

MAP REAL ESTATE MARKET INSIGHT

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OFFICE CONVERSIONS: A WAY TO CREATE LIVING SPACE IN THE GERMAN HOUSING MARKET?

Introduction

In the last Market Insight, we highlighted the significant gap in supply on the German housing market. The problem of shortage of suitable housing will not go away anytime soon, as new construction activity has currently fallen sharply. It is common knowledge that the main obstacles to easing the situation are high interest rates and inflation in construction prices. In addition, suitable sites for new buildings are in short supply, especially in the attractive major cities. At the same time, several office properties are vacant, so converting them to residential use has been a topic of intense debate for some time. The pandemic, which has led many companies to plan for slightly reduced office space in the future, has given the topic fresh impetus. In addition, for many investors the focus is less on new construction projects and more on optimizing the existing portfolio.¹ In this Market Insight, we will explore whether office conversions can be a viable way to create economically beneficial residential space. We will analyze the risks and contrast them with the opportunities and explain under which circumstances such projects promise good prospects.

Conversion projects in Germany

Our considerations focus on the change-of-use from office properties to residential buildings. Other conversions are of course also conceivable and are being discussed and implemented in the real estate industry. For example, the conversion of retail properties in less frequented inner cities, which can be a way of stopping the decline in the attractiveness of these quarters.² It has recently also been observed internationally that existing office properties or warehouses are being used for data centers. Examples from Hong Kong and the USA show that this can roughly halve the construction time.³

In Germany there is no systematic recording of conversions in official statistics and no reliable figures are published with open access. This is certainly due to the fact that change-of-use projects are not very common. To give an impression of this, we draw on a comprehensive study that was already made in 2015, but whose basic statement regarding the relatively low number of conversions is still valid today.⁴ Conducted on behalf of the Federal Ministry of Construction the study was based on a survey of all German cities with at least 50,000 inhabitants and included projects implemented or planned from 2006-2015 with

¹ In our considerations, we exclude the consequences of the further development of artificial intelligence for the labor markets and thus also for the office markets, which are not yet fully foreseeable.

² In a study by the EHI Retail Institute 60 percent of the German municipalities surveyed stated that they were seeing an increase in the conversion of retail properties. Cf. EHI, 2023: EHI-Städtebefragung: Fachmarkttagen bleiben krisenfest. <https://www.stores-shops.de/handelsimmobilien/ehi-staedtebefragung-fachmarkttagen-bleiben-krisenfest/>

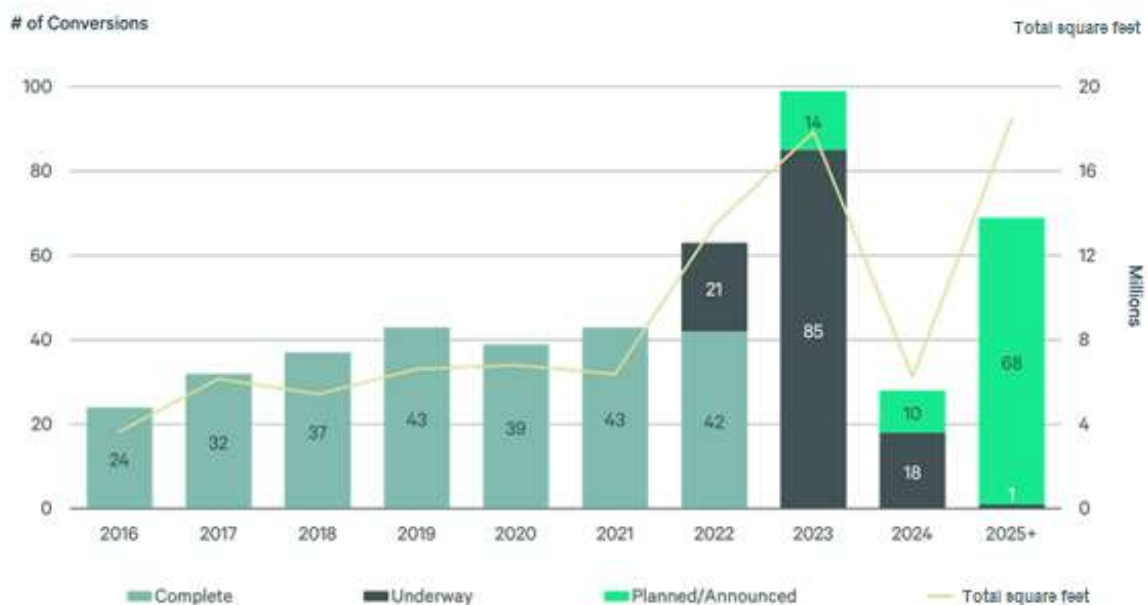
³ JLL, 2022: Data centers are finding new homes in old buildings. <https://www.jll.de/de/trends-and-insights/investoren/data-centers-are-finding-new-homes-in-old-buildings>

