating [tCO] 1 10.4:0 4.01 . 13.44 7	Electricity CO2 emission [tCO2] 2.864 935 1.869	Corrected reference (base) CO <sub>2</sub> emission for beating [tCO <sub>2</sub> ] 12.145 4.103 14.838	reference (base) CO2 emission for electricity [tCO2] 2.890 963 1.976	Pri bu 51.105./14 18.555.056 58.819.239	ilding and v 19.089.017 6.427.690 12.847.834	in sele vithou 18.264.751 64.524.020	t adjust 6.618.209 13.580.278	ar - witl
Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal Baseline Cal	alculation alculation alculation alculation alculation alculation alculation	Buildin	Analysis Type Ing type / Consumption Bolnica Obiteljska Obrazovna stale nestambene	Energy consumptio for heating [kWh] 46.506.850 15.984.909 50.841.003 680.059	Electricity consumptio [kWh] 12.198.896 3.982.459 7.960.244 240.615	Corrected reference (base) n energy consumptio for heating [kWh] 51.379.181 16.405.919 54.950.572 625.944	reference (base) electricit consumpti [kWh] 12.307.10 4.100.501 8.414.051 233.575	CO: emission heati g [tCO ] 1 10.43 0 . 4.01 . 13.44 7 . 150	Electricity CO2 emission 1000-1 2.864 935 1.869 56	Corrected reference (base) CO <sub>2</sub> emission for heating [tCO <sub>2</sub> ] 12.145 4.103 14.838 138	reference (base) CO2 emission for [tCO2] 2.890 963 1.976 55	Pri bu 51.105./14 18.555.056	ilding and v <sup>19.089.017</sup> 6.427.690	in sele vithou 18.264.751	t adjust	ar - witl
Baseline (Cal Baseline (Cal Baseline (Cal Baseline (Cal Baseline (Cal Baseline (Cal Baseline (Cal Baseline (Cal Baseline (Cal	alculation alculation alculation alculation alculation alculation alculation	Buildin	Analysis Type ag type / Consumption Bolnica Obiteljska Obrazovna stale nestambene sportska dvorana	Energy consumptio for heating [kWh] 46.506.850 15.984.909 50.841.003 680.059 2.773.267	Electricity consumptio [kwh] 12.198.896 3.982.459 7.960.244 240.615 447.289	Corrected reference (base) energy consumption for heating [kWh] 51.379.181 16.405.912 52.944 2.585.879	reference (base) electricit consumpti [kWh]           12.307.10           4.100.501           8.414.051           233.575           460.492	CO: emission heating [tCO] 1 10.45 0 . 4.01 . 13.44 7 . 150 . 934	Electricity CO2 emission (4CO-1) 2.864 935 1.869 56 105	Corrected reference (base) CO2 emission for baseling [tCO2] 12.145 4.103 14.838 138 866	reference (base) CO2 emission for aloctricity [tCO2] 2.890 963 1.976 55 108	Pri bu 51.105./14 18.555.056 58.819.239	ilding and v 19.089.017 6.427.690 12.847.834	in sele vithou 18.264.751 64.524.020	t adjust 6.618.209 13.580.278	ar - witl
Baseline     Call	alculation alculation alculation alculation alculation alculation alculation alculation alculation	Buildin	Analysis Type Ing type / Consumption Bolnica Obiteljska Obrazovna stale nestambene	Energy consumptio for heating [kWh] 46.506.850 15.984.9009 50.841.003 680.059 2.773.267 13.364.757	Electricity consumptio [kwh] 12.198.896 3.982.459 7.960.244 240.615 447.289 3.579.458	Corrected reference (base) energy consumption for heating [kWh] 51.379.181 16.405.919 54.950.572 625.944 2.585.879 11.431.676	reference (base) electricit consumpti [kwh] 12.307.10 4.100.501 8.414.051 233.575 460.492 3.524.811	CO: emissic heati f(CO)	Electricity cO2 emission (2.864 935 1.869 56 105 840	Corrected reference (base) CO2 emission for [tCO2] 12.145 4.103 14.838 138 866 2.878	reference         (base) CO2           emission factorisity         [tCO2]           2.890         963           1.976         55           108         828	Pri bu 51.105./14 18.555.056 58.819.239 745.739	ilding and v 19.689.017 6.427.690 12.847.834 388.353	in sele vithou 18.264.751 64.524.020 686.050	cted ye t adjust 6.618.209 13.580.278 376.990	ar - with ment
Baseline     Call	Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation	Buildin	Analysis Type ag type / Consumption Bolnica Obiteljska Obrazovna stale nestambene sportska dvorana	Energy consumptio for heating [kWh] 46.506.850 15.984.909 50.841.003 680.059 2.773.267 13.364.757 Reduction o	Electricity consumptio [kWh] 12.198.896 3.982.459 7.960.244 240.615 447.289 3.579.458 f energy consult	Corrected reference (base) n energy consumption for heating (kwh) 51.379.181 16.405.919 54.950.572 625.944 2.585.879 11.431.676 umption [kwh	reference (base) electricit consumpti [kWh] 12.307.10 4.100.501 8.414.051 233.575 460.492 3.524.811 ]: 7.859.893	<ul> <li>CO: emissic i heati g (CO)</li> <li>ftCO</li> <li>10.45</li> <li>4.01</li> <li>13.44</li> <li>150</li> <li>934</li> <li>3.20</li> <li>Redu t</li> </ul>	Electricity CO <sub>2</sub> emission (CO <sub>2</sub> ) emission (CO <sub>2</sub> ) 2.864 935 1.869 56 105 840 or of CO <sub>2</sub> emission	Corrected reference (base) CO2 emission for location [tCO2] 12.145 4.103 14.838 138 866 2.878 sion [tCO2]:	reference (base) CO <sub>2</sub> emission for aloctricity [tCO <sub>2</sub> ] 2.890 963 1.976 55 108 828 2.939	Pri bu 51.105./14 18.555.056 58.819.239 745.739	ilding and v 19.689.017 6.427.690 12.847.834 388.353	in sele vithou 18.264.751 64.524.020 686.050	cted ye t adjust 6.618.209 13.580.278 376.990	ar - with ment
Baseline     Call	Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation	Buildin Os S	Analysis Type Ig type / Consumption Bolnica Obiteljska Obrazovna stale nestambene iportska dvorana Uredska	Energy consumptio for heating [kWh] 46.506.850 15.984.909 50.841.003 680.059 2.773.267 13.364.757 Reduction o	Electricity consumptio [kWh] 12.198.896 3.982.459 7.960.244 240.615 447.289 3.579.458 f energy consult	Corrected reference (base) energy consumption for heating [kWh] 51.379.181 16.405.919 54.950.572 625.944 2.585.879 11.431.676	reference (base) electricit consumpti [kWh] 12.307.10 4.100.501 8.414.051 233.575 460.492 3.524.811 ]: 7.859.893	<ul> <li>CO: emissic i heati g (CO)</li> <li>ftCO</li> <li>10.45</li> <li>4.01</li> <li>13.44</li> <li>150</li> <li>934</li> <li>3.20</li> <li>Redu t</li> </ul>	Electricity cO2 emission (2.864 935 1.869 56 105 840	Corrected reference (base) CO2 emission for location [tCO2] 12.145 4.103 14.838 138 866 2.878 sion [tCO2]:	reference         (base) CO2           emission factorisity         [tCO2]           2.890         963           1.976         55           108         828	Pri bu 51.105./14 18.555.056 58.819.239 745.739	ilding and v 19.689.017 6.427.690 12.847.834 388.353	in sele vithou 18.264.751 64.524.020 686.050	cted ye t adjust 6.618.209 13.580.278 376.990	ar - witl
Baseline     Call	Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation	Buildin	Analysis Type Ig type / Consumption Bolnica Obiteljska Obrazovna stale nestambene iportska dvorana Uredska	Energy consumptio for heating [kWh] 46.506.850 15.984.909 50.841.003 680.059 2.773.267 13.364.757 Reduction o	Electricity consumptio [kWh] 12.198.896 3.982.459 7.960.244 240.615 447.289 3.579.458 f energy consult	Corrected reference (base) n energy consumption for heating (kwh) 51.379.181 16.405.919 54.950.572 625.944 2.585.879 11.431.676 umption [kwh	reference (base) electricit consumpti [kWh] 12.307.10 4.100.501 8.414.051 233.575 460.492 3.524.811 ]: 7.859.893	<ul> <li>CO: emissic i heati g (CO)</li> <li>ftCO</li> <li>10.45</li> <li>4.01</li> <li>13.44</li> <li>150</li> <li>934</li> <li>3.20</li> <li>Redu t</li> </ul>	Electricity CO <sub>2</sub> emission (CO <sub>2</sub> ) emission (CO <sub>2</sub> ) 2.864 935 1.869 56 105 840 or of CO <sub>2</sub> emission	Corrected reference (base) CO2 emission for location [tCO2] 12.145 4.103 14.838 138 866 2.878 sion [tCO2]:	reference (base) CO <sub>2</sub> emission for aloctricity [tCO <sub>2</sub> ] 2.890 963 1.976 55 108 828 2.939	Pri bu 51.105./14 18.555.056 58.819.239 745.739 Re En	ilding and v <sup>19,689,017</sup> 6.427,690 12,847,834 388,353 ergy c	in sele vithou <sup>1</sup> <sup>57,009,687</sup> 18.264.751 64.524.020 685.050 onsum	cted ye t adjust 6.618.209 13.580.278 376.990	ar - with ment
Baseline     Call	Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation Alculation	Buildin Os S	Analysis Type ag type / Consumption Bolnica Obiteljska Obrazovna stale nestambene iportska dvorana Uredska	Energy consumptio for heating [kWh] 46.506.850 15.984.909 50.841.003 680.059 2.773.267 13.364.757 Reduction o Reduction	Electricity consumptio [kwh] 12.198.896 3.982.459 7.960.244 240.615 447.289 3.579.458 f energy conso of energy conso	Corrected reference (base) n energy consumption for heating (kwh) 51.379.181 16.405.919 54.950.572 625.944 2.585.879 11.431.676 umption [kwh	reference (base) electricit consumpti [kWh] 12.307.10 4.100.501 8.414.051 233.575 460.492 3.524.811 ]: 7.859.893	<ul> <li>CO: emissic i heati g (CO)</li> <li>ftCO</li> <li>10.45</li> <li>4.01</li> <li>13.44</li> <li>150</li> <li>934</li> <li>3.20</li> <li>Redu t</li> </ul>	Electricity CO <sub>2</sub> emission (CO <sub>2</sub> ) emission (CO <sub>2</sub> ) 2.864 935 1.869 56 105 840 or of CO <sub>2</sub> emission	Corrected reference (base) CO2 emission for location [tCO2] 12.145 4.103 14.838 138 866 2.878 sion [tCO2]:	reference (base) CO <sub>2</sub> emission for aloctricity [tCO <sub>2</sub> ] 2.890 963 1.976 55 108 828 2.939	Pri bu 51.105./14 18.555.056 58.819.239 745.739 Re En	ilding and v <sup>19,689,017</sup> 6.427,690 12,847,834 388,353 ergy c	in sele vithou <sup>1</sup> <sup>57,009,687</sup> 18.264.751 64.524.020 685.050 onsum	cted ye t adjust 6.618.209 13.580.278 376.990	ar - with ment
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# EMIS - Calculation of achieved savings with adjustments to final consumption



