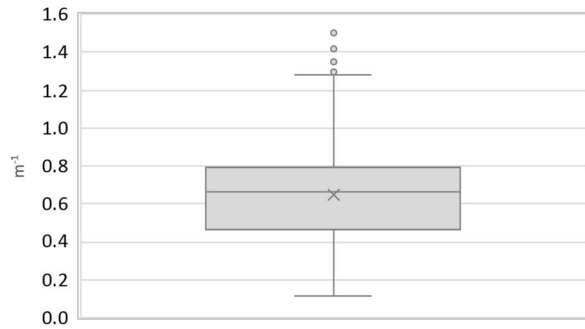


Region:		Liguria					Archetype code: RES_APPBLOCK_ 2001-_C_LIG	
Building category:		Residential buildings – Apartments in multi-family block						
Period of construction:		2001-						
Climatic zone:		C	Number of records:		2791			
Description: <u>External walls</u> : no data available <u>Roof slabs</u> : no data available							Data sources: EPC databases (100%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Q2 (Median value)	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	$n_f$	-	-	-	-	-	-
	Gross height	$H_g$	m	-	-	-	-	-
	Footprint area	$A_{\text{footprint}}$	m <sup>2</sup>	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	-	-	-	-	-
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	-	-	-	-	-
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	-	-	-	-	-
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m <sup>-1</sup>	0.65	0.24	0.46	0.66	0.79
	WWR – North orientation	$WWR_N$	-	-	-	-	-	-
	WWR – South orientation	$WWR_S$	-	-	-	-	-	-
	WWR – East orientation	$WWR_E$	-	-	-	-	-	-
	WWR – West orientation	$WWR_W$	-	-	-	-	-	-
	Window to useful floor area ratio	$A_{wi}/A_{\text{use}}$	-	0.11	0.03	0.09	0.10	0.12
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{fi,up}$	W/(m <sup>2</sup> ·K)	0.61	0.56	0.26	0.35	0.74
	External walls type	-						
	U-value of the wall	$U_{wl}$	W/(m <sup>2</sup> ·K)	0.58	0.48	0.26	0.37	0.69
	Slab on ground floor type	-						
	U-value of the floor	$U_{fi,lw}$	W/(m <sup>2</sup> ·K)	0.79	0.55	0.31	0.52	1.41
	Windows type	-						
	U-value of the windows	$U_W$	W/(m <sup>2</sup> ·K)	2.58	1.22	1.52	2.27	3.32
	Shading system type	-						
GAINS and VENTILATION	Occupancy density *	$O_C$	person/m <sup>2</sup>	UNI EN 16798-1 - Table A.19				
	Lighting power density *	$W_L$	W/m <sup>2</sup>	UNI EN 16798-1 - A.8.3				
	Equipment power density *	$W_A$	W/m <sup>2</sup>	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 94%; Mechanical: 6%						
	Air exchange rate *	$n$	h <sup>-1</sup>	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Unknown: 96%; Autonomous: 4%						
	Heating generator	Unknown: 38%; Traditional boiler: 25%; Air-source heat pump: 24%; Condensing boiler: 11%; Fireplace: 1%						
	Daily operating time of the heating system *	$t_H$	h	10	0	10	10	10
	Energy carrier	Unknown: 38%; Electricity: 25%; Natural gas: 24%; Electricity and natural gas: 9%; LPG: 2%; Thermal energy from solar collectors: 1%; Electricity and solid biomass: 1%						
	Heating emission sub-system	Unknown: 38%; Radiators: 35%; Air Ducts: 10%; Radiant panels: 7%; Fan-coil: 6%; Convectors: 4%						
	Cooling system type	Unknown: 64%; Heat pump air-air: 28%; Heat pump air-water: 8%						
	Daily operating time of the cooling system *	$t_C$	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	-						
	DHW generator	Unknown: 69%; Condensing boiler: 17%; Electric boiler: 6%; Solar thermal: 5%; Natural gas boiler: 2%; Electric heat pump: 1%						
	* These values were not available in the considered sources, and are thus derived from UNI EN Standards							

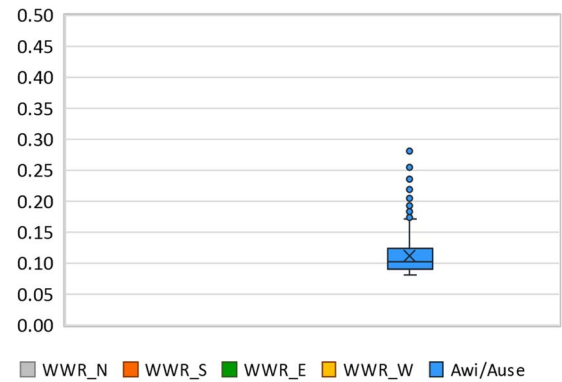
<b>Region:</b>	Liguria	<b>Archetype code:</b> RES_APPBLOCK_ 2001-_C_LIG
<b>Building category:</b>	Residential buildings – Apartments in multi-family block	
<b>Period of construction:</b>	2001-	
<b>Climatic zone:</b>	C	
<b>Number of records:</b> 2791		