⁴ Bundesinstitut für Bau-, Stadt- und Raumforschung im Bundesamt für Bauwesen und Raumordnung [BBSR], 2015: Umwandlung von Nichtwohngebäuden in Wohnimmobilien, BBSR-Online-Publikation, Nr. 09/2015.

10 or more residential units. The total number of projects counted was 229. The authors of the study do not claim completeness with their methodology (research in literature, media, internet and a survey of the municipalities). However, the number of projects is relatively small compared to the total number of completions in the period of almost 10 years. This proves that the conversion of office or commercial properties to residential buildings is at best a marginal phenomenon in the real estate sector. For the city of Frankfurt, Blackolive regularly publishes the percentage of vacant office space that was taken off the market through change-of-use.⁵ The type of conversion is not specified. In 2022, this was about 17% of the vacancy. However, it corresponds to 153,100 sqm out of a total stock of around 11 million sqm on the Frankfurt office market.

The situation is similar in other nations. Up-to-date data is available for the USA. CBRE surveyed conversion project activity in 26 major US office markets over the period 2019-2021 (see Figure 1). The average number of completed conversions is 39 per year. The study does not capture the total amount of projects in the USA, but the relatively low number shows that conversions are not a widespread phenomenon either.

Figure 1: USA: Office Conversions to Residential by Construction Status and Estimated Year of Completion



Source: CBRE, 2022: Office Conversions: A Second Chance for Underutilized Space. <https://www.cbre.com/insights/viewpoints/office-conversions-a-second-chance-for-underutilized-space>

In contrast, the theoretical potential of changes of use is very large: A study⁶ (from 2020) estimates that around 1.86 million apartments of 70 square meters each could be created in Germany by converting office buildings that are no longer needed mainly due to quality and structural issues. However, this estimate is probably optimistic. It expects 40 percent unused office space mostly due to the continuation of the home office trend. The calculations also

⁵ Blackolive, 2023: Büromarkt Frankfurt. Marktdaten Q1 2023. <https://www.blackolive.de/blog/blackolive-marktbericht-q1-2023.html>

⁶ ARGE e.V. (Arbeitsgemeinschaft für zeitgemäßes Bauen e.V.), 2020: Bezahlbarer Wohnraum 2021. Herausforderungen, Belastungen, Notwendigkeiten, Potenziale.

presume that 20 percent of the existing office buildings can be converted to residential use with moderate structural effort and 30 percent with simple or little effort. Looking at the low realization figures of the past, these seem to be very strong assumptions, although the construction requirements are only one aspect of such a project, as we will show below.

Nevertheless, it can be deduced that the unused potential in Germany is considerable. The current development of office vacancies in the TOP 6 cities in Germany demonstrates that the vacancy rates have been increasing since 2019 (see Figure 2). A key reason for the trend reversal is likely to be the pandemic, which has led to changes in demand towards higher-quality space and overall lower demand for space due to the establishment of the home office in the German office organization. However, a renewed decline in vacancy rates could occur if the current restraint in project developments is reflected on the market by a reduced supply of completed space.

