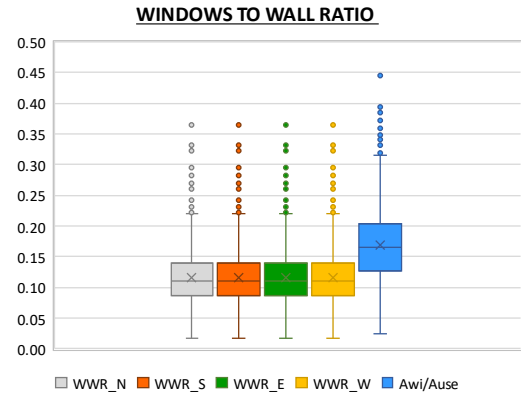
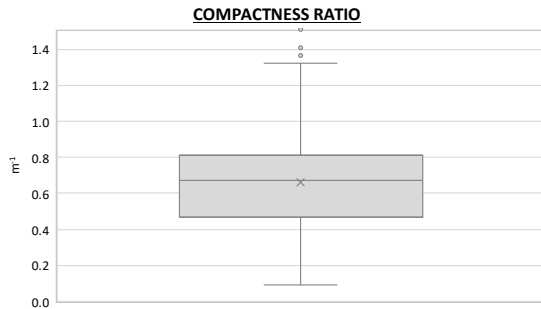


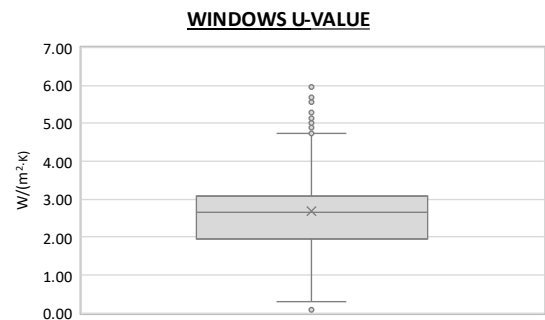
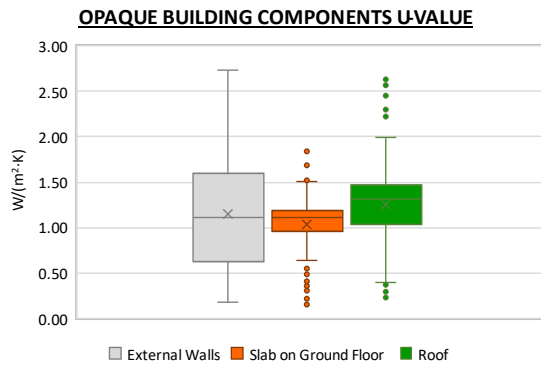
Region:	Aosta Valley						Archetype code: RES_APPBLOCK_1946-1961_E-F_VAL	
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	1946 - 1961							
Climatic zone:	E-F		Number of records:		1933			
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: solid brick masonry (cod. MLP01) or hollow brick masonry with air gap (cod. MCV01). Roof slabs: concrete floor slab (cod. SOL06).							Data sources: EPC databases (100%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	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>	0.66	0.24	0.47	0.67	0.81
	WWR – North orientation	$WWR_N$	-	0.12	0.04	0.09	0.11	0.14
	WWR – South orientation	$WWR_S$	-	0.12	0.04	0.09	0.11	0.14
	WWR – East orientation	$WWR_E$	-	0.12	0.04	0.09	0.11	0.14
	WWR – West orientation	$WWR_W$	-	0.12	0.04	0.09	0.11	0.14
	Window to useful floor area ratio	$A_{wi}/A_{\text{use}}$	-	0.17	0.09	0.13	0.17	0.20
ENVELOPE	Roof type	-						
	U-value of the roof **	$U_{fi,up}$	W/(m <sup>2</sup> ·K)	1.25	0.47	1.04	1.32	1.47
	External walls type	Solid Brick masonry: 45%; Hollow brick masonry: 30%; Masonry with local stones: 21%; Unknown: 2%; Concrete wall: 2%						
	U-value of the wall	$U_{wl}$	W/(m <sup>2</sup> ·K)	1.15	0.64	0.62	1.11	1.59
	Slab on ground floor type	-						
	U-value of the floor **	$U_{fi,lw}$	W/(m <sup>2</sup> ·K)	1.03	0.32	0.96	1.11	1.18
	Windows type	Double glazing, wooden frame: 66%; Single glazing, wooden frame: 17%; Double glazing, PVC frame: 13%; Triple glazing, wooden frame: 3%; Triple glazing, PVC frame: 1%						
	U-value of the windows	$U_W$	W/(m <sup>2</sup> ·K)	2.69	1.04	1.95	2.67	3.07
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: 100%						
	Air exchange rate *	$n$	h <sup>-1</sup>	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Autonomous: 68%; Centralized: 32%						
	Heating generator	Boiler (unknown type): 40%; Traditional Boiler: 32%; Condensing Boiler: 12%; Fireplace: 11%; Unknown: 4%; Heat exchanger of district heating/cooling: 1%						
	Daily operating time of the heating system *	$t_H$	h	-				
	Energy carrier	Gas Oil: 38%; Natural Gas: 26%; LPG: 20%; Solid biomass: 14%; District heating: 2%						
	Heating emission sub-system	-						
	Cooling system type	Absent: 100%						
	Daily operating time of the cooling system *	$t_C$	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Autonomous, coupled with heating: 45%; Autonomous, detached from heating: 38%; Centralized, coupled with heating: 16%; Centralized, detached from heating: 1%						
	DHW generator	Unknown: 52%; Natural gas boiler: 32%; Electric boiler: 15%; Electric Heat Pump: 1%						
* These values are derived from UNI EN ISO Standards; ** U-values of the upper and lower slabs face unconditioned spaces (i.e., attic, basement, etc.)								

