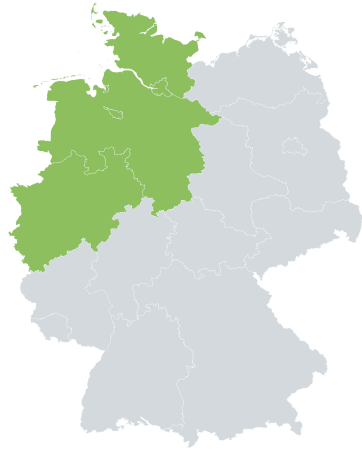




Apartment Block



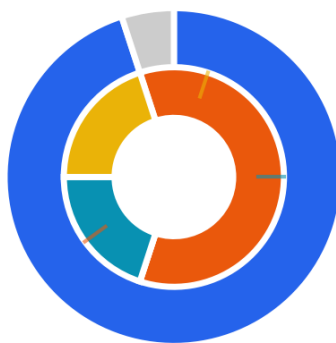
Region	north
Age Class	1979-1983
Net leased area [m²]	1484.0
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	195665.21	± 5071.61	kWh/a	0.17	90
Final heat energy demand - per m² net leased area and year	131.87	± 1.11	kWh/m²a	0.06	90
Carbon footprint (GWP) from heat energy - per year	48885.78	± 1267.11	kgCO ₂ eq,B6/a	0.17	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	32.95	± 0.28	kgCO ₂ eq,B6/m²a	0.06	90
Life Cycle Carbon footprint (GWP) - over 50 years	2810324.24	± 72341.13	kgCO ₂ eq,full/50a	0.17	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1894.03	± 14.84	kgCO ₂ eq,full/m²50a	0.05	90

ABC

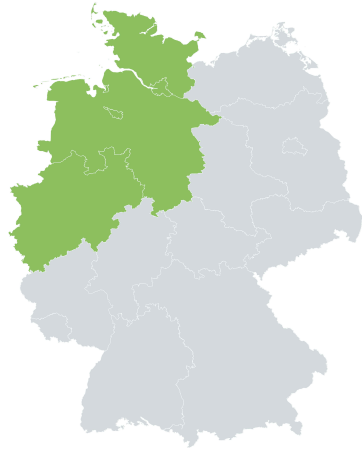


- Operational (95.0%)
- Exterior walls (3.00%)
- Foundation (1.00%)
- Windows (1.00%)
- Roof (0.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	652.0
Roof	nan
Foundation	66.8
Windows	-3,171