Figure 2: Vacancies on the German Office Market in the TOP 6 Cities 2013-2023



Source: Savills, 2023: Market in Minutes Top-6-Büromärkte Deutschland. https://www.savills.de/research_articles/260049/345548-0

The cost of conversions from office to residential

Available data about the costs of conversion projects and their relative profitability compared with new construction projects, differ quite significantly. The 2015 study mentioned above found that the apartments created by the projects predominantly do not fit in the affordable or medium price spectrum (see Table 1). A share of 45% of the apartments falls into the upper or even the luxury segment. This can be seen as an indication that conversions do not necessarily result in lower construction costs than comparable new construction projects.

The construction costs determined in the study of 2015 averaged €1,100 to €1,200 per sqm, with a range of €700 to €1,900 per sqm (cost groups 300 and 400 according to DIN 276⁷, excluding ancillary construction costs). Such low construction prices are, of course, long outdated. However, we are interested here in the comparison the authors draw with the cost

⁷ <https://sidoun.de/wissen/din276/kostengruppen/>

of new construction in the same period. They concluded that, at the price level at the time, the costs of conversions were generally higher than for new buildings.

Table 1: Price Segments of 229 Conversion Projects in 50 German Cities from 2006-2015

Price Segment	Number of projects		Number of units	
		in %		in %
Lower	10	4	1,556	9
Medium	60	26	4,126	23
Medium to upper	8	3	1,211	7
Upper	88	38	7,273	40
Luxury	15	7	1,183	7
n.a.	48	21	2,734	15
Total	229	100	18,119	100

Source: Bundesinstitut für Bau-, Stadt- und Raumforschung im Bundesamt für Bauwesen und Raumordnung [BBSR], 2015: Umwandlung von Nichtwohngebäuden in Wohnimmobilien, BBSR-Online-Publikation, Nr. 09/2015.

Estimations by the Arbeitsgemeinschaft für zeitgemäßes Bauen e.V. in 2020 are based on case studies of 50 completed projects of office conversions to residential usage (see Figure 3). Despite the more current cost status (Q3 2020) and although ancillary construction costs and other cost components⁸ were taken into account the costs in the projects studied were only €1,108.18/sqm (median). In this case, too, it is not the absolute level of the costs that is of interest, but the comparison with the construction costs of new buildings calculated in the same way. Figure 3 shows that conversion costs are significantly lower than the estimations for a new construction or modernization of the projects. One explanation for these figures could be that the conversions considered may be precisely those projects that were carried out due to their particular profitability (low hanging fruits). These values would not be applicable to all potential projects and are likely to be higher in many cases. However, in view of the rather low incidence of conversion projects of this type to date, there is probably still a large number of such opportunities in the stock of vacant office buildings.

Figure 3: Median Construction Costs of 30 Projects Realized in Germany (as of Q3 2020)



Source: ARGE e.V. (Arbeitsgemeinschaft für zeitgemäßes Bauen), 2020: Bezahlbarer Wohnraum 2021. Herausforderungen, Belastungen, Notwendigkeiten, Potenziale.

⁸ Cost groups 200-700 according to DIN 276; <https://sidoun.de/wissen/din276/kostengruppen/>

Overall, of course, an important prerequisite for the profitability of change-of-use projects is the coincidence of a slightly declining commercial real estate market and falling rents for not lettable office space with a tight residential market and rising rents. Buildings that, due to their structural conditions, can no longer be transformed into modern office space even through revitalization are the main candidates. If the housing market in a location is not under as much pressure overall, conversion projects can still be profitable if they create new supply in more promising market segments such as assisted living or micro apartments.

