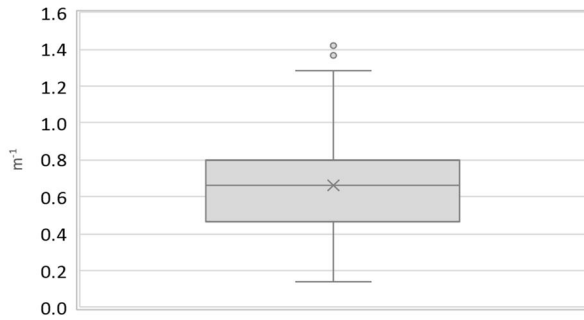


Region:		Liguria					Archetype code: RES_APPBLOCK_ 1971-1980_F_LIG	
Building category:		Residential buildings – Apartments in multi-family block						
Period of construction:		1971-1980						
Climatic zone:		F	Number of records:		110			
Description: <u>External walls</u> : no data available <u>Roof slabs</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 ²	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m ²	-	-	-	-	-
	Heated gross volume	$V_{H,g}$	m ³	-	-	-	-	-
	Heated net volume	$V_{H;n}$	m ³	-	-	-	-	-
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m ⁻¹	0.66	0.26	0.46	0.66	0.80
	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_{use}	-	-	-	-	-	-
	ENVELOPE	Roof type	-					
U-value of the roof		$U_{fi;up}$	W/(m ² ·K)	1.38	0.97	0.57	1.49	1.79
External walls type		-						
U-value of the wall		U_{wl}	W/(m ² ·K)	1.14	0.49	0.89	1.13	1.40
Slab on ground floor type		-						
U-value of the floor		$U_{fi;lw}$	W/(m ² ·K)	-	-	-	-	-
Windows type		-						
U-value of the windows		U_W	W/(m ² ·K)	4.26	1.28	3.40	4.54	5.31
Shading system type		-						
GAINS and VENTILATION	Occupancy density *	O_C	person/m ²	UNI EN 16798-1 - Table A.19				
	Lighting power density *	W_L	W/m ²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m ²	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 100%						
	Air exchange rate *	n	h ⁻¹	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Unknown: 98%; Autonomous: 2%						
	Heating generator	Unknown: 54%; Traditional boiler: 35%; Fireplace: 7%; Condensing boiler: 3%; Electric heating: 1%						
	Daily operating time of the heating system *	No limitations						
	Energy carrier	Unknown: 54%; Natural gas: 14%; Gas Oil: 11%; LPG: 6%; Electricity and solid biomass: 5%; Electricity and natural gas: 4%; Electricity and gas oil: 3%; Solid biomass: 2%; Electricity: 1%						
	Heating emission sub-system	Unknown: 52%; Radiators: 45%; Air Ducts: 2%; Air Heater: 1%						
	Cooling system type	-						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	-						
	DHW generator	Unknown: 55%; Electric boiler: 32%; Electric heat pump: 7%; Natural gas boiler: 5%; Condensing boiler: 1%						
	* These values were not available in the considered sources, and are thus derived from UNI EN Standards							

Region:	Liguria	Archetype code: RES_APPBLOCK_ 1971-1980_F_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1971-1980	
Climatic zone:	F	
Number of records:		110

Numerical variables – GEOMETRY

COMPACTNESS RATIO



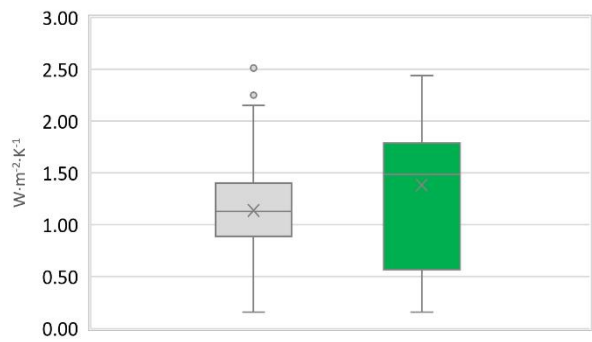
WINDOWS TO WALL RATIO



■ WWR_N ■ WWR_S ■ WWR_E ■ WWR_W ■ Awi/Ause

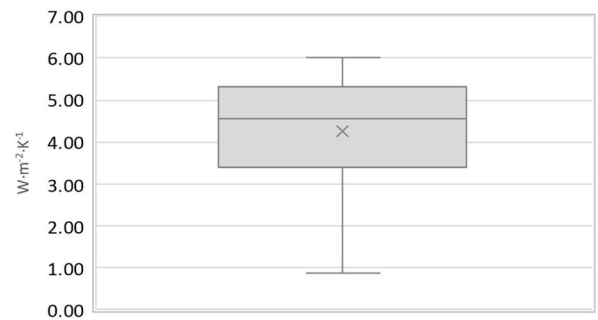
Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