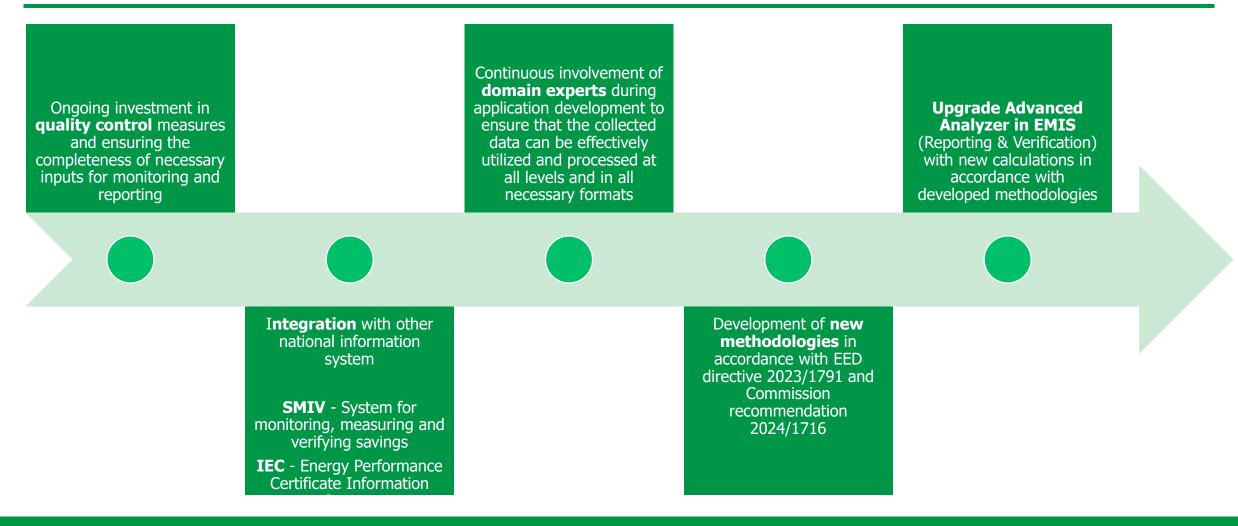
#### ✤ Recapitulation of savings made using EMIS

ion - ents	Year	Number of ECC	A <sub>k</sub> [m <sup>2</sup> ]	2015_2016_20	17 (baseline)	2021 (	baseline)
nsumption djustment:		ECC		Energy savings - total (kWh)	Energy savings - total (%)	Energy savings - total (kWh)	Energy savings - total (%)
ns i	2018	229	767.700,33	7.859.893,00	5		
ons idj	2019	229	767.700,33	11.413.973,00	7		
CO	2020	229	767.700,33	31.797.345,00	20		
it al	2021	229	767.700,33	42.321.599,00	24		
Final witl	2022	229	767.700,33	41.085.981,00	25	3.166.008,00	2
Ш.	2023	229	767.700,33	2.344.285,00	2	-21.739.198,00	-25



