ESG IN REAL ESTATE VALUATION 2.0

A discussion Paper on Valuation and Rating Models by Dirk Kadel, Johannes von Richthofen and Lisa Rädeker

May 2024

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ESG in real estate valuation

I. Introduction

Background

The discourse surrounding sustainability has thus far been primarily driven by the capital markets and regulatory bodies, which both demand and promote sustainable actions and planning. The pressure on participants in the capital markets is already substantial and continues to grow.

Given the significant focus on sustainability in the public, regulatory, and capital market domains, there has been considerable discussion surrounding the implications of sustainability on valuation from different perspectives. While in most cases these have been qualitative or opinion-based articles, there have been some reports that have analysed the impact of sustainability on the market value of a property[1].

In the discussion paper "ESG in real estate valuation" published by PwC Germany in March 2021, the consideration of an ESG rating at building level and the adjustment of the market value based on factors obtained from the results of an internal capital market analysis carried out by PwC Germany was proposed. This approach was also published in the renowned book and fundamental work "ESG and Real Estate"[2] and discussed with the market.

However, the discussion has not materially evolved since then and the methodical framework is currently as follows:

- RICS - VPS: Different handling in the various markets; basic sensitivity to sustainability and possible influence[3]
- RICS - Expert Group: Various ESG factors have an impact on the performance and risk profile of a property and therefore also on its market value; factors are divided into value drivers (including energy efficiency), risk drivers (including regulatory risks) and cash flow drivers (including operating costs)[4]
- IVS: The impact of relevant, measurable ESG factors should be taken into account when determining the market value[5]
- ImmoWertV (§ 2 Para. 3 No. 10 d): Consideration of energetic characteristics
- BelWertV (§ 4 Para. 2): Discount in the cost approach with special consideration of sustainability

The current developments on the property market will therefore be addressed in this paper "ESG in real estate valuation 2.0".

Regulation

With the expansion of the Taxonomy to include additional climate targets and Do-Not-Significant-Harm criteria in 2023, the pressure on the capital market is further growing. With the Corporate Sustainability Reporting Directive (CSRD) in place, which expands the 2014 Non-Financial Reporting Directive (NFRD), which is also increasingly forcing property market participants to evaluate the sustainability of buildings and all related economic activities.

Several sub-sectors of the real estate industry will be or are already affected, primarily financing, but also construction and operations, investments and accounting. As the regulation and framework conditions are aimed at the capital markets, the property financing sector (i.e. banks) is also bound by the aforementioned regulation and applies or must apply the criteria when granting property loans. This illustrates the complex context that arises for the property sector in connection with sustainability.

In addition, national legislation must be taken into account when considering sustainability at property level, as it transposes European law and requirements into national law and supplements them with its own targets. In most cases, implementation relates to technical requirements (i.e. setting targets for the energy requirements of newly constructed buildings). In recent years, some countries have begun to restrict the use of buildings that do not fulfil certain criteria in terms of energy performance classes (the following is an exemplary overview of selected countries):

- The Netherlands – From 2023 onwards office buildings must meet at least EPC Class C in order to be utilised
- France – Letting of buildings with EPC G or worse is prohibited from 2025, EPC F from 2028 and EPC E from 2034

[1] e.g. M&G: Green buildings: what are the financial benefits for investors?.
[2] Conrads / Veith / Hackelberg (2021): ESG and Real Estate
[3] Cf. RICS (2022): Sustainability and ESG in commercial property valuation and strategic advice, 3rd Global Edition.
[4] Cf. RICS (2024): The future of real estate valuations: the impact of ESG.
[5] Cf. IVS (2024): IVS 104 A10.

- United Kingdom - Letting of buildings with EPC E or worse prohibited since 2020

In this context, reference should also be made to the amendment of the Energy Performance of Buildings Directive. The agreement reached in the trilogue procedure on 7 December 2023 and the decision of the European Parliament on 12 March 2024 result in targets for the energy-efficient renovation of existing buildings[6]:

- Residential buildings: Reduction of average primary energy consumption by 16% (by 2030) and 20-22% (by 2035)
- Non-residential buildings: Renovation of the worst performing 16% (by 2030) and 26% (by 2033)

New requirements regarding the standard to be achieved will be set for new built buildings:

- Public buildings: Zero-emission building ("ZEB") from 1 January 2028
- Other buildings: ZEB from 1 January 2030[7]

Furthermore, a standardised European energy performance certificate with certificate classes between A+ (A corresponds to ZEB) and G (very worst performing building) is to be introduced and national databases for energy performance certificates to be established.

Influence on key valuation parameters

The influence of sustainability aspects has recently been confirmed in current market studies. For example, the results of the study "Quantifying ESG in real estate" by Knight Frank show that green-rated buildings offer both a rental and a market value premium compared to non-green-rated buildings. For BREEAM-certified buildings, this premium amounts to up to 12.3% for rent and up to 10.5% for market value. The value premium for sales of properties certified according to the Australian NABERS is even up to 18% on average compared to a "brown" building in Australia[8]. According to the studies, a potential increase in value can therefore be assumed for certified buildings. In addition, certification also offers the opportunity to differentiate the property from the rest of the market.

