

Insulating or Isolating? An Analysis of Conflicting Interests Between Energy Renovation and Rental Affordability

As part of: The future of Rental housing: Conditions of (Un)Affordability in Ghent, 2050

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PREFACE

As Europe moves toward a sustainable future, a growing wave of green policies is reshaping the housing landscape, offering opportunities for a more equitable society. However, the path forward is not without challenges - particularly in terms of housing affordability.

Energy-efficient renovations often require significant upfront investments, typically borne by landlords, while the resulting energy savings benefit tenants. This misalignment of costs and benefits is widely known as the “split incentive” problem. It raises critical questions about how the renovation agenda may be influencing rental prices and the availability of affordable housing. Even before this green transition, renters were often at a disadvantage compared to homeowners. Today, an urgent question emerges: will the energy renovation wave exacerbate existing inequalities?

In addressing this issue, the concept of just resilience offers a meaningful framework. It calls for approaches that ensure the costs of sustainable progress are distributed fairly—particularly avoiding disproportionate burdens on those with limited means. Just resilience, in this context, aims to reconcile the needs of today’s tenants with the long-term imperatives of climate policy.

This thesis examines the intersection of ambitious renovation policies and housing equity, and invites reflection on how to navigate this transition in a way that is both environmentally effective and socially just.

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ABSTRACT

This master's thesis explores how energy transition policies in Flanders, while beneficial for the environment, may also place a financial burden on an already vulnerable group: low-income renters. Within cities like Ghent, mandatory and non-mandatory renovations have the potential to raise rental prices and limit access for those already struggling to find stable housing. The aim is to have a better understanding of the extent to which current Flemish and local energy efficiency renovation policies impact rental affordability. Strategies to accelerate the renovation of rental properties will be explored, while ensuring that the energy transition benefits all. This study contributes to the broader theme of achieving affordable rental housing in Ghent.

EXTENDED ABSTRACT {EN}

Introduction

This master's thesis explores the intersection between climate-driven renovation policy and the affordability of rental housing in Ghent, with broader implications for Flanders and Belgium. The European Green Deal is accelerating the energy transition, prompting policy measures that increasingly encourage or mandate energy-efficient renovations. While ecologically necessary, such renovations may unintentionally place additional pressure on housing security for low-income tenants.

A sustainable energy transition must be not only ecological, but also socially just. This thesis therefore uses the concept of just resilience to examine how climate policy can protect vulnerable groups. A central issue is the “split incentive”: landlords bear the renovation costs, while tenants benefit from lower energy bills. This imbalance discourages investment and often results in rent increases, reduced availability of affordable housing, or even tenant displacement.

Research Objectives

This study aims to understand how energy renovations impact rental affordability and assess whether current policy instruments are adequate to prevent the further marginalisation of vulnerable tenants. The research analyses structural challenges within the private rental market in Flanders and Ghent. It investigates the relationship between rent increases and energy savings during renovations and examines the decision-making processes of both landlords and tenants.

The effectiveness of existing subsidies and support measures is critically assessed, focusing on barriers to accessibility and overall impact. Finally, the study identifies policy models and strategies that could support a fairer renovation approach - particularly for vulnerable renters in a highly pressured housing market.

Methodology

The methodology combines quantitative and qualitative approaches:

1. An analysis of housing market data (EPC scores, rental prices, housing cost ratio), along with a literature review of international frameworks and research on energy justice.
2. Case studies based on semi-structured interviews with two tenants, three landlords, and five other key stakeholders.

Sources include interviews, policy and academic literature, and datasets from organisations such as VEKA, Statbel, and the CIB Rental Barometer.

Note: Figures in this thesis are not adjusted for inflation unless stated otherwise.

Findings

The findings present a complex picture. The energy transition is progressing slowly: only 7.8% of Flemish homes currently achieve an A-label, while over half fall into the lowest energy efficiency categories (E or F) (VEKA, 2025). At the same time, the availability of rental housing is decreasing,

especially in Ghent, where 48% of residents rent. Half of these renters spend more than 30% of their income on housing. For 20%, that figure exceeds 50%, indicating a high risk of rental poverty (De Smalen & Winters, 2024).

Key structural issues include:

- **Split Incentive:** Many (often older) landlords are reluctant to renovate due to the high costs and limited returns. After renovation, rents are frequently increased, cancelling out energy savings for tenants.
- **Renovictions:** There is growing evidence that renovations can lead to tenant displacement. This creates a “green paradox,” where environmental progress comes at the cost of social regression (Kerr & Winskel, 2018).
- **Management Structures:** Renovations in apartment buildings are often complex and slow due to the collective ownership and decision-making processes within co-owner associations (in Flanders, known as *Verenigingen van Mede-Eigenaars* or *VMEs*).
- **Free Riders:** A significant share of public subsidies goes to property owners who would have renovated anyway. According to Johan Albrecht (*Klimaatneutraal in 2050?*, 2022), this reduces both the cost-effectiveness and the fairness of current subsidy policies.
- **Low Share of Social Housing:** Although outside the direct scope of this thesis, the relatively low proportion of social rental housing in Flanders remains a critical issue (Woonzaak, 2022).

Balancing renovation efforts with affordability is achievable, though not without challenges.

Discussion

Renovating homes is important to meet climate goals, but it often makes renting more expensive - especially in cities like Ghent. The biggest problem is the “split incentive”: landlords pay for renovations, but tenants get most of the benefits. To make up for the cost, landlords may raise the rent or sell the property, which reduces the number of affordable homes.

This is where the idea of *mission-driven governance*, promoted by economist Mariana Mazzucato, becomes useful. She says governments shouldn’t just react to problems but lead the way by working closely with different partners - like landlords, tenants, and builders - to guide the market toward big goals, such as fair and green housing.

Right now, high renovation costs and long payback times discourage landlords from improving energy efficiency unless they get strong financial help. Often, tenants end up paying more rent after renovations and may not be able to stay in their homes.

Subsidies don’t always work well. People who need them most might not apply, and those who don’t need them still get money. Also, shared ownership in apartment buildings makes renovations harder, as decisions take longer and projects are sometimes cancelled.

Local efforts like *Verhuurderspunt Gent* and *Het Pandschap* show that giving personal advice and help with paperwork can really help. But these efforts aren’t enough on their own.

A just energy transition requires that social justice be central to renovation policy. Financing must be more accessible, with particular attention to older landlords. Group renovations in apartment

buildings demand stronger structural support. Policy should be aligned not only with energy performance goals but also with housing affordability.

Conclusion

The green transition in the housing market must reconcile ecological urgency with social justice. Policies that ignore affordability risk undermining public support and deepening social inequality. A just energy transition requires more than technical compliance: it calls for inclusive governance and a fundamental reassessment of the values that underpin housing policy.

Keywords

Energy renovation, rental market, affordability, split incentive, just resilience, social justice, tenant protection, Ghent, Flanders

EXTENDED ABSTRACT {NL}

Inleiding

Deze masterproef onderzoekt de kruising tussen klimaatgedreven renovatiebeleid en de betaalbaarheid van huurwoningen in Gent. De bevindingen hebben bredere relevantie voor Vlaanderen en België. Door de Europese Green Deal versnelt de energietransitie, waardoor overheden steeds vaker energie-efficiënte renovaties stimuleren of verplichten. Hoewel ecologisch noodzakelijk, kunnen deze renovaties onbedoeld de woonzekerheid van huurders met een laag inkomen onder druk zetten.

Een duurzame energietransitie vereist zowel ecologische als sociale rechtvaardigheid. In deze scriptie wordt daarom het concept van *just resilience* (rechtvaardige veerkracht) gebruikt om te onderzoeken hoe klimaatbeleid kwetsbare groepen kan beschermen. Een belangrijk knelpunt is het zogenoemde *split incentive*: verhuurders investeren in renovaties, terwijl de voordelen – zoals lagere energiekosten – naar de huurders gaan. Dit onevenwicht ontmoedigt investeringen en leidt vaak tot huurverhogingen, minder betaalbare woningen of zelfs verdringing van huurders.

Onderzoeksdoelstellingen

Het doel van dit onderzoek is om te begrijpen hoe energetische renovaties de huurprijzen beïnvloeden, en of het huidige beleid voldoende is om kwetsbare huurders te beschermen tegen verdere marginalisering. De studie onderzoekt structurele problemen op de private huurmarkt in Vlaanderen en Gent. Daarbij wordt gekeken naar hoe huurprijsstijgingen en energiebesparing elkaar beïnvloeden in renovatiecontexten, en naar de keuzes die huurders en verhuurders daarin maken.

De effectiviteit van bestaande subsidies en ondersteuningsmaatregelen wordt kritisch geëvalueerd, met aandacht voor toegankelijkheid en impact. Tot slot worden beleidsmodellen en strategieën besproken die kunnen bijdragen aan een eerlijker renovatiebeleid, in het bijzonder voor kwetsbare huurders in een krappe woningmarkt.

Methodologie

De gebruikte methodologie combineert kwantitatieve en kwalitatieve benaderingen:

1. Een analyse van woningmarktgegevens (zoals EPC-scores, huurprijzen en woonkostquotes), aangevuld met literatuur over internationale voorbeelden en energie-rechtvaardigheid.
2. Casestudy's op basis van semigestructureerde interviews met twee huurders, drie verhuurders en vijf andere sleutelactoren.

De gebruikte bronnen omvatten interviews, beleids- en academische literatuur, en datasets van onder meer VEKA, Statbel en de CIB Huurbarometer.

Opmerking: bedragen in deze scriptie zijn niet gecorrigeerd voor inflatie, tenzij anders vermeld.

Bevindingen

De resultaten tonen een complex samenspel van uitdagingen. Ondanks beleidsinspanningen verloopt de energietransitie in Vlaanderen traag: slechts 7,8% van de Vlaamse woningen behaalt een A-label, terwijl meer dan de helft behoort tot de laagste efficiëntie categorieën (E of F) (VEKA, 2025).

Tegelijkertijd daalt het aantal beschikbare huurwoningen, vooral in Gent, waar 48% van de inwoners huurt. De helft van hen besteedt meer dan 30% van het inkomen aan wonen. Voor 20% ligt dat cijfer zelfs boven de 50%, wat wijst op een hoog risico op huurarmoede (De Smalen & Winters, 2024).

Belangrijke structurele knelpunten zijn:

- *Split incentive*: Veel (vooral oudere) verhuurders zijn terughoudend om te renoveren door de hoge kosten en het beperkte financiële rendement. Na renovaties stijgen de huren vaak, waardoor huurders weinig voordeel ervaren van de energiebesparing.
- *Renovictions*: Er zijn steeds meer aanwijzingen dat renovaties kunnen leiden tot het verdrijven van huurders. Dat leidt tot een 'groene paradox': ecologische winst gaat gepaard met sociale achteruitgang.
- *Beheerstructuren*: De collectieve eigendom en het besluitvormingsproces binnen Verenigingen van Mede-Eigenaars (VME's) maken renovaties in appartementsgebouwen vaak complex en traag.
- *Free riders*: Een aanzienlijk deel van de publieke subsidies gaat naar eigenaars die sowieso al van plan waren om te renoveren. Volgens Johan Albrecht (*Klimaatneutraal in 2050?*, 2022) ondermijnt dit zowel de kostenefficiëntie als de eerlijkheid van het subsidiebeleid.
- *Beperkt aandeel sociale huurwoningen*: Hoewel buiten het directe bereik van deze masterproef, vormt het lage aandeel sociale woningen in Vlaanderen een belangrijke structurele factor (Woonzaak, 2022).

Het combineren van renovaties en betaalbaarheid is mogelijk, maar brengt de nodige uitdagingen met zich mee.

Discussie

Renovaties zijn noodzakelijk voor het behalen van klimaatdoelstellingen, maar botsen vaak met de realiteit van de huurprijzen, zeker in steden zoals Gent. De split incentive blijft het kernprobleem: verhuurders investeren, maar de baten komen bij de huurders terecht. Hierdoor verhogen eigenaars vaak de huur of verkopen ze hun pand, wat het aanbod aan betaalbare huurwoningen verkleint.

Het concept van *mission-driven governance*, zoals gepromoot door econoom Mariana Mazzucato, biedt hier een relevant kader. Zij stelt dat overheden niet enkel op problemen moeten reageren, maar het voortouw moeten nemen door nauw samen te werken met verschillende partners - zoals verhuurders, huurders en aannemers - om de markt te sturen richting maatschappelijke doelen, zoals eerlijke en duurzame huisvesting.

Op dit moment ontmoedigen de hoge renovatiekosten en de lange terugverdientijd veel verhuurders om in energie-efficiëntie te investeren, tenzij ze stevige financiële steun krijgen. Vaak leidt dit ertoe dat huurders na renovaties de hogere huurprijzen niet meer kunnen dragen.

Verder blijken subsidies niet altijd effectief. Wie echt hulp nodig heeft, vraagt die vaak niet aan. Wie de steun niet nodig heeft, krijgt die soms wel. Bovendien zorgen gedeelde eigendomsstructuren in appartementsgebouwen voor vertragingen of uitstel van renovaties.

Lokale initiatieven zoals *Verhuurderspunt Gent* en *Het Pandschap* tonen aan dat persoonlijke begeleiding en administratieve ontzorging een verschil kunnen maken.

Een rechtvaardige energietransitie vraagt dat sociale rechtvaardigheid centraal staat in het renovatiebeleid. Financiering moet toegankelijker worden, met bijzondere aandacht voor oudere verhuurders. Groepsrenovaties in appartementsgebouwen vereisen sterkere structurele ondersteuning. Beleid moet niet alleen afgestemd zijn op energieprestaties, maar ook op betaalbaar wonen.

Conclusie

De groene transitie op de woningmarkt moet ecologische noodzaak verzoenen met sociale rechtvaardigheid. Beleid dat betaalbaarheid uit het oog verliest, ondermijnt het draagvlak en vergroot de ongelijkheid. Een rechtvaardige energietransitie vereist meer dan technische normen: ze vraagt om inclusief bestuur en een fundamentele herziening van de waarden die ons woonbeleid sturen.

Trefwoorden

Energierenovatie, huurmarkt, betaalbaarheid, *split incentive*, *just resilience*, sociale rechtvaardigheid, huurdersbescherming, Gent, Vlaanderen

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LIST OF ABBREVIATIONS

EP: Energy Performance

EPB: Energy Performance and Indoor Climate (*EnergiePrestatie en Binnenklimaat*)

A set of regulatory requirements for energy performance, insulation, ventilation, and indoor climate in buildings. It applies to new constructions, major renovations, and certain technical installations. Compliance involves official reporting and calculations performed by a certified EPB reporter, based on design specifications and building execution.

EPC: Energy Performance Certificate (*EnergiePrestatieCertificaat*)

A document that provides an estimate of a building's energy efficiency based on standardised use, expressed as a numerical score (kWh/m²/year). It is mandatory when selling or renting a building and includes recommendations for improving energy performance.

IEA: International Energy Agency

VCB: Flemish Construction Confederation (*Vlaamse Confederatie Bouw*)

VEKA: Flemish Energy and Climate Agency (*Vlaams Energie-en Klimaatagentschap*)

NBB: National Bank of Belgium (*Nationale Bank van België*)

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INTRODUCTION

"For to everyone who has, more will be given, and they will have an abundance. Whoever does not have, even what they have will be taken from them," wrote the apostle Matthew nearly two millennia ago. This age-old truth resonates in modern Flanders, where many believe that renting is a financial drain. Homeownership, on the other hand, is often regarded as an investment in an asset. The Flemish housing market, characterized by its inelasticity, sees its market value rise steadily over time - without the volatility observed in some other markets. Furthermore, homeowners benefit from favourable tax regimes and mortgage interest deductibility. Reason for this being the – historical - belief held by Belgian policymakers that homeownership should be the target goal for everyone. While a detailed discussion of this topic falls outside the scope of this thesis, it can be stated that a person who inherited a house, or the money to buy a house, will pay less in the long run. Those who inherit nothing are more likely to rely on the rental market - and consequently, they end up paying significantly more over time. This dynamic reinforces what is known as the Matthew effect: individuals who already possess assets continue to accumulate wealth, while others fall further behind. The graph below illustrates a growing ownership gap between income groups, highlighting that homeownership remains the preferred and dominant tenure choice among Flemings.

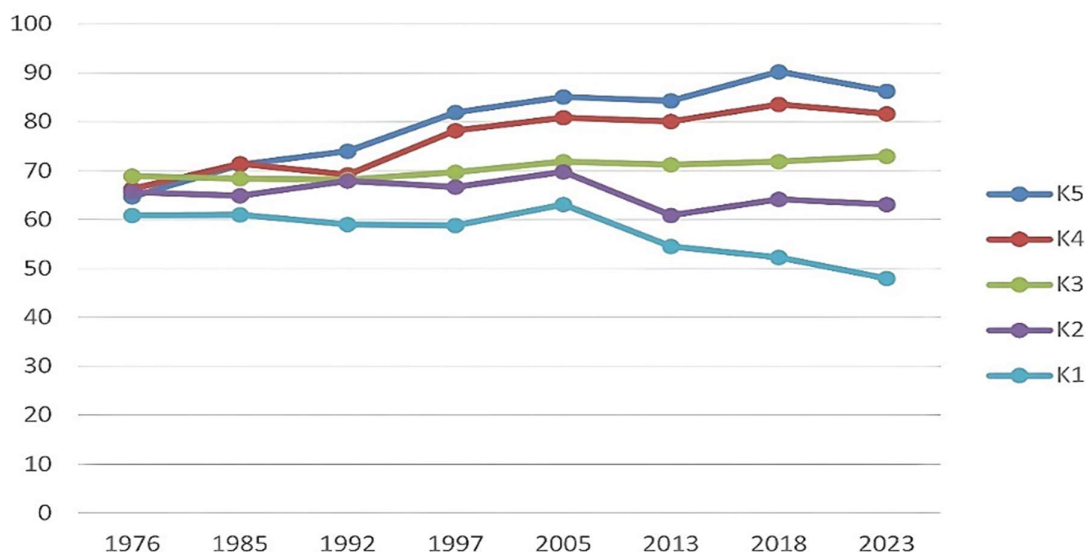


Figure 1 : Evolution of share of homeowners, according to income quintile (Q1-Q5) (de Smalen, D. & Winters, S., 2024)

Underlying this widening gap lay economic forces. Economics fundamentally shape our world, guiding how societies develop. Among many factors, economic policies remain very decisive, with governments playing a central role in directing them. Mariana Mazzucato, a renowned economist, argues that governments should not simply support the private sector but instead actively lead societal transformations, setting ambitious goals and driving innovation. She believes that for an energy transition to be effective and fair, governments must move beyond mere regulation and become visionary partners in creating sustainable, inclusive markets. This proactive approach, she argues, ensures that green policies benefit all parts of society and reshape the economy to address future challenges (Mazzucato, 2013).

Among students of architecture and urban policy, there is an interest in the issue of housing, more specifically in the affordability of rental housing. Within this broader theme, special attention is given to the impact of energy-efficient renovation measures on the private rental market. For this,

Mazzucato's vision inspires to look at the role of the government as an important driving force in making housing affordable, on the one hand, and achieving environmental goals on the other hand.

A first big step was set on December 11, 2019. The European Green Deal was introduced and has since gotten a foothold on Belgian politics. The deal is striving to make the world a better place for future generations. Reshaping our society so we will consume less? Great! We kill two birds with one stone, one could think. Less energy consumption means lower energy bills. Of course, for a major part, this is the case: less consumption usually equals less costs for individuals. However, when it comes to renovating buildings for energy efficiency, this green revolution doesn't harmonize very well with the goal of affordable housing, at least not in the short term. This incompatibility is particularly true in the rental market. Here, the *split incentive* problem exacerbates the situation. Landlords bear the cost of energy-efficient renovations, while tenants reap the benefits through lower energy bills. Naturally, landlords who invest time and money in these upgrades expect a return on their investment, often in the form of higher rent. Adding to this, many landlords are older individuals with limited motivation to undertake extensive renovations. Many opt to sell their properties instead, often reducing the supply of rental housing if the new owners choose to occupy the homes themselves. If new owners do continue renting, they are likely to renovate and, as a result, charge higher rents. Next to the "split incentive" problem and the problem of landlords selling their properties, a bunch of other factors, less directly related to the renovation wave, contribute to higher rents. Part 1 will discuss these shortly.

The theme of this paper centres on the tension between promoting energy efficiency and maintaining housing affordability in Ghent's rental market. Currently, the renovation rate stands at just 1%¹ (VEKA, 2024), while the EU recommends increasing it to 3,3% (NBB, 2023). Reaching that target will require stronger incentives or even mandatory policies for property owners. Yet, such measures must be weighed against the reality that approximately 34% of renters in Flanders already spend over 40% of their income on housing (Eurostat, 2022) - a number that continues to rise (de Smalen & Winters, 2024). This paper investigates how well-intentioned energy policies might unintentionally deepen housing inequalities and explores potential pathways toward a more equitable energy transition.

Searching for the precise factors and to what degree they all contribute is challenging, as many forces are at play. However, assumptions of to what degree these trends intertwine can be made by analysing available data.

¹ Percentages vary depending on way of calculating.

PART 1 – HOUSING MARKET & ENERGY POLICY LANDSCAPE

CHAPTER 1 - THE (UN)AFFORDABILITY OF RENTAL HOUSING

1.1 Universal Declaration of Human Rights (1948)

The Universal Declaration of Human Rights (UDHR) (1948) established housing as a fundamental human right in Article 25:

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”

Despite this commitment, housing affordability remains a persistent issue in Belgium, particularly in Flanders and in cities like Ghent. The rental market is under increasing strain, with rising costs, insufficient social housing, and a growing imbalance between supply and demand. These factors put financial pressure on renters, particularly low-income households.

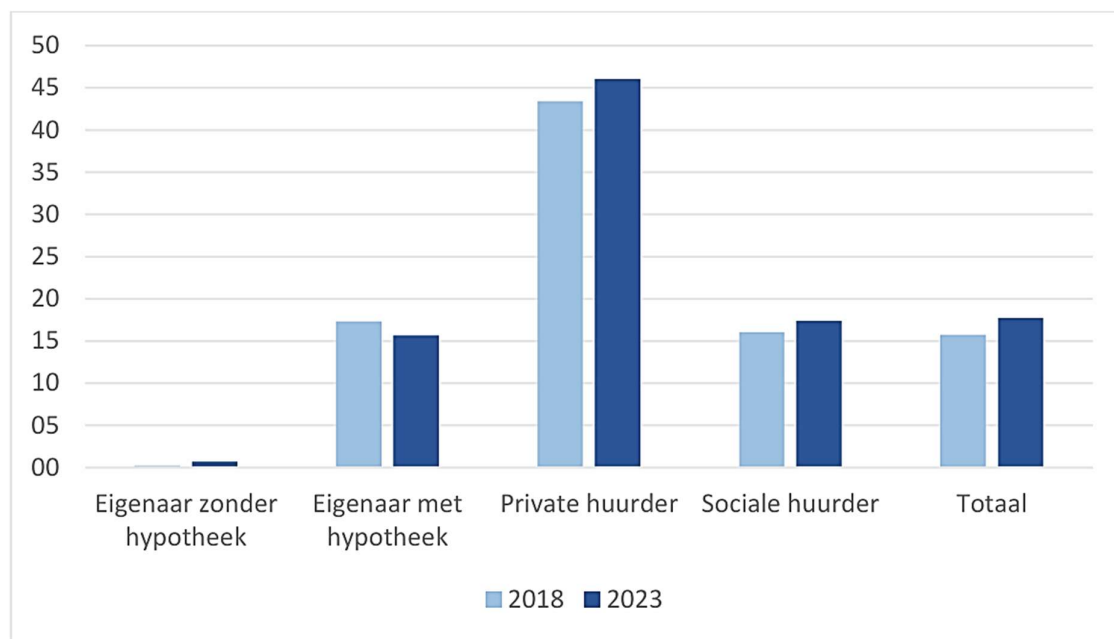


Figure 2 : Share of households with a housing cost ratio (housing costs/total income) above 40% in Flanders (de Smalen & Winters, 2024, using Woonsurvey 2018 & 2024))

As illustrated in Figure 2, over 45% of tenants on the private rental market in Flanders face a housing cost ratio above 40%, a burden considered too high (de Smalen & Winters, 2024).

Hugo Beersmans (Woonzaak, 2022) speaks of a “housing crisis” on the bottom layer of the private rental market. When looking at the Flemish housing budget, only 5% goes to the private rental market, compared to 60% of the budget that is (indirectly) spent on private homeownership (Winters, 2013).

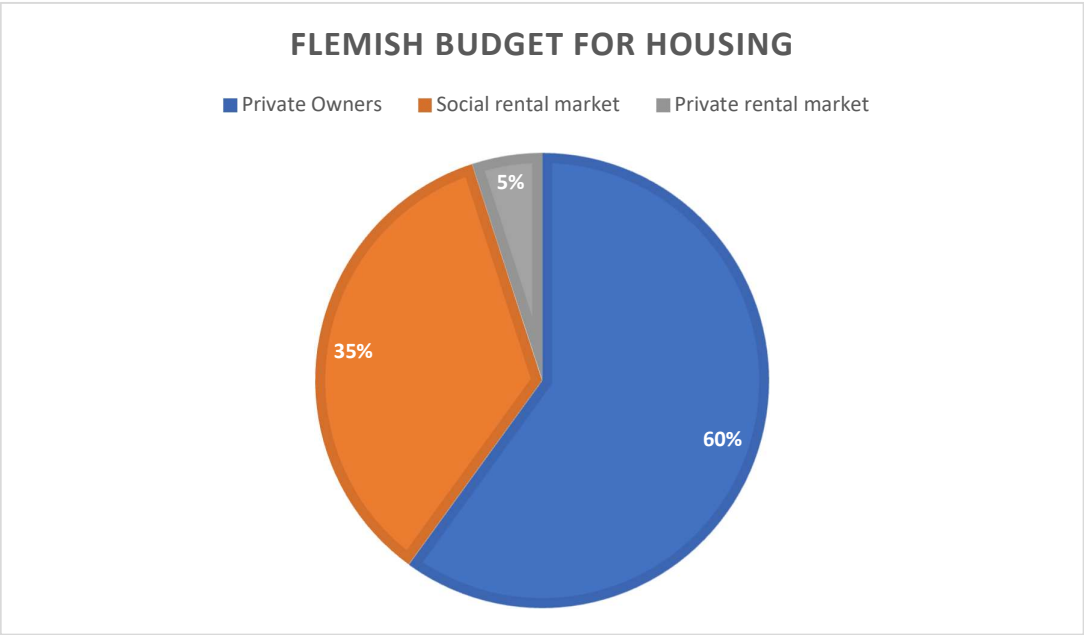


Figure 3 : Budget Spent on the Three Types of Housing in Flanders (data from Winters, 2013)

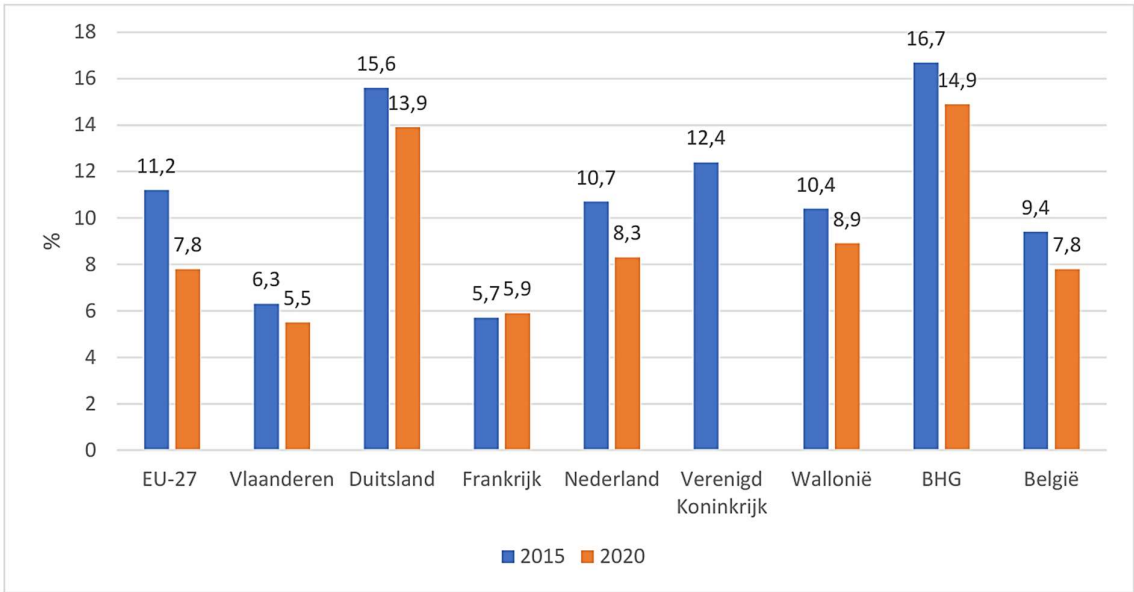


Figure 4 : Percentage of all Belgian Households spending more than 40% of total household income on housing (Heylen, 2023, calculations based on numbers from Eurostat, EU-SILC)

While the ‘Housing Cost Overburden Rate’ among all Belgian households is low compared to other countries, Belgian private tenants, on the other hand, experience a rather high Housing Cost Overburden Rate among European nations (Heylen, 2023):

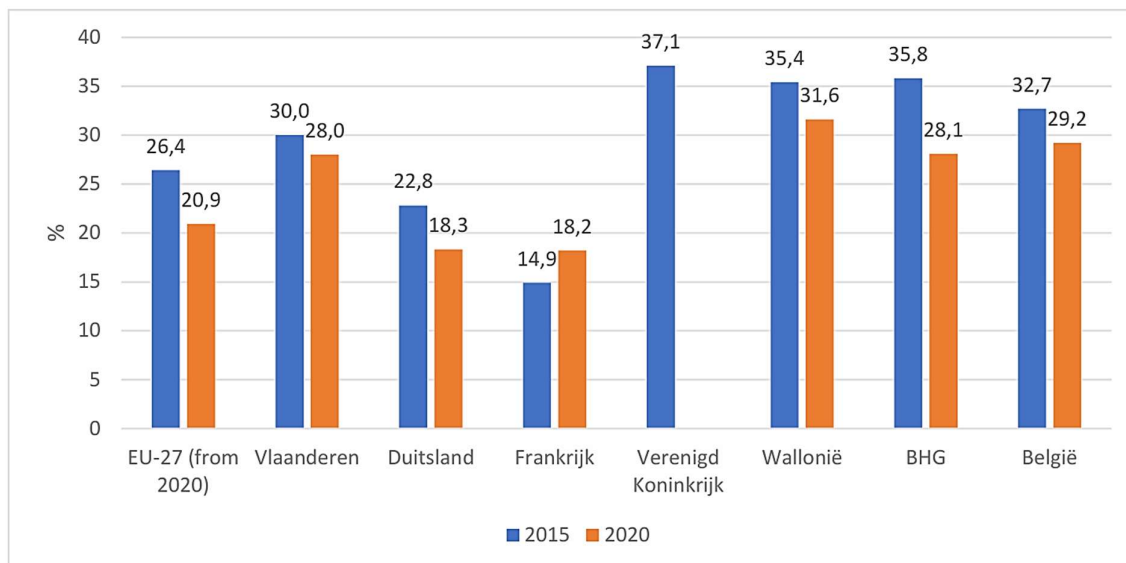


Figure 5 : Percentage of the Private Tenants spending more than 40% of total household income on housing (Heylen, 2023, based on numbers from Eurostat, EU-SILC)

1.2 Affordability of Rental Housing in Belgium, Flanders, and Ghent

1.2.1 State of Affordability in Belgium

Belgium has long promoted homeownership, a trend rooted in the 19th century due to urbanization challenges like poor housing conditions, rising trade unions, and secularization (De Decker, 2023). Policies encouraged suburbanization, and extensive social housing has never been a focus point in Belgian politics (De Decker, 2008). Since 1980, housing policy has been regionalized, though the federal government retains control over taxation.

