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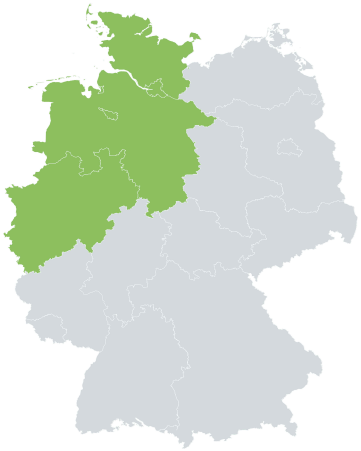
Apartment Block

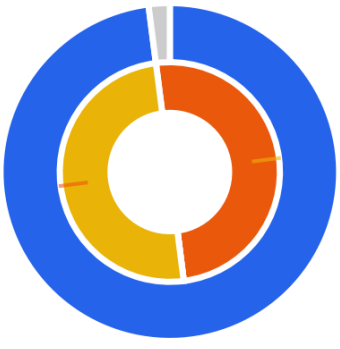


Region	north
Age Class	1949-1957
Net leased area [m²]	796.5
Storey Height [m]	2.7
Storeys a.g.	4.0

Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n_{Sim}
Final heat energy demand - per year	144187.29	± 3661.51	kWh/a	0.17	90
Final heat energy demand - per m² net leased area and year	181.04	± 1.15	kWh/m²a	0.04	90
Carbon footprint (GWP) from heat energy - per year	36024.33	± 914.81	kgCO₂eq,B6/a	0.17	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	45.23	± 0.29	kgCO₂eq,B6/m²a	0.04	90
Life Cycle Carbon footprint (GWP) - over 50 years	1998289.10	± 50718.52	kgCO₂eq,full/50a	0.17	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	2509.01	± 15.82	kgCO₂eq,full/m²50a	0.04	90

ABC



Building element	D [kgCO₂eq/50a]
Exterior walls	-298.2
Roof	-1,064
Foundation	570.4
Windows	-2,060

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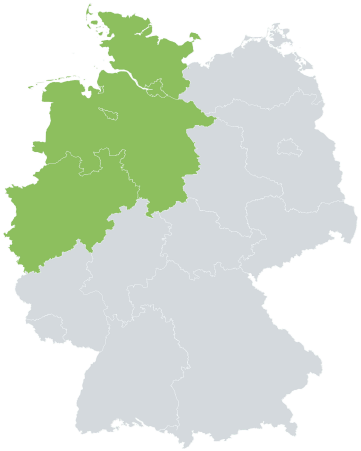

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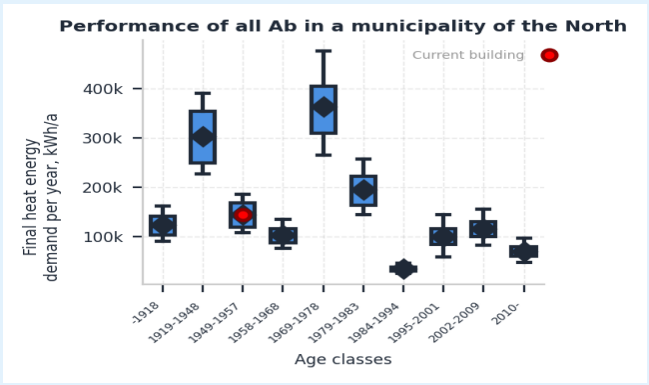

