D2.3 MARKET ANALYSIS ON THE IMPACT OF ENERGY EFFICIENCY RENOVATION ON HOMES' MARKET PRICE

summary

RenoHUb H2020 project

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Table 1: Document Factsheet

Document History

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Table 2: Document History

PROJECT PARTNERS

AACM: AACM Central Europe Llc

ENERGIAKLUB: Energiaklub Climate Policy Institute and Applied Communications Association

IMRO: IMRO-DDKK Non-profit Ltd

MCSTE: Hungarian Family House Owner Organization

MEHI: Hungarian Institute for Energy Efficiency

1. THE RENOHUB PROJECT

In Hungary, energy modernisation of the housing stock has the greatest potential for energy and energy savings. Residential buildings are responsible for about 34-35% of total final energy consumption, while two thirds of them are energy inefficient. A comprehensive energy renovation of housing could reduce energy use for heating by 40-50%.

The RenoHUb project aims to contribute to the 2030 and 2050 climate targets by promoting the professional renovation of outdated and wasteful domestic buildings. To this end, we are adapting and further developing a one-stop-shop system, already in operation in several European countries, which provides a one-stop-shop for all information needed for the entire renovation process. This service is the RenoPont Home Renovation Centre, where we provide all the necessary legal, technical and financial information to those planning an energy-efficient renovation, offer personalised advice and provide all the professionals needed to carry out the renovation in a professional manner. Our work is designed to achieve long-term improvements in the comfort and market value of family homes and condominiums, while substantially reducing household energy consumption and emissions.

In the first phase of the work, foundational research was carried out, including on the possibilities and tools for shaping attitudes and motivating renovators, and on the argumentation framework for the benefits of renovation. The studies included a statistical analysis to find answers to the question of how the cost of energy modernisation is incorporated into the market value of the renovated property. The results of this research, funded by RenoHUb, are presented below.

1.1 Aim of Task 2.5

This deliverable provides the summary of the Task 2.5 *Assessment of the impact of energy efficiency refurbishment on the real estate value*. The task aimed to conduct a comprehensive countrywide market analysis how the costs of energy refurbishment incorporates into the market price of the renovated homes.

The purpose of this analysis was twofold: on the one hand, we wanted to quantify the relationship between energy renovations and property value through a comprehensive science-based study. On the other hand, by complementing the results of the D2.1 study (understanding the drivers/triggers and obstacles for homeowners to renovate their buildings), we aimed to produce a novel result that was relevant and useful from a communication point of view. We hypothesised that we were about to uncover a correlation that could be an important argument for price-sensitive Hungarian homeowners, encouraging them to invest their money in energy renovation.

2. THE RESEARCH

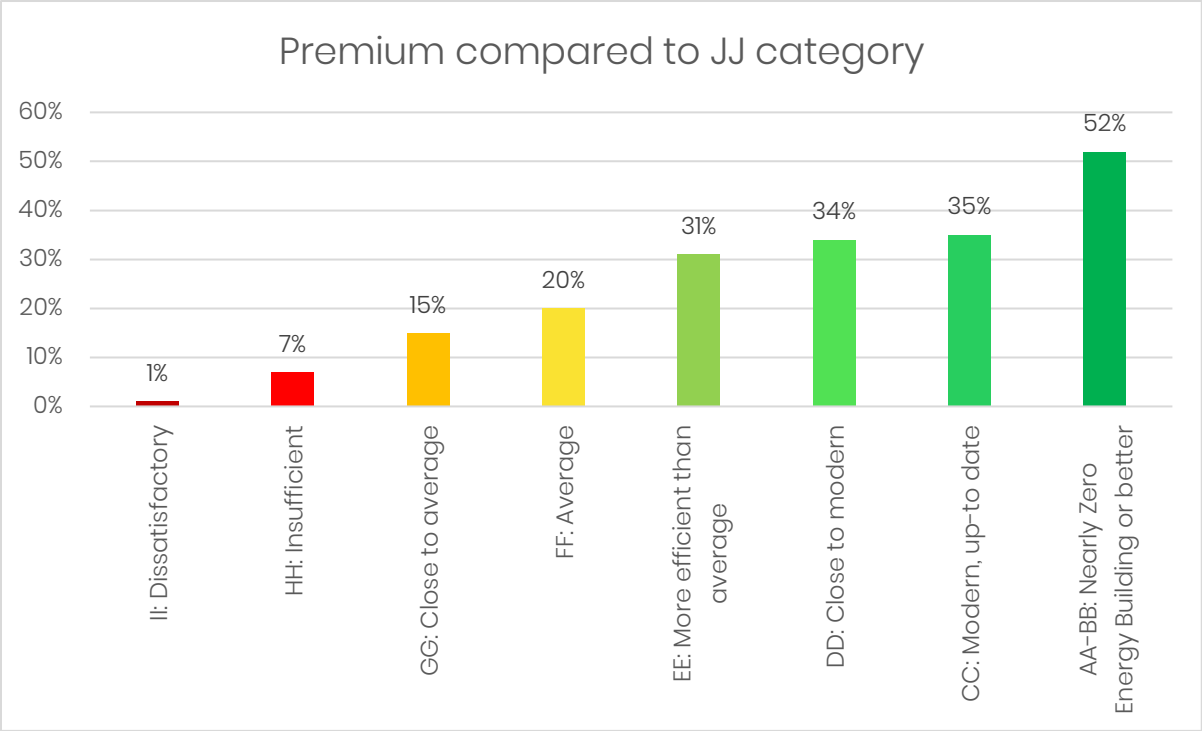
The aim of the research was to examine the impact of energy renovation on the value of domestic residential property, using the most comprehensive and reliable database available. The target group of the research were family houses, because their energy refurbishment, in contrast to the condominium segment, represents a significantly greater innovation challenge due to their dominant market share and their uniqueness.