To start on a more positive note: the numbers calculated by Heylen (2023) in Figure 3 seem high compared to numbers mentioned by Albrecht (2023). According to numbers he got, ‘only’ 5.5% of Belgians spend more than 40% of their income on housing. With this number, Belgians would have the lowest rate among several neighbouring countries.

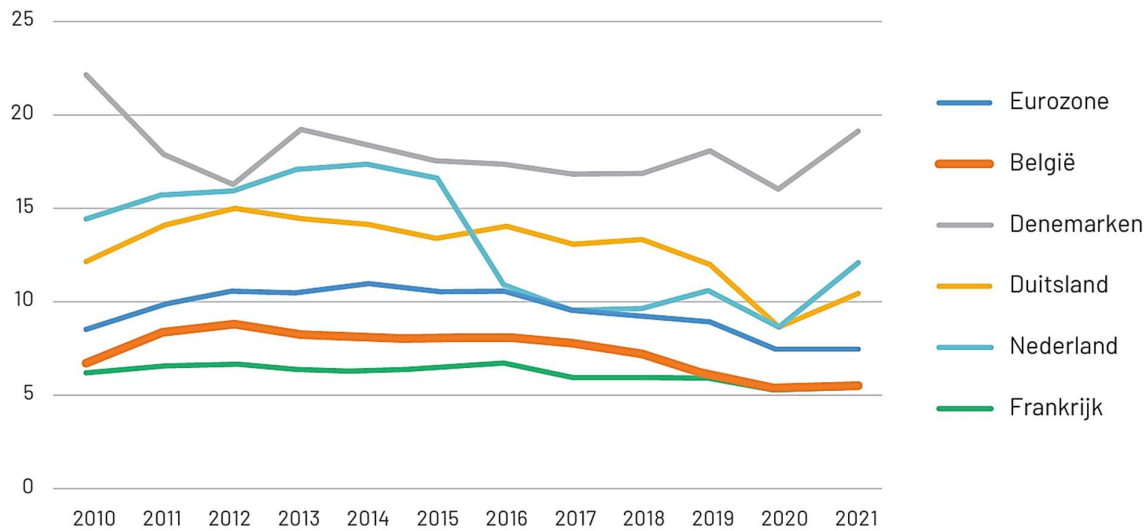


Figure 6 : Percentage of all Belgian Households spending more than 40% of total household income on housing (Albrecht, 2023 based on numbers from Eurostat, 2023)

With approximately 70% of households owning their homes (De Smalen & Winters, 2024), though, enters, making up the remaining 30%, generally face a lot more difficulty accessing affordable rental housing.

In Belgium, around 5.5% (Albrecht, 2023) to 7.8% (Heylen, 2023) of the population (including homeowners, social renters and private tenants) spends more than 40% of their income on housing. When only looking at tenants on the private rental market, the numbers vary between 30 to 35% (Eurostat, 2025)

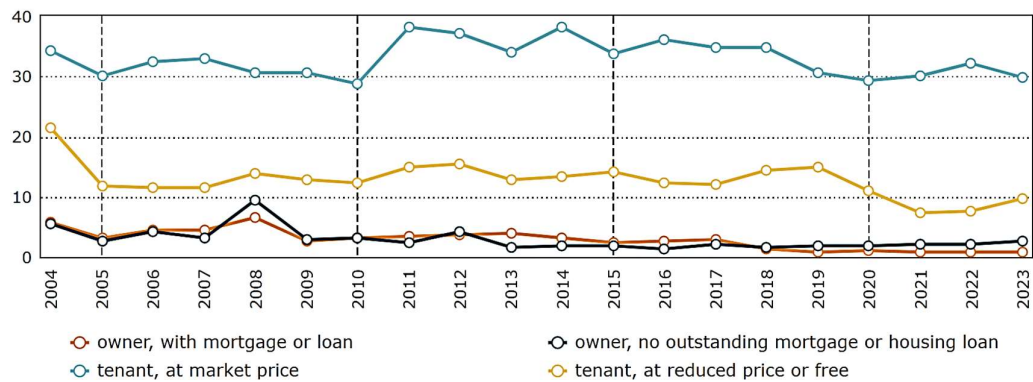


Figure 7 : Housing Cost Overburden of 40% by Tenure Status in Belgium, percentage of population (Federaal Planbureau (FPB), using data from Statbel, Eurostat and EU-SILC, 2024)

Since 2015, rental prices in Belgium have increased by an average of 3% per year, outpacing wage growth (Albrecht (ITINERA), 2023). However, contrary to popular perception, this growth is comparable to inflation. Overall, the evolution of the average rental price corresponds to that of the European average.

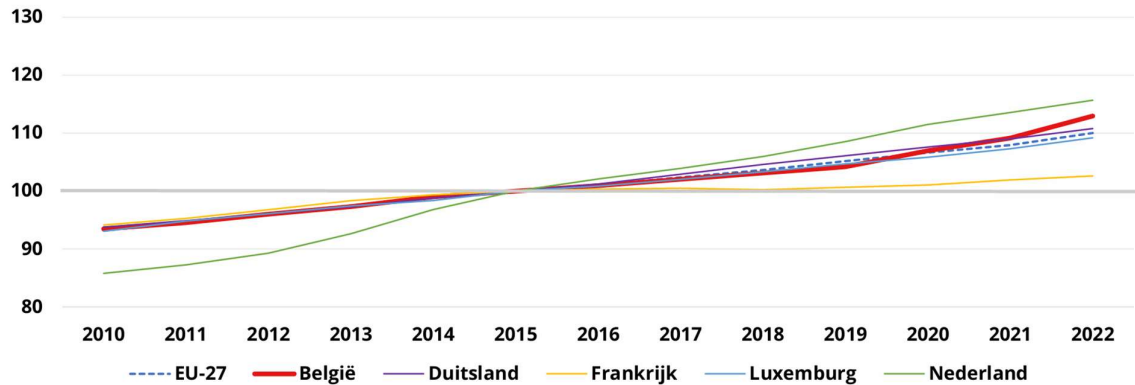


Figure 8 : Nominal Rental Prices in Belgium vs. Neighbouring Countries (Eurostat, 2023)

Belgium shows a slow and dampened evolution of rental prices. This high level of rigidity is the result of political choices: most rental contracts are long-term (typically 9 years) and allow rent increases only once a year, based on a limited inflation index rather than full inflation (Vlaamse Wooncode, 2024). Additionally, most landlords are small private owners who tend to adjust rents cautiously (Heylen, 2023). As a result, market rents take several years to fully respond to economic changes. As will be discussed later, there is currently a (very) large gap between supply and demand on the private rental housing market. A not unreasonable fear is that, within a few years, we will face rent prices that rise faster than inflation. Especially in energy-inefficient homes, deferred rent increases may come all at once (Reusens et al., 2025). Heylen (2023) notes that current rent stability is temporary and not guaranteed in the future.

As an aside, Belgium's social housing sector is small, covering only 5.4% (Housing Europe, 2022) of the housing market in 2021. According to the same study, 22% of the housing market consists of private tenants. The study by Kristof Heylen (2023), using a different way of calculating, mentions larger numbers: 8% social and 21% private tenants, as percentage of the population in 2020.

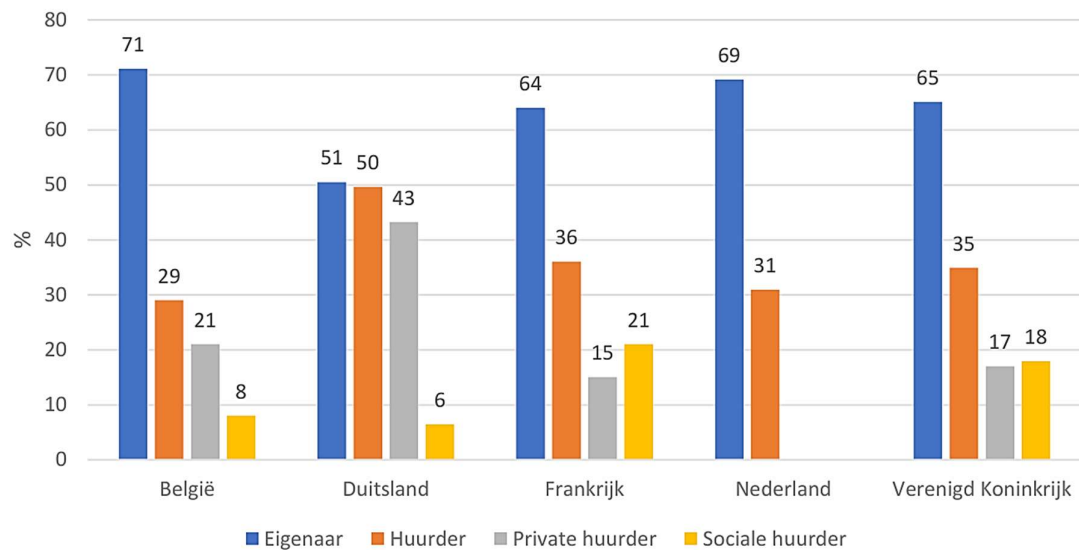


Figure 9 : Ownership status (grey: % private tenants & yellow: % social tenants), at the individual level, in %, EU and selected countries, 2020 (Heylen, 2023, based on Eurostat)

1.2.2 State of Affordability in Flanders

According to Hugo Beersmans, renting is typically seen as either a) a temporary solution, or b) as a necessity (Woonzaak, 2022). Kristof Heylen is a little bit more nuanced. He categorizes tenants into three distinct groups. The largest group, making up **36%**, are tenants for whom renting is not a problem - they typically live in high-quality homes and include demographics such as elderly people and expats. Close behind, accounting for **35%**, are tenants who view renting as a temporary or transitional phase, such as young families. The remaining **29%** are vulnerable tenants, who often reside in low-quality housing and may face challenges in the rental market.

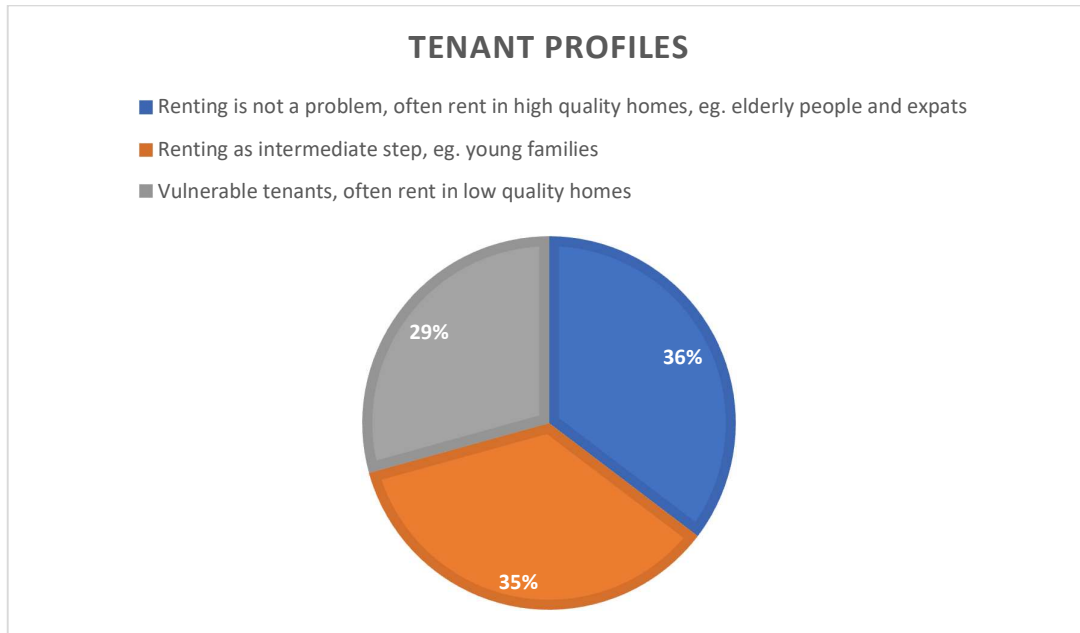


Figure 10 : Tenant Profiles (data from Heylen, 2017)

74.4% of Flemish households are owner-occupiers, while approximately 30.9% (Provincies In Cijfers, 2025) rent, with 19.3% (Heylen & Vanderstraeten, 2019) in private rentals and 5.4% (Bruggeman et al., 2022) in social housing. Despite policy initiatives such as the 1997 Flemish Housing Code, affordability remains a serious concern.

- **Private Rental Pressure:** According to Hugo Beersman (Woonzaak) 34%² of renters spend more than 40% of their income on rent (2023). When considering total housing costs - including rent, utilities, insurance, taxes, and maintenance - 47% of private tenants allocated more than 40% of their disposable income to housing in 2018 (Heylen & Vanderstraeten, 2019).
- **Rental Price Increase:** The average rent for a newly leased apartment in 2024 was €922, a 6.3% increase from 2023 (Huurbarometer CIB, 2024).
- **Social Housing Scarcity:** Just around 6% of housing is social, and the stock is shrinking due to underinvestment (Winters & Van den Broeck, 2020).

² Percentages vary depending on source; data and way of calculating probably cause percentages to range between 30 to 47% (incl. other costs) for a Housing Cost Overburden Rate of 40%.

Measures taken by Flemish government for private tenants

1. **Social Rent:** Tenants in social housing pay rents approximately 25% below market rates, based on their income and household size. Landlords receive subsidies amounting to 40% of the market rent to facilitate this.
2. **Budget Rent** (*Geconventioneerde Huur*): In 2023, the Flemish government launched budget rent, aimed at households below a certain income level who don't own a home or land. Tenants are entitled to a discount of at least 15% on the market rent. For each budget rental unit, the landlord receives a subsidy of 30% of the market rent. Half of this must be passed on as a 15% discount to the tenant.

Note: Uptake of the budget rent system remains limited. As of April 2025, only 25 subsidy applications for conventioned rental housing had been approved. Of these, 15 have resulted in completed projects, delivering 144 conventioned and 59 social housing units. The remaining 10 applications are still in the pipeline, expected to yield 181 conventioned and 101 social units once construction is finalized.³

Some critics further argue that it targets too broad an income group, potentially diluting its effectiveness in addressing the needs of the most vulnerable households.

As background information, the figure below presents the number of subsidized social and conventioned housing units approved through Wonen in Vlaanderen, with Ghent clearly leading in both categories.

Gemeente	Sociale woning	Geconventioneerde woning
Wingene	0	22
Heusden-Zolder	17	22
Staden	0	7
Haaltert	3	2
Wervik	0	23
Geraardsbergen	2	1
Ninove	4	2
Turnhout	0	14
Kortrijk	7	10
Vilvoorde	17	20
Boom	9	5
Gent	52	99
Roeselare	3	4
Eeklo	1	2
Mechelen	16	32
Hasselt	13	38
Houthalen-Helchteren	11	20
Sint-Niklaas	5	2

Figure 11 : Number of social rental homes (left) and conventioned housing units (right) per municipality that received subsidies for conventioned housing until April 1st 2025 (Wonen In Vlaanderen)

³ Data received via email from Ellen De Schryver (Wonen in Vlaanderen), April 18, 2025.

3. **Flemish Rent Subsidy:** Monthly financial aid for low-income households moving from inadequate housing to compliant private rentals. Eligibility depends on income, rent levels, and housing quality. An initial installation premium (three times the monthly subsidy) is also provided (Wonen in Vlaanderen, 2025).
4. **Flemish Rent Premium:** The Flemish Rent Premium provides monthly support to private tenants who have rented for at least four years while on the social housing waiting list. Eligibility is based on income, rent, and housing standards. It cannot be combined with the rent subsidy (Wonen in Vlaanderen, 2025).
5. **Rent Indexation Restrictions:** To encourage energy-efficient upgrades, the Flemish government restricts rent indexation for poorly insulated homes. Since 2022, homes with EPC labels E or F may not be indexed. From 2028, indexation will be fully prohibited for these properties (Wonen in Vlaanderen, 2025).

1.2.3 State of Affordability in Ghent

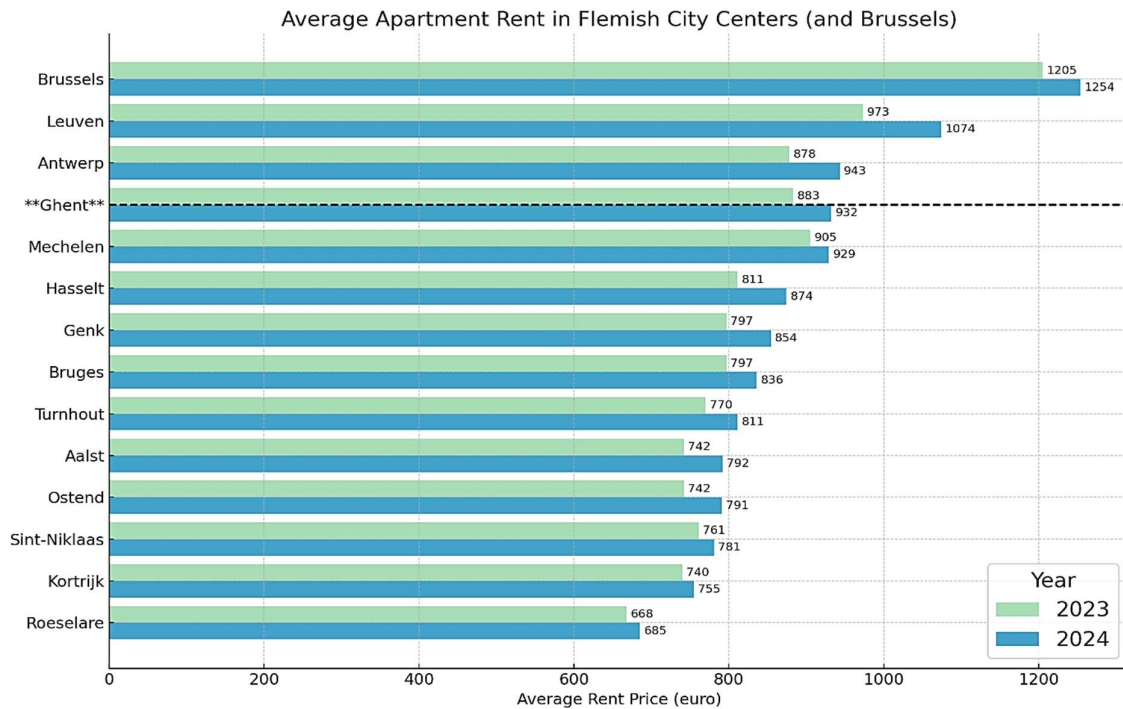


Figure 12 : Average Rental Price in Biggest Cities of Flanders + Brussels (Huurbarometer CIB, 2024, as mentioned in VRT NWS, 2025)

Ghent's rental market is driven by high demand, intensified by an influx of students. According to some, the city faces an affordability crisis:

- 48.2% of private households in Ghent live in a rental home, significantly higher than the Flemish average (Provinces in Cijfers, 2025).
- 11% of residents (around 1 in 5 tenants) rent from social housing agencies, leaving 4 out of 5 – 39% of all inhabitants - reliant on the more expensive private rental market (Trefdag Wonen in Gent Overmorgen, 2024).
- Median rental prices in Ghent are €925 for an apartment and €1,250 for a single-family home, making it one of the most expensive rental markets in Flanders (CIB Huurbarometer, 2024).
- 50% of renters in Ghent spend more than 30% of their income on housing, with 20% spending more than 50%, putting them at risk of rental poverty (Atelier Romain, 2023).
- Demand outstrips supply. The 2024 CIB Rental Barometer recorded a 16% drop in new leases and rents rising faster than inflation.

1.3 The Growing Imbalance Between Supply and Demand of Rental Homes

In recent years, the rental housing market in Flanders has been increasingly characterized by a structural mismatch between supply and demand. This imbalance is now reflected in both the quantity and quality of available housing, as well as in sharp increases in rental prices. The 2024 Rental Barometer from CIB and Korfine illustrates this tension: compared to 2023, the number of new rental contracts dropped by 16%, falling below 50,000 for the first time since 2018. At the same time, rental prices rose by 6.3%, significantly outpacing inflation, which was only around 3%.

These developments underscore what Kristophe Thijs of CIB called "a perfect storm in the rental market," where demand consistently outstrips supply, leading to excessive competition. As he put it:

"It's no longer uncommon to receive over 100 applications per property. We are in the middle of a perfect storm in the rental market, and urgent action is needed."

- Kristophe Thijs, Director of Communications, CIB

Real estate agencies report desperation among those searching for a rental property:

"People apply for multiple properties at once, often without considering their budget. Another trend: people applying for a home without even visiting it first. Their priority is simply to secure a roof over their heads."

- Kristophe Thijs, CIB

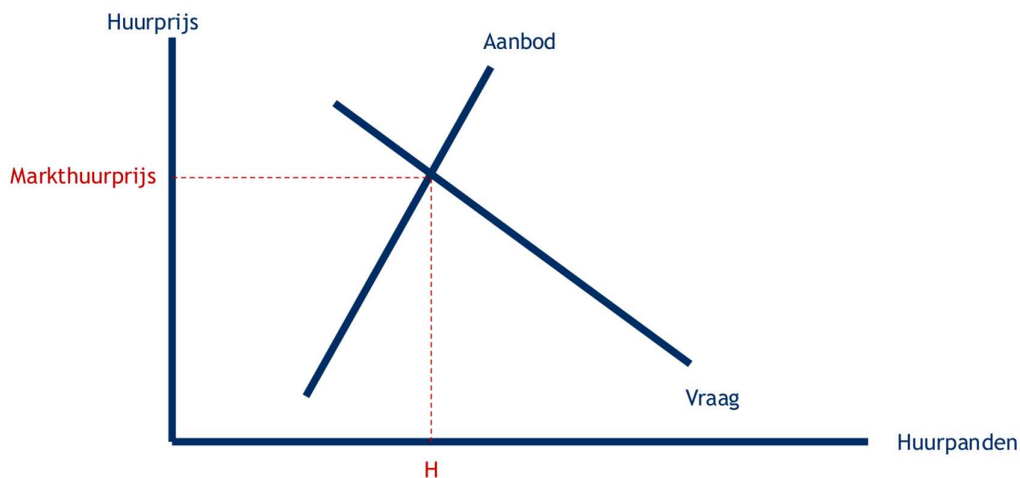


Figure 13 : Supply and demand, according to economic theory, are important determinants for rental home prices and availability (Damen et al., 2025)

Accordingly, the rental housing market in Flanders, especially in urban areas like Ghent, is experiencing a growing mismatch between supply and demand. While demand continues to rise (*Vraag* shifts to the right on the graph above), the supply side (*Aanbod*) has remained largely stagnant.

1.3.1 Supply-Side Dynamics

Supply itself has not decreased in absolute numbers. There has been an increase in the number of newly built rental apartments. Between 2018 and 2023, the rental stock grew by 50,956 units - entirely due to 53,612 new apartments, offset by a decline of 2,600 rental houses (Vastmans & Vandenberg, 2025). The average size of new rental units has decreased, and apartments are increasingly replacing older subdivided houses.

The share of private renters remained relatively stable over time: approximately 19% in 2005, 20% in 2013, and 19% in 2018 (Statistiek Vlaanderen, 2019). Vastmans & Vandenberg (2025) speak of an annual increase of 0.1 percentage points. However, a number of factors have limited the (necessary) increase in the supply of rental housing:

1. **Renovation requirements:** New regulations require homes with E or F EPC labels to be renovated within five years, making rental investments less attractive (Reusens et al., 2025). These requirements often lead landlords to either increase rents to recoup their investments or opt out of the rental market altogether.
2. **Aging landlords and renovation requirements:** Many private owners are older than 65 years and hesitate to renovate, and/or sell instead of reinvesting (Brichau, 2022; Vastmans & Vandenberg, 2025). This shift reduces the rental supply - especially when, as anecdotal evidence from Ghent suggests (as mentioned by its *Stadsbouwmeester* Peter Vanden Abeele), new owners choose to live in those homes themselves.
3. **Regulatory hurdles:** Increasingly strict regulations, long permitting processes, and administrative delays discourage investment in new rental housing developments (NBB, 2025). Investors often prefer alternative investment options that promise returns with fewer constraints.

Another structural issue affecting supply - closely tied to regulatory hurdles - is the inelastic nature of the Flemish housing market. According to Heylen (2023), Belgium has one of the lowest supply elasticities in the OECD. This means that housing supply reacts slowly to rising demand. The low elasticity is partly due to strict spatial planning rules, limited availability of buildable land, and tax policies that discourage both new development and property transfers. By contrast, countries like the United Kingdom, Sweden, and the United States exhibit more flexible supply responses.

4. **Construction bottlenecks:** High construction material costs and delays in permit approvals have limited new housing developments (NBB, 2025). The figure below illustrates a decline in housing investment. This contrasts with the rest of the eurozone, where housing investment has shown a slight upward trend.

Figure 14 illustrates how investment in housing in Belgium is lagging behind the Eurozone average. The comparison uses Q4 2019 as the reference point (index = 100) and is adjusted for seasonal and calendar effects (NBB, 2024).

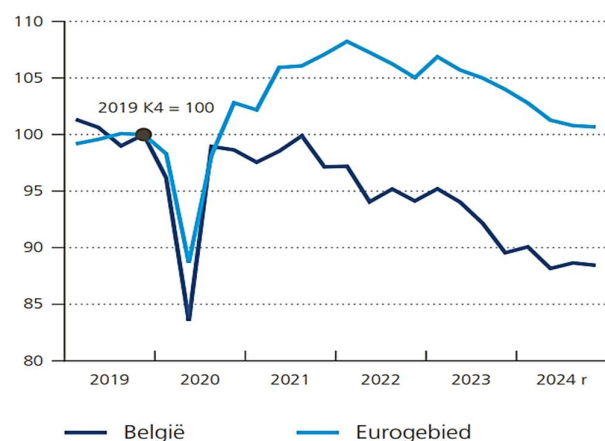


Figure 14 : Investments in Housing in Belgium vs. Eurozone, with 2019 Q4 as reference (index = 100), corrected for seasonal and calendar effects (NBB, 2024)

This trend is influenced by the factors shown in Figure 15, particularly the combination of rising mortgage interest rates and rising construction material costs.

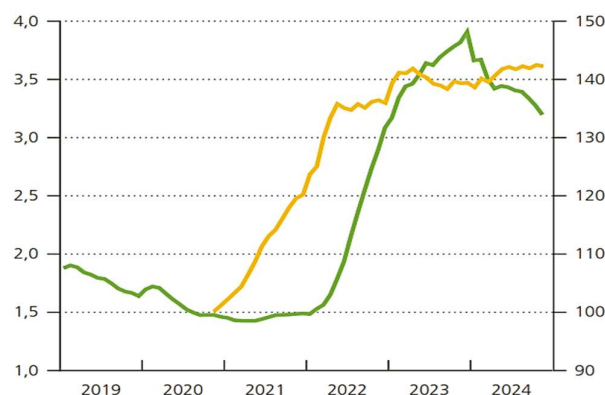


Figure 15 : Average Mortgage Interest Rates in % (green – left y-axis) and Price Index of Construction Materials (yellow – right y-axis) in % compared to a typical base year (100%) (NBB, 2024)

- Other investment options:** Fewer people are investing in rental housing because other investments, like stocks and bonds, are offering better returns with less hassle. Current high interest rates, among others, are not helping. As a result, fewer people are choosing to invest in rental housing.

Table 1 : Average Annual Investment Returns in Belgium (20-Year Horizon)

Investment Type	Average Annual Return (Net)	Source
Savings Accounts	0.9%	Curvo, 2024
Stocks (Belgium)	8.4%	Curvo, 2024
ETFs (Global)	8.4%	Curvo, 2024
Real Estate (Net Yield)	3.6%	Mondaq, 2023
Bonds (10-Year Gov't)	3.76%	CEIC Data, 2024
Gold	9.47%	Yahoo Finance, 2023
Mutual Funds	6.9%	Value Square, 2023
Alternative Investments	14.3%	BlackRock, 2023

1.3.2 Demand-Side Pressures

While supply has remained relatively stable, demand has continued to grow due to several long-term structural trends:

Demographic shifts: An aging population and a rise in smaller households (particularly single-person ones) have increased demand for small, affordable units (Vastmans & Vandenberg, 2025).

Prolonged tenancy: The average rental tenure has risen from 2.5 years in 2019 to 3.9 years in 2024, reducing market turnover and the availability of rental units. One reason for this could be rental scarcity. This may reflect a feedback loop: scarcity of rental homes causes tenants to stay longer, further limiting supply (CIB Rental Barometer, 2024). Patrick Boterbergh, CEO of Korfine, highlights the consequences:

"The tightness of the rental market is tragic for those looking for a home. But it also causes great concern among current tenants. Tenants see how difficult it is to find a new home and prefer to play it safe. They postpone moving. Moreover, tenants are less able to transition to the buying market. This combination results in less dynamism in the market, which is increasingly coming to a standstill."

Lower Homeownership Rates: Another possible reason for the above: rising interest rates have made buying less affordable, forcing more people into the rental market (Albrecht, ITINERA, 2023).

Projected household growth: Flanders expects to gain nearly 300,000 households by 2040 (Federaal Planbureau, 2024). Figure 16 shows the projected growth in Flemish households:

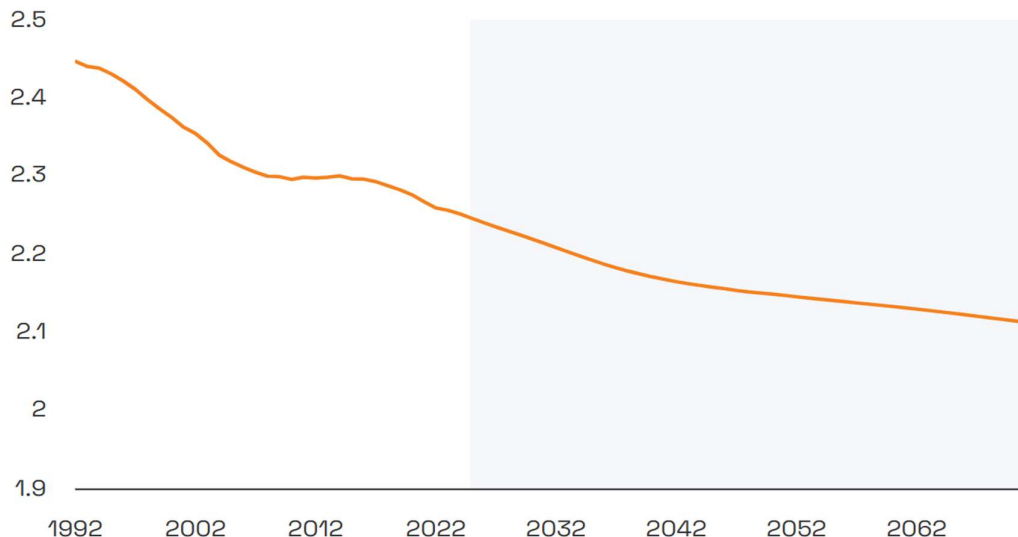


Figure 16 : Projection of Household Growth (number of people per household) (Federaal Planbureau, 2025)

In Ghent specifically, student housing pressure creates an additional challenge. Ghent has 80,000 students but only 20,000 designated student housing units (Heyse, 2021). The rest must compete in the already-tight private rental market.

Population increase: By 2040, the population in Flanders is expected to increase by approximately 400.000 inhabitants. The City of Ghent, in particular, anticipates an increase of over 4,000 residents by 2030 (Federaal Planbureau, 2024).