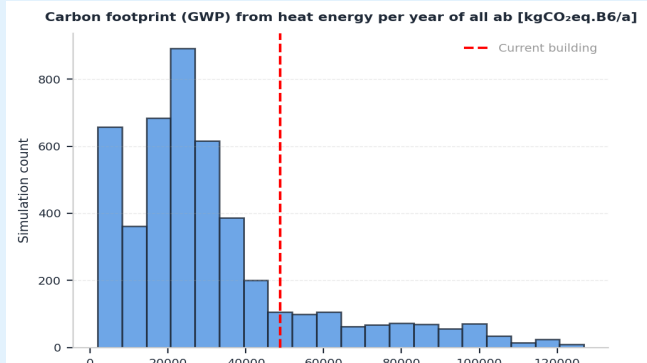
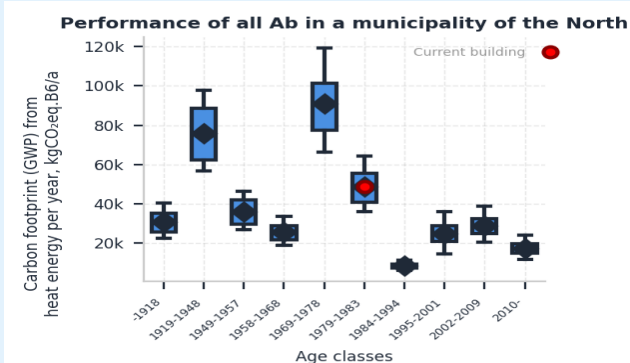
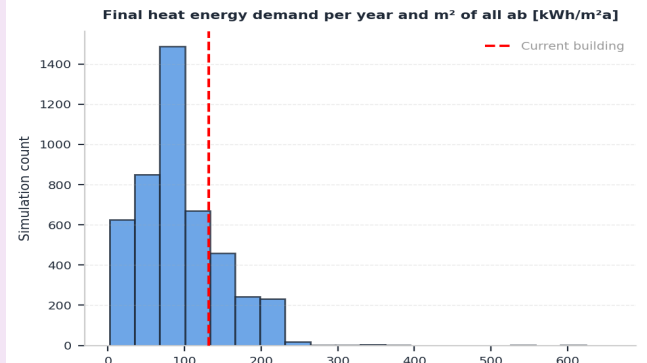
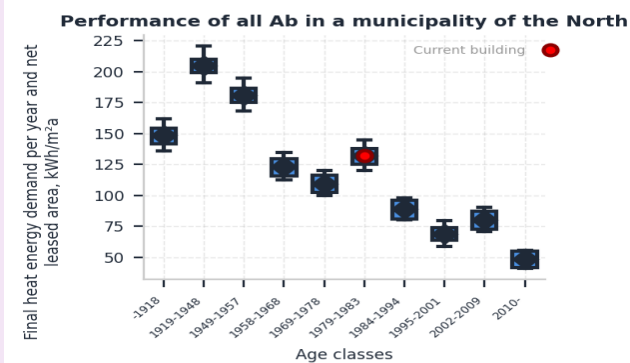
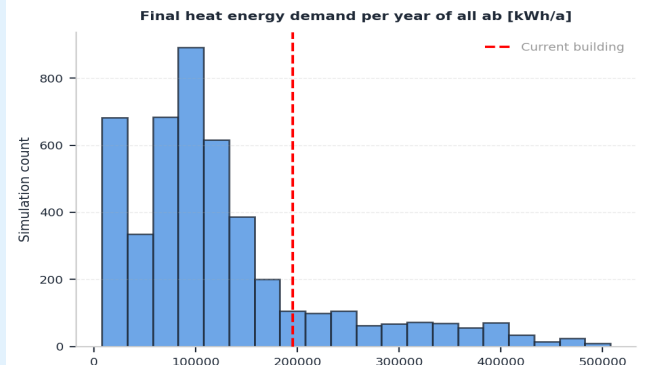
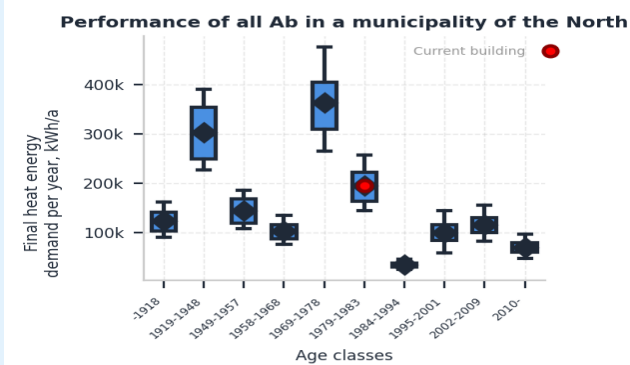
Apartment Block



Region	north
Age Class	1979-1983
Net leased area [m²]	1484.0
Storey Height [m]	2.7
Storeys a.g.	4.0