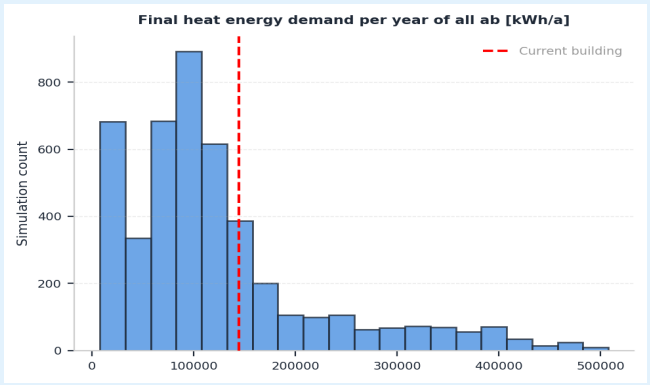

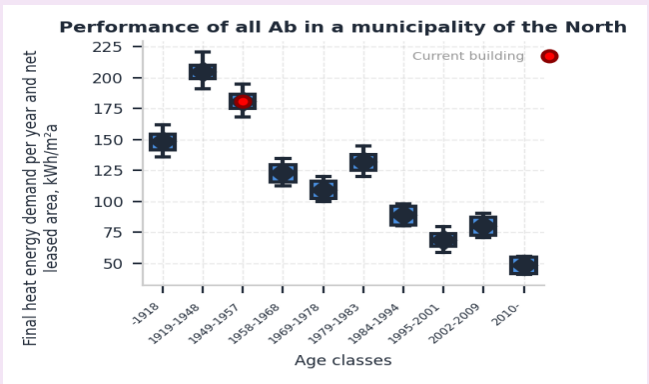

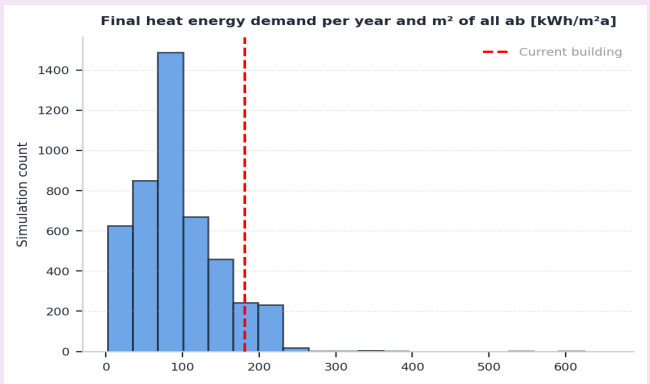

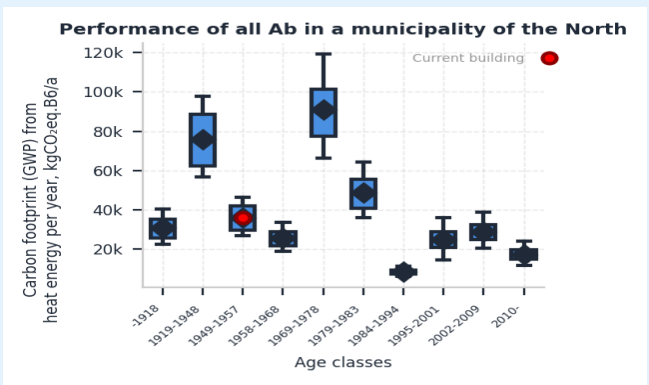

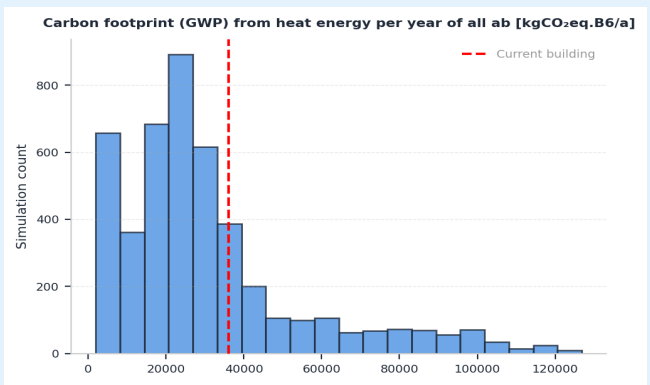

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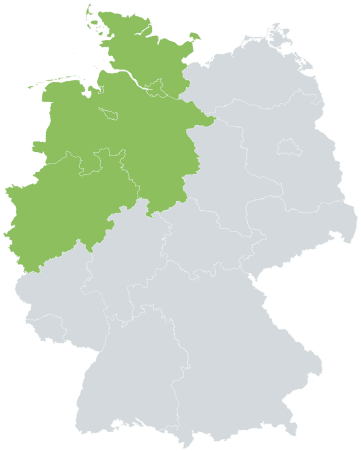
Apartment Block



