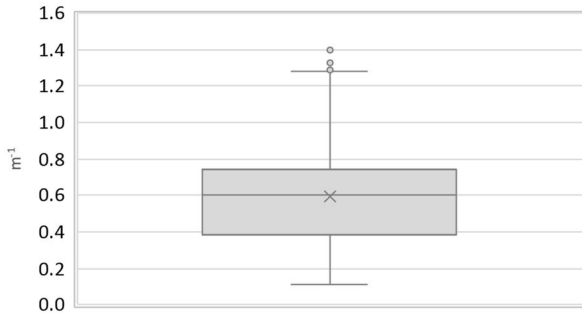
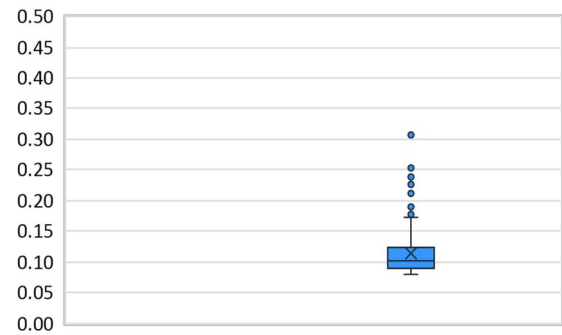


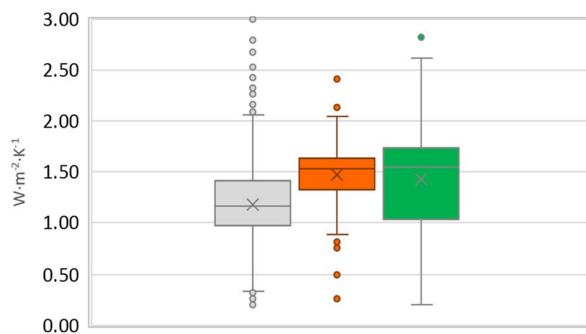
Region:		Liguria					Archetype code:		
Building category:		Residential buildings – Apartments in multi-family block					RES_APPBLOCK_		
Period of construction:		1981-1990					1981-1990_C_LIG		
Climatic zone:		C	Number of records:		1412				
Description:							Data sources:		
External walls: no data available							EPC databases (100%)		
Roof slabs: no data available									
	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	0.59	0.23	0.38	0.60	0.75	
	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}	-	0.11	0.04	0.09	0.10	0.12	
ENVELOPE	Roof type	-							
	U-value of the roof	$U_{fi;up}$	W/(m ² ·K)	1.44	0.54	1.03	1.56	1.75	
	External walls type	-							
	U-value of the wall	U_{wi}	W/(m ² ·K)	1.18	0.46	0.98	1.18	1.42	
	Slab on ground floor type	-							
	U-value of the floor	$U_{fi;lw}$	W/(m ² ·K)	1.48	0.36	1.32	1.54	1.63	
	Windows type	-							
U-value of the windows	U_W	W/(m ² ·K)	3.99	1.29	3.08	4.16	5.08		
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: 98%; Mechanical: 2%							
	Air exchange rate *	n	h ⁻¹	0.30	0.00	0.30	0.30	0.30	
THERMAL SYSTEMS	Heating system type	Unknown: 97%; Autonomous: 3%							
	Heating generator	Traditional boiler: 47%; Unknown: 41%; Condensing boiler: 6%; Air-source heat pump: 5%; Fireplace: 1%							
	Daily operating time of the heating system *	t_H	h	10	0	10	10	10	
	Energy carrier	Unknown: 42%; Natural gas: 34%; Electricity and natural gas: 8%; LPG: 6%; Electricity: 5%; Gas Oil: 3%; Electricity and solid biomass: 1%							
	Heating emission sub-system	Radiators: 55%; Unknown: 40%; Convectors: 2%; Fan-coil: 1%; Air Ducts: 1%; Radiant panels: 1%							
	Cooling system type	Unknown: 92%; Heat pump air-air: 7%; Heat pump air-water: 1%							
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-	
	Cooling emission sub-system	-							
	DHW system type	-							
	DHW generator	Unknown: 79%; Electric boiler: 12%; Condensing boiler: 7%; Electric heat pump: 1%; Natural gas boiler: 1%							

* These values were not available in the considered sources, and are thus derived from UNI EN Standards

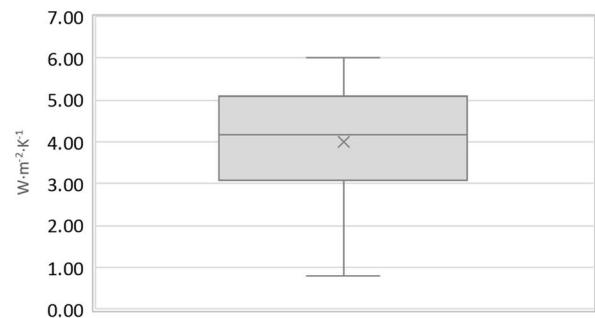
Region:	Liguria	Archetype code: RES_APPBLOCK_ 1981-1990_C_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1981-1990	
Climatic zone:	C	