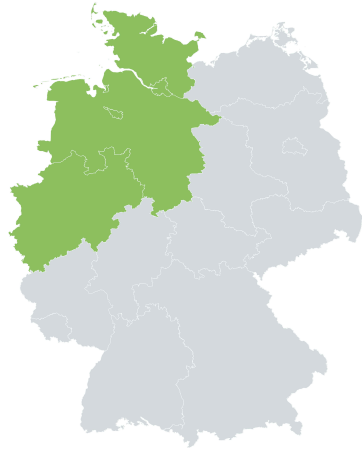


Building Performance





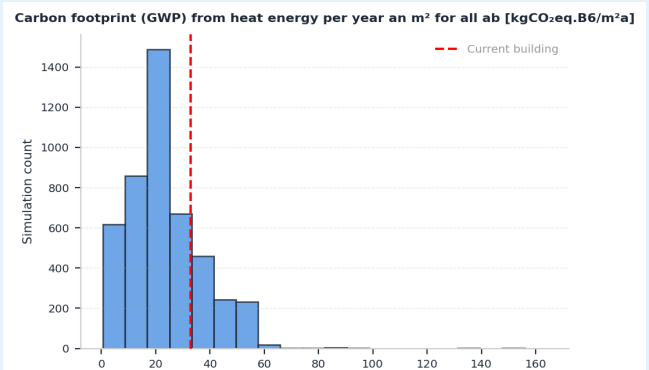
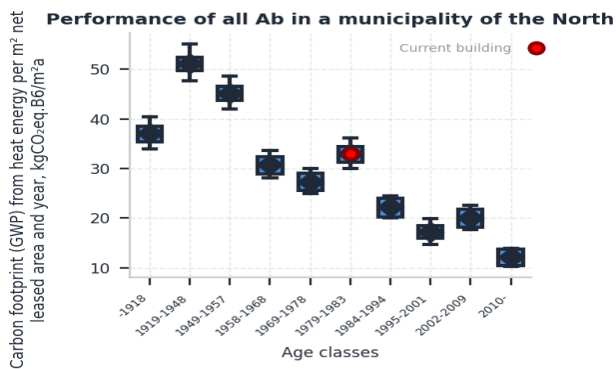
Apartment Block



Region	north
Age Class	1979-1983
Net leased area [m²]	1484.0
Storey Height [m]	2.7
Storeys a.g.	4.0

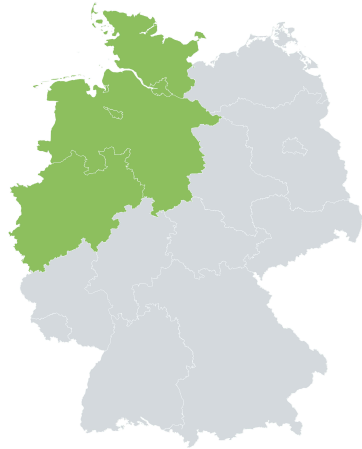


Building Performance





Apartment Block



Region	north
Age Class	1979-1983
Net leased area [m²]	1484.0
Storey Height [m]	2.7
Storeys a.g.	4.0



Exterior Wall

Type: massive	U [W/m²K]		
	Actual: 0.950	Min: 0.170	Max: 0.800

Layer	Material Name	t _i [m]	ρ _i [kg/m³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	concrete_CEM_II_BS325R_wz05	0.175	2420	2.1	1000	7	-
1	EPS_040_15	0.03	15	0.04	1500	1	-
2	concrete_wz05	0.08	2300	1.6	850	7	-

Interior Wall

U [W/m²K]		
Actual: 2.420	Min: 0.140	Max: 0.300

Layer	Material Name	t _i [m]	ρ _i [kg/m³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	lime plaster	0.01	1600	0.7	850	7	-
1	solid brick	0.15	1800	0.7	850	1	-
2	lime plaster	0.01	1600	0.7	850	7	-

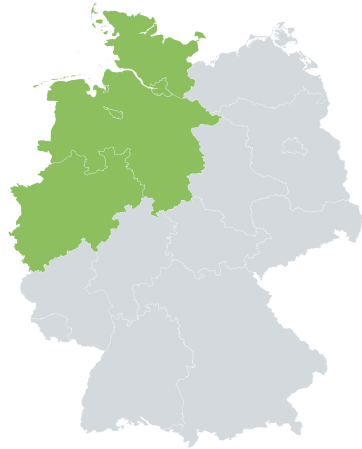
Roof

Type: wooden	U [W/m²K]		
	Actual: 0.390	Min: 0.170	Max: 0.800

Layer	Material Name	t _i [m]	ρ _i [kg/m³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	gypsum	0.01	906	0.28	1500	4	-
1	wooden beams	0.15	650	0.13	1500	8	-
2	mineral wool	0.05	60	0.04	850	3	-