Loop van de bevolking - Vlaams Gewest
Bron - PinC

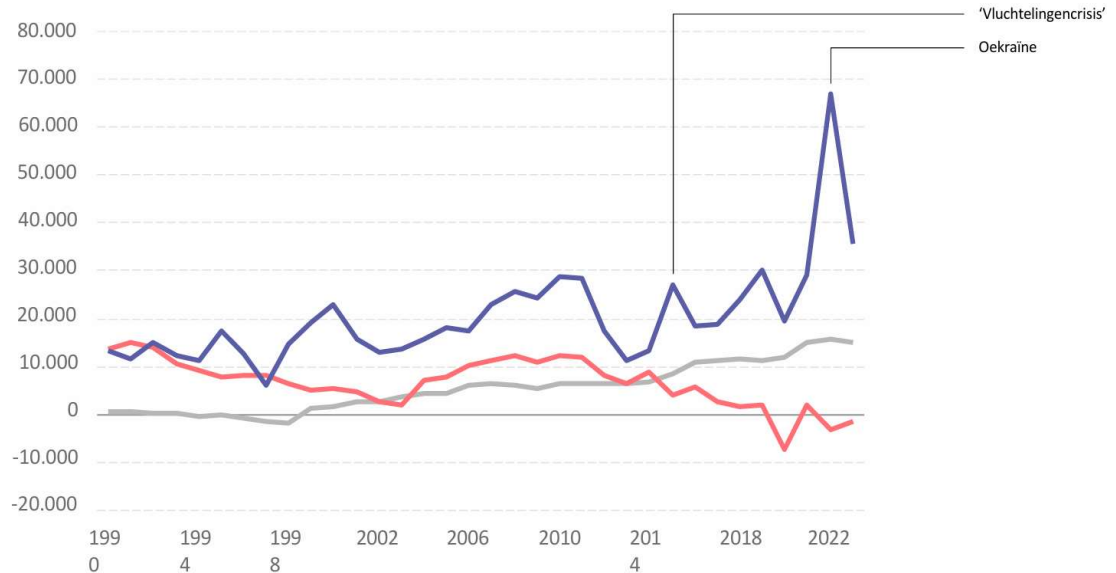


Figure 17 : Population increase between 1990 and 2022 in Flanders (Federaal Planbureau, 2025)

1.4 Rental Price Trends

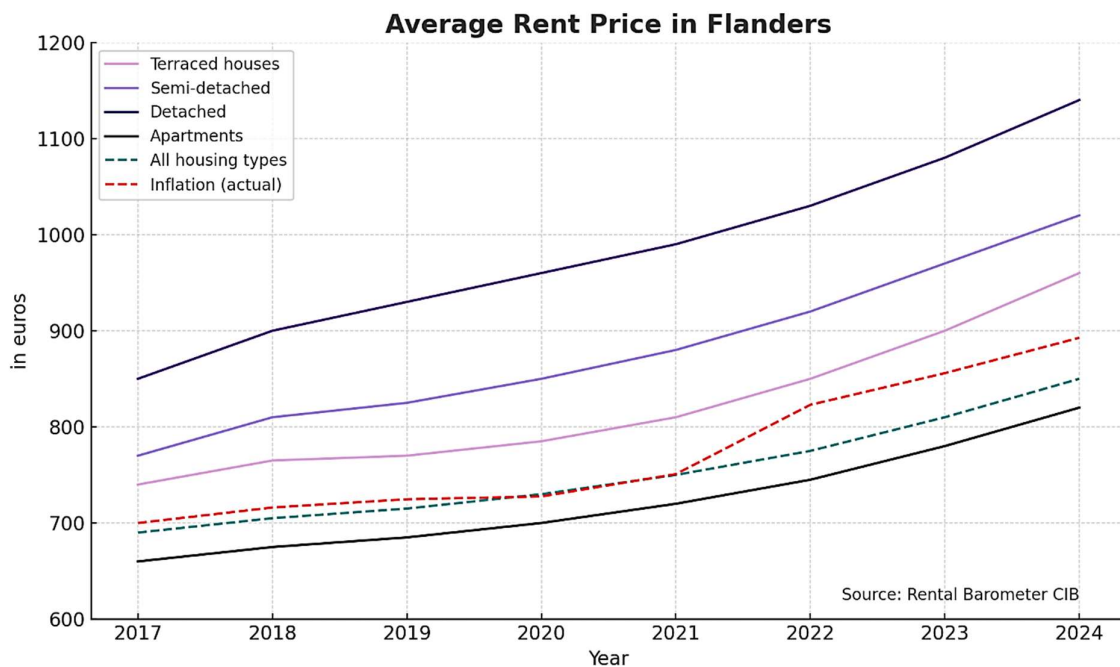


Figure 18 : Average Rental Price of different types of homes in Flanders – (data from Huurbarometer CIB, 2024)

Between Jan. 2017 and Jan. 2024, rental price increases were not higher than inflation, contrary to popular belief, as can be seen on the graph above.

The growing gap between supply and demand has thus not been reflected in average rental prices of current rents. Of course, although nominal prices have not reached extreme peaks, they remain elevated when compared to homeownership costs.

However, Eurostat data (2022) show that 34% of renters in Flanders spend more than 40% of their income on housing. More importantly, this figure has been rising steadily, particularly for low-income groups. Among the lowest income deciles, the share of households exceeding the threshold of 40% is significantly higher. This points to a growing mismatch between the rising cost of new rental contracts and the evolution of household purchasing power, particularly for vulnerable groups

Data from the 2024 Rental Barometer shows that tenants who signed new contracts in 2024 paid an average of €922 per month - an increase of 6% compared to 2023. Nils Schillewaert (VRT NWS, 2025) writes:

"If we zoom in on Flanders, we see that those who signed a new rental contract last year had to pay an average of 922 euros per month for their property. That is about 6 percent more than the year before. Notably, overall inflation last year was around 3 percent. In 2023, rental prices also increased by about 6 percent, but at that time, inflation was much higher (around 10 percent)."

Although the broader rental index - adjusted for quality and tied to the health index - shows relative stability, recent price trends for new contracts suggest a partial decoupling from inflation. Even as average rents appear stable in official statistics, an increasing number of households are struggling to secure affordable housing in an increasingly competitive market. With landlords often prioritizing higher-income tenants, affordability becomes a growing issue for those with more precarious financial profiles.

In terms of overall growth, the rental market appears relatively stable overall. Vastmans & Vandenberg (2025) speak of an annual increase of just 0.1 percentage points. However, the composition of that growth tells a different story. The rental stock increased by 50,956 units between 2018 and 2023. This expansion is entirely attributable to the increase in newly built rental apartments, which grew by 53,612 units. Meanwhile, the stock of rental houses declined by 2,600 units, largely due to the disappearance of 14,000 older rental houses.

Statbel data show that the share of rented houses dropped from 17.2% in 2011 to 15.5% in 2021, while the share of rented apartments rose slightly during the same period. The evolution of apartments (built before 2011) shows more of an overall increase rather than a decrease, as the number of these homes has risen among homeowners and non-residential properties while only slightly declining in the rental market. The reason that the number of older apartments can grow is that older houses are often subdivided into apartments. As a result, older houses are also disappearing from the housing stock and being added to the apartment stock.

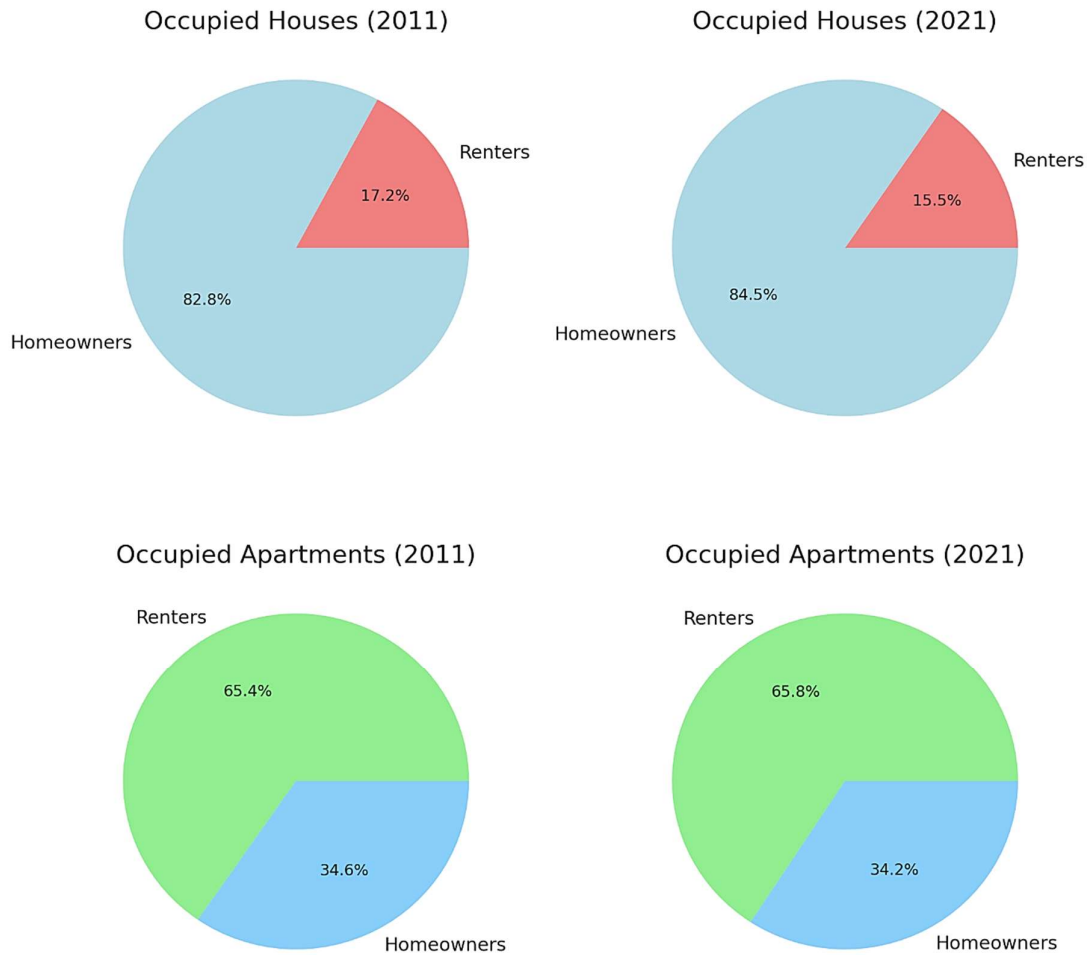


Figure 19 : Share of Tenants in Single-Family Houses vs. Apartments in Flanders, 2011 vs. 2021 (Vastmans & Vandenberg, 2025)

Based on Provincie in Cijfers (as cited by Vastmans & Vandenberg, 2025), two trends dominate:

1. The increase in newly built rental apartments
2. The decline in the rental market for existing houses.

The net gain in rental units between 2018 and 2023 stems almost entirely from new apartments. However, these units tend to be smaller, more expensive, and concentrated in city centers - further intensifying market competition in urban areas like Ghent. This shift is driven not only by construction patterns but also by changes in household composition. Of the additional 50,000 households in the private rental sector, two-thirds are single-person households (Vastmans & Vandenberg, 2025). This demographic shift fuels demand for smaller, centrally located units.

Newly built apartments are, on average, 25% more expensive than older apartments, even though they are often more energy-efficient (Vastmans & Vandenberg, 2025). As a result, improved housing quality may come at the expense of affordability.

While the overall number of rental units has increased, their affordability and accessibility have diminished. The supply of older, larger, and more affordable homes is shrinking, while the supply of smaller and newer (but more expensive) units is expanding. Older houses, which once made up a significant portion of the rental market, are increasingly disappearing - either removed from the rental market entirely or converted into apartments. This not only transforms the housing stock but also reshapes who can afford to rent and where.

While the overall rental stock has increased, particularly through new apartment construction, the composition and accessibility of that stock have shifted. This demographic shift further drives demand for smaller, more central units, exacerbating competition in cities like Ghent.

The rental market is now skewed toward smaller, high-cost units, particularly in urban centers. The figure below (Atelier Romain, 2023) reflects this with a higher proportion of apartment dwellings in Ghent.

The figure below (Atelier Romain, 2023) illustrates the growing proportion of apartment dwellings in Ghent, underscoring the broader shift in the structure of the rental housing market.

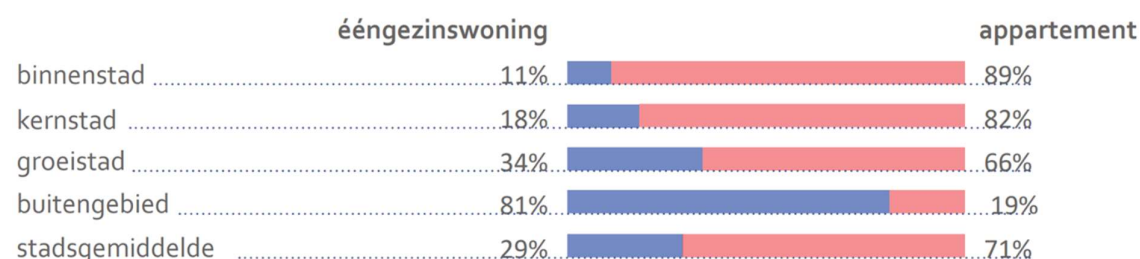


Figure 20 : Percentage of Estimated Houses by Type in Ghent (Atelier Romain, 2023)

1.5 Discrimination

With an oversupply of potential tenants, landlords often have the luxury to choose those with stable, higher incomes. This scenario thus leads to another problem: increased discrimination against those with less stable financial backgrounds, making it more difficult for lower-income renters to secure housing (Woonzaak, 2023).

In addition to economic discrimination, this situation can also foster other forms of bias, including those based on ethnicity, migration background, age, family composition, or disability. These forms of discrimination contribute to structural inequalities in the housing market.

1.6 Apartments vs. Single-Family Homes

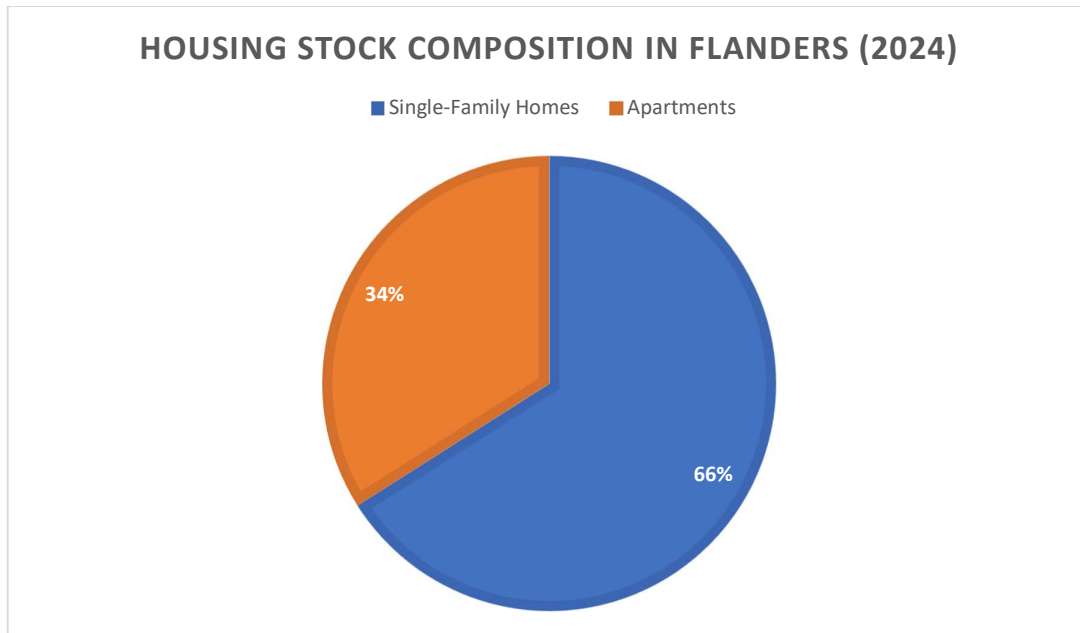


Figure 21 : One third of the housing stock constitutes apartments (VEKA, 2024)

Housing affordability shows notable differences between apartments and single-family homes. Apartments are generally more affordable, although they are becoming increasingly expensive due to high demand. For instance, in Ghent, 81% of rental properties are apartments, compared to just 50% of single-family homes (Statbel, 2024). Single-family homes, being larger, typically come with higher rental costs - on average €300 to €400 more per month than apartments (Huurbarometer CIB, 2024). In terms of energy efficiency, apartments usually perform better on the EPC scale, making them cheaper to heat. However, despite this advantage, apartments continue to face rising rental prices, primarily driven by location-based demand (VEKA, 2024).

1.7 Conclusion

The rental housing market in Flanders and Ghent is under pressure. High demand, renovation requirements, aging ownership, and inadequate social housing options compound affordability challenges. Policy responses, such as *conventionele huur* and renovation subsidies, have not scaled sufficiently.

CHAPTER 2 - STATE OF THE ENERGY TRANSITION IN RENTAL HOUSING

2.1 United Nations Framework Convention on Climate Change (UNFCCC) (1992)

The United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992, laid the foundation for global climate action. Article 3 emphasizes intergenerational equity and common but differentiated responsibilities:

“The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.”

The shift toward sustainable energy in the housing sector demands significant efforts to achieve future goals. As space heating makes up roughly two-thirds of energy use in EU homes, improving insulation plays a key role in lowering our carbon emissions.

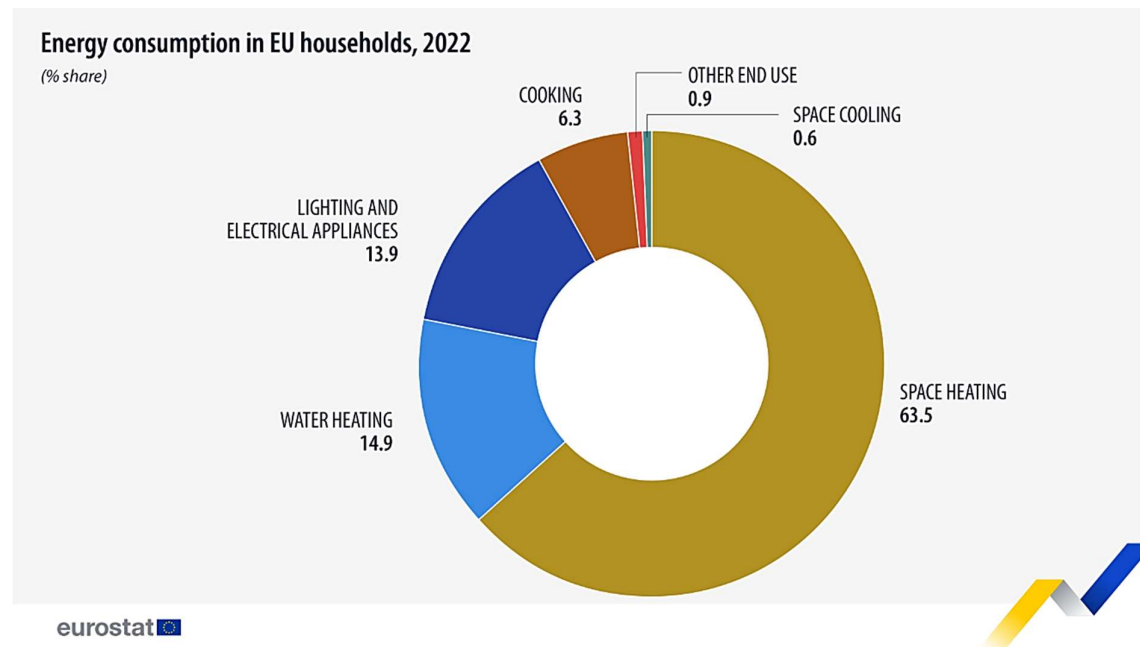


Figure 22 : 63.5% of European Household's Energy Consumption went to Space Heating in 2022 (Eurostat, 2024)

By 2050, 95% of residential and tertiary buildings must be energetically renovated, with 96% of residential buildings as of 2022 still needing upgrades (Albrecht, 2022). The EU mandates that 75% of all buildings improve energy efficiency by 2050, which means Belgium must renovate approximately 185,000 homes annually (NBB, 2023). However, the current renovation rate is significantly lower, at just around 1% per year, compared to the EU's recommended 3.3% (EnergyVille, 2024).

- Only 0.3% of buildings achieve label A annually (Bruggeman et al., 2022).
- Just 0.8% of homes undergo any renovation per year (Bruggeman et al., 2022).
- VEKA (2024) places the broader renovation rate at approximately 1%.
- At this pace, only 38% of homes will achieve label A by 2050.

- As of January 1, 2023, only 7.8% of homes had an A-label; 92% still need renovation (VEKA, 2023).

Statbel data show renovation permits peaked in 2021–2022 but declined in 2023. There is however a possibility that actual renovation activity may be underrepresented, as many works don't require permits.

2.2 EPC of Rental Housing in Belgium, Flanders, and Ghent

2.2.1 State of the Energy Transition in Belgium

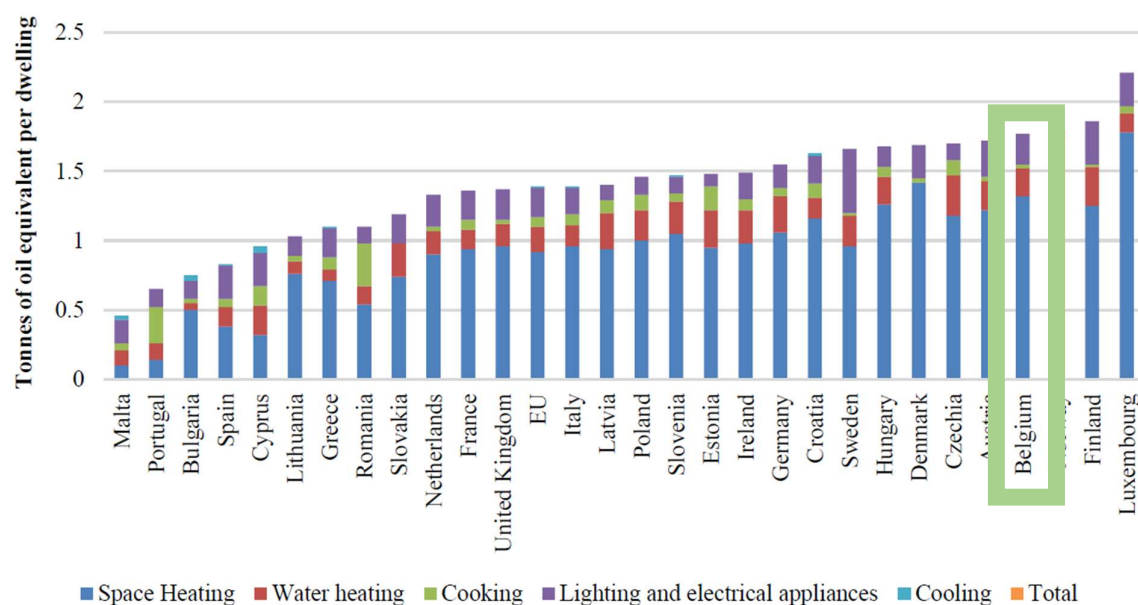


Figure 23 : Energy consumption per dwelling in Belgium is high compared to other European countries (Aboltins & Blumberga, 2019)

Belgium's housing stock is among the least energy-efficient in Europe (Aboltins & Blumberga, 2019). Among its neighbouring countries, only Luxembourg emits more CO₂. This is mainly because Belgians tend to live in relatively large, detached houses with four facades. 59.5% of Belgians lives in a house considered too large. In comparison: the European average is 33.3% (Eurostat, 2024).

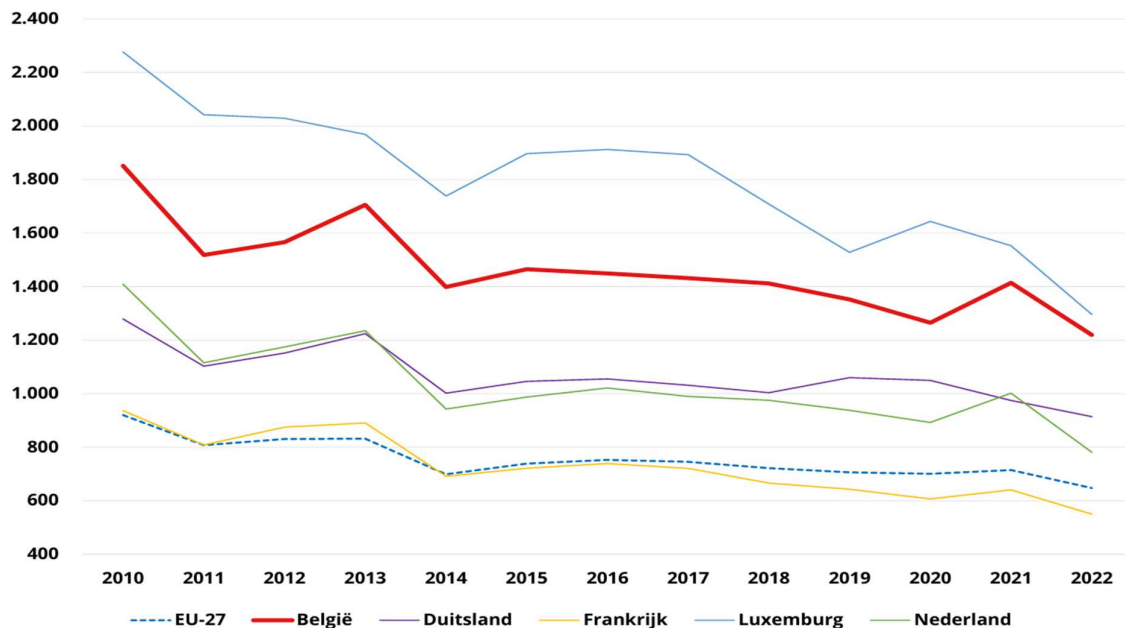


Figure 24 : CO2 Emissions (kg) per person for Heating and Cooling in Homes Throughout the Years (Eurostat, 2023)

An analysis of the average U-values (where lower values indicate better insulation) presented in the graph below shows that, in 2017, Belgium generally demonstrated relatively poor insulation performance compared to other selected European countries, although its results were in line with the EU average in some cases. This was particularly evident in the insulation of roofs, windows, and external walls, with floor insulation being the only notable exception (EU Building Stock Observatory, European Commission, 2022, as mentioned in Heylen, 2023).

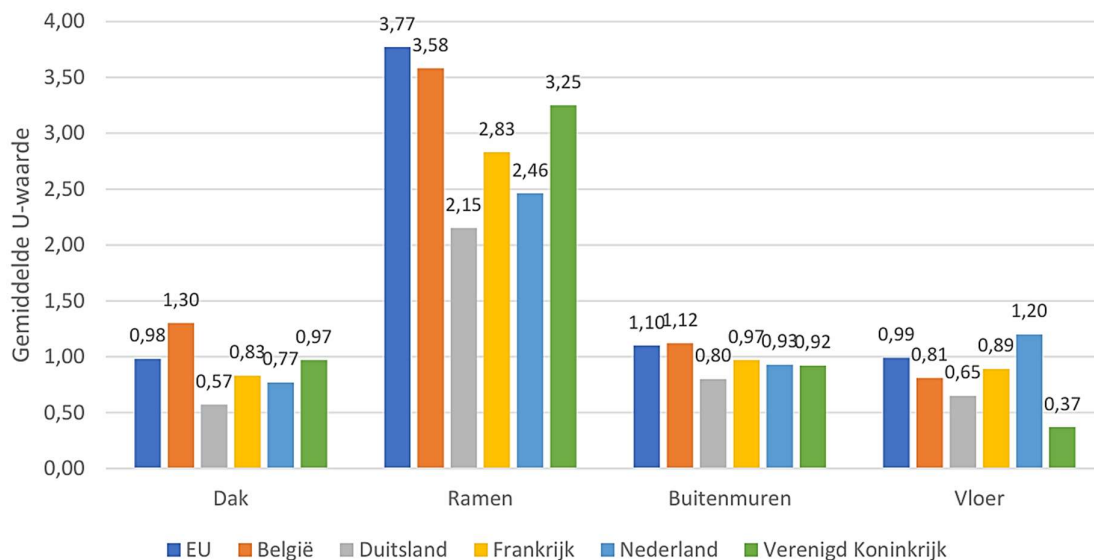


Figure 25 : Average U-Values of Residential Building Components in the EU and Selected Countries (2017) (EU Building Stock Observatory, European Commission 2022, as mentioned in Heylen, 2023)

The elevated U-values suggest that residential buildings in Belgium are not among the most energy-efficient in Europe.

2.2.2 State of the Energy Transition in Flanders

Efforts to improve energy efficiency in the Flemish housing sector are underway, but progress remains slow, especially in the rental market. Since October 1, 2023, rent indexation in Flanders is restricted based on the EPC label of the rental property. However, early results suggest that this policy has had only limited impact so far. Many landlords remain hesitant to act, often due to financial constraints and administrative complexity (Reusens et al., 2025).



Figure 26 : Presence of - at least - Double Glazing and Roof Insulation according to ownership status (GWO 2013, Woonsurvey 2018 & Woonsurvey 2023, as mentioned in de Smalen & Winters, 2024)

Figures 27 and 28 illustrate persistent gaps in insulation quality between owner-occupied and rental dwellings. While the overall presence of double glazing and roof insulation has increased over the past decade, rental properties still lag behind (Brichau, 2022).

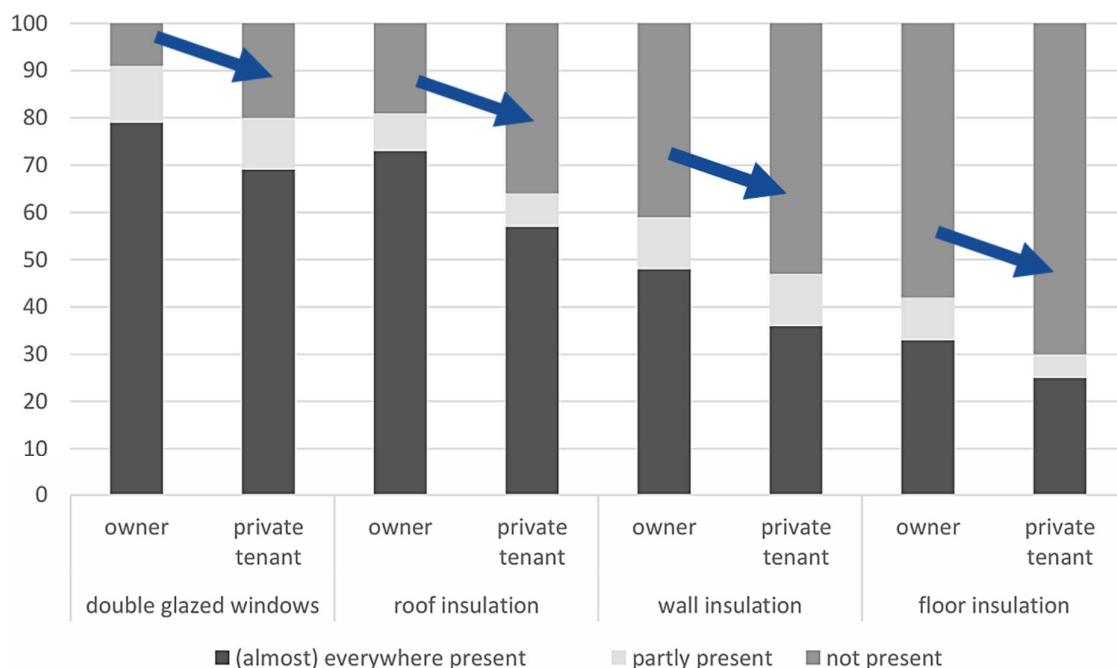


Figure 27 : Presence of different types of insulation in dwellings among owners and tenants renting on the private housing market, Flanders 2013-2014 (Vanhille, 2023, based on numbers from Ceulemans & Verbeeck (2015)).