The studies have shown that properties in the highest certification level category achieve the most significant effects in terms of risk reduction and revenue growth[9]. However, it should be noted that there were studies with similar results in the late 2000s and early 2010s[10] and these effects were not translated into valuation mechanisms in the market in the long term.

Carbon Risk Real Estate Monitor (CRREM)

Previously, there was a significant focus on green building certificates as criteria for the ESG evaluation of properties. However, CRREM pathways have now emerged as a prominent parameter in this regard (in particular CRREM 1.5°C). CRREM is an EU initiative that translates the goals of the Paris Climate Agreement into concrete decarbonisation pathways for real estate.

Properties that do not comply with these objectives are referred to as stranded assets. These assets are subject to significant market and regulatory concerns in the short to medium term due to their stranding:

- Permissibility of utilisation due to regulatory requirements
- Limited financing capability due to green asset ratios at banks
- Requirements of tenants with regard to sustainability
- Transaction ability

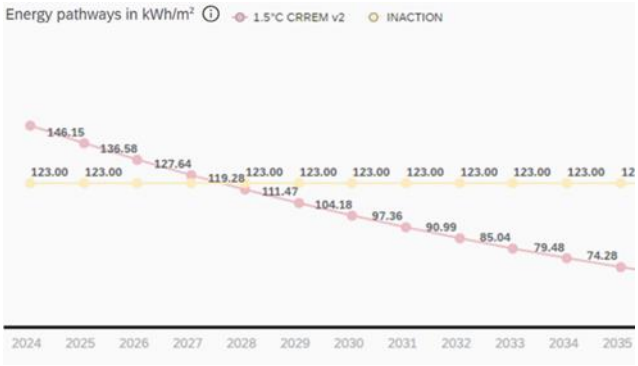

Fig. 1 Building with CRREM Pathway, Source: PwC

[6] The approval of the European Council is still pending, so there may still be changes.
[7] Cf. European Commission (2023): Commission welcomes political agreement on new rules to boost energy performance of buildings across the EU, press release.
[8] Cf. NABERS (2021): Case Study: Carbon Neutral Champions.
[9] Cf. Knight Frank Research (2022): Quantifying ESG in real estate.
[10] Cf. e.g. Fuerst et al. (2012): Sustainable Building Certification and the Rent Premium: A Panel Data Approach.

II. ESG in real estate valuation

In our discussion paper "ESG in real estate valuation" from March 2021, a suggestion was made to incorporate a discount to properties with a good ESG rating and a premium to the capitalisation rate for properties with a poor ESG rating. The market studies mentioned above appear to confirm this approach.

Furthermore, the long-term value effects at property level are relatively undisputed in the industry, even if they are not taken into account:

- Asset stranding: Properties lose their market appeal due to their inability to meet future energy efficiency standards and requirements. This typically occurs when the financial feasibility of implementing energy retrofits is deemed unviable, and there is a looming risk of usage restrictions.
- Operations: Achievement of operational advantages (e.g. higher cold rents due to lower energy costs, minimisation of the landlord's CO_2 costs)
- Financing: Advantages in accessing (re-) financing for property or retrofit measures. Classification as "green" financing can be better integrated by banks into their sustainability portfolio and, under certain conditions, receive more favourable conditions[11].

Nevertheless, the market development between Q1 2021 and Q1 2024 has shown different approaches, which are currently as follows:

- No explicit consideration of sustainability in the valuation (guiding principle: everything is sufficiently included in the capitalisation rate and the rent)
- Explicit consideration through premiums and discounts (in different amounts, i.e. +25 bps) on the capitalisation rate based on the class according to the energy performance certificate
- Mixed forms of the aforementioned approaches

The incorporation of sustainability considerations in valuation, at least to a proportional extent, represents a significant evolutionary advancement. However, the key issues arising from sustainability requirements from an overarching perspective have not yet been consistently taken into account, especially with regard to the intrinsic value of properties. For instance, values are often adjusted upwards based on a marginally above-average energy performance certificate, despite the fact that the energy performance certificate class alone does provide any indication of future value stability (see potential future utilization restrictions).

Furthermore, discussions with market participants have revealed that an isolated effect resulting from the energy performance certificate level is not statistically detectable in a snapshot analysis, or it is highly correlated with other value-determining parameters.

The establishment of CRREM, on the other hand, has defined target figures that enable a long-term view of a property with regard to value stability and permissibility in terms of European climate protection targets and is recognised by the regulatory authorities. Hence, the consideration of renovation costs for the development of CRREM-compliant properties represents a logical progression (alternatively: renovation costs for achieving a certain energy performance certificate class). Especially against the background of a comprehensible and transparent consideration of sustainability in the valuation.

To avoid property stranding due to increasing transition and physical risks, property owners and investors are already required to establish clear transition plans towards sustainable practices and a reduction in CO_2 emissions. These circumstances are pushing companies and investors to rethink their strategies and ensure that they meet the requirements of a sustainable economy.

