

GERMANY

1. CONTEXT OF THE BUILT ENVIRONMENT

Urban population

Total population	Functional Urban Area population*	Share of urban population	Average urban growth
83.635 million (2020)	49.989 million (2020)	60% (2020)	3% (2015-2020)

*Data source: European Commission (2023), FUA and eFUA methodology: OECD/European Commission (2020)¹

Building data

	Building stock	Built before 1979	Annual construction	Annual construction rate
Residential	19,375 thousand dwellings (2021)	67%	103.5 thousand dwellings (2022)	0.5%
Non-residential	3,507 million m ² (2019)		24.9 million m ²	0.7%

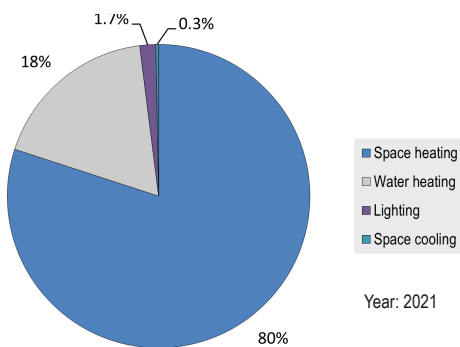
Energy & emissions data

Residential buildings**	1990	2021	+/- rate
Final energy consumption (PJ/year)	2,636	2,402	-9%
	1990	2021	+/- rate
GHG emissions (MtCO ₂ /year)	129	84.5	-35%

**Data source: IEA Countries & Regions²

Non-residential buildings	2021
Final energy consumption (PJ/year)	1,188
GHG emissions (MtCO ₂ /year)	

Energy consumption by end-use (Residential)



Heating degree days***

2,913.5
Degree (°C) Days (2020)
Reference degree day: 16 degree (°C)

Cooling degree days***

52.4
Degree (°C) Days (2020)
Reference degree day: 21 degree (°C)

***Data source: IEA Weather, Climate and Energy Tracker³

¹ <http://data.europa.eu/89h/2ff68a52-5b5b-4a22-8f40-c41da8332cfe>, <https://doi.org/10.1787/d58cb34d-en>

² <https://www.iea.org/countries>

³ <https://www.iea.org/data-and-statistics/data-tools/weather-climate-and-energy-tracker>

2. GOVERNANCE AND CAPACITY BUILDING

Who does what

Ministries/Agencies responsible for BEE (building energy efficiency) and related policies

A Ministry of Economic Affairs and Climate Action (BMWK)	B Ministry of Housing, Urban Dev. and Building (BMWSB)	C Federal Ministry for Digital and Transport (BMMDV)	D Federal States	E Federal Office for Economic Affairs and Export Control (BAFA)
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Ministries/Agencies responsible for each policy area

Building code	Governmental buildings	Housing policy in general	Financial incentives for BEE	Behaviour change for BEE
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E
BEE standard	Act/law for BEE regulation	Whole life carbon	Energy policy in general	NDC
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E

Local governments' authority to customise BEE standards⁴

—	Local governments can customise national standards.
—	Local governments cannot adjust national standards, but the standards differ across regions depending on the local climate.
<input checked="" type="checkbox"/>	Local governments cannot adjust national standards. All building codes, standards or requirements are uniform across the entire country.
<input checked="" type="checkbox"/>	Neighbourhood level approach/planning
—	The national government is tracking progress on decarbonisation efforts at the local level
<input checked="" type="checkbox"/>	More ambitious policy instrument by local governments

Capacity building

Government funding programmes to train/enhance skills for SMEs

Designing for ZEB	<input type="checkbox"/>	Insulation	<input type="checkbox"/>
Calculation for energy performance of buildings	<input type="checkbox"/>	Installation of energy efficient equipment	<input checked="" type="checkbox"/>
Calculation for life cycle CO ₂ of buildings	<input type="checkbox"/>	Other	<input type="checkbox"/>

Actions undertaken by the national government to support local governments for BEE policy implementation⁵

Co-ordinating regional networks for knowledge exchange and support	<input type="checkbox"/>
Providing funding for training	<input type="checkbox"/>
Distributing toolkits and guidelines	<input type="checkbox"/>
Developing online platforms to share best practices	<input type="checkbox"/>
Hosting annual conferences focused on BEE policy implementation	<input type="checkbox"/>
Offering grants to hire consultants	<input type="checkbox"/>
Collaborating with research institutes offering specialised courses on BEE practices	<input type="checkbox"/>
Creating incentive programmes to reward local governments	<input type="checkbox"/>
Supporting the Implementation of local regulations	<input type="checkbox"/>
Establishing mentorship programmes	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>

3. GOALS AND POLICY FOCUS

Policy areas covered in the goals and existing commitments

	Zero emission for new buildings	Zero emission for existing buildings	Renewable energy for new buildings	Renewable energy for existing buildings	Whole-life cycle carbon reduction
NDC	–	–	–	–	–
LT-LEDS	–	–	–	–	–
Ministerial plan	✓	✓	–	–	–

Quantitative targets included in long-term goals

Fossil fuel-free buildings	Increasing the proportion of renewable energy to 30% by 2030 and 50% nationally.	District heating/cooling	100,000 buildings should be connected to heating networks every year.
Insulation		Heat pumps	From 2024 at least 500,000 heat pumps newly installed per year.
Rooftop PVs		Solar heating of water	
Other renewable energy		Other	

Policy focus for decarbonising buildings (Top 3)