Figure 28 presents data from the Flemish Energy and Climate Agency (VEKA), showing the distribution of EPC labels from 2019 to 2023. The share of highly efficient homes (label A) has increased gradually—by about 1% per year—reaching 7.8% in 2023. However, this pace is still far below the level needed to meet long-term climate targets, which require a renovation rate of approximately 3.3% of the housing stock per year (EnergyVille, 2024). Meanwhile, the share of label F homes has declined at a comparable rate. Hence, although progress is being made, it is not fast enough to close the gap.

	2019	2020	2021	2022	2023	
Label A	3,8%	4,6%	5,7%	6,8%	7,8%	+ 1% per year
Label B	19,4%	19,8%	20,2%	20,6%	21,3%	
Label C	19,2%	19,4%	19,5%	19,6%	20%	
Label D	16,0%	15,8%	15,6%	15,4%	15%	
Label E	13,1%	12,8%	12,3%	12,0%	11%	
Label F	28,5%	27,7%	26,6%	25,7%	25%	- 1% per year

Figure 28 : Estimations of number of dwellings per EPC label in Flanders, each year on Januari 1st (VEKA, 2024)

Figure 29 (Atelier Romain, 2024) provides a spatial overview of renovation needs across Flanders. The visualization on the left shows the percentage of dwellings per municipality that score either poorly or moderately in terms of energy performance, while the right focuses solely on homes with a poor EPC rating. Darker red areas indicate a higher share of underperforming dwellings, revealing clear regional disparities. Although the analysis does not yet account for other environmental or spatial factors - such as noise pollution, air quality, or proximity to Seveso sites - it already highlights where policy interventions may be most urgent.

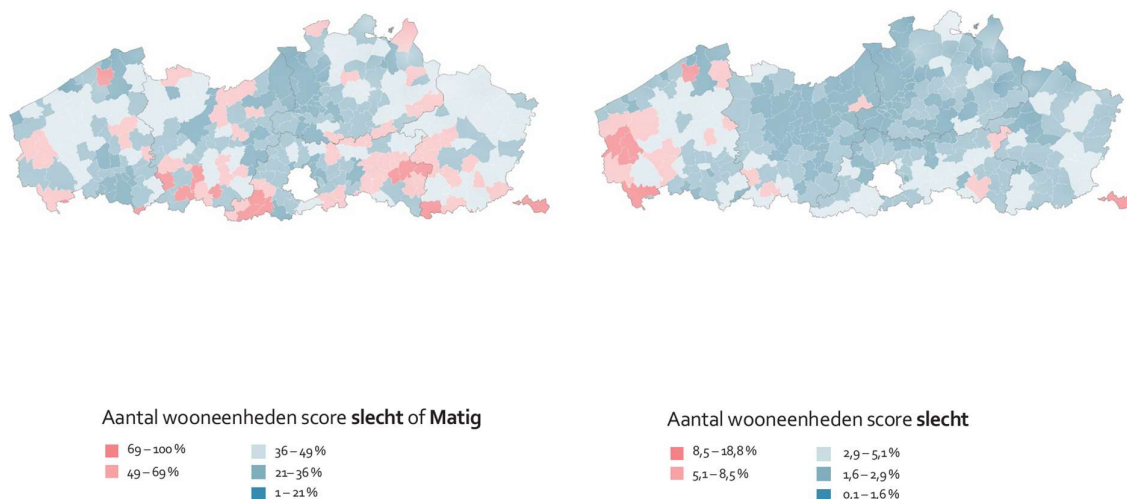


Figure 29 : Need for renovation in spatial perspective, amount of homes scoring badly (Atelier Romain, 2024)

Figures 31 and 32 display the average EPC-values (in kWh/m²) across Flanders, offering a regional view of energy efficiency. Figure 31 covers all residential buildings, whereas Figure 32 focuses specifically on apartments. In both cases, darker shades indicate poorer performance (higher EPC-values), while lighter areas reflect more energy-efficient housing. The data show a clear concentration of high EPC-values (≥ 350 kWh/m² for all dwellings, and ≥ 240 kWh/m² for apartments) in rural and peripheral regions. In contrast, many urban municipalities - especially those with a dense housing fabric and a high proportion of apartments - tend to have lower average energy consumption.

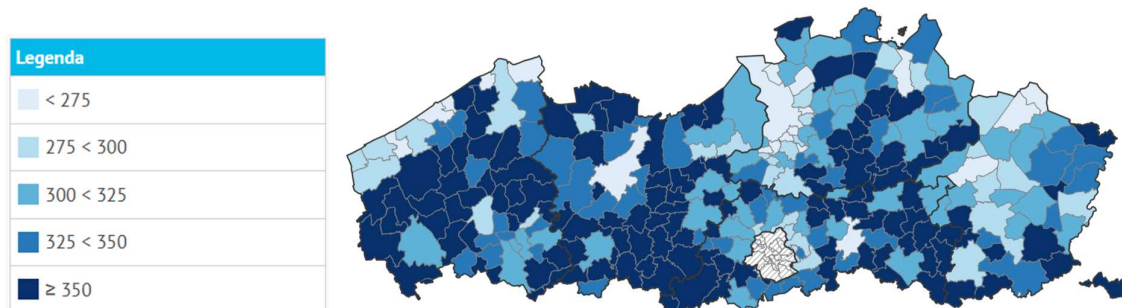


Figure 30 : Average EPC-values (kWh/m²) distributed over Flanders (Provincies in Cijfers, original data from VEKA, 2024)

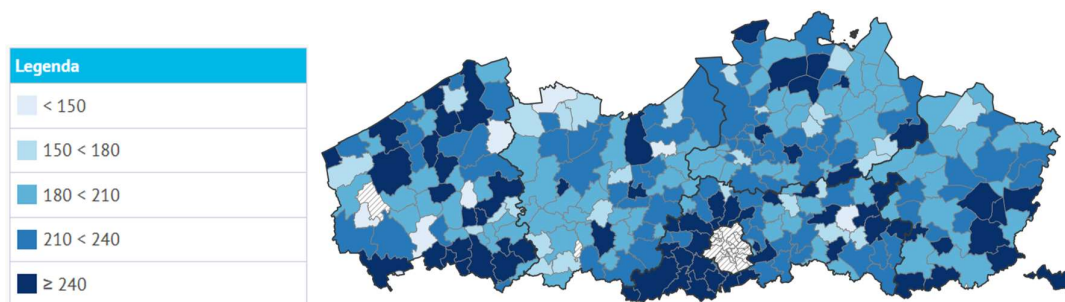


Figure 31 : Average apartment EPC-values (kWh/m²) distributed over Flanders (Provincies In Cijfers, original data from VEKA, 2024)

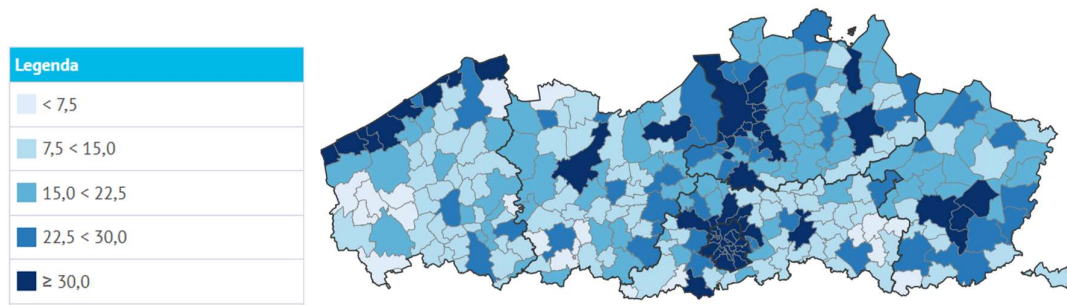


Figure 32 : Percentage of apartments, 42.1% of Ghent's residents live in an apartment (Provinces in Cijfers, original data from Statbel, 2024)

2.2.3 State of the Energy Transition in Ghent

At first glance, the maps above suggest that Ghent performs better than the Flemish average in terms of energy efficiency. This can largely be attributed to the city's compact urban structure and the prevalence of apartment buildings (Atelier Romain, 2023). Apartments, which are common in urban centres like Ghent and Brussels, tend to have better energy performance than detached single-family homes, which dominate in suburban and rural areas and typically consume more energy per square meter (VEKA, 2024).

In 2024, 48.2% of private households in Ghent lived in rental housing (Provinces in Cijfers, 2025). Of these rental homes, 6.9% had an energy label of E or F, with an average energy use of 219 kWh/m² (VEKA, 2024). In comparison, 20.7% of homes for sale had an E or F label, and their average energy use was much higher: 295 kWh/m².

One key reason for this difference is that apartments are more often rented, while single-family homes are more often owned. In 2018, apartments made up 69.2% of all rental properties in Flanders, and this share is still growing (Huurbarometer CIB, 2024).

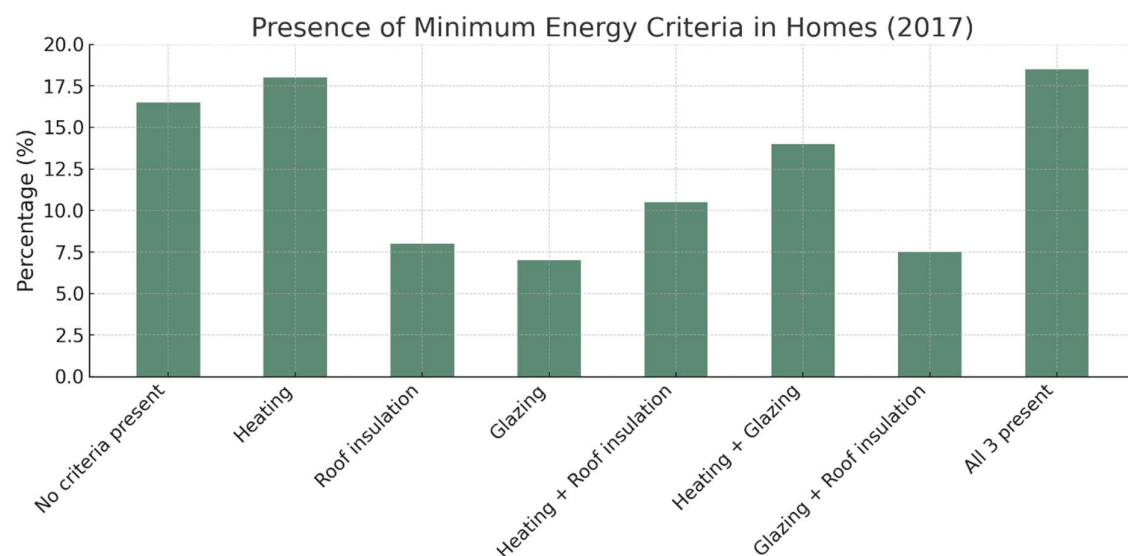


Figure 33 : Presence of Criteria for Heating, Roof and/ or Glazing in 2017 (based on Atelier Romain, 2023)

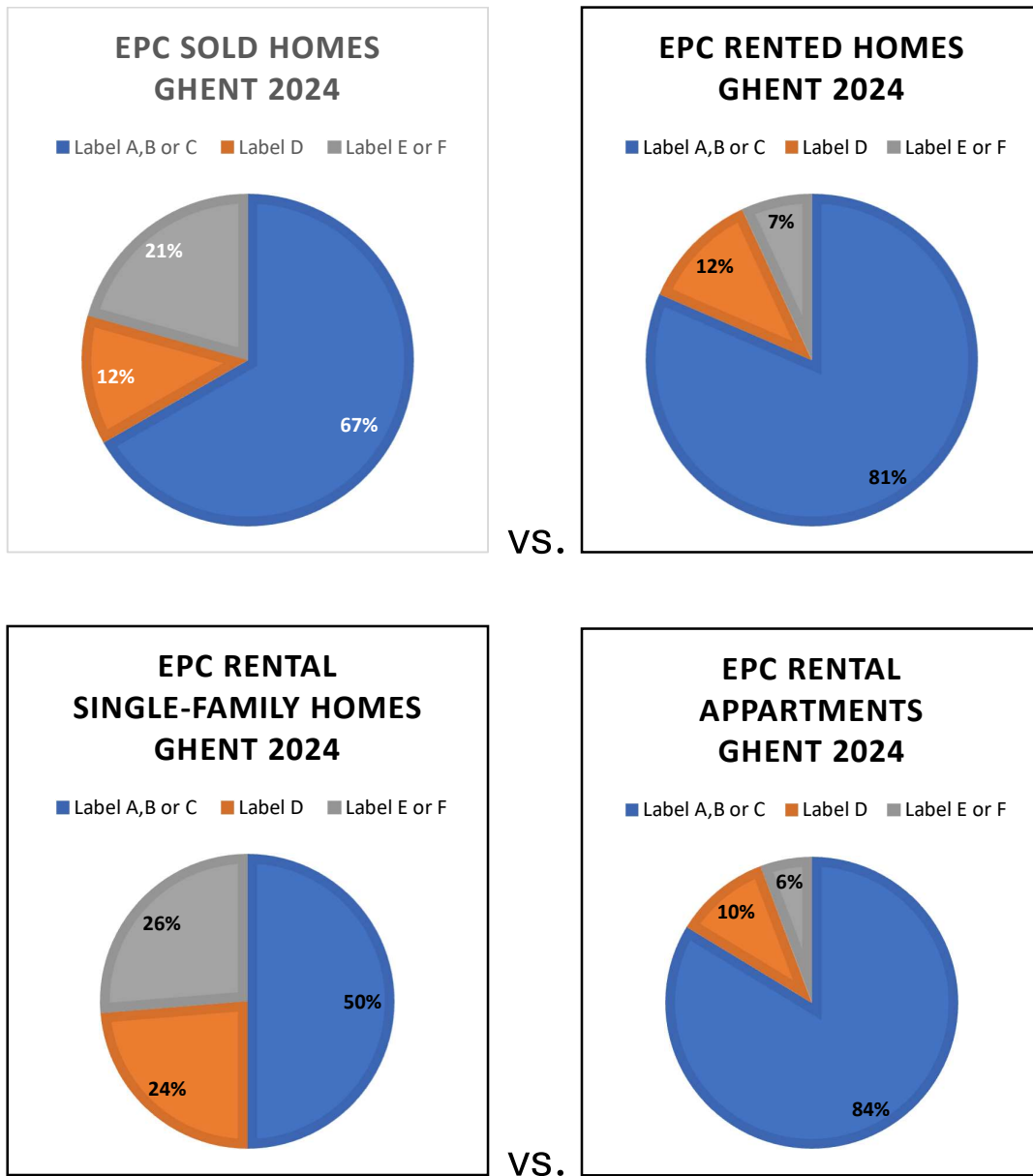


Figure 34 : Percentage of EPC labels in Ghent: rental vs. sale, single family homes vs. appartments (Provincies In Cijfers, data from VEKA, 2025)

2.3 Apartments vs. Single-Family Homes

2.3.1 Renovation Cost Comparison

Renovation costs differ considerably between housing types. According to CLIMACT (2022), the average renovation cost per apartment is around €65,000. In contrast, renovating a single-family home typically costs between €80,000 and €120,000 (EnergyVille, 2024). While single-family homes face higher per-unit expenses, apartment buildings come with their own challenges.

Renovations in these settings require coordination among multiple owners, which can lead to delays and complex decision-making processes.

2.3.2 Energy Efficiency Comparison

The energy performance of rental housing also shows clear differences between apartments and single-family homes. The figures below can be explained by the fact that apartments offer energy efficiency advantages due to their compact size and shared walls.

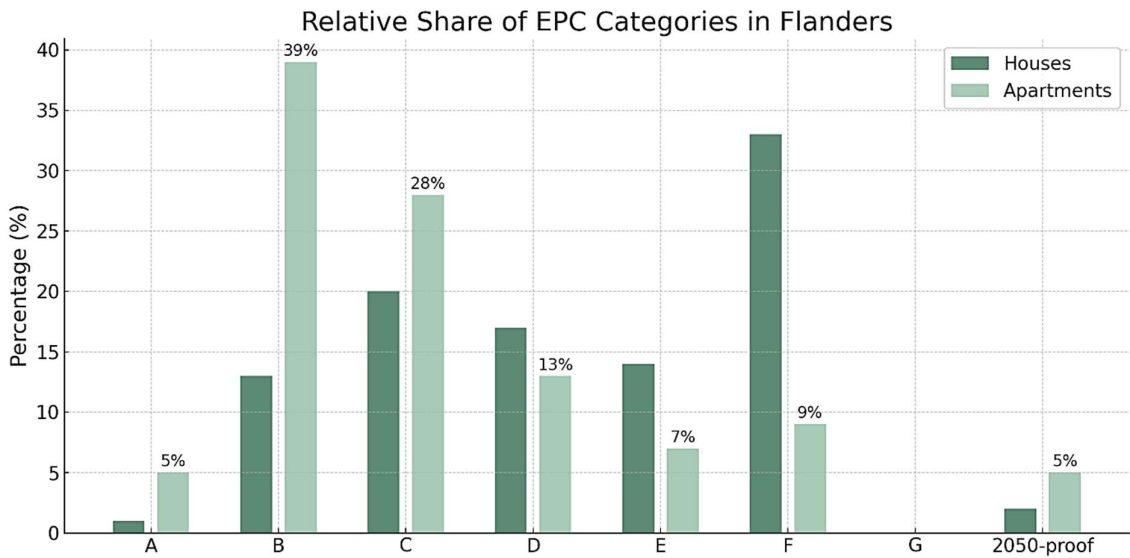


Figure 35 : Share of EPC Categories in Flanders – Houses & Apartments (BE REELI, 2024)

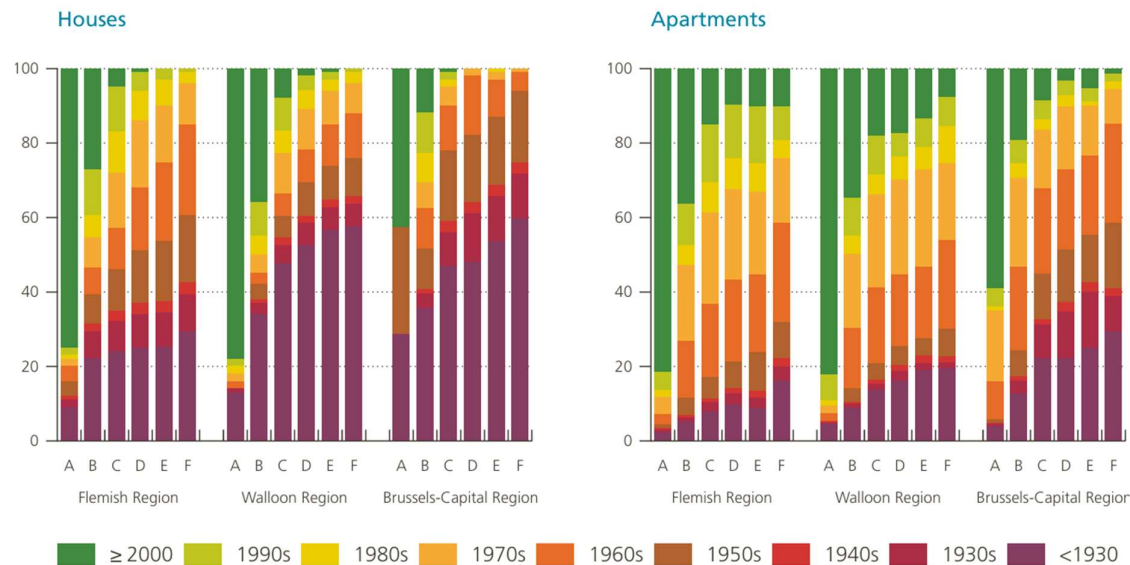


Figure 36 : Year of construction of sold houses (left) and apartments (right), as per the Flemish energy label classification (as a %) (NBB, 2025)

Table 2 : Average Energy Consumption – Apartments vs. Single-Family Homes (VEKA, 2024; EnergyVille, 2024)

Housing Type	Average Energy Consumption (kWh/m ² /year)
Apartments (Flanders)	268 kWh/m ² (VEKA, 2024)
Single-Family Homes (Flanders)	445 kWh/m ² (EnergyVille, 2024)

Table 3 : EPC Distribution – Apartments vs. Single-Family Homes (Soete, 2024)

EPC Label	Apartments (Flanders)	Single-Family Homes (Flanders)
A or B (Good)	44%	20%
C or D (Moderate)	41%	50%
E or F (Poor)	15%	30%

However, their renovation potential is often limited by complex management structures. In buildings managed by Homeowner Associations (VME), major renovation decisions previously required a two-thirds majority vote. As of 2025, this threshold has been lowered to 50%, which may help speed up decision-making. Financing is another obstacle; reserve funds for renovations are not legally required in Belgium, resulting in frequent maintenance delays and underinvestment (Atelier Romain, 2023).

A final noteworthy point is that, compared to single-family houses, apartments are more frequently rented out by private investors. In Flanders, only about 50% of apartments are owner-occupied, versus roughly 75% for houses, as illustrated in the figure below.

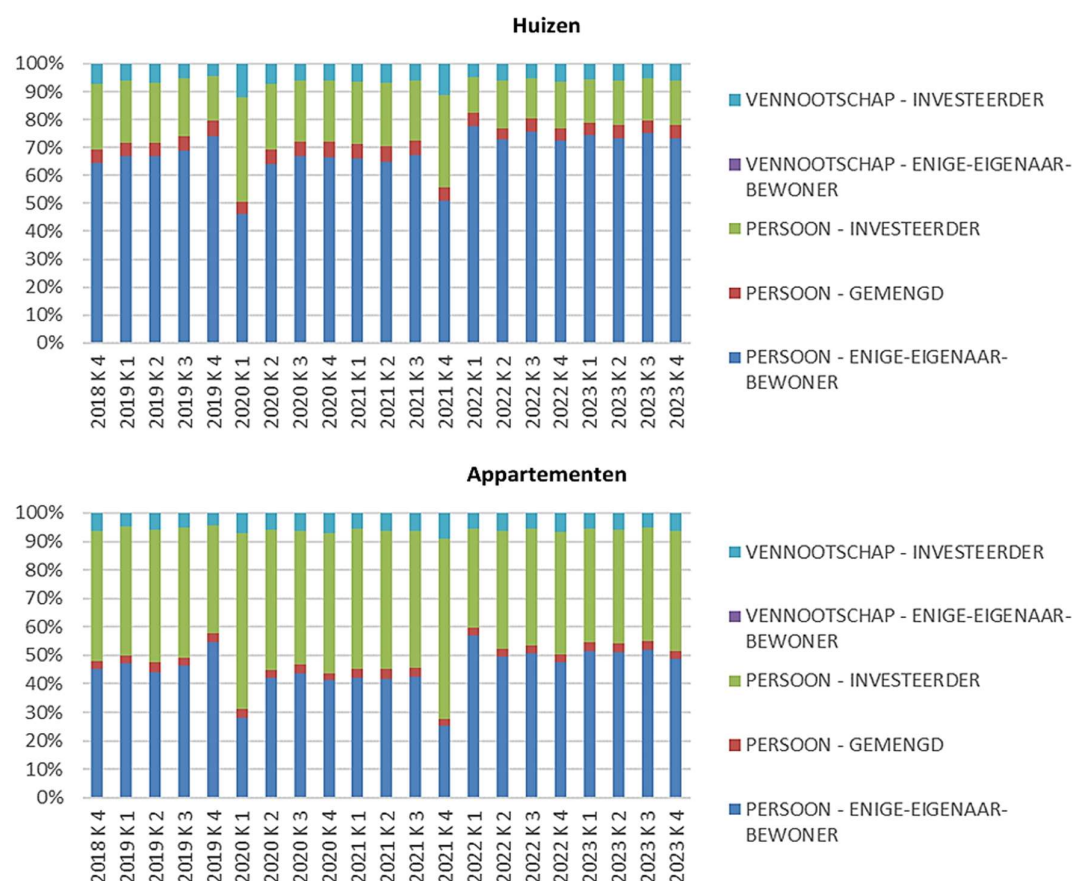


Figure 37 : Types of Buyers of houses and apartments, Flemish Region, 2018 Q4 – 2023 Q4 (Vastmans & Vandenberg, original data from VLABEL 2025)

2.4 Challenges in Energy-Efficient Renovations

Key issues include:

- **Split Incentive:** Landlords invest, tenants benefit. This leads to inaction (Albrecht, 2022).
- **Risk of Renovictions:** Renovations may push out tenants through rent hikes, a process referred to as *renoviction* (Kerr & Winskel, 2018). Such incidents have been reported in countries like Sweden and Canada, where these practices have drawn criticism. According to Kerr and Winskel, this dynamic can contribute to broader patterns of gentrification. Similarly, a recent evaluation of the *Mijn VerbouwPremie* and *Mijn VerbouwLening* schemes in Flanders warns that subsidies for private renovations may unintentionally accelerate displacement and, as a consequence, gentrification (Valcke & Van den Broeck, 2025).
- **Post-Renovation Poverty:** Rent rises often negate energy savings, hitting low-income tenants hardest. Studies from the Netherlands and Germany indicate that while tenants may experience energy savings of 10-30% post-renovation, rent increases can offset these gains. Hikes range from 10-15% (Kerr & Winskel, 2018). Energy bill savings & rent price increases will be discussed in more detail in chapter 5.
- **Free Riders:** 65% of subsidies go to those who would renovate even without the financial incentive, reducing impact. Free riders drastically increase the cost per ton of CO2 saved, and therefore question the fairness - and effectiveness - of subsidy policies (Albrecht, 2022).
- **Financial Barriers:** In Flanders, between 40% and 54% of homeowners lack the financial resources for extensive energetic renovations. This financial constraint also impacts landlords (Albrecht & ITINERA, 2023).

Additional factors at play:

- **Energy Performance Gap (EPG):** Actual consumption often exceeds EPC expectations. In Switzerland, for instance, homes with a label B were found to consume 12% more energy than expected (Cozza, Chambers, & Patel, 2020).
- **Structural Barriers:** Non-standard housing and ribbon development complicate mass renovation (EnergyVille, 2024).
- **Health:** Tenants have a 25% higher mortality rate than owners - housing quality may play a role (Damien, Housing Deprivation Index). Although this number only shows a correlation, not causality, Johan Albrecht suggests that postponing renovations likely results in a double loss.
- **Labour Shortages:** Needed sector growth (7–10%) exceeds macroeconomic capacity of 1.6% (NBB, 2023).

SYNTHESIS PART 1 - HOUSING MARKET & ENERGY POLICY LANDSCAPE

Belgium, specifically Flanders and the city of Ghent, is facing two big problems. First, affordable rental housing is getting harder to find. Second, the region is not renovating homes fast enough to meet climate goals. These two challenges are linked. On the one hand, the Universal Declaration of Human Rights says housing is a basic right. On the other hand, the United Nations Framework Convention on Climate Change demands strong action on climate. Is it possible to achieve both at the same time?

In Flanders, demand for rental housing is rising, the number of homes available is not. The population is growing, households are becoming smaller, and rental periods are lengthening (CIB, 2025). At the same time, fewer new homes are being built (NBB, 2025). Many investors find other options, like government bonds, increasingly more attractive than real estate. High interest rates and building material prices are making it harder to increase housing supply (NBB, 2025).

In some cases, landlords reportedly receive over 100 rental applications for a single property. This situation has been described as a “perfect storm” by the communication director of CIB (2025). While rent prices have traditionally followed inflation, rents for new contracts are now rising more quickly. However, this trend is not yet visible in overall rental price graphs. This delay is due to the high rigidity of Belgium’s rental market, meaning it adjusts slowly to changes such as inflation or shifts in supply and demand. As a result, price increases often do not appear immediately (Heylen, 2023).

The biggest concern is for low-income renters. Private tenants already spend the highest share of their income on housing. As competition grows, they are increasingly at a disadvantage. When given many options, landlords tend to prefer tenants with more stable and higher incomes. About one-third of all tenants are in a vulnerable position. They cannot afford to be selective about the quality of the home they rent (Heylen, 2017).

Energy Renovation Goals Lag Behind

Belgium is also behind on its energy renovation goals. To meet climate targets, 3.3% of homes need renovation every year, but we only manage about 1% per year (EnergyVille, 2024; Minister Demir’s office, 2024). In Flanders, more than half of homes still have an EPC label of E or F, which means poor energy performance (VEKA, 2024).

Apartments are usually more energy-efficient than houses, but they are harder to renovate. Many are owned by multiple people. This makes renovations difficult in practice.

Since 2023, the Flemish government requires that homes with label E or F must be improved to label D within five years of purchase (VEKA, 2024). But these rules alone haven’t made enough impact.

Market Pressures and Regulation

In Ghent and across Flanders, the rental market is under pressure from several connected trends. Renovation rules are becoming stricter, pushing landlords to upgrade their properties. However, quite a few landlords, especially older people, seem to be choosing to sell rather than invest in costly renovations. The sold homes then often go to owner-occupiers (anecdotal findings from the city of Ghent, Nov. 2024). At the same time, population growth, longer rental periods, and a

slowdown in new housing construction are driving up demand. Together, these factors make it harder to keep the private rental market affordable and accessible.

In the past, policies often focused on homeownership and overlooked private rentals (Albrecht & Van Hoofstat, 2011). The overlay of energy performance regulations complicates the landscape. These create high upfront costs for property owners, who often lack the financial incentives or means to act, but, before anything else, they also lack time, benefits, and sufficient guidance.

Importantly, apartments and single-family homes face different challenges - structural, financial, and governance-related. In apartment buildings, renovations must be approved by all co-owners. Until 2025, this required a two-thirds majority. This rule has now changed to 50%, which could make things easier.

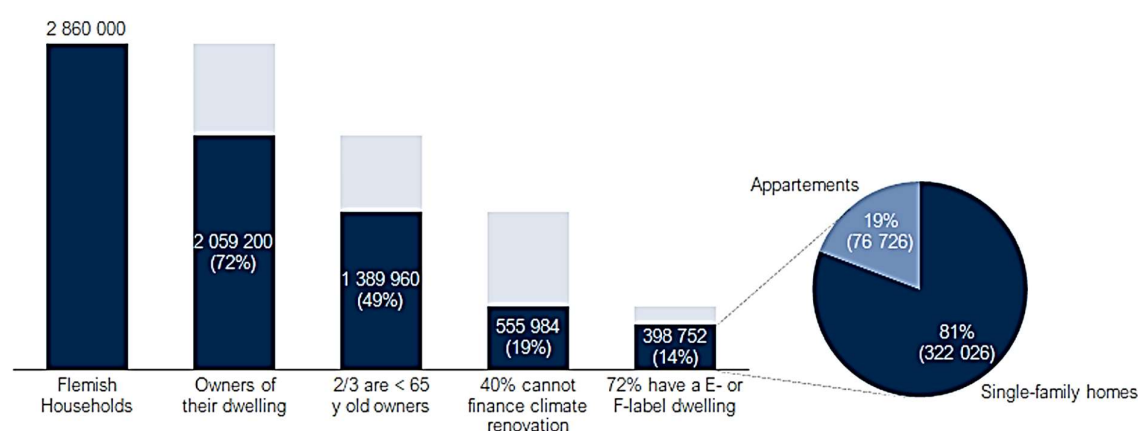


Figure 38 : Structure of Flemish Households (CLIMACT, 2022)

Structural Challenges in the Private Rental Market

The Split Incentive

The "split incentive" problem remains a central barrier: landlords finance the renovation, but tenants enjoy the energy savings. This misalignment disincentivizes investment in efficiency upgrades. In Ghent - where nearly half of all households rent (48.2%) - the impact is especially acute.