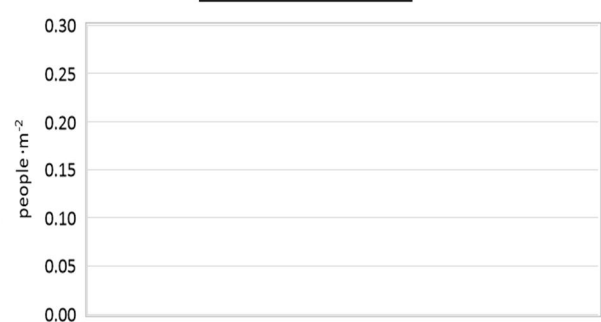
Numerical variables – GEOMETRY
COMPACTNESS RATIO

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

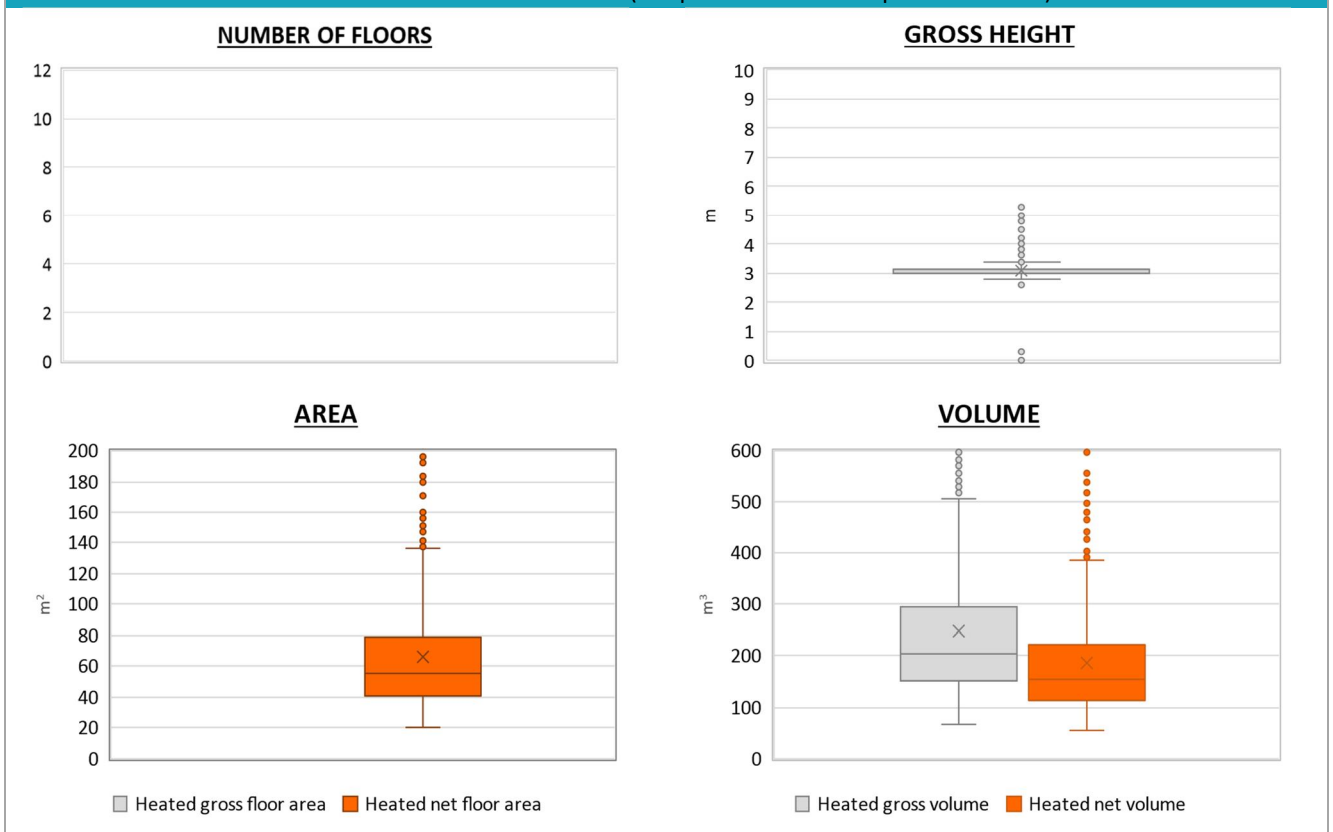
DAILY OPERATING TIME


■ Heating ■ Cooling

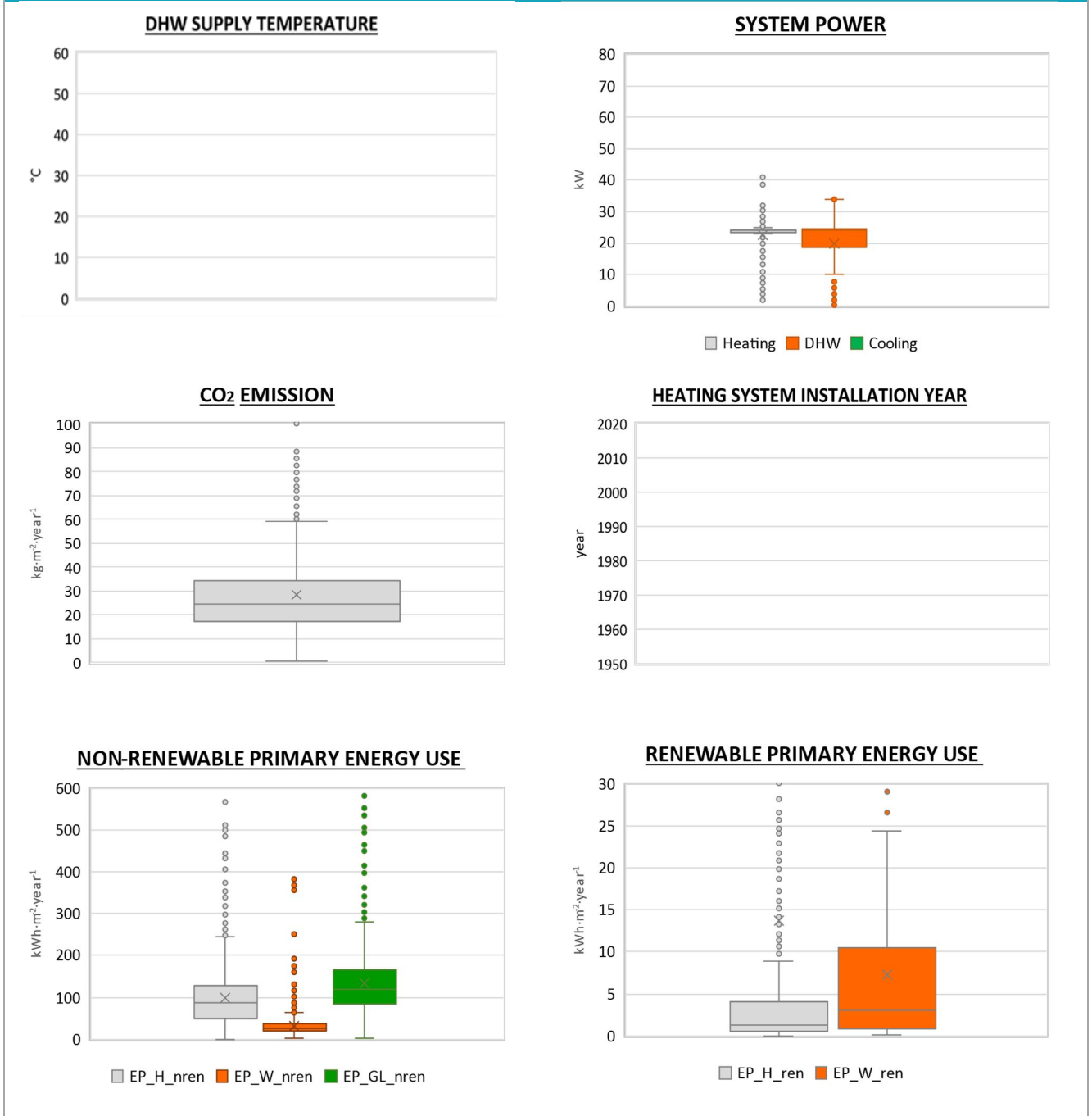
Region:	Liguria	Archetype code: RES_APPBLOCK_ 1981-1990_C_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1981-1990	
Climatic zone:	C	

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 ²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m ²	66.6	43.7	40.7	55.0	79.1
	Heated gross volume	$V_{H;g}$	m ³	249.2	173.4	151.8	205.4	296.0
	Heated net volume	$V_{H;n}$	m ³	186.6	136.4	112.0	154.0	222.0
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	22.6	5.4	23.3	24.0	24.0
	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	θ_w	°C	-	-	-	-	-
	DHW system power *	$P_{W;gen}$	kW	19.6	9.3	18.5	24.0	24.6

* These values refer to the apartment scale

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


Region:	Liguria	Archetype code: RES_APPBLOCK_ 1981-1990_C_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1981-1990	
Climatic zone:	C	

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


NOTE: Sample size of the analysed data.

Compactness ratio: 1408; Window to useful floor area ratio: 313; U-value of the roof: 290; U-value of the wall: 1243; U-value of the floor: 102; U-value of the windows: 1412; Inter-storey height: 1408; Heated net floor area: 1408; Heated gross volume: 1403; Heated net volume: 1403; Total heating power: 554; DHW system power: 994; CO₂ Emission: 1384; EP_H_nren: 1397; EP_W_nren: 1376; EP_GL_nren: 1398; EP_H_ren: 930; EP_W_ren: 706