### Numerical variables – GEOMETRY

**COMPACTNESS RATIO**

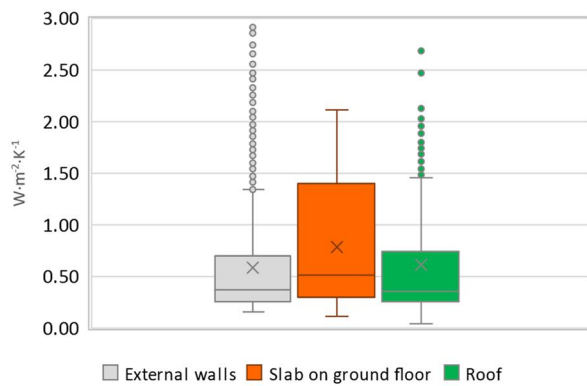


**WINDOWS TO WALL RATIO**

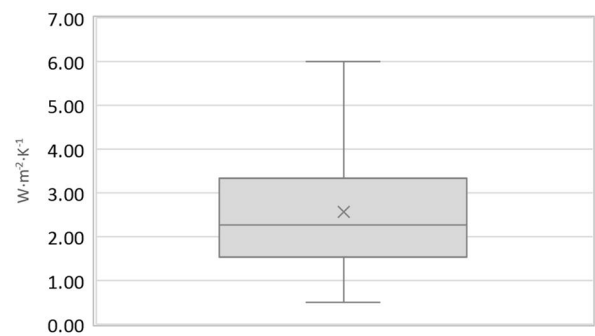


### Numerical variables – ENVELOPE

**OPAQUE BUILDING COMPONENTS U-VALUE**



**WINDOWS U-VALUE**

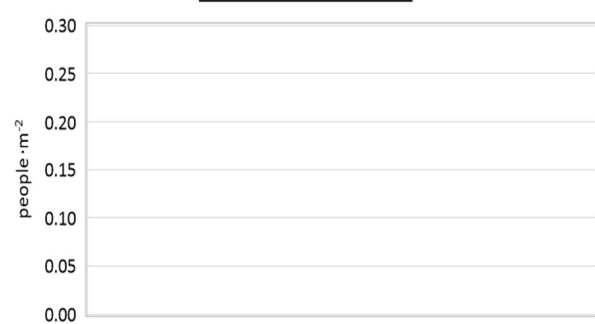


### Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE (Standard Values)

