Advancing Net Zero Snapshot: Germany

DGNB — Deutsche Gesellschaft für Nachhaltiges Bauen / German Sustainable Building Council

WORLD GREEN BUILDING COUNCIL

Context

Germany is aiming for greenhouse gas neutrality by the middle of the century. Taking all direct and indirect emissions into account, buildings are currently responsible for up to 30% of Germany's greenhouse gas emissions. The German government's Energy Concept calls for a virtually climate-neutral building stock by 2050. In May 2018 the German Sustainable Building Council (DGNB) published a 'Framework for carbon-neutral buildings and sites', to translate the scientifically defined carbon budget for a '2 degree world' into individual, building-specific targets.
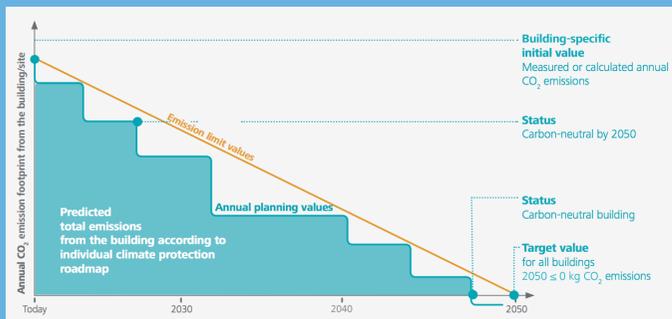
Pathway: Certification

Launch date: May 2018

The DGNB System is a certification scheme for new and existing sustainable buildings, interiors and districts. For new construction, the latest version includes incentives for both carbon neutral building operation and embodied emissions. For existing buildings, a net zero carbon balance must be demonstrated by 2050 at the latest, using a linear trajectory to zero from today onwards. DGNB also gives an annual award for climate positive buildings which is based on metered data. The accompanying Framework contains detailed rules for carbon accounting (Part 1), carbon disclosure (Part 2) and carbon management (Part 3).

The principle of a climate protection roadmap

GBC Definition

Carbon neutral operation is achieved if the annual sum of indirect carbon emissions from supplied energy and direct carbon emissions from energy production is smaller than the avoided carbon emissions from energy exported from the site of the building.

1. Measure and Disclose Carbon

Projects must measure and disclose an annual net zero carbon balance for their entire energy-related carbon emissions.

New buildings calculate expected resulting emissions; existing buildings use metered energy figures for their operations.

2. Reduce Energy Demand

The carbon balance is technology neutral and does not ask for a specific minimum energy performance above regulation.

Disclosure requires reporting of final energy demand, and other energy-related figures. Part 3 of the Framework asks for a climate protection roadmap*.

3. Generate Balance from Renewables

Generating as much renewable energy as feasible on site is actively encouraged. Surplus energy can be used to generate credits. The recognition of purchased green energy will be decided during the pilot phase.

4. Improve Verification and Rigour

There are two levels of ambition: Operational emissions of the whole building related energy demand, or operational plus embodied emissions of the whole life cycle of the building.

Methodology and Verification

- Aligned with recognised standards for greenhouse gas accounting and management practices. Based on advanced energy calculation and simulation methods for planning stages, and metered energy data after three years of operation.

- New DGNB 'Climate Positive' award for buildings that make an active contribution to climate protection in accordance with the DGNB Carbon Neutral Framework.

Climate Positive

Additional Information

- *Climate protection roadmap: includes annual limit values for the building's carbon balance, reducing to zero by 2050. A three yearly review and update of the building - specific roadmap is encouraged.

- Can be used for new and existing buildings and allows two different levels of ambition: with and without embodied carbon.

- DGNB is advocating for the inclusion of the Framework's methodology within the coming German Building Energy Law.

Find out more

- DGNB 'Framework for carbon-neutral buildings and sites'

- WorldGBC's Advancing Net Zero global project

- Overview of of all DNGB 'Climate Positive' award

Advancing Net Zero

WorldGBC's global project to accelerate uptake of net zero carbon buildings to 100% by 2050. These snapshots outline specific GBC action, and how it relates to the project framework, including the four key principles shown left.