<b>Region:</b>	Aosta Valley	<b>Archetype code:</b> RES_APPBLOCK_1946- 1961_E-F_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	1946 - 1961	
<b>Climatic zone:</b>	E-F	
<b>Number of records:</b>		1933

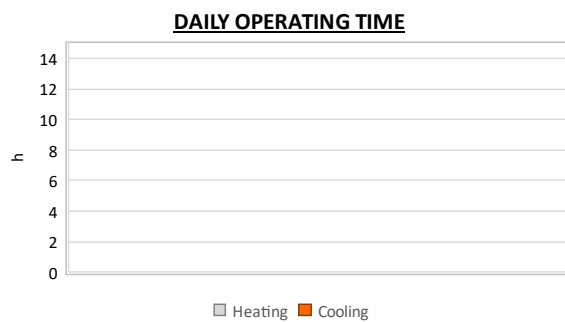
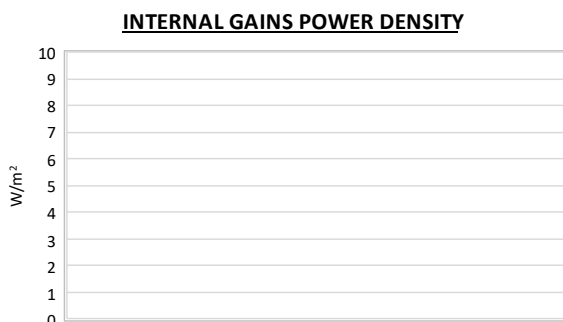
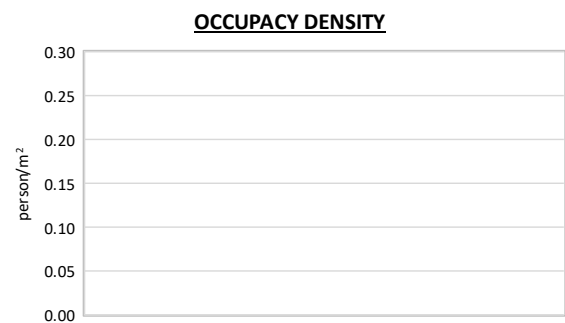
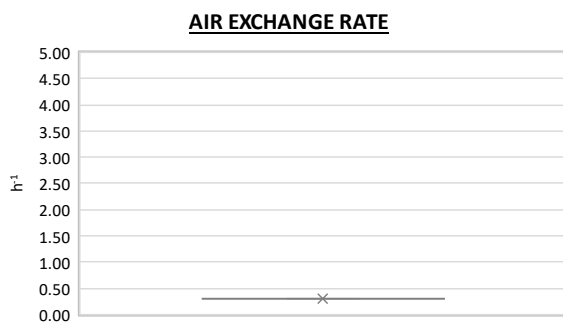
### Numerical variables – GEOMETRY