A new database of national importance was created for the purpose of the research: The housing transaction dataset of single-family houses sold in Hungary in 2019 (which contains statistically relevant data on the value of the property, recorded in the post-sale tax procedure received from the Hungarian Central Statistical Office (KSH) by the NAV) was linked to the energy certification data made available by the Lechner Knowledge Centre, supplemented with building and housing data from the 2011 KSH census, based on the addresses and parcel numbers. The survey was only carried out for addresses that were undoubtedly identical (N=8007).

The first step of the research used a linear regression model to investigate the extent to which the attributable building characteristics determine the energy efficiency of a property. In a second step, we examined how the market prices the benefits of energy retrofitting for detached houses. Linear regression modelling was carried out to better isolate the impact of factors that shape house prices. Among the factors determining the value of the property, we examined the floor area of the property, its location (region, metropolitan area, agglomeration, district level), the access time to the regional centre and Budapest, the area of the plot in relation to the median of the municipality category, the year of construction and renovation, the time of the property transaction (2019 Q1-4), the condition of the property, masonry, number of rooms, etc. The full details of the research methodology will be available soon: the complete material will be published in the KSH Statistical Review (in progress).

3. RESULTS

We have shown on our dataset that, controlling for location and property characteristics, there is a significant increase (premium) in the price of detached houses as a result of higher energy rating. While family houses with a good energy rating show a premium of roughly 15-20% compared to the 'average' FF category of the requirement system, there is a decrease (discount) of almost twenty percent in the price of properties with a lower energy rating. These differences are close to the upper end of the results of similar international calculations, which measure a difference of 5-10% between categories. We cannot compare the results more precisely due to the different energy certification systems in different countries. There was not always a significant difference between adjacent categories in our research.



Our results confirm that there is a premium in the price of more energy-efficient family houses, i.e. that modernisation renovation can lead to price increases. We find that the price premium for the highest categories is higher by more than 50%, but moving up only one or two price categories compared to the worst ones already implies a detectable price premium. The statistical results also suggest that, compared to smaller interventions, larger upgrades may have a relatively better return in terms of increase in property value.

The higher the local housing market price level, the more attractive energy efficiency investments may be in terms of expected value gains. Where market prices are low, the cost of renovation can easily exceed the expected increase in value. A detailed analysis of prices and the costs of individual renovations could be the subject of further research, but for the time being it is worth noting that in the absence of additional incentives and/or subsidies in areas with lower property prices, energy efficiency investments may not be implemented.

The basic trends are the same for municipalities, county seats and cities: the price of buildings with good energy efficiency is higher, but as one moves from average to lower energy performance, no further price decrease can be observed. The exception is Budapest, where there is no clear correlation: the location of the property plays a greater role in the price, so that properties in older, prestigious areas are more expensive even if their energy quality is poor.