This requires a concrete roadmap for increasing energy efficiency and achieving CRREM compatibility, which can be used to map out the exact retrofit measures with the respective costs and timing.

However, it is difficult and challenging to use appropriate measurement and scoring methods, as historical data and experience are often lacking or are insufficient and there are uncertainties regarding the further development of climate and environmental scenarios. Particularly given the natural heterogeneity of buildings and the limited data available, it is often difficult to analyse individual cases in detail to measure ESG risks[12]. In addition, it

[11] Cf. Wüest Partner (2023): Wie Nachhaltigkeit den Immobilienwert beeinflusst.

[12] Cf. Zeitschrift für Kreditwesen(3-2023): Die regulatorische Agenda 2023 für Vorstand und Aufsichtsrat.

is pointed out in the discussion that estimating construction costs for corresponding renovation is not part of the core area of real estate valuation.

III. CX Retrofit Analysis

The PwC Climate Excellence Retrofit Analysis, developed in collaboration with vdp:Research and HypoVereinsbank, provides an efficient approach for determining the optimal timing and extent of retrofit measures within the timeline leading up to 2050, in alignment with the climate protection target.

This analysis is built upon the well-established PwC Climate Excellence software, a sophisticated tool designed to identify both physical and transitory risks, enabling the identification and implementation of remediation measures based on climate targets.

The tool only requires a minimum amount of data to determine the stranding point of a property based on various CRREM or IEA scenarios. Retrofit measures can then be determined and their impact on the targeted climate pathways can be analysed. In this context, retrofit measures can also be determined to achieve certain energy performance classes.

Fig. 2 Energy pathways in the CX RE tool, Source: PwC

In addition to visualising the impact on energy consumption and emissions, the tool also calculates the associated construction costs. These can be inflated and discounted directly in the application for the purpose of determining the value. The amount and timing of the renovation costs can be broken down and thus included in the property valuation.

Possible measures include insulating external walls, cellar ceilings and roofs as well as replacing windows or heating systems. Photovoltaic systems and storage systems are also included in the tool.

The selection of measures can be controlled by the user or automatically generated by the tool according to specific targets. Only the building area, location, year of construction and heating type are required (other component sizes can be entered if available). Data which is not available is estimated using building age classes and established conversion factors (TABULA).

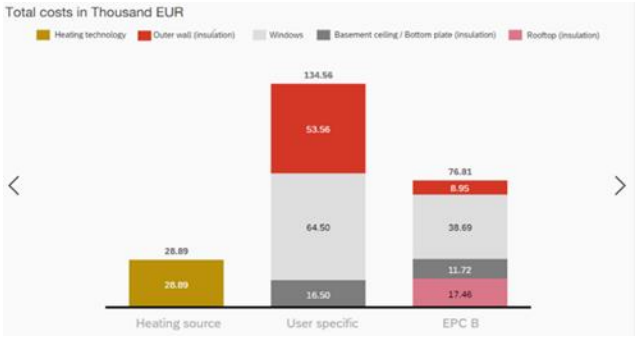

Fig. 3 Building costs in the CX RE tool, Quelle: PwC

IV. Conclusion and outlook

Although there are currently no planned usage restrictions for properties in Germany from a regulatory standpoint, developments in the capital market are causing properties with lower energy efficiency to face disadvantages, thereby impacting their future viability, value sustainability, and stability.

The incorporation of ESG factors in real estate valuation has been widely discussed in recent years and has gained significant traction and attention. However, there is currently no standardised and consistent approach to integrating these factors. Furthermore, the relevant standards in this area remain vague and undefined.

The consideration of capital expenditures (CapEx), such as renovation costs, is already a well-established practice in real estate valuation, and it is regarded as a transparent and comprehensible procedure due to the aforementioned advantages. The next step is to identify and quantify the appropriate measures. By utilizing suitable tools, such as the CX Retrofit Analysis, these risks can be effectively and transparently incorporated into the real estate valuation process. The necessary benchmarks can also be established in this context (analogous to the establishment of benchmarks for tenant improvements, for example).

In the course of considering the necessary retrofit measures for the creation of an ESG-compliant property, additional valuation parameters need to be taken into account:

- Remaining useful life: measures to the building envelope and building technology extend the useful life of the building compared to a non-renovated property (both technically and in terms of regulation).
- Risk profile: the overall risk profile is reduced through the renovation process, as the relevant risks in a sustainable building are generally less pronounced (e.g. letting risk, default risk, marketability).
- Achievable rent: As a result of the renovation, CO2 and energy costs decrease, enabling the potential for higher rental income, as a higher base rent can be charged while maintaining a constant warm rent[13].

With this summary and outlook, we hope to further channel the discussion and create transparency. In the coming future, PwC Germany's real estate valuation practice will therefore include renovation costs in valuation reports for transparency reasons. We will discuss the results of this disclosure with the market and relevant stakeholders in order to subsequently include the renovation costs in the valuations.

[13] This approach can be assumed for the commercial market; it needs to be examined in greater depth for the more heavily regulated residential market.

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