Despite Flemish renovation mandates, many landlords remain reluctant. Over 50% of rental properties still have EPC labels E or F (VEKA, 2024). Renovation costs estimated between €50,000 and €120,000 are difficult to recover through rent alone - especially when post-renovation rent increases may exceed energy savings, leaving tenants no better off (Mangold et al., 2023; Bruggeman et al., 2022).

Additionally, this dynamic leads to "renovictions": landlords raise rents or terminate leases after renovation, exacerbating housing precarity for vulnerable tenants. For many landlords, especially those with limited holdings, it is simpler to sell the property - further shrinking rental supply.

Aging Proprietors

Demographic data reveal that approximately 75% of Flemish landlords are over the age of 64 (Bielen et al., 2023). This aging ownership structure is a major drag on renovation activity.

Older landlords often view rental income as retirement support, making them risk-averse to major capital expenditures. Faced with high renovation costs and uncertain returns, many prefer to exit the market by selling rather than comply with efficiency mandates.

In Ghent, this trend is particularly visible: the confluence of strict EPC requirements and aging property owners is leading to increased sales, diminished rental stock, and upward pressure on rents.

Conclusion

The combined effects of split incentives, aging landlords, insufficient subsidies, and weak enforcement mechanisms present a systemic challenge. Without deeper integration between housing policy and energy transition planning, renovation uptake will remain skewed toward better-off owner-occupiers, leaving the private rental sector behind.

The next section will explore structural and governance tools - including financial, legal, and behavioural strategies - that could reduce these barriers and better align energy and housing goals for a more inclusive transition.

PART 2 – LANDLORD & TENANT IMPACTS: ECONOMIC & SOCIAL PERSPECTIVES

CHAPTER 3 - ECONOMIC IMPACTS OF ENERGY POLICIES ON RENTERS AND LANDLORDS

3.1 Effect of EPC on Rental Housing Costs

A major issue in the conflicting interests of affordability and renovations is the *split incentive* problem. Tenants benefit from lower energy bills and better comfort, but landlords pay most of the renovation costs. This mismatch means landlords are less likely to invest in upgrades - unless there are helpful measures or rent controls.

3.1.1 Effect on Rental Price

März et al. (2021) found that German tenants pay an average rental premium of 0.017% per kWh/m²a improvement in energy performance, translating to approximately a 1.2–1.7% rent increase for an efficiency upgrade of 70–100 kWh/m²a. While such a premium confirms a tenant willingness to pay for efficiency, it remains modest relative to other housing characteristics like location, aesthetics, or size.

As a side note, Taruttis & Weber (2021) found that the impact of energy efficiency on home prices varies by region. In their study of the sales market, energy-efficient homes gained more value in rural areas than in big cities.

Similarly to März et al., Gerassimenko et al. (2023) also report that A-label homes command significantly higher rents (around €8.18/m²/month⁴) compared to D- or E-label homes (around €7.25–€6.93/m²/month). As will be discussed later on, these figures roughly correspond to theoretical energy bill savings. The hedonic regression model was used - by Gerassimenko, Defau & De Moor (2023) - for the housing market in Flanders. The study tries to estimate the effect of energy efficiency and other property characteristics on both rental and sales prices per square meter.

The dependent variable (Y) in this regression is either:

- Monthly rent per m² (€) in the rental market, or
- Sales price per m² (€) in the ownership market.

The analysis models how these prices change based on several independent variables (X):

- Energy Performance Certificate (EPC) rating, grouped into A, B, C, E, and F labels (with D-label as the reference category),
- City location, indicating whether the property is in a major city (coded as 1) or outside (0),
- Building period, ranging from pre-1945 to post-2011, capturing age-related differences,

⁴ Figures are not adjusted for inflation unless stated otherwise.

- Property type, distinguishing between houses (1) and apartments (0), with apartments as the reference.

The regression findings (summarized in the table below) show that energy efficiency influences both rental and sales prices, but more strongly in the sales market. Properties with high EPC ratings (A–C) enjoy sales price premiums of up to 42%, while in the rental market, the impact is more modest - up to 13% higher rents compared to D-label units. In contrast, poorly rated homes (E and F) face discounts of up to -13% in the sales market and rent reductions of up to -6%.

Beyond energy efficiency, location and property type also matter. Being situated in a city boosts rental prices by 12.32%, while it has a smaller effect on sales prices (+2.03%). This suggests that urban rental markets are especially sensitive to locational convenience, possibly due to greater competition and better amenities. Apartments tend to command higher prices per m² in both markets than houses, likely reflecting their typically central locations and smaller size. Interestingly, while newer buildings sell for more, pre-war buildings tend to rent for more, possibly due to architectural charm or favourable regulations in historic districts.

Table 4 : Impacting factors on sales and rental prices in Flanders (Gerassimenko, Defau & De Moor, 2023)

Factor	Sales Market Effect	Rental Market Effect
EPC Labels (A, B, C)	Higher price premiums (up to 42%)	Lower but positive impact (up to 13%)
EPC Labels (E, F)	Price discounts (up to -13%)	Lower rent (up to -6%)
City Location	+2.03%	+12.32%
Apartments	Higher price per m ²	Higher rent per m ²
Houses	Lower price per m ²	Lower rent per m ²
Building Year	Newer buildings sell for more	Pre-war buildings rent for more

Table 5 : Impact of EPC on sales vs. rental prices (Gerassimenko et al. 2023)⁵

EPC-label	€/m ² for sale	Impact in % (sale)	€/m ² /m for rent	Impact in % (rent)
A	€ 2,620.60	142%	€ 8.18	113%
B	€ 2,356.04	128%	€ 7.91	109%
C	€ 2,049.95	111%	€ 7.62	105%
D = REFERENCE	€ 1,846.88	100%	€ 7.25	100%
E	€ 1,702.90	92%	€ 6.93	96%

⁵ Prices not yet corrected for building year, location, etc.

The table above presents a more granular breakdown of EPC-label-based price differentials, showing that A-label properties rent for €8.18/m²/month - a 13% increase over D-label units. However, the relative increase in sales price per m² (42%) is nearly three times higher. Hence, it can be stated that energy efficiency is better capitalized in sales markets than in rentals.

Another disconnect is emphasized by Sieger (2022), who finds that the value of energy savings typically exceeds rental premiums by a factor of three to seven. In other words, tenants save more on energy bills than they pay in rent premiums - but they often fail to recognize or value this appropriately.

Evidence from Sweden further complicates the narrative. As shown in Von Platten et al. (2022), extensive building renovations carried out between 2013 and 2019 were associated with significant rent increases, but importantly, these rent hikes occurred regardless of whether energy efficiency improvements were actually made. This implies that energy retrofitting is often bundled with broader capital upgrades - and that tenants may bear higher costs without necessarily benefiting from improved energy performance. Since energy upgrades often go along with improvements that are not Energy Performance related, it is difficult to determine exactly how much rent increases due to energy performance improvements. Therefore, numbers mentioned by, for example, Gerassimenko et al. may overestimate the effects of energy efficiency improvements when corrected for comfort, reparations, aesthetics, etc.

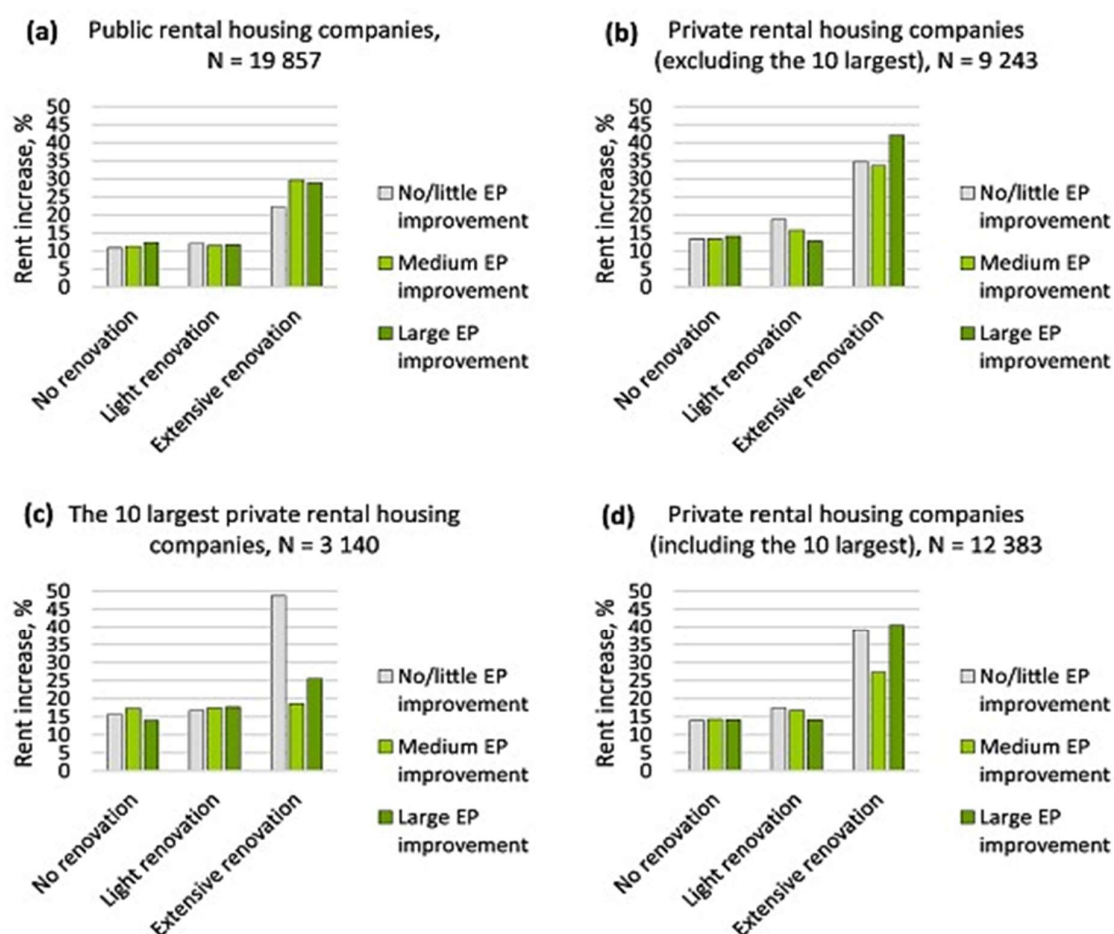


Figure 39 : In Sweden, Extensive Renovations (2013-2019) led to significant rent increases; however, whether energy performance (EP) improvements were made does not matter much (Von Platten et al., 2022)

Several behavioural and market factors contribute to this mismatch. Tenants frequently show low awareness, limited time to search and compare properties, and scepticism about the reliability of EPCs (Sieger, 2022). These factors suppress the willingness to pay for energy efficiency, despite the long-term financial benefits.

A critical barrier to accelerating energy efficiency investments in rentals is the "split incentive" dilemma - landlords bear the renovation costs, while tenants reap the energy savings. As März et al. (2022) and Galvin (2023) emphasize, this disincentive structure deters retrofits, especially in lower-end rental housing, unless subsidies or regulatory mandates are introduced.

Notably, tenant behaviour is beginning to shift in light of recent energy price crises. In Belgium, for instance, inefficient properties have seen rising avoidance - even when priced lower - due to potential energy bills exceeding €10,000 annually (Albrecht, 2021). The IEA (2023) similarly reports that volatile energy prices have sharpened consumer preferences for efficiency and resilience, particularly among vulnerable groups.

Another nuanced aspect is the type of EPC used. Evidence suggests that demand-based EPCs - which assess theoretical consumption under standardized conditions - are more trusted by tenants than consumption-based ones, which rely on past occupant behaviour (Van den Broeck, 2023). Trust in certification accuracy is crucial, as it influences both tenant decisions and market valuation.

Gerassimenko & Filippova (2023) and März et al. (2022) both show that in some cases, rural or secondary urban areas exhibit higher rental premiums for EPC improvements than major metropolitan centres. This may reflect greater cost sensitivity, lower market liquidity, or a heightened awareness/ importance regarding energy consumption.

In sum, empirical studies demonstrate a positive but modest correlation between improved Energy Performance Certificate (EPC) ratings and residential rental prices. However, the rental premium attributed to higher energy efficiency tends to be less pronounced than in property sales markets.

3.1.2 Effect on Energy Bills

The financial viability of insulating is highly dependent on energy market conditions and policy context. One example illustrates this clearly: upgrading a home from EPC-label F to A costs around €114,500. With energy prices from March 2023, this leads to monthly savings of €89 and a payback period of 107 years. In contrast, during the 2022–2023 energy crisis, higher prices could boost monthly savings to €212, shortening the payback period to 45 years (Van Maele, 2023, cited in Woucters, 2024). The table below summarizes payback periods across different renovation pathways under both current and “high” energy price assumptions.

Table 6 : Payback Periods, Based on Existing and Expected Energy Prices (Van Maele, 2023); cited in Woucters, M. (2024)

EPC-label	Cost of Renovation	Savings per Month Using Energy Prices from March 2023 ⁶	Payback Period Using Energy Prices from March 2023	Savings per Month Using ‘High’ Energy Prices	Payback Period Using ‘High’ Energy Prices
E to A	€ 91,000.00	89 ⁸	85 years	212 ⁹	36 years
F to A	€ 114,500.00	89	107 years	212	45 years
E to C	€ 54,300.00	40 ¹⁰	114 years	106 ¹¹	43 years
E to D	€ 54,300.00	40	54 years	106	20 years
F to C	€ 54,300.00	40	114 years	106	43 years
F to D	€ 54,300.00	40	77 years	106	29 years

These figures reveal that even under favourable energy pricing, many renovation paths result in long payback periods. For example, under typical 2023 prices, none of the examined pathways deliver a return within 25 years. Even with elevated energy prices, only limited upgrades like E to D or F to D approach this threshold. Investment risks are elevated by the volatility and unpredictability of energy markets.

The figure below adds an additional perspective by showing how monthly repayments vary according to investment size and loan duration, assuming a 0% interest rate (CLIMACT, 2022). In this context, “duration” can be interpreted as the payback period. Monthly savings of more than €200 are considered unrealistic by the authors and are therefore highlighted in red.

To put this into perspective, Kattenberg et al. (2023) found that insulating a typical home - most often with a single measure such as cavity wall insulation - led to average gas bill savings of around €300 per year (€25 per month) in the Netherlands. In these cases, investments averaged around €1,650 and covered roughly 100 m² of wall surface. By contrast, CLIMACT (2022) estimates that a 50% reduction in energy bills results in monthly savings between €95 and €155.

⁶ Electricity & gas prices: March 2023 ≈ April 2025

⁷ Payback periods are calculated without subsidies

⁸ March 2023 energy prices: €89 (= €460 old energy bill – €371 new energy bill)

⁹ High energy prices: €212 (= €583 old energy bill – €371 new energy bill)

¹⁰ 40 € ~ 89 €/2

¹¹ 106 € ~ 212 €/2

Based on these figures, it can be concluded that **a payback period of less than 25 years is generally unlikely.**

		Duration (years)				
		20	25	30	35	40
Investment (€)	50,000	208€	167€	139€	119€	104€
	55,000	229€	183€	153€	131€	115€
	60,000	250€	200€	167€	143€	125€
	65,000	271€	217€	181€	155€	135€
	70,000	292€	233€	194€	167€	146€
	75,000	313€	250€	208€	179€	156€
	80,000	333€	267€	222€	190€	167€

Figure 40 : Monthly Payment by Investment Level and Payback Duration for 0%-Interest Loans (CLIMACT, 2022)

Now, the above applies to home-owners who pay for the renovations but get them paid back on the long term by lowering the energy bill. However, the question here is whether this still holds true for landlords.

Landlord Perspective

In previous section, Gerassimenko et al. mentioned a rental price increase of 13% for homes going from a label D to a label A. When taking the average rental price in Flanders: 922 euros (*Huurbarometer CIB*, Feb. 2025), this comes down to a premium of 120 euros. In other words: comparable to what a home-owner would save. The payback period might be a little bit longer for landlords, but the difference is very small: 120 euro vs. “savings of €95 to €155 per month”.

Performance Gap and Energy Price Volatility

A factor to keep in mind is the discrepancy between predicted and actual energy savings. User behaviour may extend real-world payback periods and reduce the expected return on investment. The figure below illustrates this ‘performance gap’ between theoretical and actual primary energy consumption following renovations.

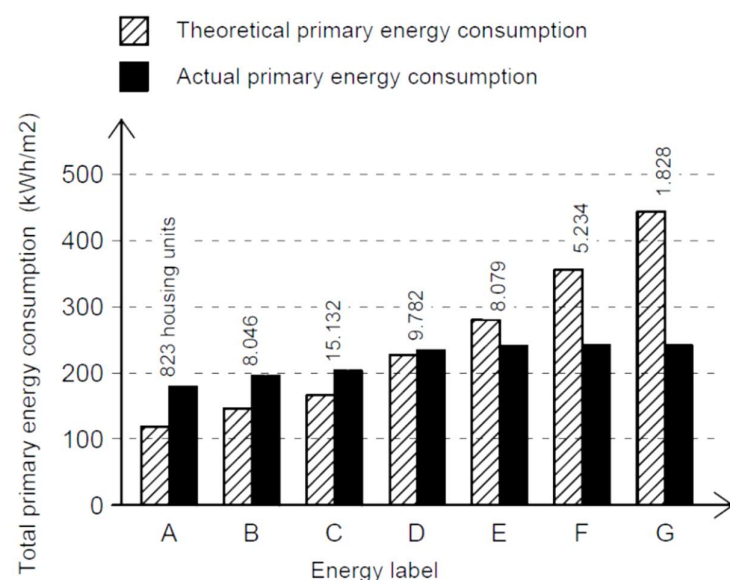


Figure 41 : Theoretical vs. Actual Primary Energy Consumption (Image from The limits to EPB - Position Paper, 2024)

Elektriciteit en aardgas

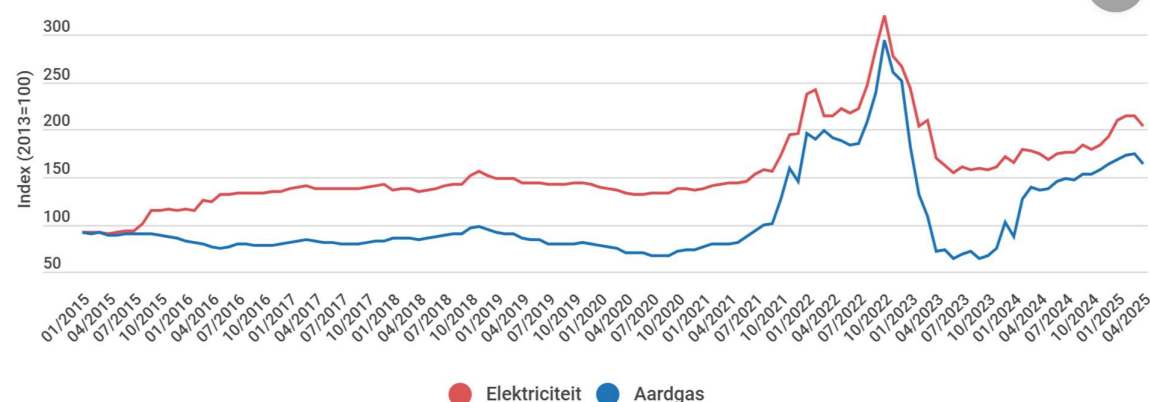


Figure 42 : Evolution of Electricity and Gas Prices in Belgium (STATBEL, 2025)

During the energy crisis of 2022-2023, prices electricity and gas rose sharply (temporarily improving the case for renovations) (IEA, 2023). Projections from Febr. 20, 2025 in Trends suggest that gas prices may fall again from 2026, driven by increased imports from the US and Qatar. However, this downward trend is likely to be offset by the introduction of the EU’s ETS2 in 2027

(Trends, Nov. 28 2025), which will apply CO₂ pricing to building heating. According to the same magazine, the CO₂ levy would increase heating costs by circa €500 per year for poorly insulated homes - equivalent to a 25% increase. Fuel oil costs would rise by €660 annually¹².

This regulatory shift implies that today's low-taxed gas prices underestimate future cost pressures, and renovations may become more economically justified under evolving policy scenarios. Nonetheless, even when modelling with "high energy prices," payback periods still lay within a 20- to 30-year range under optimistic assumptions.

While minor upgrades (e.g. cavity wall insulation) tend to have reasonable, or even interesting payback periods, deep renovations without public subsidies are economically prohibitive for most property owners.

These findings are echoed in other academic literature.

In the paper *"Deep energy efficiency renovation of Germany's residential buildings: is this as economically viable as Germany's policymakers and popular promoters often claim?"*, Ray Galvin (2024) asked the question: Would renovations be profitable after 25 years? The answer was no. Deep renovations are not profitable within this timeframe in most cases - especially in markets with low energy prices or without strong carbon pricing.

Building type also matters. Apartments, due to shared walls and lower surface area, usually have shorter payback periods. On the other hand, they are often constrained by coordination issues in multi-owner buildings. In contrast, single-family homes offer greater energy savings potential, but also require significantly higher investments (EnergyVille, 2023).

Conclusion

Improved EPC ratings do generate modest rental premiums. These are roughly equivalent to theoretical energy savings experienced by owner-occupiers. Therefore, a ballpark figure is that general payback periods of extensive renovations for owner-occupiers can be used to estimate equivalent payback periods for landlords. For these renovations, payback periods typically exceed 25 years. As summarized by CLIMACT (2022) market-based private financing is difficult without public support because the investment returns are too long-term for typical financial markets.

¹² Estimates are based on a CO₂ price of €200/ton, translating to an energy cost increase of €45 per MWh.

3.2 Impact on Landlords' Returns

3.2.1 Costs of Energy Renovations

The cost of energy renovations can vary greatly depending on the building type, renovation strategy, and contextual factors such as material prices, age, structural condition of buildings and (local) policies. Because of this, it's difficult to provide exact figures. However, it's still important to have a general idea of the expected costs. This helps to understand the financial impact on landlords and to identify the most cost-effective renovation strategies. This section provides estimates of renovation costs for different types of homes.

General Renovation Costs

Based on data adjusted for inflation (including figures from Ryckewaert et al., and CLIMACT), the following renovation cost estimates can be used as a general guideline for homeowners:

Table 7 : Estimated General Renovation Costs According to Dwelling Type (Ryckewaert et al., 2019; Climact, 2022)

Dwelling Type	Estimated Renovation Costs (€) March 2025	
Apartment	€ 59,860 – € 64,345	(Ryckewaert et al., 2019)
Apartment	€ 72,200	(Climact, 2022)
Single-family home	€ 80,806 – € 86,542	(Ryckewaert et al., 2019)
Single-family home	€ 91,680	(Climact, 2022)
Rental property (structural only)	€ 41,000 – € 42,500	(Ryckewaert et al., 2019)
Owner-occupied home (basic)	~ € 30,400	(Ryckewaert et al., 2019)
Low-income household (full upgrade)	€ 77,200 – € 81,000	(Ryckewaert et al., 2019)
Average renovation cost	€ 65,800 – € 69,600	(Ryckewaert et al., 2019)

Calculations by M. Woucters, based on figures from the VCB (2022) and reported in *De Tijd* on February 19, 2022, provide broad estimates for the renovation costs required to achieve an EPC label A for a three-façade house:

Table 8 : Estimated Costs to Renovate to Label A, (Woucters, 2024)

Renovation Cost per EPC Label

B -> A: €46,000

C -> A: €60,000

D -> A: €83,000

E -> A: €91,000

F -> A: €114,500

According to Johan Albrecht (2021), over 40% of Flemish homeowners under 65 cannot afford to finance an EPC-A level renovation without assistance, facing financing gaps of €0 to €50,000 (€61,400 in 2021)¹³. Even the current loan cap of €60,000 under 'Mijn VerbouwLening' is insufficient, especially when subsidies are counted within this ceiling.

¹³ Corrected for inflation: €50,000 in Jan. 2021 equals €61,400 in May 2025.

Accordingly, renovation costs of €80,000 per home (label E → label A) are unaffordable to most low-income households without deep subsidies or long-term prefinancing mechanisms (CLIMACT, 2022).

Renovation Costs and EPC Impact

EnergyVille conducted a comprehensive analysis of 135 representative Flemish dwellings to identify the most cost-effective renovation measures for achieving EPC label A by 2050. This study evaluated combinations of ten common renovation types, including insulation, heating systems, ventilation, window replacements, and photovoltaic (PV) panels, across various housing typologies.

The analysis revealed that photovoltaic (PV) panels are among the most cost-effective measures for improving EPC scores. PV installations offer a significant impact on EPC ratings at a relatively low investment cost. For instance, the average investment required to achieve EPC label A is approximately €36,000 (€ 43,380 in May 2025) per dwelling when PV is included. However, this cost increases to €66,000 (€ 79,530 in May 2025) if PV installations are excluded. Clearly, solar panels are financially attractive (EnergyVille, 2024).

In summary, the most EPC-efficient renovation measures across various dwelling types include:

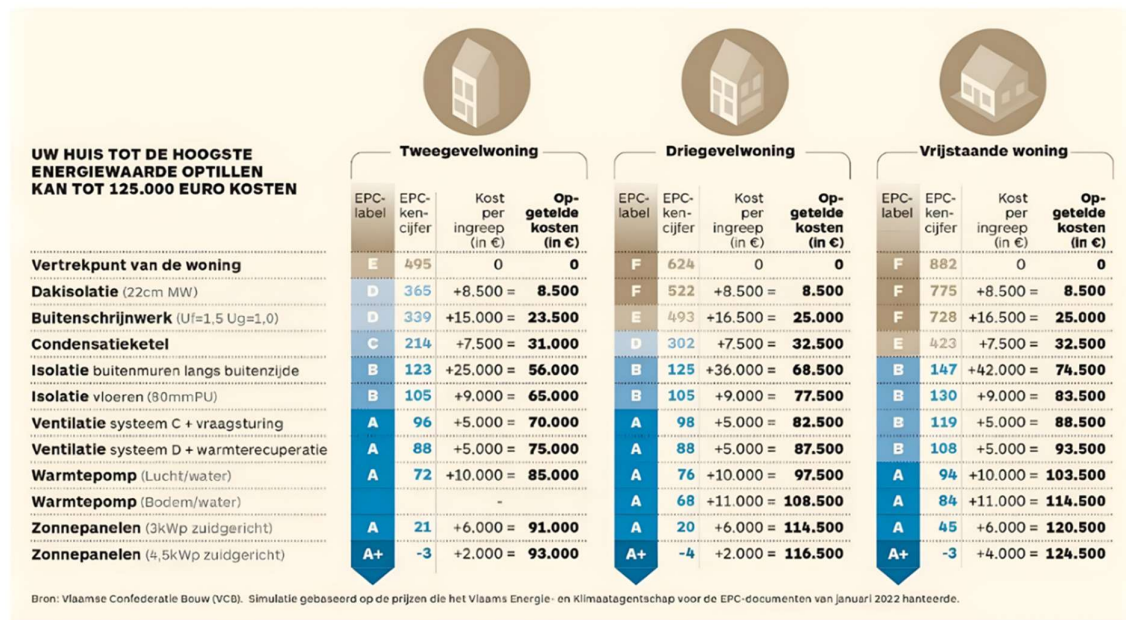
- **Photovoltaic (PV) panels:** High EPC gain per euro invested, especially when roof orientation and grid conditions are favourable.
- **Roof insulation:** Offers substantial reductions in primary energy consumption at moderate investment levels.
- **Condensing gas boilers:** Provide considerable EPC gains for relatively low cost, particularly when replacing outdated systems.

Conversely, measures such as **exterior wall insulation**, **floor insulation**, and **advanced ventilation systems** tend to require higher investments for more limited EPC improvements, especially in detached buildings. These insights support prioritizing low-cost, high-impact measures for property owners aiming to upgrade EPC scores cost-effectively.

Typology Takeaways

- **Terraced Houses:** These dwellings show the highest EPC improvement per €1,000 invested, indicating that renovations are most cost-effective for this category.
- **Semi-Detached Houses:** While slightly less efficient than terraced houses, semi-detached houses still offer substantial EPC gains per investment unit.
- **Detached Houses:** These require significantly higher investments to achieve similar EPC improvements, primarily due to their larger surface areas and increased heat loss through more exposed facades.

Dwelling typology should thus be considered when developing energy renovation strategies to meet the 2050 EPC label A targets.



Condensing boilers, roof insulation, and photovoltaic (PV) panels consistently emerge as the most cost-effective renovation measures, measured by EPC improvement per euro spent. This finding holds across all three benchmark cases (see above), based on data published in *De Tijd* using figures from the VCB (2022).

VITO, for its part, confirms that improving a building's insulation (the building envelope) is relatively expensive, while installing solar panels is generally a straightforward and affordable investment. A factcheck by VITO (2023) shows that the profitability of heat pumps depends a lot on the price difference between gas and electricity. Right now in Belgium, electricity is expensive due to high taxes and fees, which makes heat pumps less attractive financially - especially in poorly insulated homes. VEKA (2023) adds that in homes with low insulation (label E-F), hybrid heat pumps are usually a more affordable option than fully electric ones.

Environmental Impact Rankings

Shifting from financial to environmental performance, Dr. Ir.-Arch. Yanaika Decorte (2024) presents a detailed life cycle assessment (LCA) of Flemish single-family dwellings. Her study finds that roof insulation delivers the most substantial environmental benefit, thanks to its low embodied impact and high energy savings.

Full envelope renovations - combining roof, wall, and window insulation - can reduce total environmental impact by up to 84% in previously uninsulated homes. However, when accounting for real-world energy performance gaps, these savings fall to between 9% and 54%.

In Decorte's overall ranking of environmental effectiveness (which includes both operational and embodied impacts), roof insulation, wall insulation, and heat pump installation (particularly when powered by renewable electricity) score the highest. Ventilation with heat recovery and

¹⁴ Prices not (yet) up to date – Inflation corresponds to 17,3% between Febr. 1 2022 and April. 31 2025.

window replacement are rated as moderately effective, while photovoltaic panels and floor insulation are considered least effective - especially in areas where the electricity grid is already low-carbon.

Table 9 : Environmental effectiveness of common renovation strategies, considering both operational and embodied impacts (based on Decorte (2024))

Renovation Measure	Environmental Impact	Comments
Roof Insulation	Most beneficial	High energy savings; low embodied impact; consistent top priority
Wall Insulation	Most beneficial	Second only to roof insulation in effectiveness
Heat Pumps (with renewable electricity)	Most beneficial	High CO ₂ reduction potential; impact varies based on electricity source
Heat Recovery Ventilation	Moderately beneficial	Reduces CO ₂ and improves indoor air quality
Window Replacement	Moderately beneficial	Helps insulation but less effective if walls/roof are not insulated
PV Panels (Solar)	Least beneficial	Low impact if grid is clean; high embodied emissions during production
Floor Insulation	Least beneficial	High material use for limited operational energy savings



Figure 44 : Embodied impact of renovation strategies (Decorte, 2024)

Decorte’s study also shows that step-by-step renovations - although often chosen because they are easier to manage or more affordable - usually cause more harm to the environment than doing all the work at once. This is mostly because the work gets split up, materials are used more than once, and the order of tasks isn’t always efficient.

However, if a phased renovation is carefully planned, done quickly, and uses low-impact materials, it can still be environmentally friendly. This shows that how and when the work is done can be just as important as what is done.

