EU TAXONOMY: ACQUISITION AND OWNERSHIP OF BUILDINGS

Derivation of top 15% of existing building stock in Germany

VERSION AUGUST 2023

vdp The German Pfandbrief Banks

DREES & SOMMER

INTENT

The Association of German Pfandbrief Banks (vdp) assigned Drees & Sommer to set up a methodological approach to design a standardized methodology of implementing the EU Taxonomy's[1] eligibility criteria for the environmental objective climate change mitigation[2] for non-residential and residential properties in Germany. According to the EU Taxonomy, the proof should be provided 'by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.'

On behalf of the vdp, Drees and Sommer has now proposed such a derivation method and derived benchmarks for selected building asset classes, with which the fulfillment of the screening criterion and taxonomy eligibility could be proven accordingly.

SUMMARY

For the building sector and real estate financing, the focus within this study is on the following three economic activities stated in the EU Taxonomy:

› 7.1 Construction of new buildings
› 7.2 Renovation of existing buildings
› 7.7 Acquisition and ownership of buildings

Construction of new buildings
For 'construction of new buildings', the property must comply with at least 10% lower than the requirements for the national primary energy demand of the 'Nearly Zero-Energy Building'[2] (NZEB). Based on the 'Energy Performance of Buildings Directive'[3] (EBPD), the NZEB is implemented in the building energy codes' requirements of 'Gebäudeenergiegesetz'[4] (GEG).

Renovation of existing buildings
In terms of 'renovation of existing buildings' properties are required to comply with the applicable requirements for major renovations defined in the EBPD based on the costoptimal level[5] implemented in GEG and 'Energieeinsparverordnung'[6] (EnEV) codes.

As an alternative, a relative improvement in primary energy demand ≥ 30% in comparison to the performance of the building before the renovation must be verified by an 'energy performance certificate' (EPC), equivalent energy study or energy audit[7].

Acquisition and ownership of buildings
For buildings within the scope of 'acquisition and ownership of buildings', buildings are required to provide an energy performance certificate with EPC class A or better:

› Residential building (Single-Family & Multi-Family):
Energy performance class A+, A or with a calculated final energy demand of A+ ≤ 30 | A ≤ 50 kWh per m² and year

› Non-Residential:
As of August 2023, there is no legislative energy performance class A defined for non-residential buildings within the current building energy code. The proposed EPBD[8] and Germany's 'Long Term Renovation Strategy'[9] (LTRS) aim to set the class A representing the top 15% of the existing building stock. As a reference, the DIN ISO 52003-1:2018-03[10] sets the threshold for the EPC label A ≤ 35% of the reference value from the EPC for non-residential buildings. This proposal has not been adopted yet by the national legislation in Germany for its current building energy code GEG.

Proposed methodology for the top 15%

As an alternative to the EPC class A, buildings are eligible, when they are within the top 15% of the national or regional building stock (operational primary energy demand or energy consumption).

The methodology approach of relative stringency of energy labels and rating tools identifies Germany's top 15% residential buildings of the national building stock to be eligible as either:

› Residential building (Single-Family & Multi-Family):
- Energy performance class A+, A or with a calculated final energy demand of A+ ≤ 30 | A ≤ 50 kWh per m² and year
- or area-specific metered final energy consumption of ≤ 70 kWh per m² and year
- or calculated primary energy demand or consumption of ≤ 74 kWh per m² and year.

› Single-Family House:
- Energy performance class A+, A or B with a calculated final energy demand of A+ ≤ 30 | A ≤ 50 | B ≤ 75 kWh per m² and year

› Multi-Family House:
- Energy performance class A+, A with a calculated final energy demand of A+ ≤ 30 | A ≤ 50 | B ≤ 69 kWh per m² and year.

(The limitation of the label B with 69 kWh instead of 75 kWh per m² and year is explained in detail in the annexed methodology for the vdp.)

The energy performance is stated on the official energy performance certificate based on either calculated or measured energy performance as set in GEG and additionally guidance by the 'draft commission notice'[11].

For non-residential buildings, the top 15% of the national building stock until the end of 2020 can be identified to be eligible as either:

› Non-Residential:
area-specific building energy performance complying with the building energy code requirements of operational calculated primary energy demand or metered primary energy consumption of EnEV 2014[12] or better.

The overall usage and area-specific key performance indicators for the operational building primary energy demand or metered primary energy consumption cannot uniformly expressed due to the fact, that the building legislation EnEV and GEG do not set a common overall maximum allowable threshold for all applicable and regulated building usages.

Following Germany's Long Term Renovation Strategy of the Government, a general threshold covering all non-residential building usages would set the top 15% threshold to a range between an area-specific calculated final energy demand of › 50 and ‹ 75 kWh per m² and year. Due to the referenced limitations, we do agree with the LTRS' study and can not recommend to set this value for a singleset non-residential building stock approach.

Therefore a recommendation as an indicated and educated estimation for a range of universal thresholds for a more diverse non-residential building usages can be displayed for the top 15% of the national building stock in Germany to be eligible as either:

› Office:
- area-specific calculated primary energy demand based on the GEG reference building of ≤ 87 – 162 kWh per m² and year.
- area-specific metered final energy demand of [13] ≤ 140 – 240 kWh per m² and year for total of heating and electricity

The methodology, process and sources for these thresholds including end energy, primary energy and carbon emission covering heating and electricity independently are set in the annexed methodology for the vdp.

› Logistics:
- area-specific calculated primary energy demand of ≤ 80 – 116 kWh per m² and year.
- area-specific metered final energy demand of ≤ 130 – 175 kWh per m² and year for total of heating and electricity

› Retail:
- area-specific calculated primary energy demand of ≤ 119 – 165 kWh per m² and year.
- area-specific metered final energy demand of ≤ 175 – 200 kWh per m² and year for total of heating and electricity

The values are based on the reports on the calculation of cost-optimal levels of minimum energy performance requirements set as reference building benchmarks for the operational primary energy demand according to the current national legislation.

The indicated range of values cover multiple building usages e.g. offices heated, ventilated and conditioned as well different categories e.g. supermarket, discounter, high street retail and differentiates between non-food vs. food retail buildings.

Threshold values for metered consumption are based on the official national reference values from the energy performance certificate calculation in Germany[14].

The annexed methodology includes furthermore specific threshold values and recommendation reference values for singlepoint of asset class top 15% criteria as well as detailed indepth analyses and sources.

The proposed methodology is furthermore based on public sources, representative data and quality sets and is under annual revision. Once there will be a national representative building database publicly and representatively available (and covering the existing building stock accordingly), the proposed thresholds of this methodology may undergo a revision to meet the future requirements for the top 15% eligibility criteria.

ABOUT THE AUTHOR

Drees & Sommer is your innovative partner for consulting, planning, construction and operation. The leading European consulting, planning and project management enterprise, Drees & Sommer has supported private and public clients and investors for 50 years in all aspects of real estate and infrastructure – both analog and digital. Through future-oriented consulting, the enterprise can offer solutions for successful buildings, profitable real estate portfolios, people-oriented working environments, and visionary mobility concepts. The company's 5100 employees in 59 locations around the world work in interdisciplinary teams to provide support for clients from a wide variety of sectors.

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ABOUT THE VDP

The Association of German Pfandbrief Banks is one of the five associations that make up the German Banking Industry Committee. The vdp represents the most important providers of financing for residential and commercial property construction, governments and public sector institutions.

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