#### Conclusion







#### **Project partners**









### Thank You

#### Get in touch for more information!



Project coordinator – Jiří Karásek, SEVEn



Email the project at contact@streamsave.eu

All project reports will be available for download

on the streamSAVE website www.streamsave.eu



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Follow the project on Twitter <a>@stream\_save</a>





Use of EMIS system for monitoring, analysis and verification of energy savings

Example: Energy renovation of the primary school building and sports hall "Donja Dubrava"



## Example: Energy renovation of the school building and sports hall



#### Energy renovation of the school building and sports hall of the Primary School "Donja Dubrava"

Project implementation period	19.11.2018 19.11.2020.
Total investment	903.568 EUR ( 871.342 EUR)
Co-financing	529.674 EUR ( 60,79% eligible costs)

#### Measures

1	Thermal insulation of the outer envelope (walls, ceiling, roof)
2	Replacement of exterior windows and doors
3	Replacing existing gas boilers with new ones
4	Automation control of the heating system
5	Installation of thermostatic valves
6	Installation of ECO hood and exhaust fan
7	Replacing the lighting system with new LED lighting



Osnovna škola Donja Dubrava - ENERGETSKA OBNOVA (skole.hr)



# Data from the Register of issued energy certificates



#### ✤ Only selected set of publicly available information

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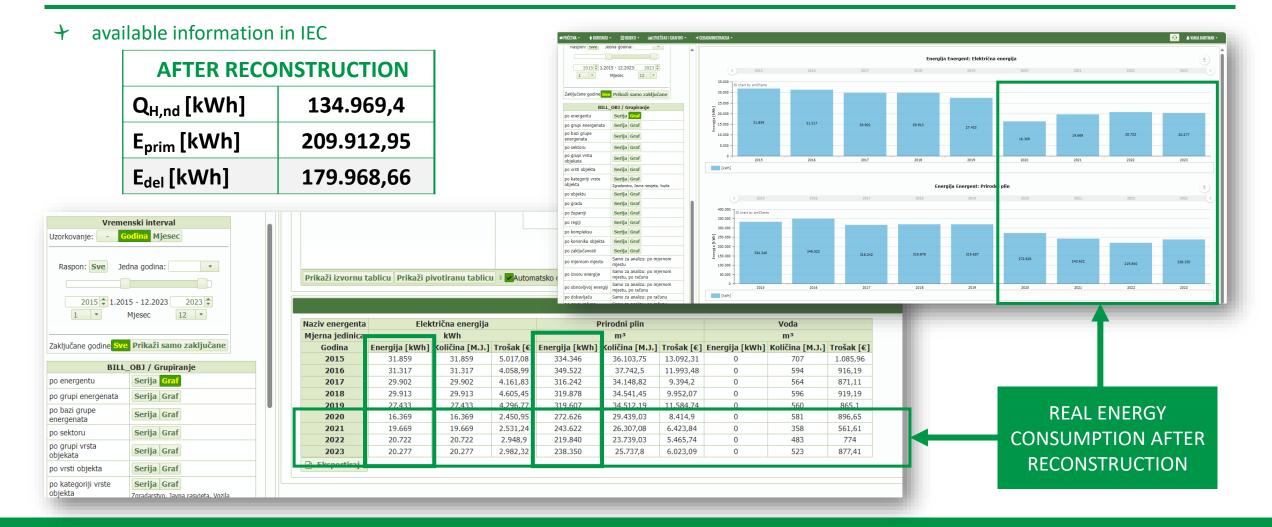
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eastor opera to send	0,41			Faktor oblika /o [m-1]	0,41	Referentna klim
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		53	85			(
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RBR	69564	70493	TOTAL
Energy Performance Certificate Label	P_1082_2018_10109_NSZ2	P_1082_2018_10111_NSZ6	
Type of building	Educational building	Sports hall	
Name	Primary School "Donja Dubrava" - BUILDING	Primary School "Donja Dubrava" - SPORTS HALL	
City	DONJA DUBRAVA	DONJA DUBRAVA	
Q <sub>H,nd</sub> [kWh]	92.957,81	42.011,59	134.969,4
Q" <sub>H,nd</sub> [kWh/m <sup>2</sup> a]	53,13 (C)	57,5 (C)	
E <sub>prim</sub> [kWh]	147.989,80	61.923,15	209.912,95
E <sub>prim</sub> [kWh/m <sup>2</sup> a]	84,59 (C)	85,2 (A+)	
E <sub>del</sub>	126.066,70	53.901,96	179.968,66
Date of issue	30.10.2020.	19.11.2020.	
Date of validy	30.10.2030.	19.11.2030.	
Year of construction of building	1983	1983	
A <sub>k</sub> (m²)	1.749,51	726,84	2.476,35



#### EMIS Analytics – Final energy consumption (by energy bills, without adjustments)





stream

#### **EMIS Analytics – Verification of energy** savings (by energy bills, with adjustments)

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6 Bazna potrošnja Izračun		Godina			20	017					20	018			
7 Bazna potrošnja Izračun 7 Bazna potrošnja Izračun		Vrsta analize	Ene	rgija	Emisi	ja CO2	Primarn	a energija	Ene	rgija	Emisi	ja CO2	Primarna	a energija	
y Bazna potrošnja Izračun 8 Bazna potrošnja Izračun 9 Bazna potrošnja Izračun 0 Bazna potrošnja Izračun 1 Bazna potrošnja Izračun		Tip zgrade / Potrošnja	Potrošnja energenta za grijanje [kWh]	Potrošnja električne energije [kWh]	Emisija CO2 za grijanje [tCO2]	Emisija CO2 električne energije [tCO2]	Potrošnja primarne energije za grijanje [kWh]	Potrošnja primarne energije za električnu energiju [kWh]	Potrošnja energenta za grijanje [kWh]	Potrošnja električne energije [kWh]	Emisija CO2 za grijanje [tCO2]	Emisija CO2 električne energije [tCO2]	Potrošnja primarne energije za grijanje [kWh]	Potrošnja primarne energije za električnu energiju [kWh]	
2 Bazna potrošnja Izračun		Obrazovna	316.242	29.902	70	7	346.285	48,262	319.878	29.913	70		350.266	48.280	