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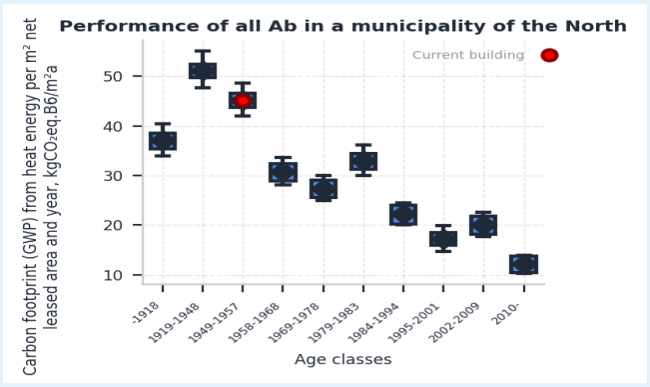

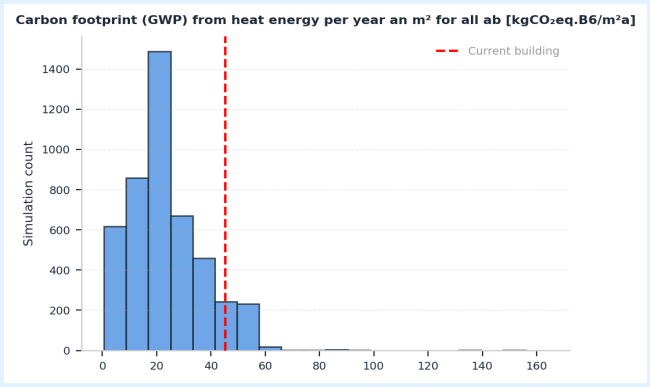

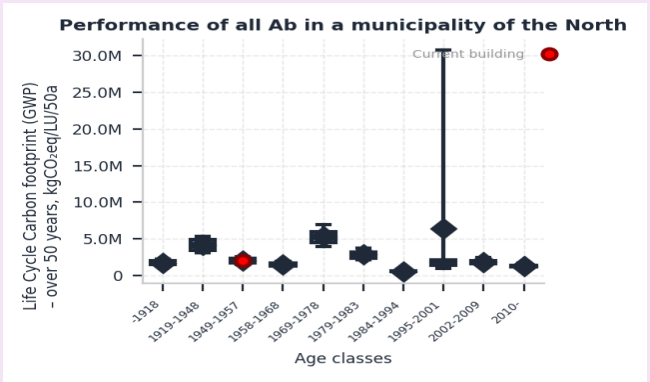

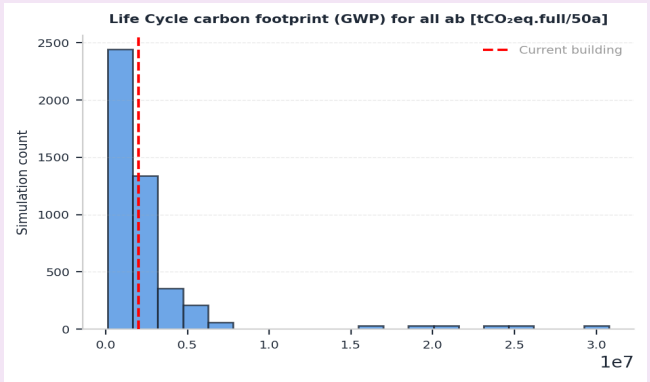

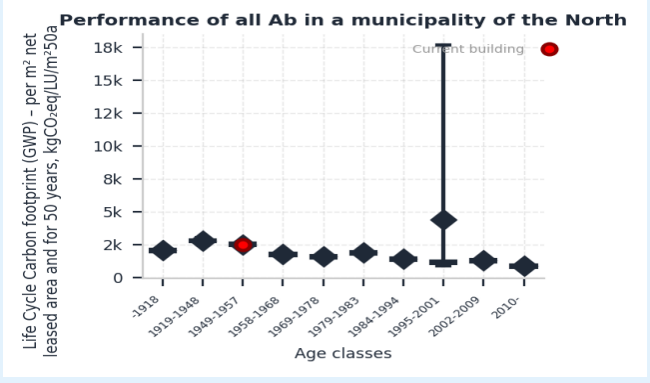

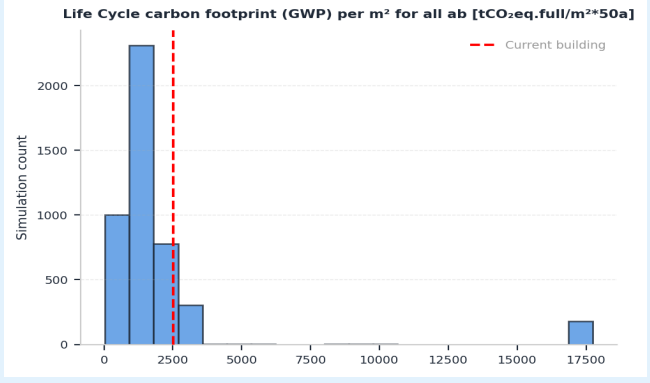

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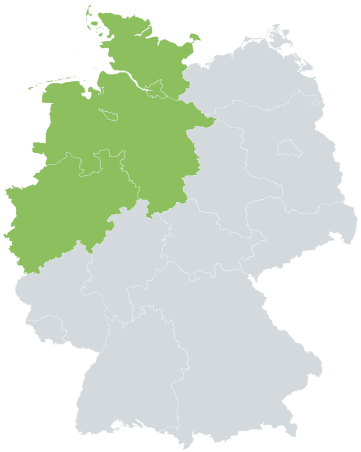
Apartment Block



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Net leased area [m²]	796.5
Storey Height [m]	2.7
Storeys a.g.	4.0

Exterior Wall

	U [W/m²K]		
Type: massive-monolithic	Actual: 1.430	Min: 0.180	Max: 1.400

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	interior plaster	0.01	1600	0.7	850	6	-
1	perforated bricks	0.2987	1400	0.6	850	4	-
2	exterior plaster	0.015	1600	0.8	850	1	-

Interior Wall

U [W/m²K]		
Actual: 2.170	Min: 0.190	Max: 2.100