Current focus

Passive design to reduce heating demand	<input checked="" type="checkbox"/>
Energy efficiency on heating	<input checked="" type="checkbox"/>
Passive design to reduce cooling demand	<input type="checkbox"/>
Energy efficiency on cooling	<input type="checkbox"/>
Switching energy to sustainable energy	<input type="checkbox"/>
Renewable energy	<input checked="" type="checkbox"/>
Embodied carbon	<input type="checkbox"/>
Circularity of building materials	<input type="checkbox"/>



Future priorities

Passive design to reduce heating demand	<input type="checkbox"/>
Energy efficiency on heating	<input checked="" type="checkbox"/>
Passive design to reduce cooling demand	<input type="checkbox"/>
Energy efficiency on cooling	<input type="checkbox"/>
Switching energy to sustainable energy	<input type="checkbox"/>
Renewable energy	<input type="checkbox"/>
Embodied carbon	<input checked="" type="checkbox"/>
Circularity of building materials	<input checked="" type="checkbox"/>

Energy poverty

Strategies to reduce poverty and inequality via decarbonising buildings

Stronger financial support for decarbonising public housing for low-income people	<input type="checkbox"/>
Financial support to buy zero-energy/emission homes	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Financial support to renovate their homes to zero-energy/emission	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Allowing partial retrofits to ease financial burden on upfront cost	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Provide energy efficient appliances (e.g. LED)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Energy bill coupon	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Energy coach/consultation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

Note: Policies targeting specific households Low-income Elderly Households with more than 3 children Other

4. DEVELOPMENT OF POLICY INSTRUMENTS

Standards and regulations for decarbonising buildings

Building codes	National level	<input type="checkbox"/>
	State level	<input checked="" type="checkbox"/>
	Local level	<input type="checkbox"/>

Type of buildings covered by the mandatory energy efficiency code

Residential buildings	
New	<input checked="" type="checkbox"/> All <input type="checkbox"/> Only large units
Renovated	<input checked="" type="checkbox"/> All <input type="checkbox"/> Only large units
Non-residential buildings	
New	<input checked="" type="checkbox"/> All <input type="checkbox"/> Only large units
Renovated	<input checked="" type="checkbox"/> All <input type="checkbox"/> Only large units

Elements of building codes (new buildings)

Insulation/heat transmission coefficient	<input checked="" type="checkbox"/>
Primary energy consumption	<input type="checkbox"/>
Primary fossil-fuel energy consumption	<input checked="" type="checkbox"/>
Energy efficiency of equipment	<input checked="" type="checkbox"/>
Operational carbon reduction	<input type="checkbox"/>
Whole life cycle carbon	<input type="checkbox"/>
Comprehensive green building assessment	<input type="checkbox"/>
Other	<input type="checkbox"/>

Stricter standards for public buildings than private buildings

🏠 For new construction 🔧 For renovation

	Public buildings	Public housing
Energy efficiency	🏠 🔧	– –
Zero energy/emission	🏠 🔧	– –
Renewable energy	🏠 🔧	– –
Embodied carbon/life cycle	🏠 –	– –
Locally sourced & recycled materials	– –	– –

Certificates/labeling programme for built environment

Types of certificates/programme

Energy Performance Certificate (EPC)	<input checked="" type="checkbox"/>
Energy labelling on passive house	<input checked="" type="checkbox"/>
Energy labelling on annual energy consumption	<input checked="" type="checkbox"/>
Comprehensive built environment certification	<input type="checkbox"/>
Labeling for whole life carbon emissions	<input checked="" type="checkbox"/>

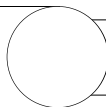
Target for Mandatory EPC

New buildings (residential)	<input checked="" type="checkbox"/>
New buildings (non-residential)	<input type="checkbox"/>
Existing buildings for renovation	<input checked="" type="checkbox"/>
Existing buildings for sales/rent	<input checked="" type="checkbox"/>

Standardised calculation methods for embodied carbon/LCA


Database of CFP/EPD	<input type="checkbox"/>	<input type="checkbox"/> Governmental	<input type="checkbox"/> Non-governmental
Grant for using the following materials	<input type="checkbox"/>	<input type="checkbox"/> Low-carbon	<input type="checkbox"/> Bio-based <input type="checkbox"/> Reused
Policy tools for reusing building materials	<input type="checkbox"/>		
Mandatory declaration	<input type="checkbox"/>	<input type="checkbox"/> Public	<input type="checkbox"/> Residential <input type="checkbox"/> Non-residential
Limit value on CO2 emissions	<input type="checkbox"/>	<input type="checkbox"/> Public	<input type="checkbox"/> Residential <input type="checkbox"/> Non-residential

Minimum energy performance standards (MEPS) regulation for existing buildings



<input type="checkbox"/> All buildings	<input type="checkbox"/> Residential (rent)	<input type="checkbox"/> Residential (sale)
<input type="checkbox"/> Office (rent/sale)	<input type="checkbox"/> Public buildings	<input type="checkbox"/> Other

Climate resilience

🔥 Extreme heat adaptation measures implemented in the building sector

Strategic orientation of main building facades	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Light coloured and reflective materials	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Green roof	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Green facades	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Other	<input checked="" type="checkbox"/>		

🌊 Floods/storms adaptation measures implemented in the building sector

Lowest liveable floor above ground level	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Roof drainage system	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Hip-roof	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Hurricane straps	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Impact-resistant glass	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Backup generators	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Microgrids	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives

Publicly available geographic database with climate risk information

Flood risk	<input checked="" type="checkbox"/>
Heat wave	<input checked="" type="checkbox"/>
Storm	<input type="checkbox"/>
Wild fire	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>

Building certificate system on climate resilience

Resilience to flood risk	<input type="checkbox"/>
Resilience to heat	<input type="checkbox"/>
Other	<input type="checkbox"/>

This survey is designed for national governments.