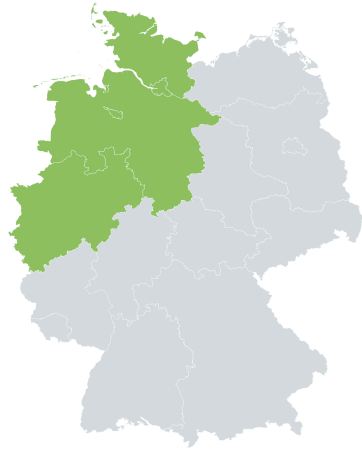




Apartment Block



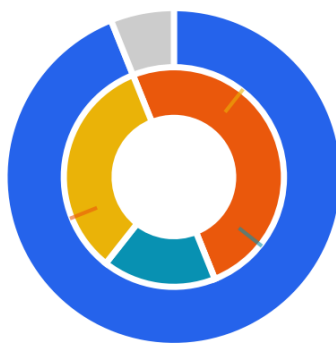
Region	north
Age Class	1984-1994
Net leased area [m²]	377.3
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	33568.53	± 908.89	kWh/a	0.18	90
Final heat energy demand - per m² net leased area and year	88.97	± 0.99	kWh/m²a	0.07	90
Carbon footprint (GWP) from heat energy - per year	8386.90	± 227.08	kgCO ₂ eq,B6/a	0.18	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	22.23	± 0.25	kgCO ₂ eq,B6/m²a	0.07	90
Life Cycle Carbon footprint (GWP) - over 50 years	526304.67	± 13915.76	kgCO ₂ eq,full/50a	0.18	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1394.85	± 13.35	kgCO ₂ eq,full/m²50a	0.06	90

ABC

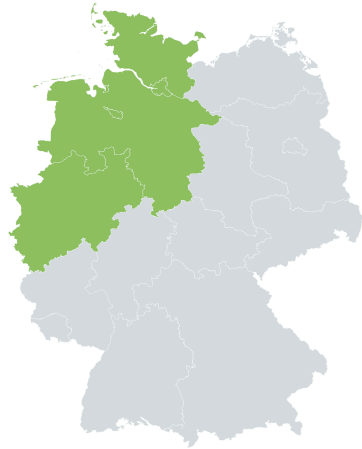


- Operational (93.0%)
- Exterior walls (3.00%)
- Foundation (1.00%)
- Windows (2.00%)
- Roof (0.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	-226.4
Roof	-813.0
Foundation	-4.3
Windows	-1,098