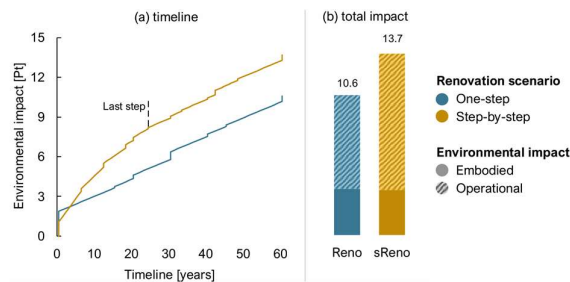


Figure 45 : Step-by-step renovations have a larger 'environmental impact'¹⁵ than One-step renovations on the long run (Decorte, 2024)

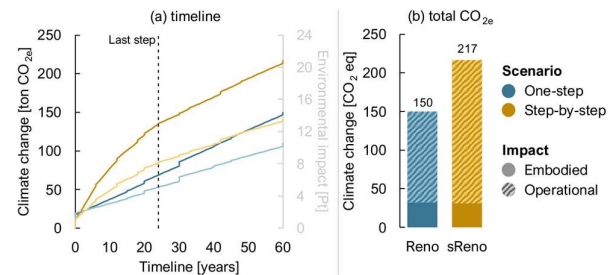


Figure 46 : Step-by-step renovations emit more CO₂ than One-step renovations on the long run (Decorte, 2024)

Price per 1 kWh/m².year (EPC)

Based on figures previously published in *De Tijd* (February 19, 2022), we can try to estimate the cost per unit of Energy Performance Certificate (EPC) score improvement. The goal here is to identify which renovation types offer the best financial value in terms of EPC reduction - and which do not. It's important to note that this analysis is not made from an environmental perspective, but strictly from the standpoint of EPC score improvement. When comparing Yanaika Decorte's findings with the official EPC calculation method, it becomes clear that these do not always align.

¹⁵ 'Environmental impact': a combination of different greenhouse gasses and pollutants

Two-Facade House (Adapted from *De Tijd*, February 19, 2022)

House 2 facades	VCB Jan. 2022	prices Mar. 2025	Δ EPC (€ per 1 kWh/m ² .year)
Roof insulation (22cm mineral wool)	€ 8,500.00	€ 9,741.000	130 € 74.93
Exterior joinery (Uf=1.5, Ug=1.0)	€ 15,000.00	€ 17,190.000	26 € 661.15
Condensing boiler	€ 7,500.00	€ 8,595.000	125 € 68.76
Insulation of exterior walls (outer side)	€ 25,000.00	€ 28,650.000	91 € 314.84
Floor insulation (80mm PU)	€ 9,000.00	€ 10,314.000	18 € 573.00
Ventilation system C + demand control	€ 5,000.00	€ 5,730.000	9 € 636.67
Ventilation system D + heat recovery	€ 10,000.00	€ 11,460.000	17 € 674.12
Heat pump (air/water)	€ 10,000.00	€ 11,460.000	16 € 716.25
Solar panels (3 kWp south-facing)	€ 6,000.00	€ 6,876.000	51 € 134.82
Solar panels (4.5 kWp south-facing)	€ 8,000.00	€ 9,168.000	75 € 122.24
Total	€ 93,000.00	€ 106,578.00	

Four-Facade House (Adapted from *De Tijd*, February 19, 2022)

House 4 facades	VCB+VEKA Jan. 2022	prices Mar. 2025	Δ EPC (€ per 1 kWh/m ² .year)
Roof insulation (22cm MW)	€ 8,500.00	€ 9,741.000	107 € 91.04
Exterior joinery (Uf=1.5, Ug=1.0)	€ 16,500.00	€ 18,909.000	47 € 402.32
Condensing boiler	€ 7,500.00	€ 8,595.000	305 € 28.18
Insulation of exterior walls (outer side)	€ 42,000.00	€ 48,132.000	276 € 174.39
Floor insulation (80mm PU)	€ 9,000.00	€ 10,314.000	17 € 606.71
Ventilation system C + demand control	€ 5,000.00	€ 5,730.000	11 € 520.91
Ventilation system D + heat recovery	€ 10,000.00	€ 11,460.000	22 € 520.91
Heat pump (air/water)	€ 10,000.00	€ 11,460.000	14 € 818.57
Heat pump (ground/water)	€ 21,000.00	€ 24,066.000	24 € 1,002.75
Solar panels (3 kWp south-facing)	€ 6,000.00	€ 6,876.000	39 € 176.31
Solar panels (4.5 kWp south-facing)	€ 8,000.00	€ 9,168.000	87 € 105.38
Total	€ 124,000.00	€ 142,104.00	

Three-Facade House (Adapted from *De Tijd*, February 19, 2022)¹⁶

House 3 facades	VCB+VEKA Jan. 2022	prices Mar. 2025	Δ EPC (€ per 1 kWh/m ² .year)
Roof insulation (22cm mineral wool)	€ 8,500.00	€ 9,741.000	102 € 95.50
Exterior joinery (Uf=1.5, Ug=1.0)	€ 16,500.00	€ 18,909.000	29 € 652.03
Condensing boiler	€ 7,500.00	€ 8,595.000	191 € 45.00
Insulation of exterior walls (outer side)	€ 36,000.00	€ 41,256.000	177 € 233.08
Floor insulation (80mm PU)	€ 9,000.00	€ 10,314.000	20 € 515.70
Ventilation system C + demand control	€ 5,000.00	€ 5,730.000	7 € 818.57
Ventilation system D + heat recovery	€ 10,000.00	€ 11,460.000	17 € 674.12
Heat pump (air/water)	€ 10,000.00	€ 11,460.000	12 € 955.00
Heat pump (ground/water)	€ 21,000.00	€ 24,066.000	20 € 1,203.30
Solar panels (3 kWp south-facing)	€ 6,000.00	€ 6,876.000	48 € 143.25
Solar panels (4.5 kWp south-facing)	€ 8,000.00	€ 9,168.000	72 € 127.33
Total	€ 116,500.00	€ 133,509.00	

¹⁶ **Important note:** The EPC improvement from the heat pump appears to be underestimated in the chart above. This is because a high-efficiency condensing boiler is already present in the simulation when the heat pump is added.

Second note: The EPC improvement from the condensing boiler itself seems quite high. This suggests that the original heating system in the starting situation must have been very inefficient.

According to the VCB source used to create the inflation-adjusted tables above, heat pumps appear to be less financially effective when the sole aim is to reduce the EPC score. Condensing boilers, roof insulation, and solar panels show the highest EPC reduction relative to their cost, making them seem the most cost-efficient options for improving EPC ratings.

That said, this method of working is not fully correct, and it also doesn't tell us the full story. While heat pumps may offer the lowest immediate EPC score improvement per euro invested, this does not necessarily mean they are financially unattractive in the long term. When we consider renovation costs and energy prices as of March 2025 - gas at €0.10/kWh and electricity at €0.30/kWh - with heating accounting for 80% of total energy use, the picture changes a bit. Originally, calculations for the graphs below were made based on the three-facade house model from VCB (*De Tijd*, February 18, 2022). They were then used for an "average" Flemish home. However, doing this, the realisation came that EPC is not counted linearly. Therefore, it appeared to not be possible to tell how many EPC points can be lost per renovation type based on solely the image in *De Tijd*. A more correct approach was therefore set up, with other data input.

Renovation Payback Model for Flemish Homes (2025)

This analysis estimates the payback periods for various energy-saving renovations in an 'average' Flemish house (see model description below). Calculations are based on energy prices from March 2025* and draw on cost and savings data from multiple reliable sources, including VEKA, Vlaanderen.be, KU Leuven research reports, and recent installer quotes and renovation case studies from 2024 and 2025.

Table 10 : Model Home used to calculate Payback Schedules (own estimations of an 'average' house)

Model Home:
Type: Semi-detached house
Floor Surface: 125 m ² (62.5 m ² per floor)
Roof Surface: 162.5 m ² (pitched roof, 40° angle)
Facade Surface: 145 m ² (including windows)
Window Surface: 29 m ²
Heating Demand (before renovation): ~400 kWh/m ² ·year

*** Energy Prices (as of March 2025):**

Gas: €0.20/kWh (updated from €0.10)
Electricity: €0.30/kWh
Heating share of total energy: 80%

Table 11 : Renovation Cost and Annual Savings Estimates

Measure	Cost Estimate	Annual Savings	Source
<i>Roof insulation (22cm)</i>	€40/m ² → €6,500	~25% of heating demand	VEKA & VCB model
<i>Wall insulation (outside)</i>	€150/m ² → €21,750	~30% of heating demand	VEKA
<i>Window upgrades (triple)</i>	€700/m ² → €20,300	~10% heating savings	EPB docs & market rates
<i>Floor insulation (PUR)</i>	~€5,000	~800 kWh/year	VEKA
<i>Ventilation C/D systems</i>	€6,000–€10,000	500–800 kWh/year savings	VEKA/EPB guides
<i>Solar panels (3–10 kWp)</i>	€1,000–€1,500/kWp	900–2,400 kWh/year	Installer quotes
<i>Heat pumps (air/water, ground)</i>	€16,000–€25,000	1,200–1,600 €/year (net savings)	VEKA + case studies
<i>Condensing boiler</i>	€4,000	~400 €/year (vs. old boiler)	Gas boiler replacement programs

Graph 1: Gas @ €0.10/kWh, Electricity @ €0.30/kWh (March 2025 Prices)

This graph models the payback schedule¹⁷ of multiple energy renovation measures assuming a gas price of €0.10/kWh and electricity at €0.30/kWh. Annual savings are calculated based on estimated energy reductions and multiplied by current prices. Measures that primarily reduce heating demand are tied to the lower gas rate. Payback periods and 30-year cumulative profits are calculated using following formulas:

$$\text{Payback Period} = \text{Annual Savings} - \text{Initial Cost}$$

$$\text{Cumulative Profit} = (\text{Annual Savings} \times \text{Years}) - \text{Initial Cost}$$

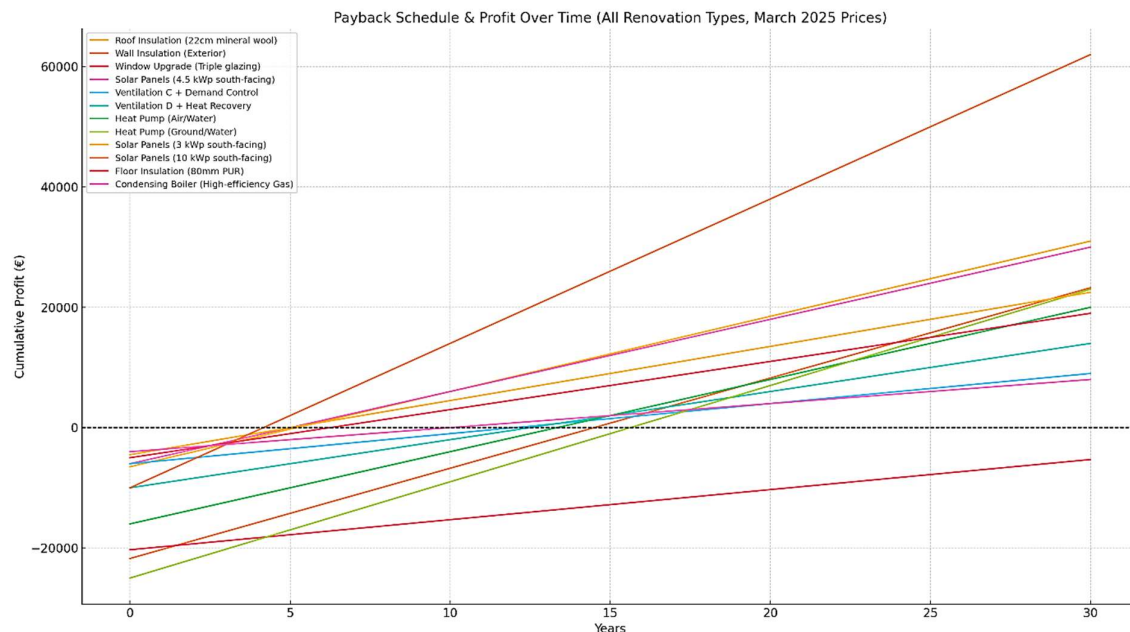


Figure 47 : Payback Schedule & Profit Over Time (All Renovation Types, March 2025 Prices)

Sorted by Profit at Year 30 (Highest to Lowest):

1. Solar Panels (10 kWp south-facing)
2. Roof Insulation (22cm mineral wool)
3. Solar Panels (4.5 kWp south-facing)
4. Wall Insulation (Exterior)
5. Heat Pump (Ground/Water)
6. Solar Panels (3 kWp south-facing)
7. Heat Pump (Air/Water)
8. Floor Insulation (80mm PUR)
9. Ventilation D + Heat Recovery
10. Ventilation C + Demand Control
11. Condensing Boiler (High-efficiency Gas)
12. Window Upgrade (Triple glazing)

¹⁷ Excluding subsidies

Graph 2: Gas @ €0.20/kWh, Electricity @ €0.30/kWh

This second graph¹⁸ looks at the same renovation options but assumes that gas prices increase to €0.20 per kWh - double the earlier rate. This reflects the expectation that gas will become more expensive in the future. Because of this, all improvements that save on heating - like insulation, ventilation, heat pumps, and efficient boilers - become more valuable. Electricity-based measures, such as solar panels, stay the same. This comparison highlights the increased financial appeal of reducing gas dependency in a high-price scenario.

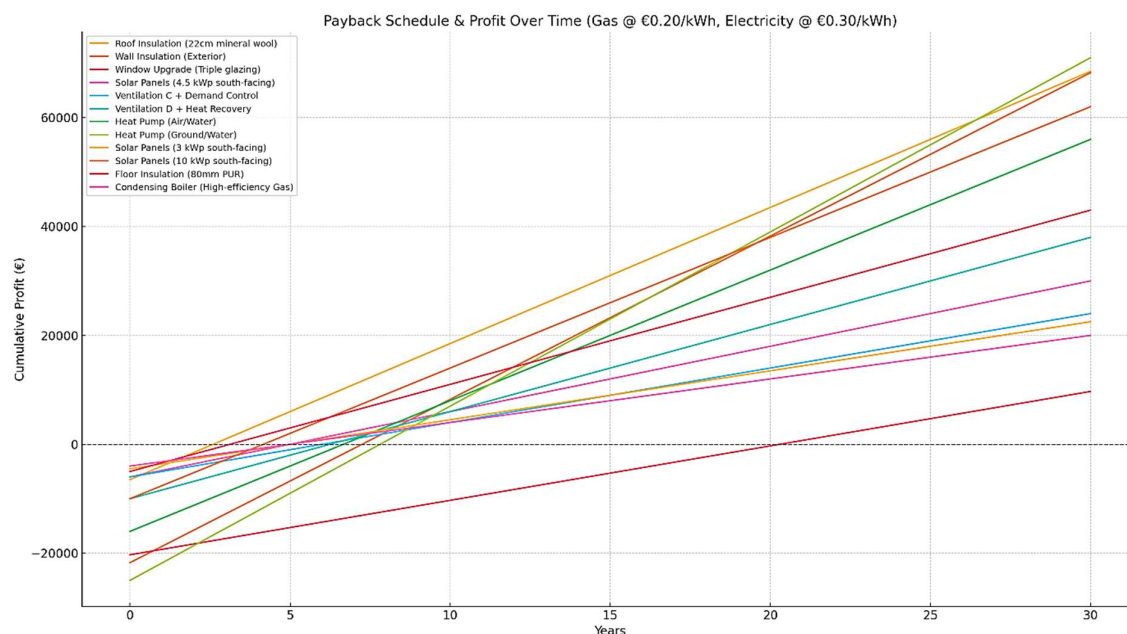


Figure 48 : Payback Schedule & Profit Over Time (Gas @ €0.20/kWh, Electricity @ €0.30/kWh)

Sorted by Profit at Year 30 (Highest to Lowest):

1. Heat Pump (Ground/Water)
2. Roof Insulation (22cm mineral wool)
3. Wall Insulation (Exterior)
4. Solar Panels (10 kWp south-facing)
5. Heat Pump (Air/Water)
6. Floor Insulation (80mm PUR)
7. Ventilation D + Heat Recovery
8. Solar Panels (4.5 kWp south-facing)
9. Ventilation C + Demand Control
10. Solar Panels (3 kWp south-facing)
11. Condensing Boiler (High-efficiency Gas)
12. Window Upgrade (Triple glazing)

¹⁸ Excluding subsidies

3.2.2 Estimations of Returns

Energy renovations affect landlord returns through an interaction of factors: construction costs, operational savings, resale values, and policy incentives. While improved Energy Performance Certificates (EPC) can enhance property attractiveness and market value, they rarely translate into short-term profitability without subsidies. This section evaluates both general returns and returns adjusted for renovation investment, using Flemish and international data.

3.2.2.1 Returns *Excluding* Energy Renovations

The average net return on rental properties in Flanders is about 3.29%. This figure combines gross rental income with modest yearly increases in property value, typically around 0.9% (Vastmans & Vandenberg, 2025). However, this average hides a lot of variation depending on factors like location, property type, tenant profile, and market segment.

Older and smaller homes - especially in lower-income areas - often offer higher rental returns. This is mainly because they cost less to buy compared to the rent they generate. Still, these higher returns usually come with trade-offs, such as higher maintenance costs, longer vacancy periods, and more administrative work. Furthermore, Vastmans (2023) notes that areas with more job seekers tend to show higher gross rental returns. This is likely because landlords charge more to cover the extra risks and potential tenant turnover.

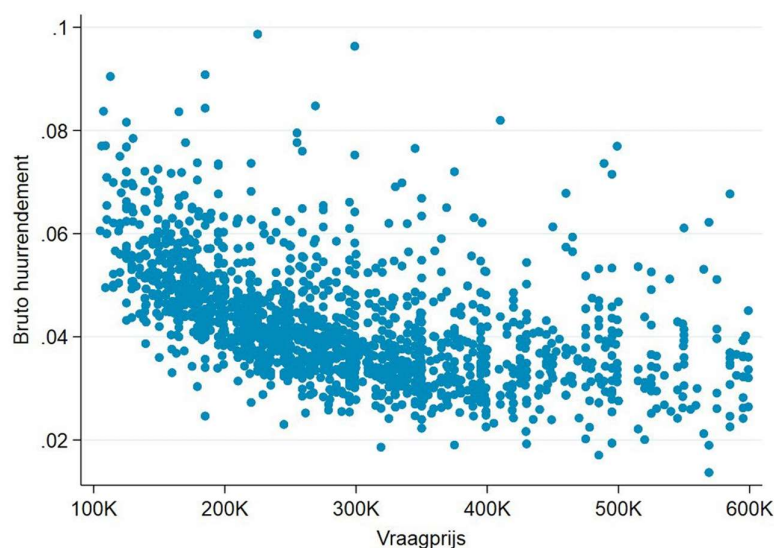


Figure 49 : Relationship between gross rental yield and property value (asking prices), Flemish Region 2022-2023 (Vastmans & Vandenberg, 2025)¹⁹

The trend of higher returns in the lower end of the housing market holds true in other countries as well (Damen et al., 2025), as shown on the figure below.

¹⁹ Original data from *Immoweb*

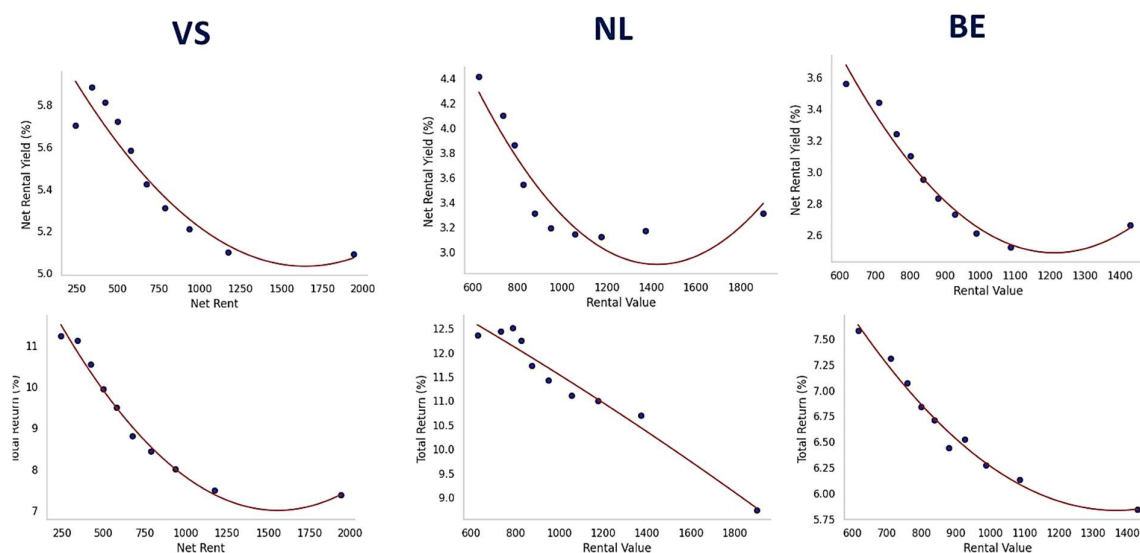


Figure 50 : Returns are higher in lower segments in all three studied countries (Damen et al., 2025)

Rental property returns vary widely across countries. In the UK, long-term net returns from 1901 to 1983 were just 2.3%, mainly due to underestimated costs like maintenance and vacancies (Chambers et al., 2021). In contrast, the US saw much higher returns of 8.5% per year from 1986 to 2014, driven by capital gains and low borrowing costs (Demers & Eisfeldt, 2022). Paris and Amsterdam had returns between 4% and 4.8%, mainly from stable rental income rather than price growth (Eichholtz et al., 2021).

Ideally, rents should cover the full cost of owning a property - including depreciation and the cost of capital (Goeyvaerts & Buyst, 2019). In practice, this balance can sometimes be distorted by rent controls, limited financing options, or lack of market transparency.

Table 12 : Returns vary greatly depending on study (Vastmans, 2025)

Study	Country & Period	Total Return	Takeaways
Chambers et al. (2021)	UK (1901–1983)	2.3%	Net returns are much lower than gross due to high costs (32%). Rental yields are often overestimated due to unaccounted maintenance and repair costs. Effective rental income is lower than contractual rent.
Demers & Eisfeldt (2022)	US (1986–2014)	8.5%	Equal contribution from net rental income and capital appreciation. Lower interest rates boosted returns. Higher-priced cities had more capital gains, while lower-priced cities had higher net rental yields. Single-family home costs were 41% of gross rent.
Jorda et al. (2019)	Various countries (1870–2015)	6.6%	Overview study with less detailed time series.
Eichholtz et al. (2021)	Paris (1809–1943), Amsterdam (1900–1979)	4% (Paris), 4.8% (Amsterdam)	Historical returns were entirely from rental income.

According to Vastmans & Vandenberg (2025), much of the variation in reported rental yields across studies can be attributed to two main factors. First, differences in measurement periods - whether returns are assessed over a few years or multiple decades - can significantly affect the results, especially when factoring in inflation, housing cycles, and broader economic trends. Second, studies often use different methods for calculating returns. Some focus on gross rental yields without adjusting for costs like maintenance, vacancies, or taxes, while others present net returns after such deductions. These methodological inconsistencies make direct comparisons challenging.

3.2.2.2 Returns Including Energy Renovations

Investing in energy performance upgrades significantly changes the financial outlook for property owners. In Flanders, regulations require that any home sold with an EPC label E or F must be upgraded to at least label D within five years. This policy has driven down the purchase prices of less efficient homes, creating some financial room for renovation investments (Reusens et al., 2025). However, the impact on landlord returns remains mixed.

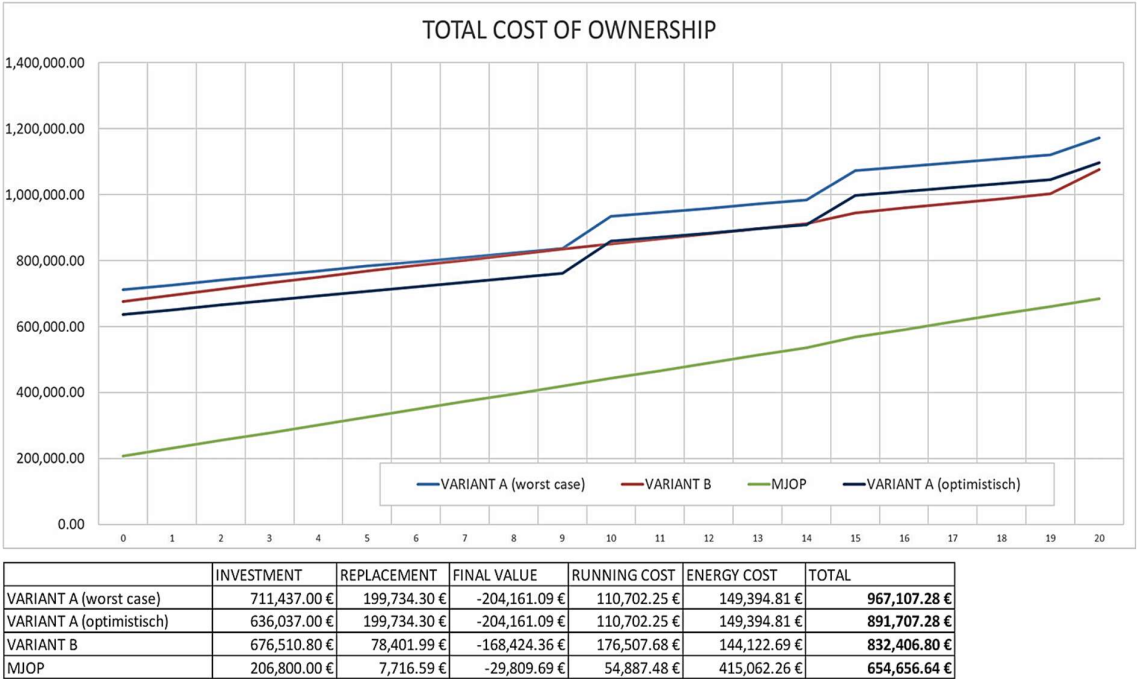


Figure 51 : Total Cost of Ownership Over 20 Years for Four Renovation Scenarios (based on Redewelop, 2024)

An example presented in the figure above compares the Total Cost of Ownership (TCO) for different renovation strategies over 20 years. It clearly shows that TCO is lowest when only essential, non-energy-related renovations are undertaken (MJOP scenario). In contrast, extensive energy renovations - despite offering lower running and energy costs - still result in a higher total cost before resale.

What the graph does not show, however, is the resale value. This should not be overlooked in cost-benefit assessments. As Sam Hamels notes in his 2021 PhD dissertation, renovation decisions are often driven more by the potential for increased property value than by expectations of higher rents.

A key study by Frank Vastmans and Joren Vandenberg (2025) compares four investment options for landlords. These include: a basic scenario with only essential (non-energy-related) repairs, an investment in newly built property, and two renovation strategies. The “40/40” scenario involves renovating 60% of the building over 40 years, while the more ambitious “33/33” scenario upgrades 66% of the property within 33 years.

I.e., the 40/40 model spreads renovation costs over 40 years, leading to smaller annual deductions. The 33/33 model, in contrast, reflects more aggressive upfront investment and therefore reduces returns more sharply:

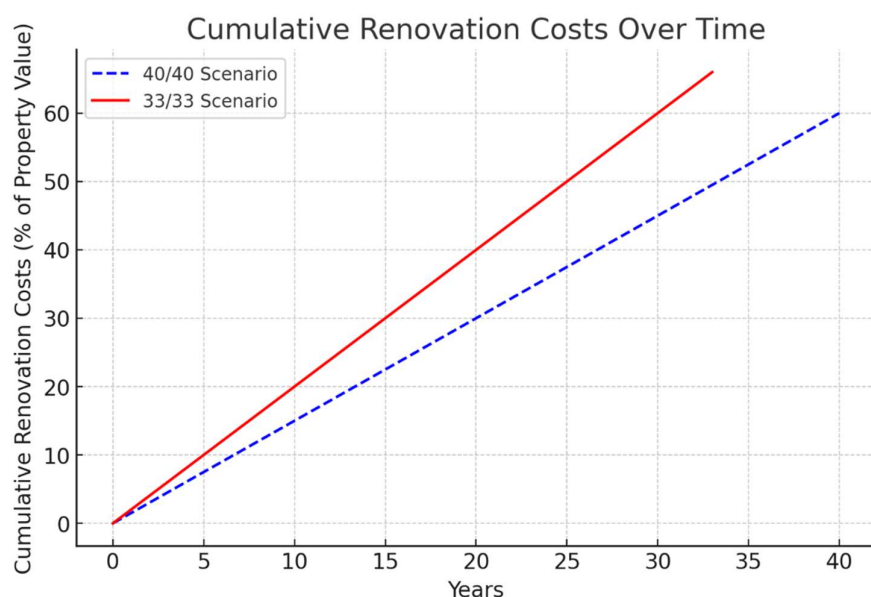


Figure 52 : Difference between two renovation scenarios (using Vastmans & Vandenberg, 2025)

Table 13 : Return Private Rental Market (Vastmans & Vandenberg, 2025; based on GWO 2013 & other sources)

Return	Detail	%	Application (1,000 euro rent/month)
Gross Direct Return	Annually	3.8	€12,000
Costs	Maintenance	-18	-€2,160
	Property Tax (Onroerende Voorheffing)	-10	-€1,200
	Fire Insurance	-5	-€600
	Vacancy	-3	-€360
	Non-recoverable rental arrears	-1	-€120
	Total	-37	-€4,440
Net Direct Return	Annually	2.39	€7,560
Indirect Costs and Revenues	Sale Rights (12% spread over 20 years)	-0.6	-€1,895
	Rising Rent / Property Prices (Capital Gains)	2.50	€7,895
	Depreciation	-1.00	-€3,158
	Annually	0.90	€2,842
Net Indirect Return	Annually	0.90	€2,842
Total Return Private Rental	Annually	3.29	€10,402

Table 14 : Comparison of Base Model (minimal renovations) with New Construction and Renovation Scenarios 40/40 & 33/33 (Vastmans & Vandenbergh, 2025)

Return	Detail	Base Model (%)	New Construction (%)	Renovation 40/40 (%)	Renovation 33/33 (%)
Value	Construction	55	70	70	70
	Land	45	30	30	30
Gross Direct Return	Annually	3.80	3.50	3.50	3.50
	Maintenance as % of value	-0.68	-0.46	-1.50	-2.03
Costs	Maintenance as % of rent	-18	-13	-43	-58
	Property Tax (Onroerende Voorheffing)	-10	-10	-10	-10
	Fire Insurance	-5	-5	-5	-5
	Vacancy + Property Management	-3	-3	-3	-3
	Non-recoverable Rental Arrears + Costs	-1	-1	-1	-1
	Total	-37	-32	-62	-77
Net Direct Return	Annually	2.39	2.38	1.34	0.80
Indirect Costs and Revenues	Sale Rights (12% over 20 years vs 13% over 30 years)	-0.60	-0.60	-0.60	-0.60
	Rising Rent / Property Prices (Capital Gains)	2.50	2.50	2.50	2.50
	Depreciation	-1.00	-1.00	0.00	0.00
Net Indirect Return	Annually	0.90	0.90	1.90	1.90
Total Return Private Rental	Annually	3.29	3.28	3.24	2.70

The bar chart below illustrates the effect of different renovation strategies on the returns from rental housing, comparing three scenarios: **Base Model**, **40/40 Renovation**, and **33/33 renovation**.

- **Green bars** represent the **Total Return (%)**, which reflects the expected net annual return on the rental property.
- **Red bars** represent the **Annual Renovation Costs (%)**, calculated as a percentage of the gross rental income.

The Base Model, which involves minimal renovation, yields the highest total returns.