https://isge.ht/core/analysis.xhtml																	
KORISNICI - 🔲 OBJEKTI - Imizvieštaji i grafovi -	→ GEDADMINISTRACUA →															0.4	VANUA HARTI
U launca *																_	
<ul> <li>Karta</li> </ul>	Eksportiraj																
ja ušteda 💿 Grafovi - Napredno		10											_		_		_
ju količinu podataka, 2 je bolji za veću količinu	Referentni (bazni pokaza	atelji) (*)															
i su identični.	Vrsta analize	Energ	gija	Emisija		Primarna e											
nta Owysii 🗖 Etiketa - Objekt   Korisnik objekta risnik objekta	Tip zgrade / Rezultati	energije za grijanje	električne	grijanje	Pokazatelj emisije CO2	potrošnje primarne energije za grijanje [Wh/(m <sup>2</sup>	Pokazatelj potrošnje primarne energije električne energije [kWh/m <sup>2</sup> ]										
IŠ Donja Dubrava (HR-40321 •	Obrazovna	46.15	11.74	0.01	0.003	50.53	18.96										
ciznije filtre objekata Očisti	Eksportiraj				-,												
nih objekata: 1																	
	Smanjenje potrošnje en	ergije u godir	ni: 2020 <sup>(?)</sup>														
išteda Ovoježi	Vrsta analize		Ener	rolla			Emisija	a CO2			Primar	na energija					
potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun	Tin zarade / Potzožnia	Potrošnja energenta za grijanje [kWh]	Potrošnja električne energije [kWh]	Korigirana referentna (bazna) potrošnja energenta za grijanje [kWh]		Emisija CO2 za grijanje [tCO2]	Emisija CO2 električne	Korigirana referentna (bazna) emisija CO2 za grijanje [tCO2]	Korigirana referentna (bazna) emisija CO2 električne energije [tCO2]	Potrošnja primarne energije za grijanje [kWh]	Potrošnja primarne energije z električnu energiju [kWh]	Korig refere a (baa potro prim energ	girana rentna zna) rošnja name	Korigiran referentn (bazna) potrošnja primarne energije z električni [kWh]			
	Obrazovna	272.626	16.369	317.595	29.083	60	4	70	7	298.525	26.420	347	7.766	46.939			
potrošnja Izračun	Obrazovna		16.369 otrošnje ene		29.083 57.683		4 e emisije CO2		7	298.525 Smanjenje potr				46.939 69.761			
potrošnja Izračun potrošnja Izračun	Obrazovna	Smanjenje p		rgije [kWh]:		Smanjenj		[tCO2]:			rošnje primar	me energije	[kWh]:				
potrošnja Izračun potrošnja Izračun potrošnja Izračun	Obrazovna 값 Eksportiraj	Smanjenje p	otrošnje ene	rgije [kWh]:	57.683	Smanjenj	e emisije CO2	[tCO2]:	13	Smanjenje potr	rošnje primar	me energije	[kWh]:	69.761			
potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun		Smanjenje p	otrošnje ene	rgije [kWh]:	57.683	Smanjenj	e emisije CO2	[tCO2]:	13	Smanjenje potr	rošnje primar	me energije	[kWh]:	69.761			
potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun		Smanjenje p Smanjenje	ootrošnje ene potrošnje ene	rgije [kWh]:	57.683	Smanjenj	e emisije CO2	[tCO2]:	13	Smanjenje potr	rošnje primar	me energije	[kWh]:	69.761			
potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun potrošnja Izračun	🔝 Eksportiraj Smanjenje potrošnje en	Smanjenje p Smanjenje	ootrošnje ener potrošnje ene ni: 2021 <sup>(7)</sup>	rgije (kWh): ergije [%]:	57.683	Smanjenj	e emisije CO2 nje emisije CO	(tCO2): 92 [%]:	13	Smanjenje potr	rošnje primar trošnje prima	me energije arne energij	: [kWh]: je [%]:	69.761	]		
potročnja Izračun otročnja Izračun potročnja Izračun potročnja Izračun potročnja Izračun potročnja Izračun	试 Eksportiraj	Smanjenje p Smanjenje	ootrošnje ene potrošnje ene	rgije [kWh]: argije [%]: rgija	57.683 17 %	Smanjenj	e emisije CO2	(tCO2): 92 [%]:	13 17 %	Smanjenje potr	rošnje primar trošnje prima	me energije arne energij ma energija	e (kWh): je (%):	69.761 18 %		_	
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mologi Izračkom mologi	Là Eksportinaj Smanjenje potrošnje en Vrsta analize	Smanjenje p Smanjenje ergije u godin Potrošnja energenta za grijanje	otrošnje ene potrošnje ene ni: 2021 <sup>(?)</sup> Ener Potrošnja električne energije	rgija [kWh]: ergija [%]: gija Korigirana referentna (bazna) potrošnja energenta za grijanje	57.683 17 % Korigirana referentra (bazna) potrošnja električne energije	Smanjenj Smanjer Emisija CO2 za grijanje	e emisije CO2 aje emisije CO Emisija Emisija CO2 električne energije	a CO2 Korigirana referentna (bazna) emisija CO2 za grijanje	13 17 % Korigirana referentna (bazna) emisija CO2 električne energije	Smanjenje pot Smanjenje po Potrošnja primarne energije za	ošnje primar trošnje prima Primar Potrošnja primarne energije z električnu energiju	me energije arme energija ma energija Korig refer a (baz potre prim energ	e [kWh]: je [%]: girana eentna zna) ošnja name gije za e [kWh]	69.761 18 % Korigiram referentm (bazna) potrošnja primarne energije z električne	2	-	