Risks and opportunities of office conversions

The comparatively small number of completed projects and the varying cost estimates indicate that, for all the opportunities they offer, conversions are, above all, risky. We now take a brief look at the risks first, focusing on how these can best be addressed. We then refer to the opportunities that change-of-use projects offer from the perspective of investors and also municipalities.

Risks:

- *Rezoning requirements:* Since a conversion usually requires a change in the approved type of use, questions of building regulations and zoning law play a major role in the projects. Changes to the zoning plan in particular are often very lengthy in practice. Here, those responsible in the administration or the legislator are called upon to speed up these processes. In any case, however, the openness of the administration to such projects is a decisive factor. The use of discretionary powers in the sense of speeding up procedures is very helpful. Case studies have shown the importance of short approval periods for the willingness of developers and investors to tackle conversion projects.⁹ Here, a fundamental adjustment of planning law and building codes might be very useful, because today these are still very clearly tailored to new construction projects.
- *Building regulations:* The aspects of parking spaces, minimum distance requirements, fire protection, barrier-free access, sound insulation and statics play a special role in conversion projects - also in the building code procedures. Through a conversion, the objects usually fall under the regulations as for new buildings, the fulfillment of which usually requires elaborate measures. In the case of fire protection and statics, generally no compromises are possible. In the other aspects, the use of regulatory discretion is required to make projects feasible. For example, the city of Frankfurt's parking space statutes do not provide for any calculated additional demands when an office building is converted.¹⁰ Nor does the question of minimum distance requirements have to be renegotiated if the cubature of the building does not change significantly.
- *Critical characteristics of the building:* Certain characteristics of the office building can increase costs. These include, above all, any contaminated sites in the building fabric, for which additional disposal costs are incurred. If the building is a listed building, the complexity of the conversion also increases. For example, attaching balconies to the protected facade is hardly possible.

⁹ Bundesinstitut für Bau-, Stadt- und Raumforschung im Bundesamt für Bauwesen und Raumordnung [BBSR], 2015: Umwandlung von Nichtwohngebäuden in Wohnimmobilien, BBSR-Online-Publikation, Nr. 09/2015.

¹⁰ Bundesministerium des Innern, für Bau und Heimat (ed.), 2021: Expertengespräch. Potenziale und Möglichkeiten bei der Umwandlung von Gewerbeimmobilien in Wohnraum.

- *Building layouts:* The layouts of office buildings are generally not readily suitable for residential use. Often major alterations are necessary during the conversion. In addition, the calculation of rental space in residential buildings is less advantageous for the investor because, unlike in the office sector, corridors, for example, are not included in the rental space.
- *Sales tax issues:* The unequal VAT treatment of office rents and residential rents has a noticeable influence on the costing of a project. Since no VAT is levied on residential rents, the owner does not have the option of deducting the input tax paid during construction, which can call into question the profitability of a conversion. If, on the other hand, office or commercial space is rented out, the owner can deduct the input tax paid on the construction during the lease term in which tenants have to pay rent plus VAT ("Option zur Mehrwertsteuer"), unless the tenant itself is not subject to VAT, such as a bank.
- *Community support:* Although municipalities are generally open to conversion projects because they help address housing shortages, the potential loss of business tax revenue can lead to disadvantages for municipalities. On the other hand, rising office vacancy rates are also often associated with losses of tax revenue. If the projects are primarily intended to create affordable housing, there may be concerns about the influx of recipients of social transfers.