### Numerical variables – ENVELOPE



### Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE



Region:	Aosta Valley			Archetype code: RES_APPBLOCK_1946- 1961_E-F_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)			
Period of construction:	1946 - 1961			
Climatic zone:	E-F	Number of records:	1933	

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	2.6	0.3	2.4	2.5	2.7
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	87.3	272.8	45.6	58.9	77.8
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	348.8	1206.4	172.2	223.1	294.1
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	318.5	1219.5	120.2	156.7	201.0
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	21.9	8.6	15.1	24.0	28.0
	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	8.6	6.7	3.0	8.0	12.2
	Temperature of DHW	$\vartheta_W$	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	15.2	12.4	1.2	22.0	25.1

\* These values refer to the apartment scale

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



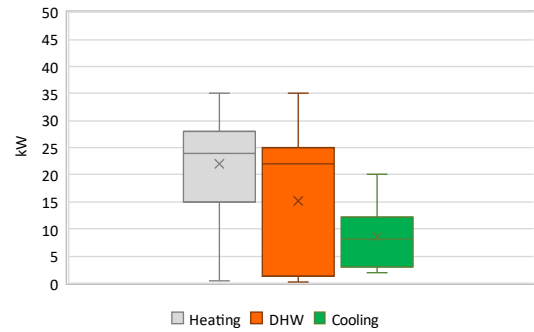
<b>Region:</b>	Aosta Valley	<b>Archetype code:</b> RES_APPBLOCK_1946- 1961_E-F_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	1946 - 1961	
<b>Climatic zone:</b>	E-F	
<b>Number of records:</b>		1933

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

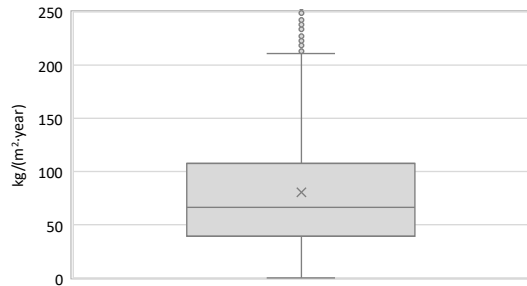
**DHW SUPPLY TEMPERATURE**



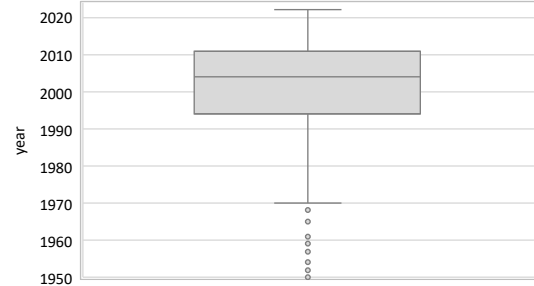
**SYSTEM POWER**



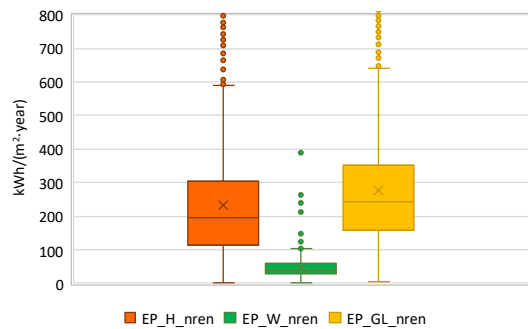
**CO<sub>2</sub> EMISSION**



**HEATING SYSTEM INSTALLATION YEAR**



**NON-RENEWABLE PRIMARY ENERGY USE**



**RENEWABLE PRIMARY ENERGY USE**