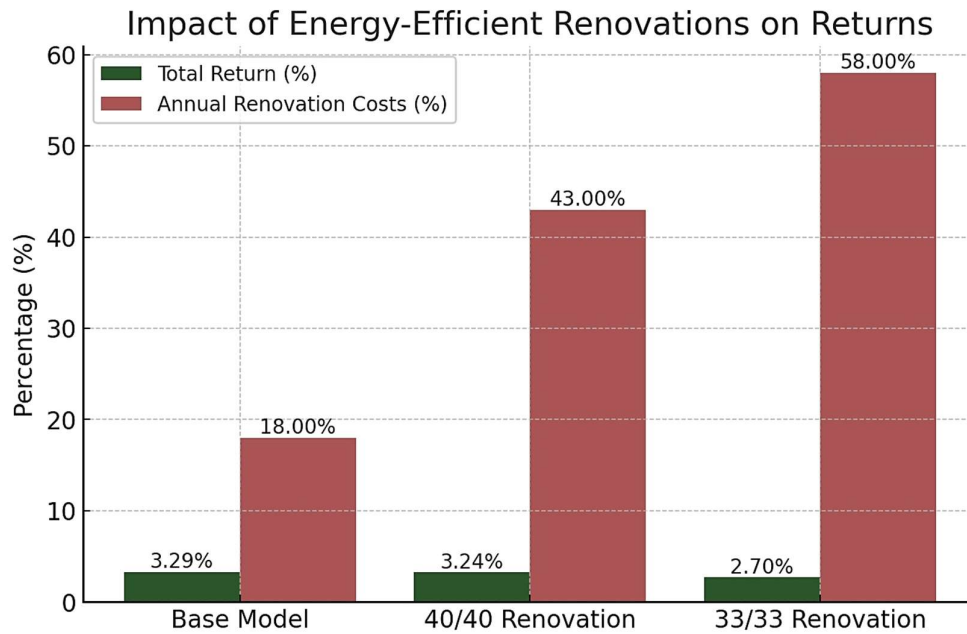


Figure 53 : Impact of renovations on returns (using Vastmans & Vandenbergh., 2025)

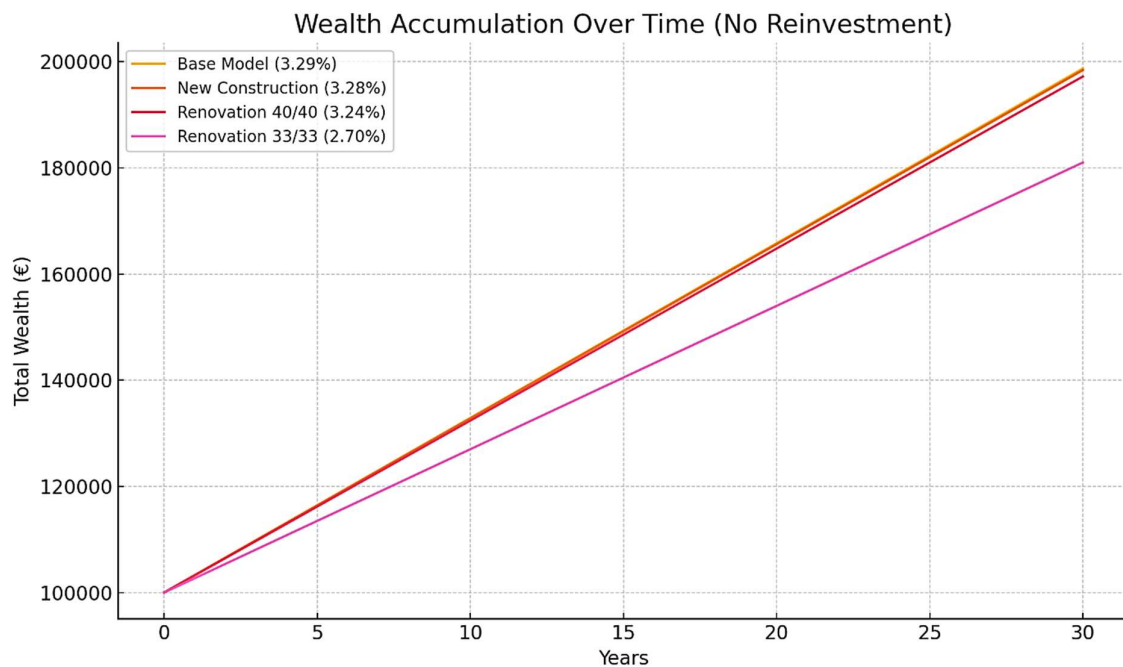


Figure 54 : Projected Total Wealth Over Time: Rental Returns + Capital Appreciation – Costs (Vastmans et al., 2025)

The figure above illustrates how wealth accumulates over time from rental investments under four different scenarios: the Base Model (non-renovated), New Construction, and two Renovation Scenarios (40/40 and 33/33). The key assumption is that rental income is not reinvested, and that annual net returns - after accounting for costs and depreciation - are simply added each year. This leads to linear rather than exponential growth in total wealth.

The Base Model, with an annual return of 3.29%, shows the highest accumulation of wealth over 30 years. This model reflects a typical older property that is maintained, but not significantly renovated. Despite potential higher maintenance costs, the balance between gross rental income, fixed expenses, and moderate capital gains results in a strong net return.

New Construction follows closely behind, with a return of 3.28%. Although newly built properties have lower gross rental yields, they benefit from lower initial maintenance costs and relatively stable long-term performance. The result is a very similar wealth trajectory to the base model, particularly over longer investment horizons.

In contrast, the Renovation 40/40 and Renovation 33/33 scenarios reflect strategies involving significant, planned renovations to extend the useful life of the property. These incur much higher effective annual costs due to provisions for future renovation expenses. Even though they eliminate depreciation (as the property is assumed to be kept in near-new condition), the net returns are lower: 3.24% for 40/40 and only 2.70% for 33/33.

Over time, these differences in annual return cause the lines on the graph to diverge. After 30 years, the Base Model generates noticeably more accumulated wealth than the most renovation-intensive option (33/33).

Even with subsidies, many deep renovation projects still don't pay off within typical investment timelines. Galvin (2024) points out that renovations only bring positive returns if things go well - like energy prices staying high, strong government support, and a big increase in property value.

In simple terms, more renovation planning is expected to give lower short-term gains, even if the property's condition remains optimal. Meanwhile, basic maintenance without over-renovating appears to be the most financially rewarding strategy, assuming stable market conditions and no reinvestment of returns

Sale Price Impact of EPC Renovations

When it comes to property values, research by Reusens et al. (2025) shows that homes with better EPC labels sell for more. In 2023, homes with an EPC A label were about 17% more expensive than those with an EPC D, as shown on the graph below.

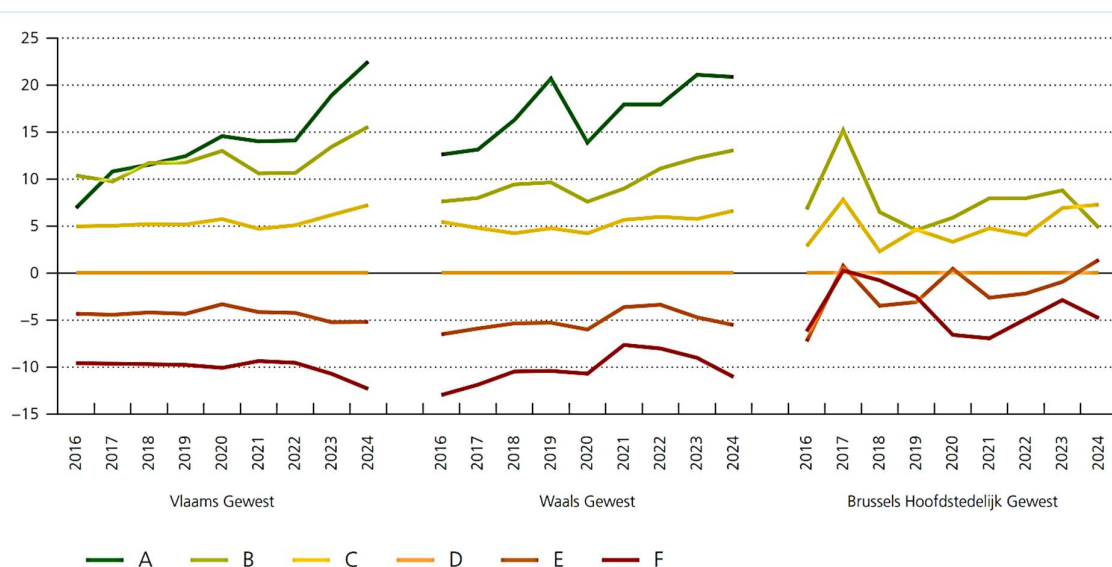


Figure 55 : Price gap between homes with good and bad EPC-labels has enlarged in Flanders (“Vlaams Gewest”) (Reusens et al. (2025), as cited in NBB Report 2025)

The study from Gerassimenko et al. (2024), mentioned earlier when discussing rental price premiums, may at first glance seem more optimistic: **A-labelled homes** would sell for 42% more than D-labelled homes, whereas **F-labelled homes** would sell at a 13% discount. The reason for this discrepancy is that Gerassimenko et al. (2024) did not adjust for differences in property characteristics. Their regression model, which does account for these differences, finds a more modest 15% premium (using older numbers from 2016–2021). This aligns closely with Reusens et al. (2025), who report a 17% quality-adjusted price gap in 2023–2024, using transaction data and controlling for a broad set of dwelling attributes.

Nonetheless, according to a study from Immoweb (2024) the value uplift still often falls short of covering the full renovation costs, especially in lower-end markets. Their data show that higher EPC ratings often don’t raise resale prices enough to cover renovation costs. In other words, energy renovations are not always profitable from a resale standpoint. This gap is particularly wide in less expensive, lower-end housing segments, according to Immoweb.

Table 15 : Unprofitable works: renovation costs (excluding subsidies) are higher than the price differences of dwellings per EPC score (Immoweb, 2024)²⁰²¹

From → To	EPC A	EPC B	EPC C	EPC D	EPC E	EPC F	
EPC C	538 €	360 €	307 €				Renovation costs (€/m ²) ²⁰
	154 €	105 €	87 €				Average price difference of the dwelling after renovation (€/m²)²¹
EPC D	622 €	487 €	307 €	282 €			Renovation costs (€/m ²) ²⁰
	241 €	192 €	87 €	45 €			Average price difference of the dwelling after renovation (€/m²)²¹
EPC E	678 €	570 €	370 €	282 €	240 €		Renovation costs (€/m ²) ²⁰
	286 €	237 €	132 €	45 €	47 €		Average price difference of the dwelling after renovation (€/m²)²¹
EPC F	736 €	605 €	477 €	353 €	240 €	251 €	Renovation costs (€/m ²) ²⁰
	333 €	284 €	179 €	92 €	47 €	44 €	Average price difference of the dwelling after renovation (€/m²)²¹
EPC G	827 €	709 €	597 €	468 €	378 €	251 €	Renovation costs (€/m ²) ²⁰
	377 €	328 €	223 €	136 €	91 €	44 €	Average price difference of the dwelling after renovation (€/m²)²¹

Growing Influence of EPC Labels

It is important to note a clear and persistent trend: the price gap between energy-efficient and poorly labelled homes is increasingly capitalized into housing prices (NBB 2025). While rising renovation costs play a role, this divergence is primarily driven by increasingly stringent regulations and obligations and the growing influence of energy scores on mortgage risk assessments (Reusens et al., 2025). In addition to the similar graph from Reusens et al. (2025), an analysis made by the NBB (2024) presents similar projected cost differences of homes with good vs. bad EPC labelling in Flanders.

²⁰ These costs are estimated based on estimates from more than 500 Walloon homes between January 2023 and April 2024 by architect-auditors from *ImmoPass*.

²¹ The average price difference for each score increase was calculated based on the prices of homes in Wallonia (excluding new builds) that were offered for sale on *Immoweb* over the past 12 months.

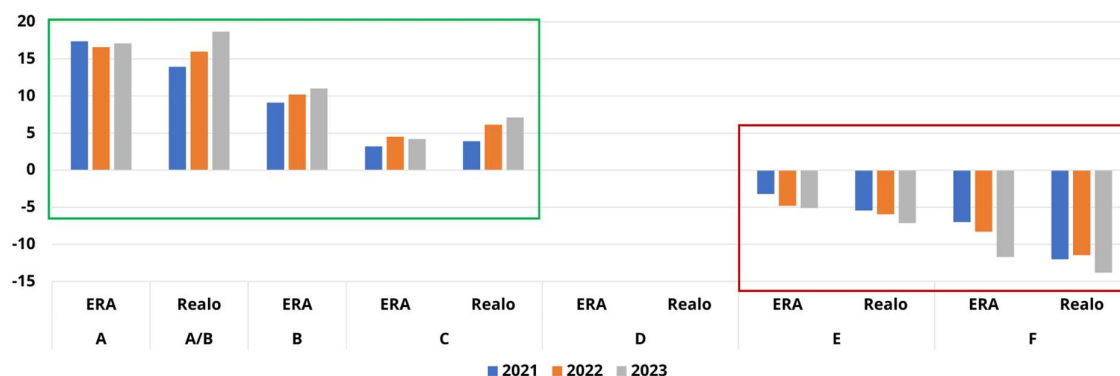


Figure 56 : Estimated cost increase/ decrease (%) for houses in Flanders (NBB, 2024)

3.3 Financial Barriers

While energy renovations make sense from a societal cost-benefit perspective, they are not always financially attractive within the private rental market. Upgrading a property's EPC rating may result in a modest increase in rental income or resale value, but in most cases, the financial returns are insufficient to convince landlords to invest - especially without substantial subsidies or access to low-interest loans. Only limited or heavily subsidised renovations come close to offering a reasonable payback period. The feasibility of deeper renovations often hinges on multiple variables: available public incentives, access to financing, energy price trends, and the application of future carbon pricing mechanisms such as the EU's ETS2, set to take effect in 2027 (NBB, 2024).

Several structural factors further reduce profitability. A key barrier is the split incentive problem, where landlords bear the renovation costs, while tenants benefit from lower energy bills (Petrov & Ryan, 2021). Additionally, the performance gap - the difference between predicted and actual energy savings - can result in longer-than-expected payback periods, undermining investor confidence. Energy price volatility also plays a major role. The 2022 spike in energy costs briefly strengthened the financial case for renovations, but falling prices after 2023 have weakened that incentive. Future CO₂ taxation may reverse this trend by increasing the operational cost of poorly insulated homes.

Importantly, energy renovations are rarely undertaken in isolation. According to Hamels (2021), approximately 90% of energy upgrades in Europe occur alongside broader home improvements, such as kitchen or bathroom renovations. Only 2.8% of homeowners renovate for energy reasons alone. As a result, energy efficiency often remains a secondary consideration in the broader renovation decision. Moreover, landlord preferences can influence the type and scope of improvements. As both Hamels (2024) and Albrecht (2021) note, many landlords tend to prioritise comfort, aesthetics, and usability over energy performance - particularly when EPC improvements offer limited short-term financial or visible returns.

These findings suggest that without better-aligned financial incentives and more tailored support for landlords, significant progress in deep energy renovations within the rental sector will remain difficult to achieve.

CHAPTER 4 - LIVED EXPERIENCES: CASE STUDIES AND INTERVIEWS FROM THE FIELD

This chapter explores real-life case studies and stakeholder interviews to better understand the practical challenges of energy renovations in the rental housing sector. It offers a qualitative perspective on how current policies play out on the ground - revealing not only technical and financial barriers but also emotional and social consequences for tenants and landlords. The chapter is divided into two sections: individual cases and organizational perspectives.

Section 4.1 presents five **case studies**. The first two focus on tenants - one living in a single-family home facing potential displacement due to future renovation obligations, and another in an apartment unit navigating the paradox of energy renovations that reduce utility costs while ultimately increase rent. The next three cases come from Verhuurderspunt Gent, a city service that offers on-site renovation coaching and technical support for landlords. These visits illustrate a range of landlord profiles:

- a middle-aged man dividing his home into two rental units,
- a young woman preparing to rent out her own house selectively,
- a couple who purchased a property for their university-aged children.

Each case highlights different motivations, constraints, and forms of support, offering insight into how renovation policy interacts with real-life decision-making.

Section 4.2 shifts to the organizational level through **interviews** with people from three key organisations:

- Verhuurderspunt Gent, which provides free support for private landlords in Ghent;
- Het Pandschap, an organization converting vacant homes into social rental housing;
- Stad Gent & De Energiecentrale, the City of Ghent and its one-stop service for energy-efficient renovations.

Together, these case studies and interviews illustrate the complexity of balancing energy goals with housing affordability and tenant stability. They reveal a landscape where technical solutions alone are not enough without social, financial, and regulatory coordination.

4.1 Case Studies

Case 1 : Tenant in a Single-Family Home

A woman, living with her family of five children in a rented house in De Pinte, faces significant anxiety over potential eviction or increased rental costs. She is seeking clarity on their future housing situation, as her family has been renting the home since before she was born and wishes to remain there indefinitely. The family's immediate concern arises from a recent Energy Performance Certificate (EPC) assessment that assigned their home an energy label E. According to current Flemish legislation, the house will need to be upgraded to at least an energy label D by 2035.

Though these mandatory renovations are not immediately required, the family is distressed by the prospect due to the considerable financial implications involved. The estimated minimum cost for renovating the large home to meet energy standards would amount to €200,000. The landlord has explicitly mentioned that he would opt to sell the property if required to make such substantial investments. Should the landlord sell, the new owner would then face a legal obligation to upgrade the property to at least a D-label within five years.

The situation contrasts notably with nearby Ghent, where a conformity certificate is mandatory for rental properties older than 30 years serving as main residences. If the house were situated in Ghent, roof renovations estimated at €28,500 would already be compulsory. Despite De Pinte not mandating a conformity certificate, Flemish law generally requires all homes to meet basic housing quality standards. Nonetheless, actual enforcement usually follows a conformity inspection and a potential declaration of unsuitability or uninhabitability.

Ghent offers considerable advantages to landlords through municipal subsidies aimed at improving rental housing quality and energy efficiency. Landlords who engage in such subsidized renovations may receive a reduction covering up to 50% of the renovation costs, conditioned on maintaining regulated rents. In addition, free renovation and financial advice are available, further incentivizing landlords to upgrade properties proactively.

However, there remains a tension between the legal requirements for energy improvements and the financial realities facing tenants and landlords. Energy efficiency renovations, although beneficial in the long term, pose a significant upfront financial challenge, particularly for landlords hesitant to invest in extensive upgrades without clear incentives. This financial barrier is further complicated by the split incentive issue, wherein landlords fund improvements but tenants primarily reap the cost-saving benefits.

Therefore, the family's situation encapsulates broader issues within Flanders' housing and energy policy landscape. With upcoming regulatory deadlines for energy improvements, tenants in energy-inefficient homes face increasing uncertainty and the risk of displacement. Effective communication, targeted subsidies, and structured policy interventions may prove crucial in managing such transitions equitably, avoiding exacerbation of housing instability and financial strain on vulnerable families.



Figure 57 : Drawing by Shakespeare, J.. for The Sydney Morning Herald (June 6, 2023).

Case 2: Tenant in an Apartment Unit

This case involves a single mother living in a modest two-bedroom apartment in Ghent, rented from a private landlord who owns multiple properties. The building was constructed in the late 1950s and had long suffered from poor insulation, resulting in high energy bills - especially during the winter months. Although the rent was relatively low for the area (just over €600 per month), heating costs often pushed the total monthly housing burden well beyond 40% of her income. She received a small housing allowance, but struggled to make ends meet as prices for food,

childcare, and transportation continued to rise. In 2023, her landlord announced that the building would be renovated. In addition to necessary structural renovations, the building would also undergo energy renovations, including the insulation of the front facade, double glazing, roof insulation, and a new heating system. The tenant was cautiously optimistic: the works could improve comfort, but she feared the rent would increase as a result. “I was glad they were finally fixing it. But I had this feeling it would come at a price. And I wasn’t wrong.” She was temporarily rehoused during the works. Upon returning, the improved insulation reduced her energy bills by approximately €60 per month. However, shortly after, the landlord raised the rent by €140, citing the improved EPC label and quality of the unit. “He said it was still affordable compared to other places, but it’s hard to see it that way when you already live on a tight budget. I can’t move, and I can’t really stay either.” Due to the tight housing market and her vulnerable position as a single parent, the tenant felt she had no viable alternative. She stayed in the renovated flat but now regularly has to cut back on other basic expenses.

This case underscores a paradox of the energy transition in the rental sector: while technical improvements reduce energy costs, they can simultaneously trigger rent increases that negate the benefits for low-income tenants. The risk of post-renovation poverty - being financially worse off despite better living conditions - remains a critical issue in Ghent’s rental housing landscape.

Cases 3, 4 & 5: Home Visits with Renovation Coaches from Verhuurderspunt Gent

Verhuurderspunt Gent is a city-run service launched in 2021 to help private landlords navigate the complexities of the rental market. It offers free, personalized guidance - including renovation advice (in collaboration with *De Energiecentrale*), assistance with obtaining a certificate of conformity (*conformiteitsattest*), support in applying for renovation loans and grants, and help with finding reliable contractors. Landlords who commit to renting at capped prices for at least nine years can receive renovation grants of up to €15,000. Since its launch, the initiative has supported over 800 renovation projects, aiming to make Ghent’s rental market more affordable and sustainable.

The following three case studies demonstrate how home visits typically unfold. They generally involve a renovation coach and a housing inspector.

Case 3: Landlord Renting out Split Home

We step inside the home of a landlord who plans to renovate the property before renting it out again. Joining us are renovation coach Filip Ruys, part of *De Energiecentrale*, and housing quality inspector Ludwig Mortier, both long-time colleagues who regularly conduct joint home visits. Their collaboration is well-rehearsed, and the division of tasks runs smoothly.

The landlord explains that the previous tenant recently moved out after being assigned a social housing unit. While Mr. Mortier carries out technical inspections – measuring moisture levels in the walls, checking whether the sockets are properly grounded, looking for smoke detectors, and evaluating an outdated gas heater – Mr. Ruys heads outside with the landlord to assess the building envelope.

Their main focus is to determine whether the walls are already insulated. First, Mr. Ruys checks whether cavity wall insulation might be present. If not, he evaluates whether the cavity is wide enough for future insulation. On this particular facade, it's not entirely clear: the few visible holes might be cavity wall drillings, but they could also be ventilation points. Mr. Ruys suggests removing a ventilation grille at a later time to take a better look inside.

Later in the visit, when they go upstairs and Mr. Ruys opens a window, signs of previous insulation work become more apparent – it's likely that cavity wall insulation has already been installed. Nevertheless, Mr. Ruys advises the landlord to check through the ventilation grille to be certain and not to install internal insulation. "Given the current setup, that could lead to moisture issues," he warns. External insulation would be the ideal solution – and it's technically feasible, since the sidewalk is wide enough.

However, the landlord is reluctant. The building's brick façade has a unique character, including some decorative details that would be lost beneath an insulated finish. "It would be a real shame to cover it up," he says.

After the visit, the housing inspector shares his observations with Mr. Ruys, who then compiles a detailed report tailored to the landlord's renovation plans. This report includes practical advice, technical guidance, and a roadmap to ensure the property not only meets conformity standards but is also more energy-efficient.

Case 4: Young Homeowner Selectively Renting Out

Another case shows a different kind of landlord: a young woman planning to move in with her boyfriend and, as a result, wants to rent out her own house - an old property clearly in need of renovation. To save on costs, she has taken on as much of the work herself as possible. It's Mr. Ruys and Mr. Mortier from the Verhuurderspunt (Rental Support Service) who come by for a home visit. I arrive a bit early and take the opportunity to ask her a few questions. How did she find out about the Verhuurderspunt? She's not exactly sure - probably partly through her own research and partly through word of mouth. Regarding her rental plans, she tells me she wants to rent the house privately. "I'd prefer to choose the tenants myself," she explains. "It's important to me that they get along with the neighbours - I have a good relationship with them and want to keep it that way."

Mr. Mortier arrives first, also a little early. He starts with a few questions to get a sense of the situation. Among the things discussed is the EPC (energy performance certificate) report from 2017. With a score of 556 for a terraced house, that's exceptionally poor. However, she had already made several improvements in the meantime: the cavity walls were filled with insulation beads, the roof had been thoroughly insulated, and a new stove had been installed.

It seemed like she mainly wanted to make sure everything was in order - to check that she hadn't forgotten anything. She was looking for confirmation, worried there might be things related to the required conformity certificate that she hadn't thought of. She was pleasantly surprised that there were hardly any remarks. She had been concerned that she might receive criticism or that she had overlooked important requirements. The only real issue was the stove: it lacked an air supply, and Mr. Mortier advised removing it rather than trying to retrofit a solution.

Once again, I was struck by how quickly they spot things. I imagine some people might feel they're not being thorough enough - the visit lasted less than an hour, and most of that time was spent talking with the owner about the house, the planning, and how the service works, rather than a detailed inspection.

Case 5: Parent-Landlord Renting to University-Aged Children

After the visit in Oosterzele, I cycle with Mr. Mortier to the second appointment of the day - a house in Voskenslaan. This time, instead of Mr. Ruys, Bram Baele, the second renovation coach at the *Verhuurderspunt*, joins us. A couple had bought a house for their four (future) university-aged children. Interestingly, they planned to rent the property - via the *Verhuurderspunt* - to one of their children.

That said, there were some things they were unaware of. They believed they would have to pay the vacant property tax. While discussing how expensive that tax was, and how it was pressuring them to hurry with the renovations, Mr. Baele chimed in: they didn't need to pay it if the property was under active renovation. This came as a pleasant surprise.

Later, the couple showed Mr. Baele a quote they had received for roof work. They felt good about the contractor and had the quote on the table. The cost? No less than €50,000. Mr. Baele expressed surprise at the high estimate. He advised seeking additional quotes. Even though the roof structure needed replacing, the price should not exceed €25,000 given the modest roof size. He was also convinced that a ring beam wasn't necessary, and pointed out that the proposed insulation thickness did not meet the 2050 energy standards.

He strongly recommended getting at least one or two additional quotes and mentioned that the *Verhuurderspunt* has a list of contractors. These aren't necessarily the best or most reliable, but they are companies the *Verhuurderspunt* can at least follow up with. There's also less risk of them going bankrupt.

While Mr. Baele was explaining all this, Mr. Mortier - as in every home visit - was methodically going about his inspections. He used one device to measure room dimensions, another to test whether outlets were grounded, and a third to check moisture levels within the walls. Meanwhile, and perhaps even subconsciously, he assessed other safety criteria: were there smoke detectors on every floor? Stair railings? Low windows without guardrails? In short, was the house safe?

In this case, there was a bed installed on a mezzanine without any railing or safety board - another example of a non-compliant element that would need to be addressed.

Mr. Baele is a different type of coach from Mr. Ruys. While Mr. Ruys takes many notes and photos during every home visit, Mr. Baele relies more on his memory. Mr. Baele has a more laid-back approach than Mr. Mortier or Mr. Ruys. Still, all three have something essential in common: they know how to work with people - not a minor skill when your job is to guide homeowners through renovation and social renting.

4.2 Interviews

Interview 1: Verhuurderspunt Gent

In a conversation with Niels Vandaele, staff member at the *Verhuurderspunt* (Landlords' Service) in Ghent, I gained a detailed understanding of how this relatively new city service operates, who it reaches, and what its main challenges are. The Landlords' Service was established in June 2021. Before that, landlords in Ghent had no dedicated contact point – they had to turn to the general housing office or the Tenants' Service.

A successful formula: home visits by both a renovation coach and an inspector

Since its launch, the service has carried out around 900 home visits. In at least 500 of those cases, an official certificate of conformity was issued afterward. A typical home visit includes both a renovation coach and a housing inspector. According to Mr. Vandaele, this combination works very well: “People really feel supported. The inspector draws up a report – not a binding one, but rather a preliminary or ‘test’ certificate – which gives landlords insight into the condition of their property without any legal consequences.”

Self-selection: those who come usually want to improve

Interestingly, “slumlords” (Dutch: *huisjesmelkers*) rarely knock on the door. “There’s a clear self-selection,” Mr. Vandaele notes. “Most of our visitors are private individuals with one or two additional properties. We only see larger investors every now and then.” Those who do come are generally motivated. Some want to do just enough to meet the basic standards, others decide to undertake major renovations. Overall, the feedback has been positive and appreciative – the team even receives thank-you emails now and then.

Ghent’s rental market: numbers

Ghent has about 50,000 privately rented homes. Of those, 15% are rented out via Thuispunt Gent, 3% through Huuringent, and the remaining 81% through the regular private market. Many landlords already have a preference in mind when they arrive – private rental, or via one of the city’s supported schemes. The option of conventioned rental is relatively new and not yet widely chosen. It’s more complex, requiring at least three properties (not necessarily all in Ghent), and financial viability vary by location. “You have to assess which option brings in the most income per property – for one home Thuispunt Gent might be best, for another in Deinze or on the coast, something else,” Mr. Vandaele explains.

Full-service management for landlords

Those who choose to rent through Thuispunt Gent can also opt into a full-service management scheme known as Het Pandschap. “It’s especially attractive to older landlords or those who don’t live in Ghent,” says Mr. Vandaele. “They are completely unburdened – Thuispunt handles everything: maintenance, rent collection, communication with the tenant. It’s a smaller, more specific group of landlords, and only comes up when someone is open to that level of support.”

Misconceptions and stigma

According to Mr. Vandaele, there are still many misconceptions – particularly around social rental. “There are horror stories about renting through social services or the city. But they’re often exaggerated or outdated. Thuispunt actually guarantees the quality of the property. If you want total security as a landlord, you can’t really rent to anyone. We try to debunk that narrative.”

Huuringent is another option that remains under the radar, even though it targets a slightly higher income group than Thuispunt Gent. “Huuringent serves people with an income of around €750,

while Thuispunt focuses on those earning closer to €650.”

Subsidies: not the main draw, but a welcome bonus

Of the 900 home visits, nearly 300 have led to a subsidy application – a significant proportion. However, subsidies aren’t the primary reason people approach the Landlords’ Service. “The real draw is the support, the personal advice, the sense that someone’s helping you assess your property.”

Digital skills and diverse audiences: flexibility is key

The audience is highly diverse – from young people in their twenties to homeowners in their nineties. Most are aged between 40 and early 60, which makes sense as they’re the most likely to own a second home. “Older people sometimes need help with digital tools, and we accommodate that. The approach has to be flexible.”

Visibility and outreach: beyond Ghent’s borders

While the service is intended for landlords in Ghent, Mr. Vandaele notes that awareness is spreading beyond the city limits. “We get requests from outside Ghent, even though that’s not our target group. It shows that the model is catching on, but we’ll need to monitor that interest – we don’t want to be overwhelmed.”

Broad political support, but continuous improvement needed

The Landlords’ Service enjoys support from both the majority and opposition parties. The mandatory conformity certificate has definitely driven up demand, but even without that requirement, the service would remain relevant. Free advice will continue to be a core element. Subsidies are being evaluated more critically, but are still widely used.

Looking ahead to a new policy regulation in 2026, Mr. Vandaele and his team are already reflecting on possible changes. At the moment, a home visit is required before any renovation takes place. “That’s not always practical. We’re exploring ways to make the process more flexible, without compromising quality – although a visit beforehand still has advantages.”

Internal expertise: working smarter

The team also continues to evolve internally. “Filip, a colleague, has been accompanying the housing inspector for years. He’s learned so much about housing quality that he could probably handle some visits on his own. We’re looking at ways to streamline operations like that.”