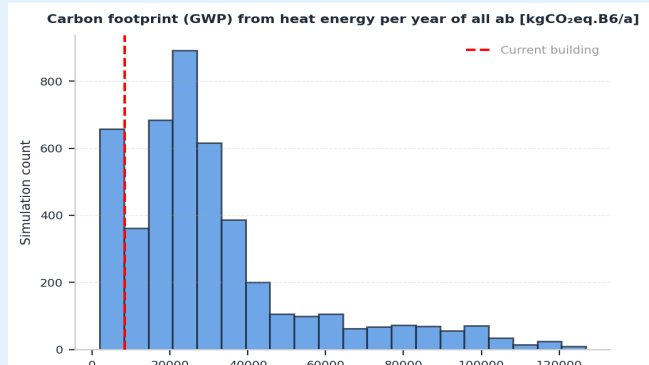
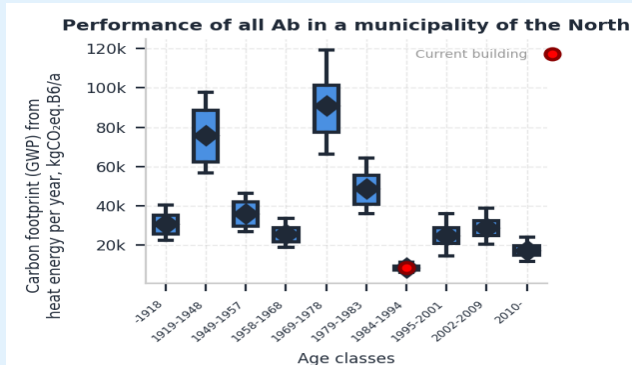
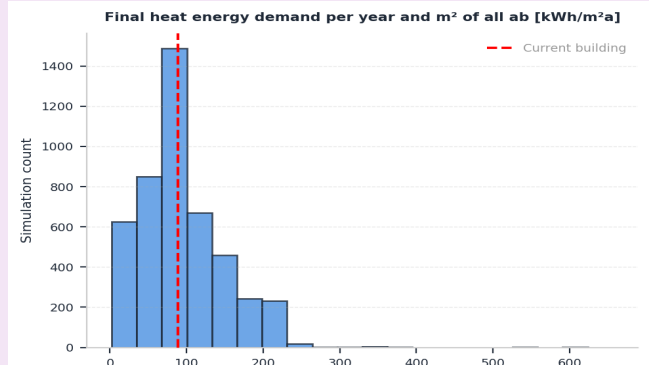
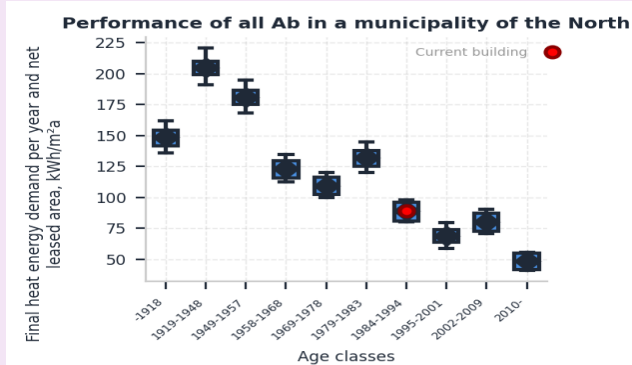
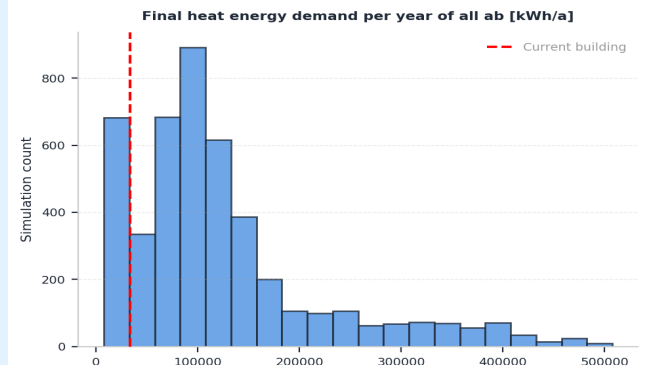
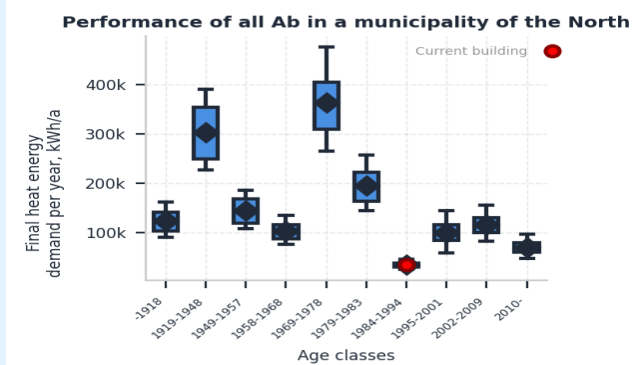
Apartment Block



Region	north
Age Class	1984-1994
Net leased area [m²]	377.3
Storey Height [m]	2.7
Storeys a.g.	4.0