Apartment Block



Region	north
Age Class	1979-1983
Net leased area [m²]	1484.0
Storey Height [m]	2.7
Storeys a.g.	4.0



Foundation

Type: massive	U [W/m²K]		
	Actual: 0.940	Min: 0.170	Max: 1.000

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	10	-
1	EPS_040_15	0.03	15	0.04	1500	1	-
2	concrete_CEM_II_BS325R_wz05	0.15	2420	2.1	1000	7	-

Floor

U [W/m²K]		
Actual: 2.420	Min: 0.140	Max: 0.300

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	10	-
1	EPS_040_15	0.03	15	0.04	1500	1	-
2	reinforced concrete	0.15	2104	1.94	776	7	-

Window System

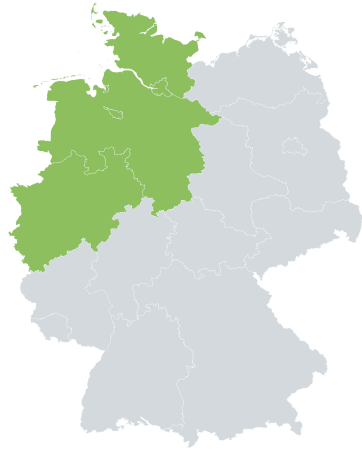
Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	9	pvc	5	0.15199

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	2	gas	6



Apartment Block

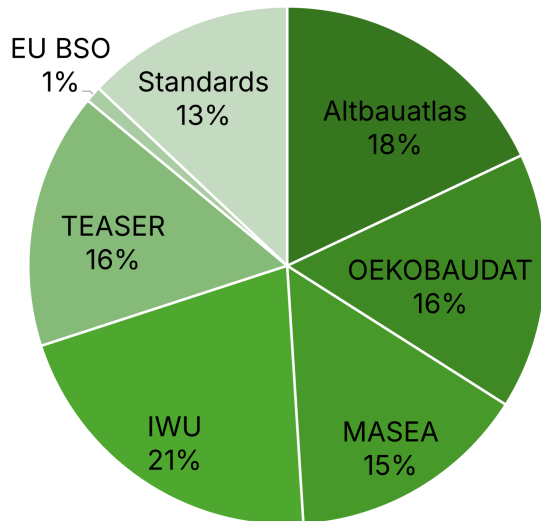


Region	north
Age Class	1979-1983
Net leased area [m²]	1484.0
Storey Height [m]	2.7
Storeys a.g.	4.0



EPD Summary Table

SPN	Full EPD ID	Material Title
1	205b761d-e344-49c3-a3a9-bb1bfd59b916	Expanded Polystyrene (EPS) Foam Insulation (density 15 kg/m³)
2	230155d8-a5df-4b32-b6e9-46bdbcf526b3	Gas low temperature boiler 20-120 kW (upright unit)
3	50d421e2-3a7b-4659-92a4-f20d6a52fcf0	Mineral wool (facade insulation)
4	69a2614b-ef34-4c3c-9221-963676658172	Gypsum (CaSO4 beta hemihydrate)
5	73de9e80-8ed2-47d8-b5b6-854c84166f24	Window sash PVC-U
6	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
7	Synthetic_2	Concrete C30/37 with reinforcement steel
8	aeab0f39-5eab-422f-8c4b-822bb98aa63c	Laminated wood beam softwood (generic)
9	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
10	fe371be5-c72f-4203-8569-a085ef375ba4	CALCIUM SULPHATE FLOWING SCREED AND CONVENTIONAL CALCIUM SULPHATE SCREED



This archetype represents :

- 2.50% of all Apartment Blocks
- 6.48% 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://wohngebaeuedaten2016.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/