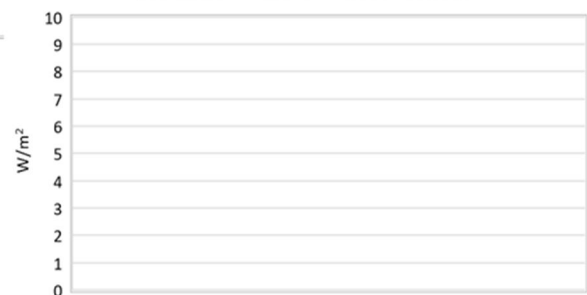
**AIR EXCHANGE RATE**



**OCCUPANCY DENSITY**



**INTERNAL GAINS POWER DENSITY**



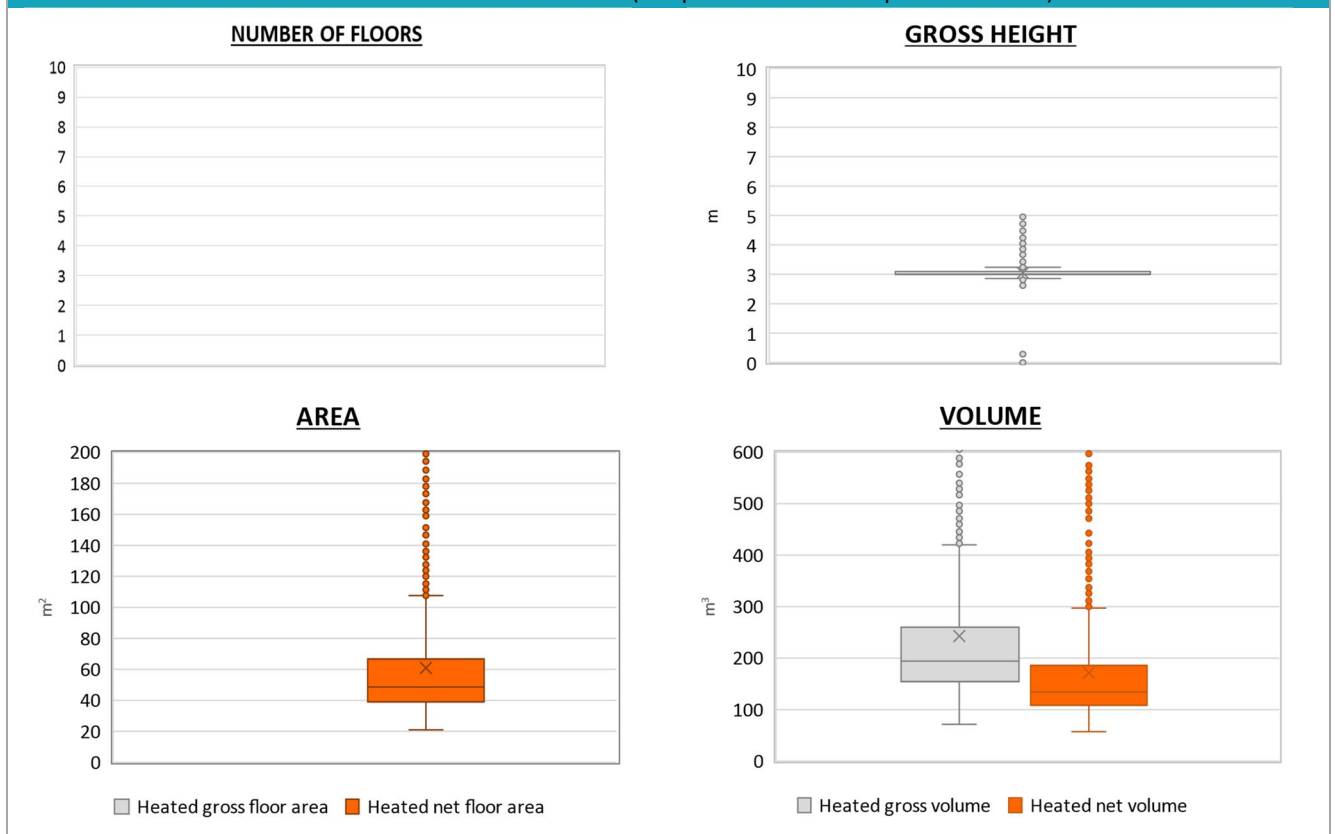
**DAILY OPERATING TIME**



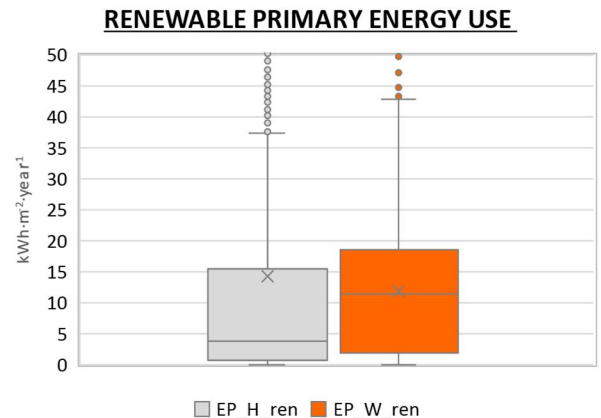
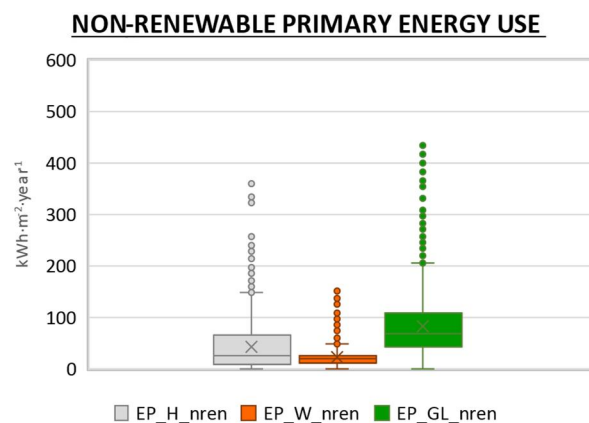
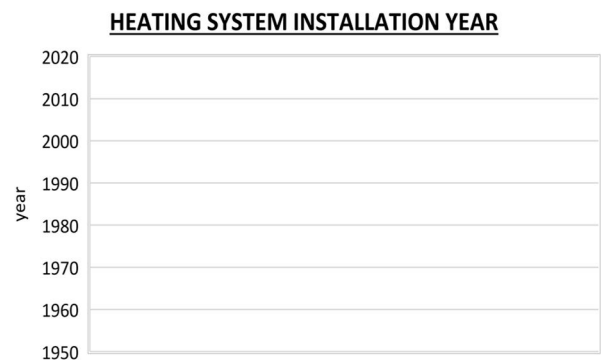
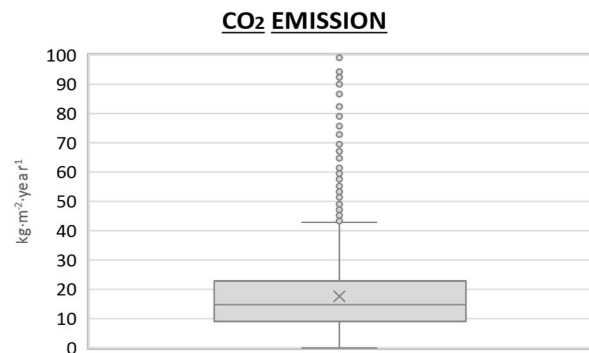
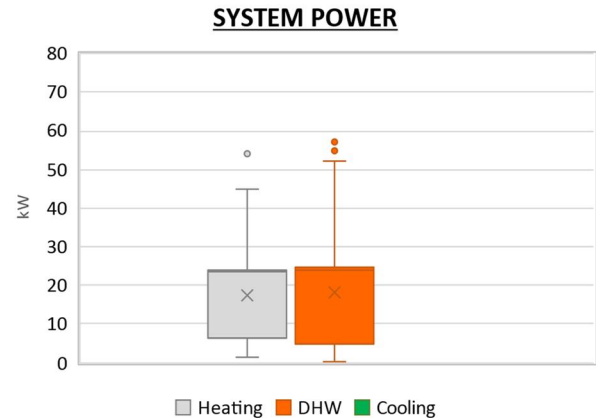
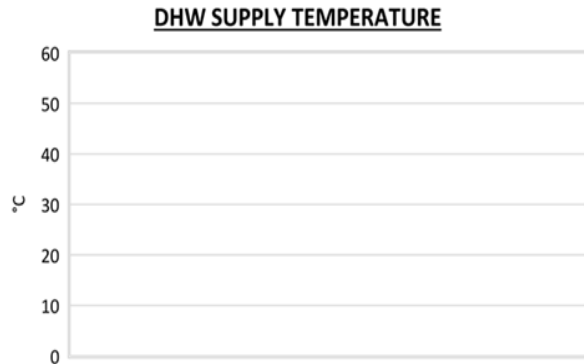
Region:	Liguria	Archetype code: RES_APPBLOCK_ 2001-_C_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	2001-	
Climatic zone:	C	
Number of records:		2791

ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	$H_n$	m	3.1	0.2	3.0	3.0	3.1
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	60.5	41.9	39.5	49.0	66.7
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	241.8	192.7	153.6	193.2	261.0
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	170.9	141.1	109.9	135.6	185.2
THERMAL SYSTEMS	Heating efficiency or <i>COP</i>	$\eta_{H,gen}$ or $COP_{H,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power *	$P_{H,gen}$	kW	17.3	9.7	6.2	23.7	24.1