Opportunities:

- *Community support:* The implementation of an office conversion project is likely to be in public interest. It is often preceded by a longer period of vacancy, the termination of which means an upgrading of the properties located in the neighborhood or even of a whole district. Sometimes, the initiative for a conversion project comes from the municipality, which starts looking for suitable developers. The support provided by the municipality for a project is often higher than for a new construction project. The urban development aspect can also increase openness to a conversion in municipalities where the housing market is less tight.
- *Suitability for certain new asset classes:* As described above, conversions offer special opportunities for housing types with common areas such as assisted living, micro living and serviced apartments. The chance often exists, especially in B and C cities where the shortage of conventional housing is not yet quite as severe as in the A cities.
- *Improving the carbon footprint:* The conversion of a vacant office building into a modern residential building is usually associated with an energy renovation which leads to substantial energy savings. In addition, this results in reduced CO₂ emissions over the life cycle of the building because, as a rule, conversion causes fewer emissions than demolition and new construction.¹¹ The exact effect depends on many factors, among them the characteristics of the existing building. However, if the project is successful, from an investor's point of view, the conversion project can be an upgrade of the portfolio in terms of meeting ESG criteria.

¹¹ Neubaukompass, 2022: Redevelopment: Neues Leben für alte Bürogebäude.

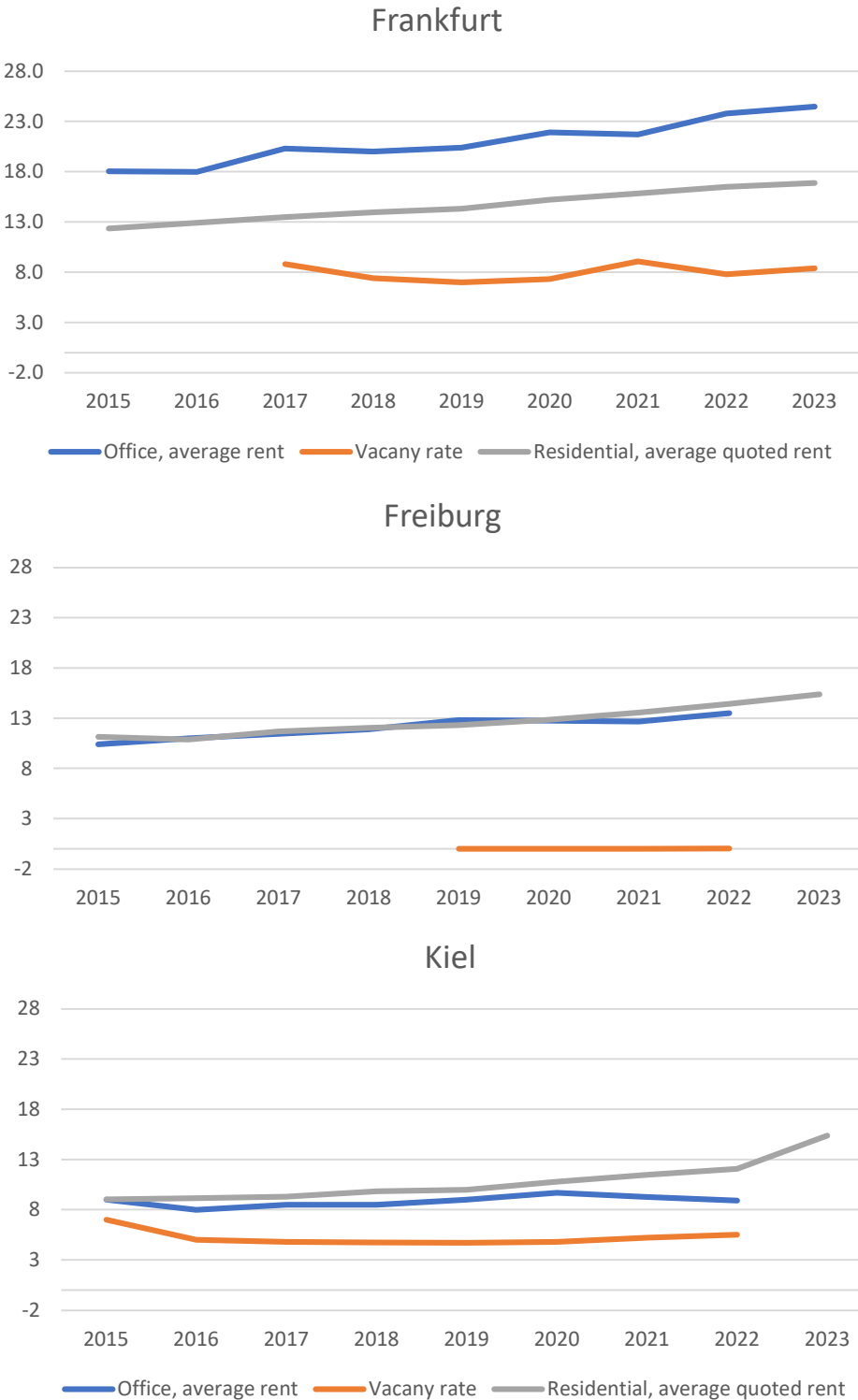
<https://www.neubaukompass.de/blog/redevelopment-neues-leben-fuer-alte-buerogebaeude/>; UK Parliament: Building to net zero: costing carbon in construction.