trologi pradom trologi pradom	2 Eksportiraj Smanjenje potročnje en Vrsta analize Tip zgrade / Potrošnja	Smanjenje p Smanjenje ergije u godin Potrošnja energenta za grijanje [kWh] 243.622	otrošnje ene potrošnje ene ii: 2021 <sup>(?)</sup> Ene Potrošnja električne energije [kWh]	rgija [%]: rgija Korigirana referentna (bazna) potrošnja energenta za grijanja [kWh] 344.452	57.683 17 % Korigirana referentna (bazna) potrošnja električne energije [kwh]	Smanjenj Smanjer Emisija CO2 za grijanje [tCO2] 54	je emisije CO2 nje emisije CO Emisija Emisija CO2 električne energije [tCO2]	a CO2 Korigirana referentna (bazna) emisija CO2 za grijanje [tCO3] 76	13 17 % Korigirana referentna (bazna) emisija CO2 električne energije [tCO2] 7 24	Smanjenje pot Smanjenje po Potrošnja primarne energije za grijanje [kWh]	Primar Primar Potrošnja primarne energije z električnu energiju [kWh] 31.746	me energije arme energija ma energija Korig refer (baz prim energ grijanje 377.	e [kWh]: je [%]: girana eentna zna) ošnja aame gije za e [kWh] 7.175	69.761 18 % Korigirann referentn (bazna) potrošnja primarne energije z električim [kWh]	2		
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tertering i Izračun sertering Izračun sertering Izračun sertering Izračun tertering Izračun	Là Eksportiraj Smanjenje potročnje ene Vrsta analize Tip zgrade / Potrošnja Obrazovna Là Eksportiraj Smanjenje potročnje e Vrsta analize Tip zgrade / Potrošnja	Smanjenje p Smanjenje epije u godit Potrošnja energenta za grijanje [kwh] 243.422 Smanjenje p Smanjenje (kwh] 243.422 Smanjenje za grijanje (kwh) 210.440 Smanjenje Smanjenje statu 210.440	storošnje ene potrošnje en Potrošnja električne energije (kvh) 19.569 storošnja električne energije (kvh) E Potrošnja ene potrošnje energije (kvh) 20.722 potrošnja potrošnje energije (kvh)	ngije (kWh): mrgije (%6): Korigirana referentna (bazna) potrošnja za grijan 344.452 ngije (kWh) 344.52 ngije (kWh): nergija Korigiran referentna (bazna) potrošnja za grijan 2.2.680	57.403 17 % Korigirana referentra (barna) potrošinja (kwh) 29.083 110.243 30 % Korigirana a potrošinja 110.243 30 %	Smanjen Smanjer Za grijanje (ICO2) 54 Smanjer Smanjer a a a a a a a s a s a s a s a s a s a	e emisije CD tje emisije CD Emisije Emisije CD električne energije [ECO2] 5 je emisije CD tje em	(ICO2): (ICO2): a CO2 Korigirana (Parana) emisija CO2 (ICO2): a CO2 a CO2 Korigianje (ICO2): b (%3): CO3 Korigianje (Da2): b (%3): CO3 Korigianje (Da2):	13 17 % Korigirana referentna (bazna) emsigia Coz električne energije (ICOz)] 7 24 30 % Korigi referenta (bazna) (bazna) električne (bazna) referenta (bazna) električne (bazna) električne (bazna) električne (bazna) (bazna) električne (bazna) električne referenta električne referenta električne referenta električne referenta električne referenta električne referenta električne referenta električne referenta električne referenta električne referenta električne elekt	Smanjenje pot Smanjenje po Potrožnja prinasme emorgije za grdjanje (kWh) Smanjenje po Smanjenje po Potrožnja Smanjenje po Potrož grdjanje jja 240.5 Smanjenje po Potrožej sa grdjanje po Potrožej sa grdjanje po 240.5 Smanjenje po Smanjenje po Smanje po Smanje po Smanje po Smanje po Smanje po Smanje po Smanje po Smanje	Priman Potrošnje prima Potrošnja primarne odektrično el	na energija ma energija primenov primen	e (kwh): pirana erit	68.761 18.% Korigiran reformation primaring primar	a a deferentnä obrošoja perimarne nergije za lektričnu [kWh] 46.939		
potrologi, Izračun potrologi, Izračun prozoji Izračun prozoji Izračun potrologi, I	Là Eksportiraj Smanjenje potročnje ene Vrsta analize Tip zgrade / Potrošnja Obrazovna Là Eksportiraj Smanjenje potročnje e Vrsta analize Tip zgrade / Potrošnja	Smanjenje p Smanjenje epije u godit Potrošnja energenta za grijanje [kwh] 243.422 Smanjenje p Smanjenje (kwh] 243.422 Smanjenje za grijanje (kwh) 210.440 Smanjenje Smanjenje statu 210.440	storošnje ene potrošnje en Potrošnja električne energije (kvh) 19.569 storošnja električne energije (kvh) E Potrošnja ene potrošnje energije (kvh) 20.722 potrošnja potrošnje energije (kvh)	ngije [kWh]: mgije [%6]: Korigirana referentna (bazma) potrošnja za grijanje [kWh] 344.452 ngije [kWh]: mgije [%9]: Korigiran (bazma) (bazma) (bzwh) 322.680 mergije [KWh]	57.403 17 % Korigirana referentra (barna) potrošinja (kwh) 29.083 110.243 30 % Korigirana a potrošinja 110.243 30 %	Smanjen Smanjer Za grijanje (ICO2) 54 Smanjer Smanjer a a a a a a a s a s a s a s a s a s a	ie emisije CO sje emisije CO Emisija Emisija CO električne energije [ECO2] je emisije CO je emisije CO je emisije CO je emisije CO je emisije CO je emisije CO	(ICO2): (ICO2): a CO2 Korigirana (Parana) emisija CO2 76 (ICO2): p (%3): p (%3): (ICO2): p (%3): (ICO2): p (%3): (ICO2): p (%3): (ICO2): p (%3): (ICO2): (ICO2): p (%3): (ICO2): (I	13 17 % Korigirana referentna (bazna) emisija CO emisija CO (tCO2) 7 24 30 % 30 %	Smanjenje pot Smanjenje po Potrožnja prinasme emorgije za grdjanje (kWh) Smanjenje po Smanjenje po Potrožnja Smanjenje po Potrož grdjanje jja 240.5 Smanjenje po Potrožej sa grdjanje po Potrožej sa grdjanje po 240.5 Smanjenje po Smanjenje po Smanjenje po Smanjenje po Potrožej sa grdjanje po Potrožej sa grdja po Potrožej sa sa sa sa sa sa sa sa sa sa sa sa sa s	Priman Priman Potrošnja prima Potrošnja primarne energiju (kwh) 31.746 ozšnje primar rrošnje primar rrošnje primar (kwh) 1 22.5 22.5	na energija ma energija primenov primen	e (kwh): pirana erit	68.761 18.% Korigiran reformation primaring primar	a a eferentna (bazna) otrošnja rimarne nergije za lektričnu [kWh] 46.939 132.674		