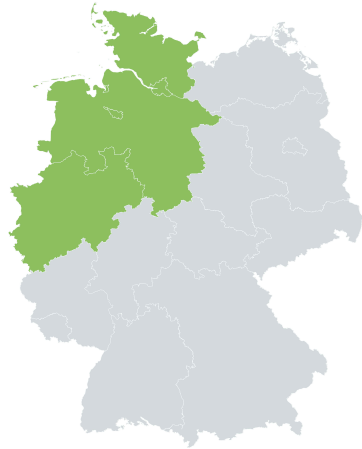


Building Performance





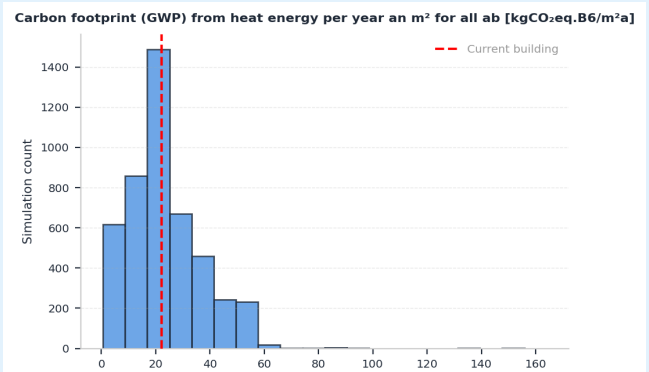
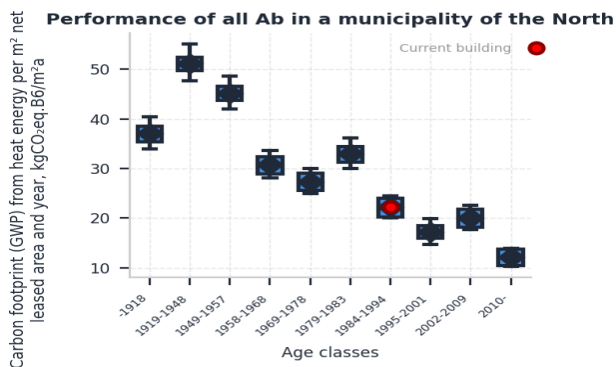
Apartment Block



Region	north
Age Class	1984-1994
Net leased area [m²]	377.3
Storey Height [m]	2.7
Storeys a.g.	4.0

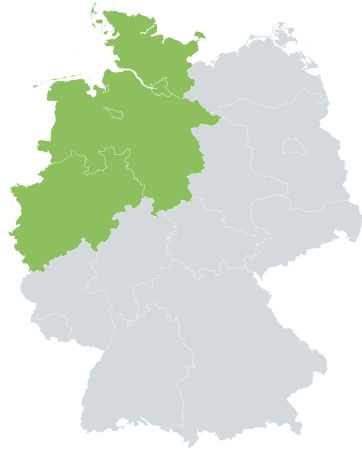


Building Performance





Apartment Block



Region	north
Age Class	1984-1994
Net leased area [m²]	377.3
Storey Height [m]	2.7
Storeys a.g.	4.0



Exterior Wall

Type: massive-double	U [W/m²K]		
	Actual: 0.280	Min: 0.160	Max: 0.600

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	1400	0.7	850	9	-
1	perforated bricks	0.175	1200	0.52	850	3	-
2	mineral wool	0.02	60	0.04	850	5	-
3	resting air layer	0.06	1.184	0.0261	1.005	11	-
4	facing bricks	0.115	1400	0.6	1155	1	-

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	9	-
1	solid brick	0.15	1800	0.7	850	3	-
2	lime plaster	0.01	1600	0.7	850	5	-

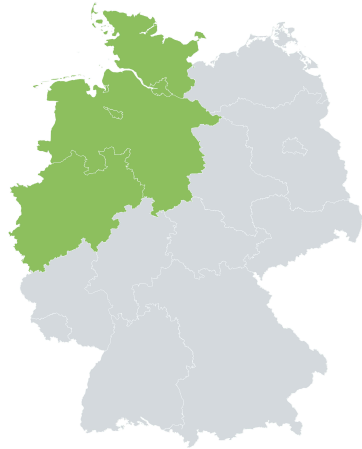
Roof

Type: wooden	U [W/m²K]		
	Actual: 0.290	Min: 0.160	Max: 0.500

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD ₁	EPD ₂
0	gypsum plasterboard	0.013	900	0.21	1228	15	-
1	rafters	0.08	600	0.13	1500	14	-
2	moving air layer	0.06	1.184	0.0261	1.005	11	-
3	polystyrene	0.01	40	0.035	1380	4	-
4	roof tiles	0.02	1786	0.55	889	12	-