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	gypsum	0.015	850	0.3	1000	6	-
1	solid brick	0.15	1800	0.79	850	4	-
2	gypsum	0.015	850	0.3	1000	1	-

Roof

	U [W/m²K]		
Type: wooden	Actual: 0.290	Min: 0.180	Max: 1.400

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	lime gypsum plaster	0.01	1900	0.7	850	1	-
1	rafters	0.08	455	0.14	1500	16	-
2	moving air layer	0.06	1.184	0.0261	1.005	10	-
3	wood wool	0.025	469	0.09	1470	15	-
4	roof battens	0.02	600	0.14	1500	14	-
5	roof tiles	0.02	1786	0.55	889	11	-

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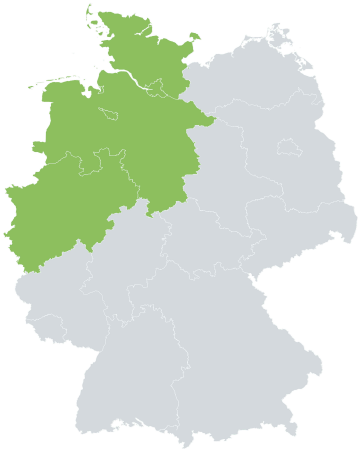

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Foundation

	U [W/m²K]		
Type: massive	Actual: 1.340	Min: 0.180	Max: 1.200

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	floating cement screed	0.04	1940	1.4	1000	17	-
1	stone wool	0.02	60	0.09	840	2	-
2	aerated concrete blocks	0.19	1100	0.66	1050	9	-