	ENERGY SAVIN	IGS		
2020	57.683,00	kWh	17,00	%
2021	110.243,00	kWh	30,00	%
2022	117.201,00	kWh	33,00	%
2023	10.452,00	kWh	4,00	%

Barna potrologi Jaradani Barna potrologi Jaradani Bar		vrsta analize		Energ							
Barane potrologia         Diraciano         272.623         61.599         272.623         Samalpedie potrologia energije (%);         27.623         Samalpedie potrologie energije (%);         27.623         76.67         76.67	009 Bazna potrošnja Izračun 010 Bazna potrošnja Izračun 011 Bazna potrošnja Izračun 012 Bazna potrošnja Izračun 013 Bazna potrošnja Izračun	Tip zgrade / Potrošnja	energenta za grijanje	električne energije	referentna (bazna) potrošnja energenta za grijanje	referentna (bazna) potrošnja električne energije	za grijanje	električne energije	referentna (bazna) emisija CO <sub>2</sub> za grijanje	referentna (bazna) emisija CO2 električne energije	Potroši primar energiji grijanje [
Bitman potrologia       Diracian       Simanajonija       Diracian       Simanajonija       Diracian       Simanajonija       Diracian       Simanajonija       Diracian       Diracian       Diracian       Simanajonija       Diracian       Simanjonija       Diracian       Diracian<		Obrazovna	272.626	16.369	317.595	29.083	60	4	70	7	298.52
Strang protection         Translam         Smallpelle potnologie emergije (%):         17%         Smallpelle emergije (%):         17%         Smalle emergije (%):         17%         T				strošnje ener			Smanjer	je emisije CO	2 [tCO2]:		Smanjenj
Bit Responsibility       Excelutional			Smanjenje p	otrošnje ene	rgije [%]:	17 %	Smanje	nje emisije Cl	02 [%]:	17 %	Smanjer
Carding (Color)       Constrainty       Constrainty<	lazna potrošnja Izračun lazna potrošnja Izračun		unito u aodioi	- 2021 (?)							
Binara portosiaja       Erandini       Koriginara       Korigin			agije u godini.								_
aran petrologi. Laradan aran petrologi. Laradan mara petrologi. Lara		Vrsta analize		Ener	gija			Emisij	a CO2		
Construction         Simulation of the second processing in (SVR)         112-20 12-20         Simulation of the second processing in (SVR)         112-20 2-20         Simulation of the second processing in (SVR)         112-20 2-20         Simulation of the second processing in (SVR)         112-20         Simulation of the second processing in (SVR)         2-2-2         Simulation of the	potrošnja <mark>Izračun</mark> potrošnja Izračun zaključane	Tip zgrade / Potrošnja	energenta za grijanje	električne energije	referentna (bazna) potrošnja energenta za grijanje	referentna (bazna) potrošnja električne energije	za grijanje	električne energije	referentna (bazna) emisija CO <sub>2</sub> za grijanje	referentna (bazna) emisija CO2 električne energije	Potroši primar energiji grijanje [
Smallpeige potnologie merrojie (%):         30 %         Smallpeige metrojie (%):         Smallpeige metrojie (%):         Smallpeige metrojie (%):         30 %         Smallpeige metrojie (%):         Smallpeige met	esport sirovih podataka za izračun	Obrazovna	243.622	19.669	344.452	29.083	54	5	76	7	266.78
terene realizanti teiler ei fostene halterene solgia. Lizačan robija.			Smanjenje po	strošnje ener	gije [kWh]:	110.243	Smanjer	je emisije CO	2 [tCO2]:	24	Smanjenj
tronolga Lirzadan tronolga Lir			nergije u godi								
<ul> <li>Andraha Lanzami and Lanzami</li></ul>	strošnja Izračun	Vrsta analize		Er	vergija			1	misija CO2		
2015 Izračkim     2015/00 2012/2 22.0000 V/00. 40 5 2012/2 22.000     2010 V/00. 40 5 2012/2 20.000     2010 V/00. 40 5 2010 V/00. 40 5 2012/2 20.000     2010/2 20.000     2010 V/00. 40 5 2012/2 20.000	ošnja Izračun ošnja Izračun ošnja Izračun	Tin surada ( Beterlada	anonanta		referente						
Di potrožnja Izračan na potročnja Izračan na potročnja Izračan na potročnja Izračan No zaključed. No zaključed. N	na potrošnja Izračun	rip zyrade / Potrosaja	za grijanje	energije	(bazna) potrošnja energent za grijanj	a potrošn a električi e energij	) Emisija ja zagrija se [tCOa e	nje elektri	CO2 refere čne (bazz ije emisija 2] za grij	ntna refere ntna (baz na) emisij a CO2 elekti anje ener	entna zna) ja CO2 rične gri rgije gri
ligi Izračum ligi Izračum	šnja Izračun šnja Izračun		za grijanje [kWh]	energije [kWh]	(bazna) potrošnja energent za grijanj [kWh]	a potrošn a električ e energij [kWh]	) Emisija ja zagrija se [tCO <sub>2</sub> e	nje elektri ] [tCO:	CO2 refere čne (bazz z] za grij [tCO	rafia ntna refere na) (baz emisij cO2 elekti anje ener b2] [tO	entna zna) la CO2 e rične gri gije gri O2]
Tarachan Tarachan         Security         Emissipa CO:           Tarachan         Vrsta analize         Energija         Energija           Tarachan         Vrsta analize         Energija         Korlgirana (Marzin)	Izračun Izračun Izračun		za grijanje [kWh] 219.840	energije [kWh] 20.722	(bazna) potrošnja energent za grijanj [kWh] 328.680	a potrošn a električi e energij [kWh] 29.083	) Emisija ja za grija e [tCOa e 48	je elektri energ [tCO:	CO2 refere čne (bazz ije emisija z] za grij [tCO	rana refere ntna (baz na) emisij anje ba] [tot t	entna zna) la CO2 rične grije O2] 7 6 Sm
Instrum         Vinita analize         Energija         Energija         Energija         Energija         Energija         Energija         Energija         Energija         Kortgirana referentras         Fordigirana referentras         Kortgirana referentras         Kortgirana         Kortgirana <td>a Izračun a Izračun Izračun</td> <td></td> <td>za grijanje [kWh] 219.840 Smanjenje</td> <td>energije [kWh] 20.722 potrošnje er</td> <td>(bazna) potrošnja energent za grijanj [kWh] 328.680 nergije [kWh]</td> <td>a potrošn a električ e energij [kWh] 29.083 117.20</td> <td>) Emisija ja za grija e [tCO2 e 48 Sma</td> <td>aje j l tCO: s njenje emisij</td> <td>CO2 refere čne (bazz ije emisija z] za grij [tCO 72 je CO2 [tCO2]</td> <td>rama ntna na) a CO2 emisij elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti elekt</td> <td>entna zna) la CO2 rične grije O2] 7 6 Sm</td>	a Izračun a Izračun Izračun		za grijanje [kWh] 219.840 Smanjenje	energije [kWh] 20.722 potrošnje er	(bazna) potrošnja energent za grijanj [kWh] 328.680 nergije [kWh]	a potrošn a električ e energij [kWh] 29.083 117.20	) Emisija ja za grija e [tCO2 e 48 Sma	aje j l tCO: s njenje emisij	CO2 refere čne (bazz ije emisija z] za grij [tCO 72 je CO2 [tCO2]	rama ntna na) a CO2 emisij elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti elekt	entna zna) la CO2 rične grije O2] 7 6 Sm
zma potrošnja Iznačam Korigirana Korigirana (Korigirana Korigirana) korigirana (Korigirana Korigirana) korigirana (Korigirana Korigirana) naro zaključane (Korava) (K	zna potrošnja Izračun zna potrošnja Izračun zna potrošnja Izračun zna potrošnja Izračun zna potrošnja Izračun zna potrošnja Izračun zna potrošnja Izračun	Obrazovna	za grijanje [kWh] 219.840 Smanjenje Smanjenje	energije [kwh] 20.722 potrošnje er e potrošnje e	(bazna) potrošnja energent za grijanj [kWh] 328.680 nergije [kWh]	a potrošn a električ e energij [kWh] 29.083 117.20	) Emisija ja za grija e [tCO2 e 48 Sma	aje j l tCO: s njenje emisij	CO2 refere čne (bazz ije emisija z] za grij [tCO 72 je CO2 [tCO2]	rama ntna na) a CO2 emisij elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti elekt	entna zna) la CO2 rične grije O2] 7 6 Sm
	i Izračun Izračun Izračun Izračun Izračun Izračun Izračun Izračun	Obrazovna Lå Eksportiraj Smanjenje potrožnje e	za grijanje [kWh] 219.840 Smanjenje Smanjenje	energije [kwh] 20.722 potrošnje e e potrošnje e ini: 2023 <sup>(2)</sup>	(bazna) potrošnji energent za grijanj [kWh] 328.680 nergije [kWh] snergije [%]:	a potrošn a električ e energij [kWh] 29.083 117.20	) Emisija ja za grija e [tCO2 e 48 Sma	nje elektri nje energ [tCO: 5 njenje emisij anjenje emisi	CO2 refere čne (bazz ije emisija z za grij [tCO 72 je CO2 [tCO2] ije CO2 [%]:	rama ntna na) a CO2 emisij elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti ener [tCO elekti elekt	entna zna) la CO2 rične grije O2] 7 6 Sm