Apartment Block



Region	north
Age Class	1984-1994
Net leased area [m²]	377.3
Storey Height [m]	2.7
Storeys a.g.	4.0



Foundation

Type: massive	U [W/m²K]		
	Actual: 1.130	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	cement screed	0.04	2000	1.4	1000	8	-
1	polystyrene	0.02	40	0.035	1380	4	-
2	reinforced concrete	0.16	2400	2.1	776	10	-

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	cement screed	0.04	1950	1.4	1000	8	-
1	mineral wool	0.04	60	0.04	850	5	-
2	reinforced concrete	0.2	2400	2.1	776	10	-

Window System

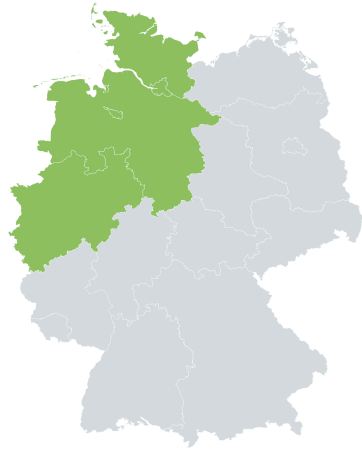
Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	13	pvc	6	0.20694

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	2	gas	7



Apartment Block

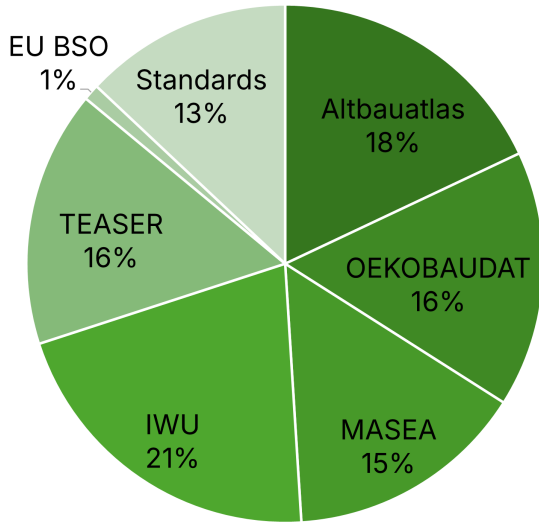


Region	north
Age Class	1984-1994
Net leased area [m²]	377.3
Storey Height [m]	2.7
Storeys a.g.	4.0



EPD Summary Table

SPN	Full EPD ID	Material Title
1	127a23f5-d954-41c9-8f8a-ecca18aca691	Facing bricks
2	230155d8-a5df-4b32-b6e9-46bdbcf526b3	Gas low temperature boiler 20-120 kW (upright unit)
3	30514538-fcb4-483b-b5d5-c108d2037536	Brick (unfilled)
4	4e83c488-bb36-40b0-bfd4-b2aa7f1c0f04	Expanded Polystyrene (EPS) Foam Insulation (density 30 kg/m³)
5	50d421e2-3a7b-4659-92a4-f20d6a52fcf0	Mineral wool (facade insulation)
6	73de9e80-8ed2-47d8-b5b6-854c84166f24	Window sash PVC-U
7	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
8	86d919ee-8f30-4ca4-9b7e-717aecba6ac0	Cement screed
9	9a670d29-efb9-4fde-95ab-182a0b1e7280	Lime gypsum interior plaster
10	Synthetic_2	Concrete C30/37 with reinforcement steel
11	Synthetic_8	Air layer
12	a6d60a75-7a4e-4dfc-87cc-fd40f68d279a	Roofing tiles (including accessories)
13	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
14	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber
15	f6878cee-a4bd-43da-a830-c64b975cb957	DRY SCREED PLASTERBOARD / Tool



This archetype represents :

- 3.63% of all Apartment Blocks
- 9.42% 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/