	Cooling efficiency or <i>EER</i>	$\eta_{C,gen}$ or $EER_{C,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power *	$P_{C,gen}$	kW	-	-	-	-	-
	Temperature of DHW	$\theta_w$	°C	-	-	-	-	-
	DHW system power *	$P_{W,gen}$	kW	18.1	11.2	5.0	23.8	24.8
* These values refer to the apartment scale								

### Additional data: GEOMETRY (the plots refer to the apartment scale)



<b>Region:</b>	Liguria	<b>Archetype code:</b> RES_APPBLOCK_ 2001-_C_LIG
<b>Building category:</b>	Residential buildings – Apartments in multi-family block	
<b>Period of construction:</b>	2001-	
<b>Climatic zone:</b>	C	
<b>Number of records:</b>		2791

**Additional data: other numerical variables that are not included in the archetype**


NOTE: Sample size of the analysed data.

Compactness ratio: 2761; Window to useful floor area ratio: 444; U-value of the roof: 876; U-value of the wall: 2477; U-value of the floor: 229; U-value of the windows: 2791; Inter-storey height: 2772; Heated net floor area: 2772; Heated gross volume: 2761; Heated net volume: 2761; Total heating power: 1187; DHW system power: 1746; CO<sub>2</sub> Emission: 2748; EP\_H\_nren: 2649; EP\_W\_nren: 2670; EP\_GL\_nren: 2753; EP\_H\_ren: 2099; EP\_W\_ren: 1824