<https://publications.parliament.uk/pa/cm5803/cmselect/cmenvaud/103/report.html#footnote-049-backlink>

Profitability of conversion projects

In addition to construction prices, the opportunities and challenges described above have a significant influence on the profitability of a possible change-of-use project. A detailed examination by experts is essential in each individual case.

Figure 4: Comparison of Office and Apartment Rents in Frankfurt, Freiburg and Kiel - 2015-2023



However, the comparison of the market yields of comparable office and residential buildings is the most important tool for estimating the viability of a project. The rental income which can be achieved for the new living space is also an important information. In particular, a comparison must be made with the office rents which could alternatively be earned with the building. Furthermore, any risks of diminishing value due to vacancy must be taken into account.

Although all these aspects and especially the market yields are individual for each building, it is still interesting to look at the average rents of a location as a first orientation. Figure 4 shows the development of rents and vacancy rates for the A city of Frankfurt and the two C cities of Freiburg and Kiel. Since the office properties that are eligible for a change-of-use do not achieve top rents in their current condition, the average rent is shown. However, this is more likely to be an upper limit because rents in buildings that are being considered for conversion are likely to be even lower or the building is already vacant anyway.

The chart shows that rents for office space in Frankfurt are higher than for apartments, although at the same time the office vacancy rate is around 8%. From this perspective, the city does not appear to be a preferred location for conversion projects. The ratio of rent levels in Freiburg looks different since they are more or less the same. Considered from this data, conversion projects might be profitable in this city. However, the vacancy rate close to zero shows that there is a lack of suitable properties. In contrast, the city of Kiel seems to promise better prospects. The average rents for apartments here are higher than for office space while the vacancy rate is around 5%.

Conclusion

The relatively small number of projects realized to date shows that the profitability of converting unused office buildings to residential space are often considered too low by investors. In addition, there are the risks and challenges of such projects, which are also considered high. In view of the numerous housing policy and urban planning benefits that such projects can have for municipalities, their decision-makers are called upon to remove existing hurdles and speed up procedures. The current macroeconomic situation tends to increase the potential for worthwhile projects in Germany. On the one hand, the supply of housing will remain significantly too low for years to come. On the other hand, the recession could result in more vacant office space among which worthwhile properties for conversions may be found.

The current slump in construction activity will lead to a worsening of the supply shortage on the housing market in the next few years. For this reason, consideration should be given to how state support can be extended and adapted to the specific conditions of conversion projects. The openness and flexibility of local authorities is important when it comes to facilitating and accelerating the process. But special support measures or subsidies are also conceivable and may even be necessary in order to create more living space that is urgently needed. In addition, the reduction of CO₂ emissions through conversion, as opposed to demolition and construction of a new building, should provide a further incentive for targeted funding.

From the owner's perspective, it is important to heed the wisdom that nothing is as damaging to the value of a property as vacancy. Even when tenants are about to move out, the time may have come to consider whether a change-of-use might not be a good idea.

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