

LEGAL FRAMEWORK AND ENERGY PERFORMANCE REQUIREMENTS FOR NEW BUILDINGS

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Introduction

Purpose and objective of the building energy act and perspective:
2022 and further

The nearly-zero-energy-building (*slide 2*)

Exemplary role of public bodies' buildings, Energy performance
certificates, district approach, enforcement
(*slide 3*)

The Nearly-zero-energy-building § 10 Buildings Energy Act (GEG)

§ 10 GEG defines the basic obligations (energy performance requirements and use of renewable energies) for new buildings. New buildings have to be constructed as “nearly-zero-energy-buildings”: The following basic obligations apply cumulatively:

limitation of the yearly primary energy demand, § 10 II No. 1 GEG

requirements for the thermal insulation of buildings, § 10 II No. 2 GEG

use of renewable energies, § 10 II No. 3 GEG

+ summer heat protection, § 14 GEG

- Exemplary role of public bodies' buildings
- Energy performance certificates
- district approach
- enforcement

Exemplary role of public bodies' buildings, § 4 GEG

Energy performance certificates, §§ 79 – 88 GEG
(here: energy performance certificates for new buildings)

District approach

Enforcement
(responsible: Federal States)

CLIMATE PROTECTION GOALS IN THE BUILDING SECTOR:

Efficiency House Plus starts energy-generating buildings

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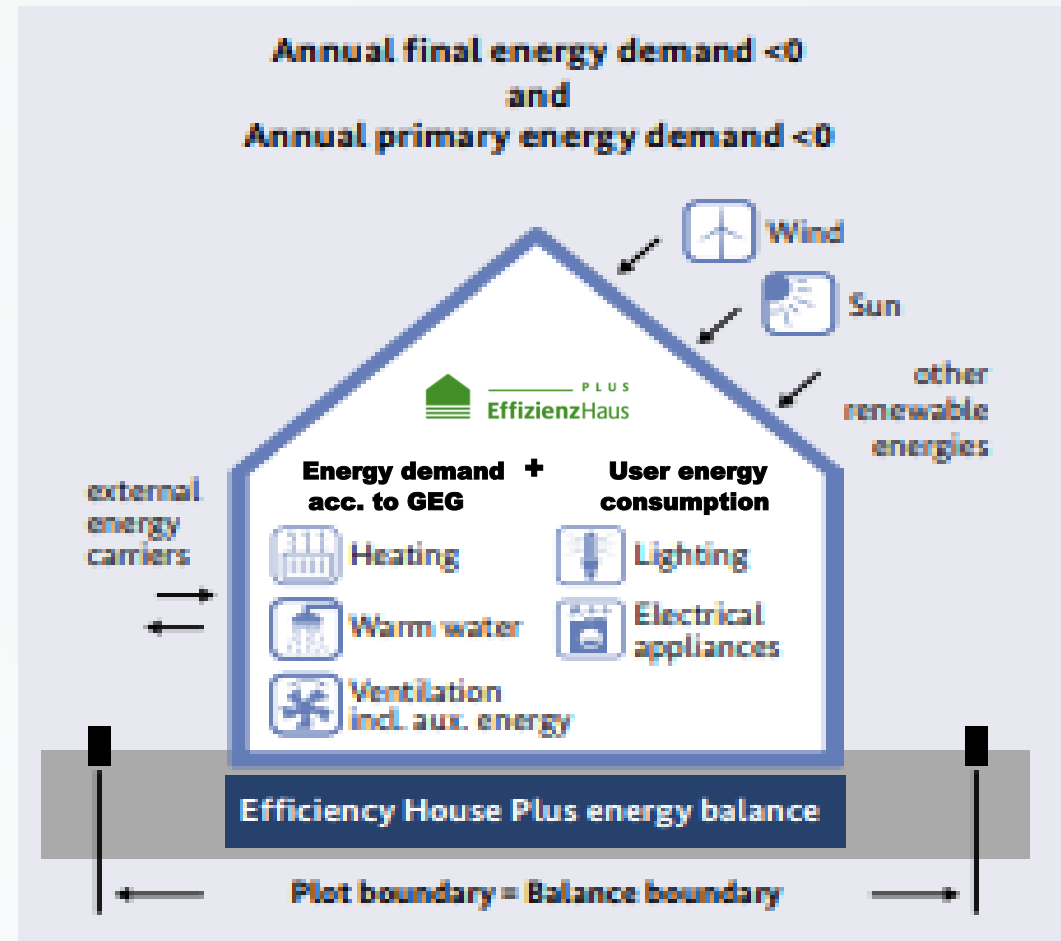


Mission
instead of
Emission!

change supported through examples

What do we demand: energy research on model projects as a trailblazer for the energy transition

2011 initiative Efficiency House Plus: firmly defined, the building standard of the future firmly



Efficiency Houses Plus act as a reduction in the carbon footprint



How does it continue: sustainable, holistic life cycle assessment and economic efficiency

Efficiency House Plus 2045 = technologie open + efficient + 100% sustainable + payable

2011–2021 Efficiency House Plus – CO₂-average savings potential:

- 50 kg CO₂,äq/m²a in the new building compared to GEG-standard
- 121 kg CO₂,äq/m²a in the old building compared to traditional old building-standards

Role model function:

use of existing buildings instead of new ones ..



2021–2045 Efficiency House Plus – build thinking further

sustainable development of model projects e. g.:

- gray energy
- land and material resources
- Building technologies
- Recyclability und use of recylates
- integral planning

Climate-friendly change = reduction

- CO₂ in production, operation, dismantling, recycling
- resource consumption
- bulk waste

EP-sink usable in the climate balance in germany:

- funding program KfW 55 Plus of the BMI for residential buildings

- model project expansion in the old building and

it goes on: from the building – to the quartier – in the city

What are we looking for: research findings from innovative efficiency house plus quartier-approaches

Mobilize synergies: intelligent networking, cross-sektor, grid relief, economically

1. Research quartier FertighausWelt, Wuppertal 2015–18: economically optimized storage concept



- Networking in the district
- Provision in the community
- Inexpensive sharing of a battery storage
- Maximizing self-consumption of the locally generated energy of all 19 efficiency houses plus
- Minimization of the power feed

