



Germany - Financial Framework

When considering an energy efficiency retrofit within your national housing market, a wide plethora of consideration needs to be made. Below, we list key findings to facilitate your analysis of the retrofit investment. More details and backgrounds can be found on the website www.rentalcal.eu.

The analysis of investment barriers, split incentives and policies in Germany show:

- The reduction of carbon emissions by 40% by the year 2020 and 80% by 2050, relative to 1990, is one of the main climate change objectives in Germany. The step-by-step national aim is to reduce carbon emissions with 55%, 70% and 80% by 2030, 2040 and 2050 respectively. With regards to energy consumption of households, Germany intends to double the rate of building renovation, to upgrade energy performance, from approximately 1% to 2% per annum.
- Germany follows a three-pillar approach comprised of (i) a legal framework, (ii) subsidy programs and (iii) information, advice & support. This is considered a stable and attractive approach to account for market-related barriers or reservations of investors.
- As a central mechanism for real estate, the EnEV ordinance has increased building standards and requirements significantly from 2009 on (EnEV 2016). In a second step, the 2013/2014 standards were further tightened by up to 30% - as an important step toward the 2050 goal of almost zero energy / climate-neutral buildings. In this context, the collaboration with stakeholders and improving awareness within different groups of interest and the population seemed appropriate and expedient. Also, the split-incentive problem (user-investor dilemma) found an acceptable solution in regulation on rent increase according to BGB (Civil Code).
- There are numerous market related energy efficiency investment barriers observable in Germany:
 - The market is subjected to significant fragmentation as properties are managed, operated, planned and designed by various market players.
 - The low acceptance of Life-Cycle Costing as an approach to consider an investment decision, often favours less energy-efficient approaches.
 - High expectations on amortisation are evident, accompanied by a lack of willingness to postpone paybacks to the future. This is further supported by the fact that homeowners are typically older in Germany relative to other countries.
 - Further barriers include the lack of education and training of respective professionals as well as the limited transparency on cost-effectiveness and availability of information on energy efficiency retrofit measures.
 - The interplay of legal regulation and financial support from public bodies causes uncertainties regarding the future support of measures.
- Energy efficiency investments cannot compete with other investment alternatives from a financial management perspective and this, combined with longer expected pay back periods and a lack of skills, depicts the biggest investment barrier.

The analysis of "green-premiums" for energy efficiency in Germany show:

- The five year rental price dynamic for Germany, shown in below factsheet, suggests a 3.1% price growth nationally an annual growth of 4.8% for the seven growing sub-markets of Hamburg, Berlin, Munich, Stuttgart, Frankfurt, Cologne and Dusseldorf. In addition to the growth in rental prices, after several years of upward movement, sales prices continue to surge. For instance, sales prices increased by 5.6% over the past 5 years nationally and by 9.3% for the growing sub-markets.
- Beyond price dynamics, Germany's rental yields have been low in recent year and ranges between 3% and 4% in major urban areas. This is partly because of the recent price growth, but more importantly because investment in housing are no longer heavily subsidised by the state. Rental yield was highest in Dusseldorf (3.98%) and lowest in Munich (3.05%) among the urban regions. Furthermore, in 2015, the average vacancy rate as percentage of rental value was 1.9% nationally and total return on the investment was 8.4% over the past 5 years.
- Given the recent surge in wind and solar power under a national plan to acquire most of domestic power from renewables, electricity prices have been falling. Over the past 5 years, heating oil prices have also been falling, as have natural gas prices, both of which are commonly used by German households.
- German's housing costs can be split into two groups: on the one hand costs that are covered by the tenant, and on the other hand costs, that are legally tied to the landlord. Costs covered by the tenants are generally associated with operating costs, which are directly linked to the property itself. Utility costs are typically not included in the "cold" rent (Kaltmiete) i.e. without heating or utilities. Given the low rental prices, about 66% of the value of the rental prices is spent on heating alone.

- Empirical studies on rental premiums for energy-efficient rental properties are scarce. Yet, some market evaluation of the rent index for the City of Tübingen provides evidence of a 6% rent increment for dwellings with a high energy performance. While the rent index of the City of Darmstadt indicates a surge in rental income of up to 7% for rental units with an extensively improved environmental quality. Whereas, an 8% increment in rental price is found for energy efficient properties in the City of Überlingen. These figures are supported by an empirical study by Cajias and Piazzolo (2013) in which efficient buildings are found to yield up to 3.15% higher returns and 0.76 €/m² higher rents than inefficient buildings.

The analysis of grants and other subsidies in Germany show:

- The KfW Financing is the central tool for granting high-volume financial support for energetic retrofits in Germany providing KfW-investment-subsidies of up to 30.000€ per apartment. Specifically, this includes (i) 0.75% per annum for up to 100.000€ per apartment, (ii) a grace period for up to 5 years, (iii) repayment grants for up to 27.5% and (iv) KfW-subsidy availability for planning and professional ecological construction support for up to 50%.
- Traditionally, German funding pools have been well-equipped with government support for existing buildings and provided up to 500 million Euros of funding, between 2009 and 2012, as required by the German Energy Concept 2050. Its subsidised energy consulting is free for low-income households in addition to further BAFA subsidies for renewable energy and BAFA-grants for consulting, planning and investments in renewable energy. The IEE programme (Intelligente Energie – Europa) subsidise local, regional and national initiatives to promote the implementation and utilisation of renewable energies (Federal Environmental Agency 2007). There are also numerous subsidy programmes at the state level, from which many improve on the preferential loans by KfW.

The analysis of financing conditions in Germany show:

- In Germany, the KfW loans are available for up to 100 percent of investment cost, depending on the planned retrofit. The “whole house” approach attracts more generous terms than individual measures or combination of individual measures. These loans typically last for 10 to 30 years with a fixed interest rate for the first 10 years. Landlords and buyers of newly refurbished residential units, including individuals, housing companies, housing cooperatives, municipalities, district bodies, community groups, and other public or non-profit bodies, are all eligible for the loans. The KfW loans also grant grace periods without amortisation for up to five years at the start of a loan and repayment grants up to 27.5% at the end. In terms of general interest levels in Germany, the typical LTV limit is 75% 5 year with fixed rate interest of 1.24% p.a and both annuity and bullet loans are available to investors.
- German banks and institutions offer an interest rate of approximately 4-6% on senior loan 5-15% on junior loan and 15-30% on mezzanine. The short term (3 months) interest rate on savings is approximately 0.6% and the long-term 10 years interest rate averages approximately 1.4%, based on German government 10-Year Bond Yield over last 5 years.

DATE: 18.04.18