iraj broj decimala 📓 na

stream

#### **Data in SMIV information system**



Calculation of

energy savings

according to the

methodology for

verification of

savings

page 27

MIVID       19766         aslov mjere       Osnovna škola Donja Dubrava         pis mjere       018-10/18-02/36         rsta mjere       Integralna obnova postojećih zgrada (M1)         okacija       Međimurska         ektor       ZGRADARSTVO         rupa       USLUŽNI JAVNI         rsta goriva (stari)       Prirodni plin         rsta goriva (stari)       Prirodni plin         rsta goriva (novi)       18.9.2020         atum provedbe       18.9.2020         rijedi do       18.9.2040         IS kod       KK.04.2.1.04.0053         oskacija mjere       Donja Dubrava         lica i broj       Krbulja       21         ositelj uštede       Fond za zaštitu okoliša i energetsku učinkovitost       ** v         dgovorna osoba (ime)       Opć kontakt Fonda       *         oguvorna osoba (ime)       Si391800       *         omentar       \$\$391800       *         Sufianciranje       Si391800       \$\$         Dokumenti       \$\$       \$\$         Side e primarne energije [kWh/god]       394.077,70       \$\$         šide a energije [kWh/god]       394.077,70       \$\$         side e primarne energije [kWh/god]       \$\$ <th>Mjera - Integralna obnova postojećih z</th> <th>grada (M1)</th> <th></th> <th></th>	Mjera - Integralna obnova postojećih z	grada (M1)		
aslov mjere Osnovna škola Donja Dubrava Osnovna škola Donja Dubrava Osnovna škola Donja Dubrava Osla -10/18-02/36  sta mjere Integralna obnova postojećih zgrada (M1)  kata pre Međimurska  ktor ZGRADARSTVO  sta goriva (stari) Prirodni plin  sta goriva (novi)  Prirodni plin  sta goriva (stari) Prirodni plin  sta	)pći podaci			
pis mjere pirodni plin pin pirodni plin pin pirodni plin pin pis mjere pis m	MIVID	19766		]
pis mjere Integralna obnova postojećih zgrađa (M1) v okacija Integralna obnova postojećih zgrađa (M1) v okacija Međimurska v skator rupa ZGRADARSTVO v rupa USLUŽNI JAVNI v rsta goriva (stari) Prirodni plin v atum provedbe 18.9.2020 v atum provedbe 18.9.2020 v IS kod 05.2020 v	laslov mjere	Osnovna škola Donja Dubrava		]
Akačija       Međimurska         ektor       ZGRADARSTVO         rupa       USLUŽNI JAVNI         sta goriva (stari)       Prirodni plin         rsta goriva (novi)       Prirodni plin         atum provedbe       18.9.2020         rijedi do       18.9.2040         IS kod       KK.04.2.1.04.0053         oskačija mjere       Donja Dubrava         lica i broj       Krbulja       21         ositelj uštede       Fond za zaštitu okoliša i energetsku učinkovitost       •• •         dgovorna osoba (ime)       Opći kontakt Fonda       •         dgovorna osoba (tel)       5391800       •         omentar	)pis mjere	018-10/18-02/36	*	
ktor       ZGRADARSTVO       v         rupa       USLUŽNI JAVNI       v         rsta goriva (stari)       Prirodni plin       v         rsta goriva (novi)       Prirodni plin       v         atum provedbe       18.9.2020       v         rijedi do       18.9.2040       v         IS kod       KK.04.2.1.04.0053       v         okacija mjere       Donja Dubrava       v         lica i broj       Krbulja       21         ositelj uštede       Fond za zaštitu okoliša i energetsku učinkovitost       v         dgovorna osoba (ime)       Opći kontakt Fonda       v         dgovorna osoba (tel)       5391800       v       v         omentar       v       v       v       v         Dokumenti       Stede i troškovi       v       v       v         Stede i troškovi       394.077,70       v       v       v         O2 ušteda [t]       79,63       394.077,70       v       v         unulativne uštede energije [kNN 30/2022)       5.259.579,04       v       v	/rsta mjere	Integralna obnova postojećih zgrada (M1)	$\sim$	]
rupa USLUŽNI JAVNI	okacija	Međimurska	$\mathbf{P}$	
sta goriva (stari)       Prirodni plin          rsta goriva (novi)       Prirodni plin           atum provedbe       18.9.2020            rijedi do       18.9.2040             IS kod       KK.04.2.1.04.0053             okacija mjere       Donja Dubrava <td< td=""><td>ektor</td><td>ZGRADARSTVO</td><td><math>\sim</math></td><td>]</td></td<>	ektor	ZGRADARSTVO	$\sim$	]
rsta goriva (novi) atum provedbe rijedi do IS.9.2020 IS.8od KK.04.2.1.04.0053 Dolja Dubrava Is.9.2040 IS.8od KK.04.2.1.04.0053 Dolja Dubrava Is.9.2040 KK.04.2.1.04.0053 Dolja Dubrava Is.9.2040 Krbulja 21 Sodieji uštede Fond za zaštitu okoliša i energetsku učinkovitost Mordakt Fonda Opći kontakt Fonda Opći kontakt Fonda dgovorna osoba (tel) Opći kontakt @fzoeu.hr dgovorna osoba (tel) Sig1800 omentar Sufinanciranje Dokumenti Štede primarne energije [kWh/god] Steda energije [kWh/god] Steda energije [kWh/god] Stela energije [kWh/g	Grupa	USLUŽNI JAVNI	$\sim$	]
atum provedbe rijedi do  18.9.2020  ✓  15. kod  18.9.2040  ✓  15. kod  KK.04.2.1.04.0053  Dolnja Dubrava  Dolnja Dubrava  Ica i broj  Stede a fond za zaštitu okoliša i energetsku učinkovitost  ✓  dgovorna osoba (ime)  Opći kontakt Fonda  dgovorna osoba (tel)  Signianciranje  Dokumenti  Stede primarne energije [kWh/god]  Steda energije [kWh/god]	′rsta goriva (stari)	Prirodni plin	🗸	]
rijedi do 18.9.2040 IS kod KK.04.2.1.04.0053 IS kod KK.04.2.1.04.0053 Donja Dubrava Iica i broj Krbulja 21 ositelj uštede Fond za zaštitu okoliša i energetsku učinkovitost dgovorna osoba (ime) Opći kontakt Fonda dgovorna osoba (email) kontakt@fzoeu.hr dgovorna osoba (tel) 5391800 omentar Sufinanciranje Dokumenti štede primarne energije [kWh/god] 394.077,70 šteda energije [kWh/god] 394.077,70 šteda energije [kWh/god] 394.077,70 j Sufinanci anje Dokumenti štede primarne energije [kWh/god] 394.077,70 steda energije [kWh/go	′rsta goriva (novi)	Prirodni plin	~	]
IS kod       KK.04.2.1.04.0053         okacija mjere       Donja Dubrava         lica i broj       Krbulja       21         ositelj uštede       Fond za zaštitu okoliša i energetsku učinkovitost voj voj kontakt Fonda       voj voj kontakt Fonda         dgovorna osoba (ime)       Opći kontakt Fonda       voj voj kontakt Fonda         dgovorna osoba (email)       kontakt@fzoeu.hr       voj voj kontakt ©fzoeu.hr         dgovorna osoba (tel)       5391800       voj kontakt ©fzoeu.hr         omentar       voj kontakt ©fzoeu.hr       voj kontakt ©fzoeu.hr         Sufinanciranje       voj kontakt       voj kontakt         Dokumenti       stede primarne energije [kWh/god]       394.077,70         šteda energije [kWh/god]       394.077,70       steda energije [kWh/god]         oz ušteda [t]       79,63       voj kontakt         umulativne uštede energije (NN 30/2022)       5.259.579,04       voj kontakt	atum provedbe	18.9.2020 🗸		
Donja Dubrava       ja mjere       Donja Dubrava       krbulja       ositelj uštede       Govorna osoba (ime)       dgovorna osoba (email)       kontakt Fonda       govorna osoba (tel)       Sagnanciranje       Dokumenti       Stede i troškovi       štede i roškovi       štede nergije [kWh/god]       394.077,70       šteda energije [kWh/god]       372.122,47       O2 ušteda [t]       mulativne uštede energije (NN 30/2022)	rijedi do	18.9.2040 🗸		
lica i broj       Krbulja       21         ositelj uštede       Fond za zaštitu okoliša i energetsku učinkovitost       • • • • •         dgovorna osoba (ime)       Opći kontakt Fonda       • • • • • • •         dgovorna osoba (email)       kontakt@fzoeu.hr       • • • • • • •         dgovorna osoba (tel)       5391800       • • • • • • • • • • • • • • • • • • •	1IS kod	KK.04.2.1.04.0053		
ositelj uštede     Fond za zaštitu okoliša i energetsku učinkovitost       dgovorna osoba (ime)     Opći kontakt Fonda       dgovorna osoba (email)     kontakt@fzoeu.hr       dgovorna osoba (tel)     5391800       omentar	okacija mjere	Donja Dubrava		
dgovorna osoba (ime) Opći kontakt Fonda dgovorna osoba (email) kontakt@fzoeu.hr dgovorna osoba (tel) 5391800 omentar Sufinanciranje Dokumenti Stede primarne energije [kWh/god] 394.077,70 Steda energije [kWh/god] 372.122,47 O2 ušteda [t] 79,63 umulativne uštede energije (NN 30/2022) 5.259.579,04	Ilica i broj	Krbulja	21	
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Sufinanciranje     5391800       Sufinanciranje     *       Dokumenti     *       štede i troškovi     394.077,70       šteda energije [kWh/god]     372.122,47       D2 ušteda [t]     79,63       umulativne uštede energije (NN 30/2022)     5.259.579,04	dgovorna osoba (ime)	Opći kontakt Fonda		1
Sufinanciranje     Dokumenti       Stede i troškovi     Stede i troškovi       štede primarne energije [kWh/god]     394.077,70       šteda energije [kWh/god]     372.122,47       O2 ušteda [t]     79,63       umulativne uštede energije (NN 30/2022)     5.259.579,04	dgovorna osoba (email)	kontakt@fzoeu.hr		1
Sufinanciranje       Dokumenti       Štede i troškovi       štede primarne energije [kWh/god]       372.122,47       O2 ušteda [t]       79,63       umulativne uštede energije (NN 30/2022)	dgovorna osoba (tel)	5391800		
Dokumenti           Stede i troškovi           štede i troškovi           štede primarne energije [kWh/god]           394.077,70           Steda energije [kWh/god]           372.122,47           02 ušteda [t]           79,63           umulativne uštede energije (NN 30/2022)           5.259.579,04	omentar			
štede i troškovi         394.077,70           štede primarne energije [kWh/god]         394.077,70           šteda energije [kWh/god]         372.122,47           O2 ušteda [t]         79,63           umulativne uštede energije (NN 30/2022)         5.259.579,04				
štede primarne energije [kWh/god]         394.077,70           šteda energije [kWh/god]         372.122,47           O2 ušteda [t]         79,63           umulativne uštede energije (NN 30/2022)         5.259.579,04				
šteda energije [kWh/god]         372.122,47           O2 ušteda [t]         79,63           umulativne uštede energije (NN 30/2022)         5.259.579,04		204 077 70		1
02 ušteda [t] 79,63 umulativne uštede energije (NN 30/2022) 5.259.579,04				1
umulativne uštede energije (NN 30/2022) 5.259.579,04				1
ošak mjere 6.561.204,59	(umulativne uštede energije (NN 30/2022)	5.259.579,04		1
	rošak mjere	6.561.204,59		