Floor

U [W/m²K]		
Actual: 2.170	Min: 0.190	Max: 2.100

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	floating cement screed	0.05	1940	1.4	1000	17	-
1	mineral wool	0.01	60	0.09	850	12	-
2	reinforced concrete	0.15	2400	2.04	777	8	-

Window System

Glazing	EPD_{Gl}	Frame type	EPD_{Fr}	window wall share
2	13	pvc	5	0.18397

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	3	gas	7

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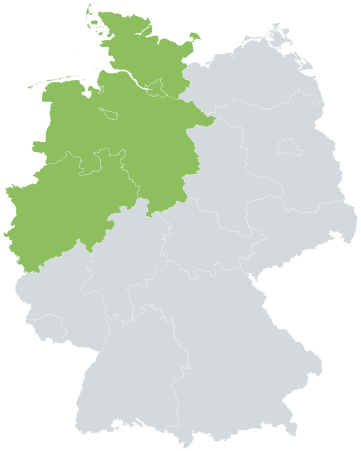

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EPD Summary Table

SPN	Full EPD ID	Material Title
1	004f3f4e-5bb8-4d9e-a104-6999a9e8ad5b	Gypsum lime plaster
2	155a3b83-ed73-4462-a4f1-69ce64e24981	Mineral wool insulation (high bulk density range)
3	230155d8-a5df-4b32-b6e9-46bdbcf526b3	Gas low temperature boiler 20-120 kW (upright unit)
4	30514538-fcb4-483b-b5d5-c108d2037536	Brick (unfilled)
5	73de9e80-8ed2-47d8-b5b6-854c84166f24	Window sash PVC-U
6	7e0c008a-009d-4357-92c1-afb2cec3bc0a	Gypsum interior plaster
7	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
8	Synthetic_2	Concrete C30/37 with reinforcement steel
9	Synthetic_6	Autoclaved aerated concrete elements with reinforcement steel
10	Synthetic_8	Air layer
11	a6d60a75-7a4e-4dfc-87cc-fd40f68d279a	Roofing tiles (including accessories)
12	ac779922-219f-4730-9aef-a7da84d334c1	Mineral wool (floor insulation)
13	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
14	e70d9027-5315-481c-92e2-7b7d8a02eaba	holzius ? solid wood slab elements
15	ee0c4b18-f9c9-44d1-8766-36db08856a2f	Wood fiber insulation - dry process (German average)
16	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber
17	fe371be5-c72f-4203-8569-a085ef375ba4	CALCIUM SULPHATE FLOWING SCREED AND CONVENTIONAL CALCIUM SULPHATE SCREED

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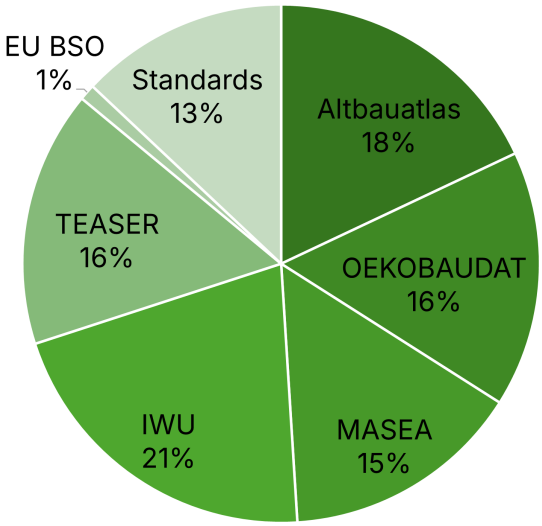

This archetype represents :

- 0.35% of all Apartment Blocks
- 10.45% of all Apartment Blocks of the specific region

Data source	Link
Altbauatlas	https://www.altbauatlas.de/index.php
OEKOBAUDAT	https://www.oekobaudat.de/en.html
IWU	https://datenbasis.iwu.de/ https://wohngebaeudedaten2016.iwu.de/
MASEA	https://www.masea-ensan.de/
TEASER	https://ebc-tools.eonerc.rwth-aachen.de/en/teaser
EU BSO	https://building-stock-observatory.energy.ec.europa.eu/database/

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