■ External walls ■ Slab on ground floor ■ Roof

WINDOWS U-VALUE



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

AIR EXCHANGE RATE



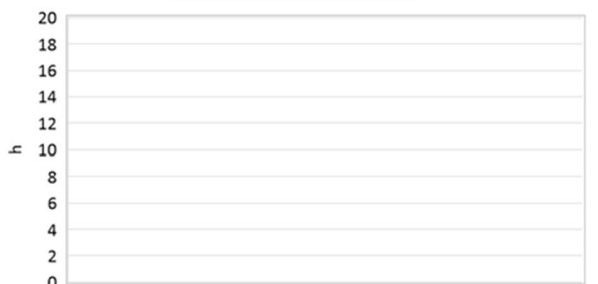
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME

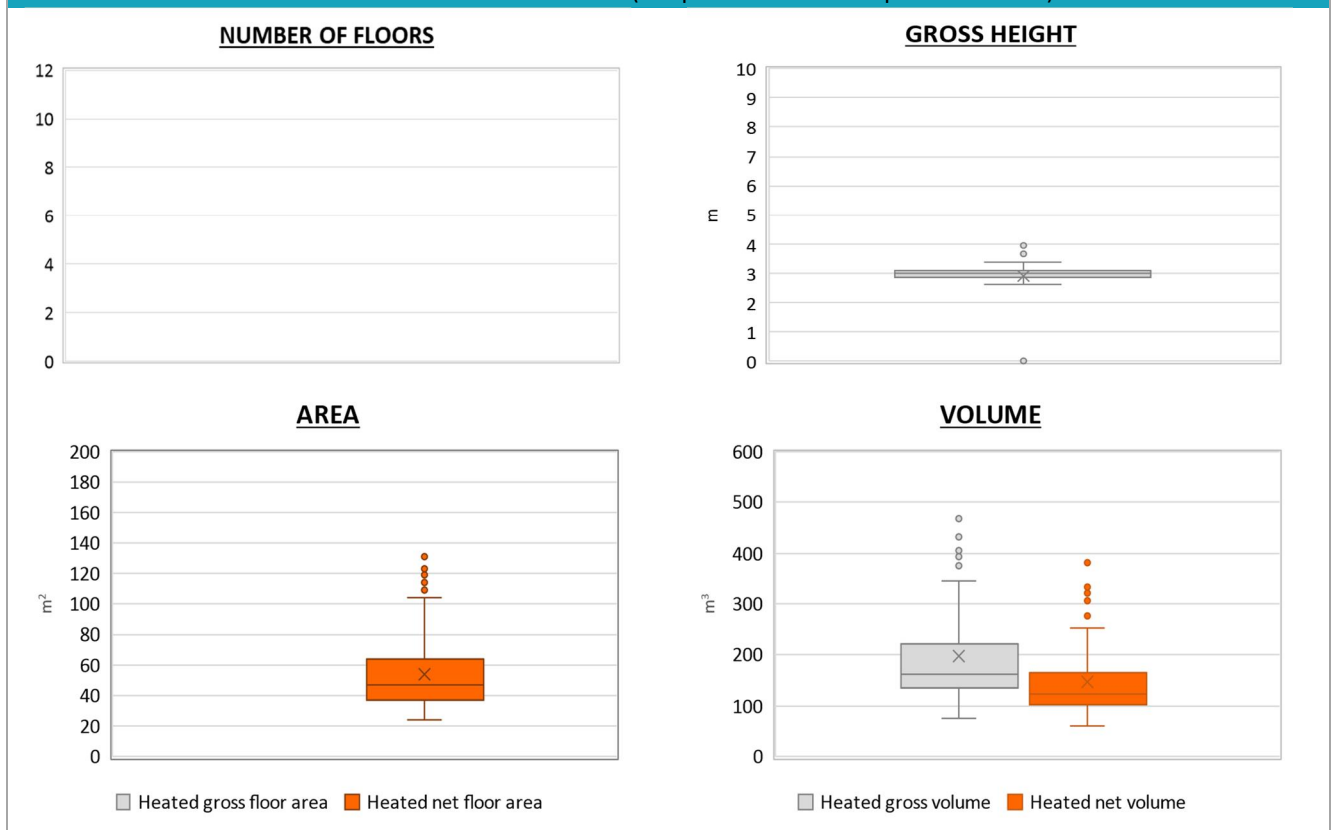


■ Heating ■ Cooling

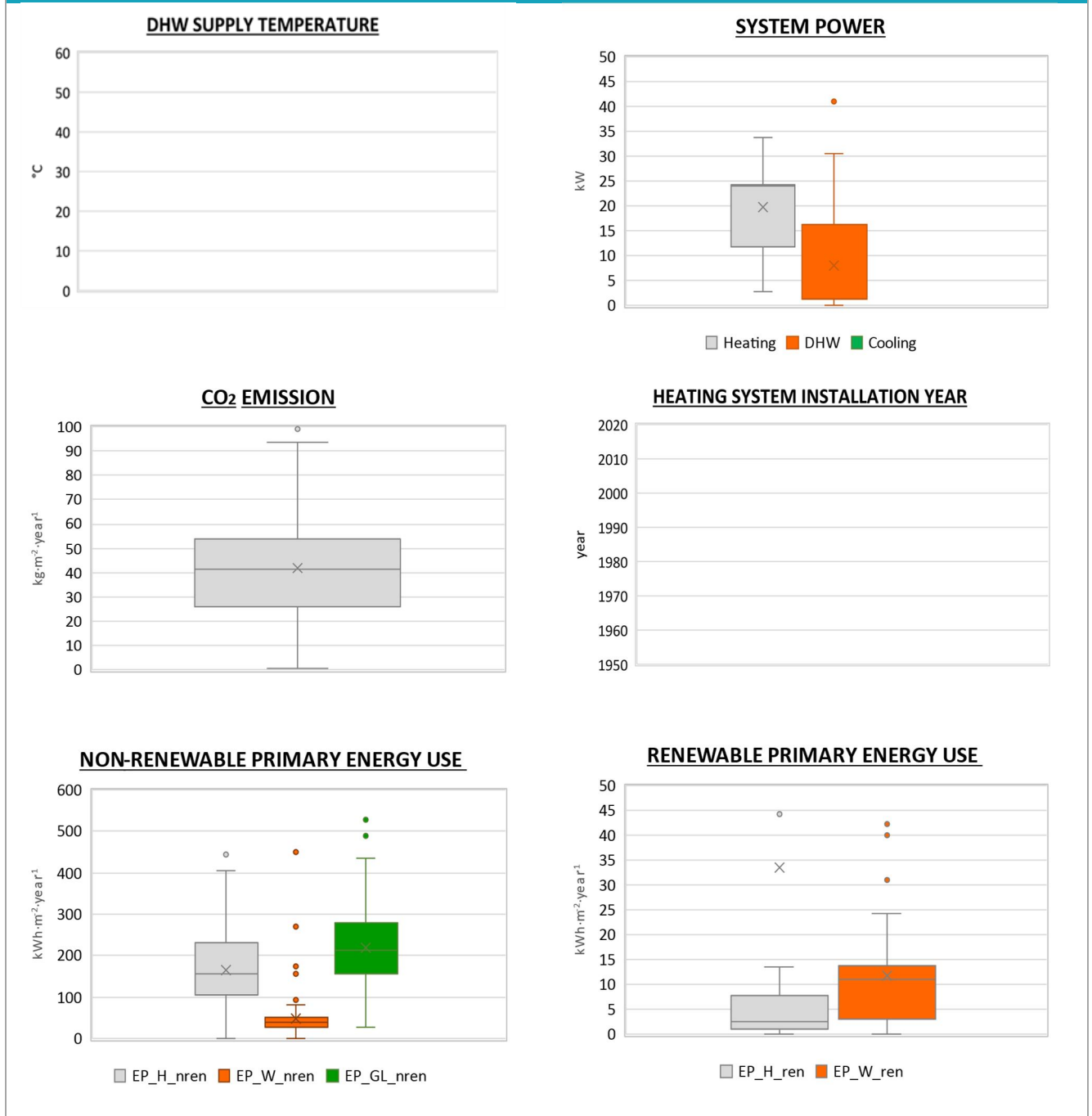
Region:	Liguria	Archetype code: RES_APPBLOCK_ 1971-1980_F_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1971-1980	
Climatic zone:	F	
Number of records:		110

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	3.0	0.2	2.9	3.0	3.1
	Heated gross floor area	$A_{H;g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m ²	54.0	24.4	37.4	46.6	64.4
	Heated gross volume	$V_{H;g}$	m ³	198.1	97.9	135.7	161.4	221.4
	Heated net volume	$V_{H;n}$	m ³	146.5	67.2	103.6	124.5	164.9
THERMAL SYSTEMS	Heating efficiency or COP	$\eta_{H;gen}$ OR $COP_{H;gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power *	$P_{H;gen}$	kW	19.6	8.5	11.7	24.0	24.2
	Cooling efficiency or EER	$\eta_{C;gen}$ OR $EER_{C;gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power *	$P_{C;gen}$	kW	-	-	-	-	-
	Temperature of DHW	θ_W	°C	-	-	-	-	-
	DHW system power *	$P_{W;gen}$	kW	7.9	11.1	1.2	1.2	16.3
	* These values refer to the apartment scale							

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



Region:	Liguria	Archetype code: RES_APPBLOCK_ 1971-1980_F_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1971-1980	
Climatic zone:	F	
Number of records:		110

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


NOTE: Sample size of the analysed data.

Compactness ratio: 110; U-value of the roof: 18; U-value of the wall: 92; U-value of the windows: 110; Inter-storey height: 106; Heated net floor area: 106; Heated gross volume: 106; Heated net volume: 106; Total heating power: 31; DHW system power: 66; CO₂ Emission: 102; EP_H_nren: 107; EP_W_nren: 109; EP_GL_nren: 108; EP_H_ren: 59; EP_W_ren: 87