#### Energy savings $\rightarrow$ 372.122,47 kWh/year

Prijenos uštede	
Podaci za izračun	
Formula	$FES = \left(\frac{SHD_{init}}{\eta_{init}} - \frac{SHD_{new}}{\eta_{new}}\right) \cdot A_{heated}$
Specifična potreba za grijanjem - Stara [kWh/m2]	135,38
Specifična potreba za grijanjem - Nova [kWh/m2]	61,08
Ploština korisne površine zgrade [m2]	2476,35
Učinkovitost sustava grijanja - Stara (ukupno)	0,609000 - Predefinirana vrijednost 🔗
Učinkovitost sustava grijanja - Nova (ukupno) Tli	0,848000 - Predefinirana vrijednost
učinkovitost sustava grijanja - Stara (kotao)	~
Učinkovitost sustava grijanja - Nova (kotao)	×
Učinkovitost sustava grijanja - Stara (emisija)	~
Učinkovitost sustava grijanja - Nova (emisija)	~
Učinkovitost sustava grijanja - Stara (distribucija)	×
Učinkovitost sustava grijanja - Nova (distribucija)	×
Faktor normalizacije	1,00
· · · · · · · · · · · · · · · · · · ·	
🕜 Uredi 📎 Pridruži 🔒 Zaklju	učaj 🏟 Kao predložak 🛛 💢 Obriši 💼

# C

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User manual