Interview 2: Het Pandschap

Het Pandschap is an organization that acquires, renovates, and transforms them into social rental housing. The program particularly targets vacant and deteriorated properties, ensuring that energy efficiency upgrades are implemented. Participating landlords benefit from subsidized renovations, while agreeing to cap rental prices for a set period. Het Pandschap may serve as an example of how public-private collaboration can incentivize landlords to upgrade properties without pricing out low-income tenants.

Sitting at a table in De Punt in Ghent, Bert Van den Broele, one of the driving forces behind Het Pandschap, speaks passionately about the organization that has been renovating vacant properties for social renting since 2018. “We’ve tackled more than 70 houses in Ghent already,”

he says. “And with every renovation, we learn more.”

Fixed prices in an unpredictable industry

One thing that sets Het Pandschap apart from traditional renovation companies is its fixed pricing model. “It sounds obvious, but in construction that’s rare. It’s like buying shoes without knowing the price beforehand,” Mr. Van den Broele explains. To avoid surprises, they charge a 20% buffer on top of the theoretical cost. “Sometimes we lose a bit, sometimes we gain - but it allows us to offer clarity to property owners.”

Not every property gets an A energy label

While energy efficiency is important, reaching an A label is not the ultimate goal. “Our main goal is to persuade owners to rent socially,” Mr. Van den Broele says. Renovations are basic and functional, not luxury. Roof insulation and new windows are standard upgrades. But floor insulation, facade insulation, and heat pumps are rarely installed, due to high costs and uncertain returns.

Hesitance regarding social renting

Some property owners hesitate the moment they hear “social renting.” “There’s still a lot of stigma,” Mr. Van den Broele notes. “Even within city services, people sometimes discourage it.” That’s a missed opportunity, as Het Pandschap offers a full-service model: complete renovation management and a partnership with social rental agencies like Thuispunt Gent, which handles all tenant communication. “For owners with no time or energy, or who live far away, it’s a huge relief.”

Ambition versus reality in housing policy

Governments say they want to invest in social housing, but in practice, little happens. “There’s plenty of money. The issue is the lack of political will,” Mr. Van den Broele says. Public subsidies change often: where Flanders used to cover 50% of renovation costs and Ghent added another 50%, this has now been reduced. “The rules change all the time. That’s a disadvantage - but also our strength: we stay up to date so the owners don’t have to.”

Why apartments are tricky

Het Pandschap mainly works on individual homes. Apartment blocks are only feasible if all owners agree to rent socially for nine years - a rare scenario. “As soon as one party disagrees, it becomes legally and practically unworkable.”

Growth - but only with stability

The organization operates regionally, with separate branches in cities like Bruges and Mechelen. “That’s intentional. Local knowledge is key,” says Mr. Van den Broele. Still, there’s an ambition to grow, provided the model becomes financially stronger. Meanwhile, he’s also working on new social housing projects, ideally under land lease systems. And when he’s not in Ghent? He’s in Nicaragua, building homes - fulfilling a long-held personal dream.

Interview 3: Stad Gent + Energiecentrale Gent

On May 7, I spoke with Michiel Bonte (Team Coach at Kwalitatieve Woningen, Dienst Wonen Ghent) and France Raulo (Team Coach at Energiecentrale Ghent). Michiel Bonte represented the City of Ghent, while France Raulo spoke on behalf of De Energiecentrale.

De Energiecentrale, Ghent's one-stop service for energy-efficient renovations, offers free, personalized advice and guidance to residents aiming to make their homes more sustainable. Their services include home visits by renovation coaches, tailored advice on energy-saving improvements, and support in navigating the complex landscape of grants and financing options.

Our discussion centred on the tension between maintaining affordability in rental housing and the need for energy-efficient renovations within Ghent's housing policy.

"As a local government, our influence is limited, but our principle is clear: we aim to ensure quality, affordable housing for as many residents of Ghent as possible - ideally, for everyone."

We explored the operations of their teams, policy implications, subsidy mechanisms, challenges faced in renovating private rental properties and apartments, and broader structural issues.

Roles and Team Operations

Both Mr. Bonte and Ms. Raulo function as team coaches within Ghent's city services, coordinating renovation advisors and contributing strategically to housing policy. Their responsibilities involve a combination of management, strategic initiatives, and coordination, emphasizing policy alignment, interdepartmental cooperation, and providing support to both residents and landlords.

Objectives and Policy Context

A key policy objective for Ghent is the improvement of the private rental market, which constitutes roughly 40% of the city's housing stock. The city's strategy centres on promoting renovations that improve both energy efficiency and basic housing quality. It supports landlords with targeted advice and subsidies, while linking financial incentives to the maintenance of affordable rental prices. To achieve this, Ghent offers subsidies contingent upon landlords conducting comprehensive renovations and renting their properties below a specified maximum price for at least nine years. Mr. Bonte clarified:

"From the outset, our subsidies have been tied directly to affordability. More financial support is provided when properties are rented out at capped rental prices."

Ms. Raulo emphasized the social objective: "We aim to ensure that energy renovations do not lead to higher rents. Tenants must genuinely benefit as well."

Functioning of Subsidies

Ghent employs a combined approach of incentives and enforcement - financial aid coupled with regulatory pressure through inspections and compliance with legal standards, in collaboration with the Inspection Department and Energiecentrale.

However, there are a few setbacks: larger private actors frequently receive substantial subsidies despite having less urgent need, and smaller landlords, who typically require more support, are harder to motivate.

Mr. Bonte highlighted this imbalance:

“Large entities understand how to efficiently secure subsidies but might not need them as much. Small landlords require more guidance but are difficult to mobilize.” Ms. Raulo further explained:

“It’s a policy dilemma. Larger landlords can swiftly renovate and put many units on the affordable market, yet they also absorb a substantial portion of the subsidy budget.”

Ongoing discussions focus on subsidy amounts, target accuracy, and impact on housing affordability.

Apartment and Collective Renovations

Renovating apartment buildings presents significant challenges. Collective decision-making among multiple owners is often slow and complex, with projects typically taking two to three years. Although Energiecentrale advises around 40 buildings each year, only a fraction moves forward with the renovations. Ms. Raulo described these challenges:

“Apartment building renovations often span several years. Just as momentum builds, new owners arrive who question and delay the process.”

Mr. Bonte emphasized the inadequacy of current tools: “Existing instruments are ill-suited for apartments with mixed ownership structures. This must change.”

Current Flemish policy tools also inadequately support collective renovation efforts, lacking collective financing schemes and comprehensive obligations for multi-year maintenance plans.

Structural Bottlenecks

A number of recurring issues continue to hinder renovation efforts in the rental sector. Frequent changes in regulations, combined with the lack of a long-term policy vision, create uncertainty and discourage landlords from investing. The administrative complexity involved in applying for subsidies is another major barrier - especially for smaller property owners. Meanwhile, support from the Flemish government remains limited, with minimal funding allocated to local initiatives such as De Energiecentrale. Fiscal and policy incentives for collective apartment renovations are also insufficient, despite the added complexity of co-ownership structures. Lastly, there is too little focus on social equity, raising concerns that large-scale investments may displace smaller owners or vulnerable tenants. Mrs. Raulo underscored this uncertainty:

“What’s causing the most harm now is the perception that long-term goals are no longer stable. People delay renovations because the future seems unclear.”

Mr. Bonte added: “Changing rules with each political term won’t motivate anyone. Long-term clarity and predictability are essential.”

Conclusion

The conversation concluded with reflections on fundamental policy dilemmas: balancing support for private investment returns with enforcing broader societal objectives. A coherent regulatory framework, improved financing mechanisms, and sustainable visions for collective renovations, especially in apartment buildings, remain critical needs for future policy development.

SYNTHESIS PART 2 - LANDLORD & TENANT IMPACTS: ECONOMIC & SOCIAL PERSPECTIVES

From an economic perspective, energy-efficient renovations tend to raise housing costs in multiple ways. Higher EPC ratings are linked to both increased rental and sales prices, but for landlords, the financial return on deep renovations is often underwhelming. Even in favourable conditions with high energy prices, payback periods often stretch across two to three decades. This makes private investment unattractive unless sustained public support mechanisms are in place to reduce the financial burden (EnergyVille, 2024).

For landlords, the financial equation remains complex. While energy upgrades may allow for rent increases or improve property values, these benefits rarely offset the high upfront costs. Based on a recent simulation by Vastmans and Vandenberghe (2024), the net return in a basic rental scenario is 3.29%. However, in high-cost renovation cases - where investment approaches 60% of a property's value - returns fall to 2.7%. Scenarios involving the most comprehensive renovations yield the lowest returns, confirming that deeper renovations tend to lower profitability.

These findings reflect a broader pattern: landlords in lower-income areas, or those with poor EPC labels, often show higher gross rental yields. But these yields reflect higher investment risk, not higher profits. Many small-scale landlords, particularly older owners, lack the long-term outlook needed to justify deep renovations, especially when rental income is their main source of retirement income.

Despite academic claims that subsidies are often inefficient or poorly targeted, interview data from this study tell a more nuanced story. In Chapter 4, three real-life landlord cases were examined in collaboration with a renovation coach and a housing quality inspector from Verhuurderspunt Gent. Two of these landlords clearly stated that they were encouraged to renovate *because* of the subsidies available. One remarked: "Gent is generous with subsidies, so of course I want to make use of them." The third landlord did not explicitly mention subsidies, but showed awareness of available financial support programs. This suggests that subsidies, especially when well-communicated through trusted intermediaries like Verhuurderspunt, can serve as an effective motivational tool for private owners.

A second insight from these interviews was the role of aesthetics. All three landlords were strongly opposed to placing external insulation on historic façades, citing the visual impact as a major drawback. Cavity wall insulation, on the other hand, was considered acceptable. This indicates that beyond technical or financial concerns, visual and architectural values can also strongly shape renovation decisions. Current policy frameworks rarely address this, despite its importance in built environments with heritage value.

From the tenant's side, the energy transition presents a difficult paradox. While renovations can reduce energy bills, these savings are often cancelled out by post-renovation rent increases. Several studies, including Gerassimenko et al. (2023), show that rent premiums linked to EPC upgrades (e.g., moving from D to A) average around 13%, or approximately €120/month based on current Flemish averages. This is roughly in line with monthly energy savings estimates, suggesting a *status quo* effect for tenants: the home improves, but affordability does not (Gerassimenko et al., 2023).

Other studies offer further nuance. A Swedish study found that rent increases after renovation were tied more to comfort and visual upgrades than to energy efficiency itself. Similarly, simulations show that energy savings often fall short in real-life settings due to changing user behaviour, i.e. the Energy Performance Gap (Conradie et al., 2023). One practical study, however, noted average monthly savings of €25 for renovations costing just €1,650, suggesting that the Energy Performance Gap should not be overestimated either.

Vulnerable households, such as single parents or large families, are especially at risk. They often rent substandard housing. When landlords choose to sell instead of renovate, tenants are more vulnerable to displacement. In this way, the energy transition can unintentionally lead to *post-renovation poverty* and even ‘green gentrification’, where only wealthier tenants benefit from energy-efficient homes.

One of the most persistent challenges is the split incentive: landlords bear the renovation costs, but tenants benefit from the energy savings. This discourages action unless there are tools to fairly share costs and benefits.

Access to capital may be another barrier. Many landlords lack the cash or credit to cover major works, even when subsidies are available (Hamels, 2021; Albrecht, 2021).

Information gaps further complicate the issue: many landlords are unaware of what financial help exists, how to apply, or what rules apply to their properties (Conradie et al., 2023).

Hidden costs also frequently arise. Renovations often cost more than planned due to technical surprises or the rising prices of labour and materials. The regulatory landscape adds further pressure: EPC targets, conformity rules, and rent indexation freeze regulations sometimes conflict or overlap.

In apartments with multiple owners (VMEs), renovation efforts are slowed down by coordination problems and unclear responsibilities. Even when coaching is available, many co-owners are unaware or unwilling to act.

Tenant voices are largely absent from renovation planning. Most have little to no influence over decisions that directly impact their living space, rent level, or energy costs. This lack of representation may raise equity concerns about decision-making in housing policy.

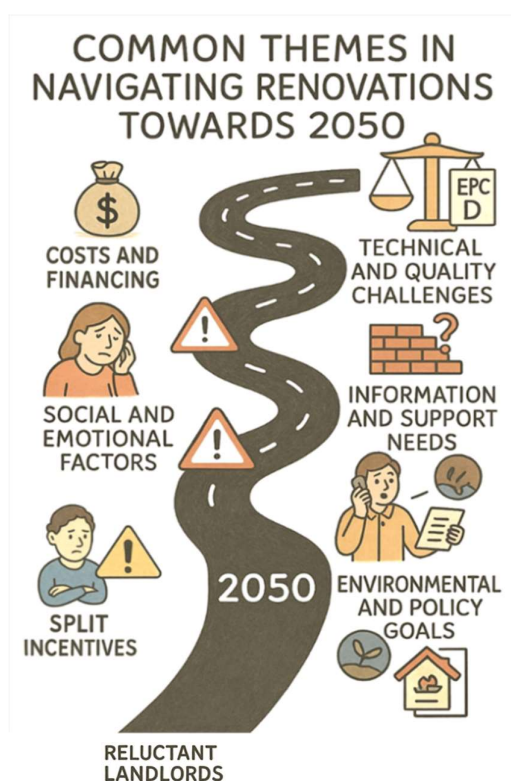


Figure 58 : Recurring Themes in Case Studies and Interviews (own image)

Despite these obstacles, local programs such as Verhuurderspunt Gent and Het Pandschap show promise. These organizations offer practical advice, technical guidance, and help landlords navigate financial incentives. The interviews suggest that when combined with in-person

coaching and clear communication, these programs can increase uptake of deep renovations without driving out tenants. However, scaling these efforts remains difficult, especially in buildings with shared ownership or weak organization.

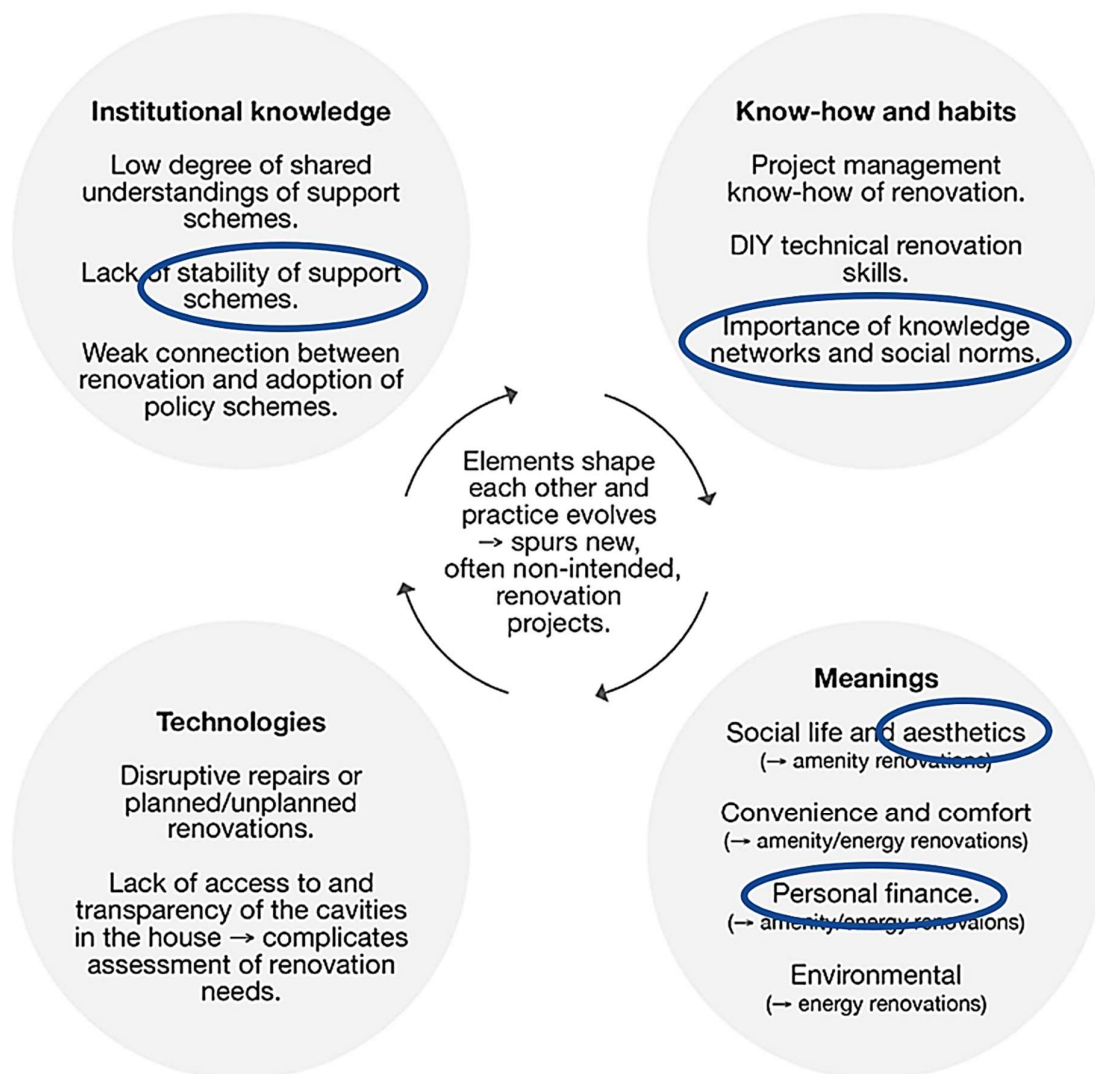


Figure 59: Identified challenges of energy renovation (Mogensen et al., 2023, inspired by Shove et al., 2012)

The next chapter will explore governance and structural strategies, including legal, financial, and behavioural tools, to reduce these barriers and better connect climate goals with housing needs in the rental sector.

PART 3 – ENABLING THE TRANSITION: FINANCING AND SUPPORT STRATEGIES

CHAPTER 5 - FUNDING TOOLS

5.1 Introduction

Encouraging renovation through financial incentives is vital but fraught with challenges, especially in the rental market. High initial investment costs and long payback periods deter property owners from pursuing renovations. The complexity of funding mechanisms raises questions about who should finance these projects and how subsidies impact socioeconomic equity. For instance, subsidies often widen the gap between rich and poor, as those with greater financial means are better positioned to take advantage of them. Unlike homeowners, landlords often view rental properties purely as investments, complicating the motivation for energy upgrades. The “split incentive” problem, where landlords bear the renovation costs but tenants benefit from lower energy bills, remains an obstacle (aHa! inZicht et al., 2015). Large-scale renovation simply cannot occur without substantial and sustained financial resources. Many households, especially those with limited income or borrowing capacity, lack the capital to undertake energy-efficient upgrades. Therefore, well-designed, trustworthy financial mechanisms are not just helpful - they are essential to the success of the energy transition. Without a financial return, a large portion of homeowners and landlords are unlikely to undertake renovations. Policies should thus be designed to provide clear, accessible financial incentives that make energy-efficient upgrades attractive.

5.2 Renovation Costs and Funding Needs

Energy-efficient renovations require significant, dwelling-specific investments. Contrary to popular belief, most landlords own just one or two properties, not uncommonly inherited from their parents. In other words, not all landlords have the financial means to make these upfront investments.

A full renovation from EPC label E to A typically costs between €50,000 and €85,000 per property (EnergyVille, 2024). Rental properties tend to incur higher costs due to additional factors like compliance with housing quality standards and the need to minimize tenant displacement (Albrecht & ITINERA, 2023). Homes with high energy labels can command rental premiums of up to 13%, according to Gerassimenko et al. (2023). Calculating with the renovation costs from Energyville mentioned above, payback periods often stretch over several decades, discouraging landlords from making high upfront investments.

That said, Kattenberg et al. (2024) found that smaller insulation measures, with an average investment cost of only €1,650 (covered roughly 100 m² of wall surface) led to average gas bill savings of around €300 per year (€25 per month) in the Netherlands between 2017 and 2020. This translates into a strong average return on investment of 19.9%, with a typical payback period of

about five years. Targeted insulation measures could thus deliver meaningful financial returns over time.

5.3 Existing Public Funding Mechanisms

Several funding sources currently support energy-efficient renovations, each designed to alleviate financial burdens and encourage sustainable practices:

5.3.1 Flemish and Belgian Subsidies

- Mijn VerbouwPremie provides up to 50% of renovation costs, capped at €17,500 per home, based on income levels (VEKA, 2024).
- EPC Label Grant offers €2,500–€5,000 for upgrading homes from labels E/F to A, B, or C (VEKA, 2024).
- Reduced VAT: Demolition and reconstruction VAT rates reduced from 21% to 6% (National Bank of Belgium, 2025).

5.3.2 EU-Level Funding

European Union funding mechanisms, including the Green Deal and Renovation Wave initiatives, offer grants and loans designed to achieve carbon neutrality by 2050 (European Commission, 2024). Similarly, the European Investment Bank provides targeted loans to municipalities and housing associations, enhancing their capacity to finance sustainable renovation projects (EIB, 2024).

5.4 Challenges in Accessing Funding

Landlords in Flanders face a wide range of financial and practical barriers when it comes to undertaking energy-efficient renovations. One of the most immediate challenges is the high upfront cost. Renovating a single dwelling can easily exceed €50,000, a sum that is simply unaffordable for many small-scale property owners (Albrecht & ITINERA Institute, 2023). This problem is especially relevant given that 67% of Belgian landlords own just one or two properties (VEKA – BE REEL, 2024), suggesting that many do not have the financial reserves of large real estate investors. While subsidies exist, they do not fully close the gap: nearly 45% of low-income households are still unable to afford the necessary improvements (EnergyVille, 2024). Even among landlords, some may fall into this category.

The split incentive problem complicates matters. In most rental situations, the landlord is responsible for financing the renovation, while the tenant reaps the benefits through lower energy bills. This misalignment of costs and benefits often discourages landlords from acting.

At the policy level, market distortions also reduce the efficiency of public funding. Around 65% of renovation subsidies reportedly go to "free riders" - homeowners who would have renovated without financial support anyway (Albrecht et al., 2021). This raises concerns about the targeting and impact of current subsidy schemes.

On a more general note, there is the issue of uncertainty in financial returns. According to research done by Peter Conradie (UGent – Imec), renovation decisions are often postponed due to uncertainty - about timing and technological maturity (e.g., heat pumps), but also due to uncertainty about expected savings. In addition, rules and subsidy schemes change frequently, which creates confusion and undermines trust in long-term planning. When financial mechanisms are unpredictable, landlords are less likely to invest (BE REEL!, 2024).

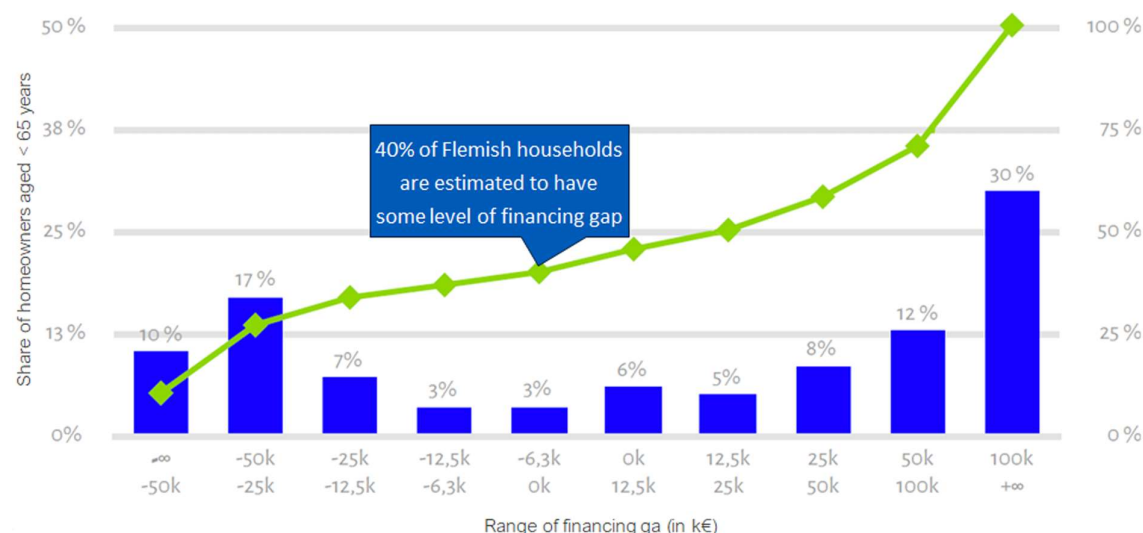


Figure 60 : Share of households by budget available for renovation and financing gaps for climate renovations (Albrecht, 2020)²²

Figure 60 highlights the financial challenges many households face. It shows that around 40% lack the means to finance necessary climate renovations, even with available support measures (Albrecht, 2020). At the same time, Johan Albrecht notes that approximately 65% of EU renovation subsidies go to high-income households - often referred to as “free riders” - who would have renovated regardless. This raises concerns about the fairness and efficiency of current subsidy policies. Addressing this issue will require more precisely targeted financial instruments.

Note: According to CLIMACT, the real situation may be more challenging than their assumptions suggest:

1. The study assumes relatively modest renovation expenses. In reality, upgrading a home with an EPC label E or F (which accounts for about 50% of single-family houses) to label A costs around €80,000 on average (based on a 2019 estimate, not adjusted for inflation). In contrast, Johan Albrecht’s model assumed that only 8% of households would face renovation costs exceeding €60,000.
2. Long-term financing options may not be accessible or appropriate for all households, particularly those with low or unstable incomes.
3. People over the age of 65 are often left out of renovation strategies, despite representing a large share of homeowners. This group should not be overlooked in climate renovation planning.

5.5 Innovative Funding Models

To address the barriers to financing energy renovations - such as high upfront costs, limited borrowing capacity, and the split incentive problem - a growing number of innovative funding models are being tested and implemented. These mechanisms aim to distribute renovation costs more fairly over time, reduce financial risks for vulnerable households and landlords, and stimulate investment at scale.

5.5.1 Energy Service Companies (ESCOs)

Energy Service Companies (ESCOs) offer a service-based model where they finance and execute energy efficiency upgrades, recovering costs through the energy savings achieved over time. This model shifts both financial and technical risk away from the property owner. For landlords, ESCOs present an appealing solution to the split incentive problem: tenants benefit from lower energy bills, while the ESCO's repayment is performance-based. This model is most effective in multi-unit or larger-scale renovations, where guaranteed energy savings can be reliably measured (Elgendy & Mlecnik, 2024).

5.5.2 On-Bill Financing

On-bill financing enables property owners or tenants to repay energy renovation investments through their monthly utility bills. This direct link between energy savings and repayment enhances affordability and simplifies administration. Because the payments align with energy consumption, landlords may be more willing to invest even if tenants benefit from lower utility costs, helping to mitigate the split incentive. It has been successfully deployed in several European municipalities and is currently under exploration in Flemish pilot projects (Conradie et al., 2023; Climact, 2022).

5.5.3 Green Mortgages

Green mortgages incentivize sustainability by offering lower interest rates to buyers or renovators of energy-efficient homes. Financial institutions increasingly reward improved EPC scores with better borrowing terms. In Belgium, such products are gaining popularity, particularly among middle-income households aiming to upgrade older properties. By reducing borrowing costs, green mortgages can increase the feasibility of deep renovations and help integrate energy performance considerations into the mainstream real estate market (Damen et al., 2025).

5.5.4 Public-Private Partnerships (PPP)

Public-private partnerships combine public funding with private investment to finance and deliver renovation projects. Cities like Ghent have been instrumental in enabling renovations of private or social housing. These partnerships often include affordability guarantees and long-term maintenance contracts, making them attractive to both municipalities and residents. A good example is Het Pandschap in Ghent, where private owners agree to rent out renovated homes at capped prices, while the organization manages the renovation and offers financial and technical

support. By leveraging private expertise and capital, PPPs can scale renovation efforts more efficiently while maintaining social objectives (De Geest, 2024).

5.5.5 Collective Renovation Schemes

Collective or neighbourhood-scale renovations offer economies of scale and reduce logistical complexity. By coordinating efforts across multiple properties - often within a single block or neighbourhood - local governments and cooperatives can negotiate better prices, pool resources, and accelerate timelines. These approaches are particularly effective in dense urban areas with diverse housing types and high rental concentrations. Additionally, they tend to boost participation by offering peer support and access to expert guidance for both owners and tenants.

5.5.6 Property-Linked Revolving Funds

These funds front the renovation costs for homeowners or landlords and are repaid only when the property is sold, transferred, or refinanced. This model defers repayment until a financially more advantageous moment, thus eliminating the need for immediate liquidity. It allows public money to be "recycled" across multiple households over time. Gent's "Gent Knapt Op" initiative is a leading example, targeting under-invested neighbourhoods and offering integrated support to owners with limited means, particularly in the rental market.

5.5.7 Annuity-Based Financing

This model involves a public or cooperative fund covering upfront renovation costs, with repayment occurring through small regular payments or a final lump sum upon sale. It may blend aspects of interest-free loans and bullet loans. In some cases, elderly homeowners can opt for a lifelong income in exchange for transferring property ownership to the fund, which includes a renovation clause in the contract. This can stabilize incomes for seniors while upgrading the housing stock and preserving affordability over generations.

5.5.8 Taxation and Behavioral Incentives

Taxes and prices can push people to use less energy. In Sweden, a carbon tax started in 1991. It cut emissions by 25% while the economy grew. The tax worked because it was clear, predictable, and slow to increase. Belgium could use a similar system. For example, by decreasing the price of electricity relative to gas, or giving tax breaks for green renovations. This would encourage greener choices (Nudge, 2022; BE REEL!, 2024).

5.5.9 Bullet Loans

Bullet loans are designed to address liquidity constraints by allowing repayment only at the moment of property transfer or inheritance. This model is especially relevant for elderly homeowners or landlords with little monthly repayment capacity but substantial property equity. Because no repayments are required during the loan term, financial stress is minimized. This

model ensures that energy renovations can proceed even when current income is insufficient, while also aligning with life-cycle housing strategies and estate planning (Climact, 2022).

Table 16 : New pre-financing instruments (Climact, 2022, as mentioned in Woucters, 2024)

Target Group	Description of Target Group	Suitable Mechanism	Issues Within This Group
A1	Households with financial capacity who need a longer term to pay the monthly instalments.	Interest-free loan over 30 years (instead of 25 years)	555,000 (<65 years) cannot repay over 25 years
A2	Households that struggle with financing due to age or limited financial capacity	On-bill financing bullet loan (at 2% interest)	80% of single-family homes with an EPC label E or F lack sufficient resources
A3	Households without financial capacity who live in energy poverty and cannot pay an energy bill	Bullet loan (at 0% interest)	7% of households in Flanders live in energy poverty
B	Long-term financing is not an option due to age limit (>65 years)	On-bill financing bullet loan (at 0% interest)	670,000 property owners in Flanders over 65 years have no access to long-term financing

5.6 Tools for Funding

To support the renovation of private rental homes and apartments, especially in the context of energy efficiency, several policy tools have been identified to optimize funding mechanisms. These tools aim to overcome financial and structural barriers, improve equity, and increase renovation rates. Below is a structured overview based on your outline, enriched with findings from recent reports and policy studies:

1. Adjusting Energy Price Ratios

To encourage the uptake of electric heating technologies like heat pumps, it is crucial to maintain or reduce the electricity-to-gas price ratio to between 2 and 2.5. A higher ratio makes electric options financially unattractive due to long payback times. Stabilizing this ratio improves the business case for heat pump investments, especially in multi-family buildings where decisions are made collectively (EnergyVille, 2024; VEKA, 2023). Between 2016 and 2021, Belgium had the highest electricity-to-gas price ratio. Moreover, the electricity-to-fuel oil ratio has been similarly elevated:

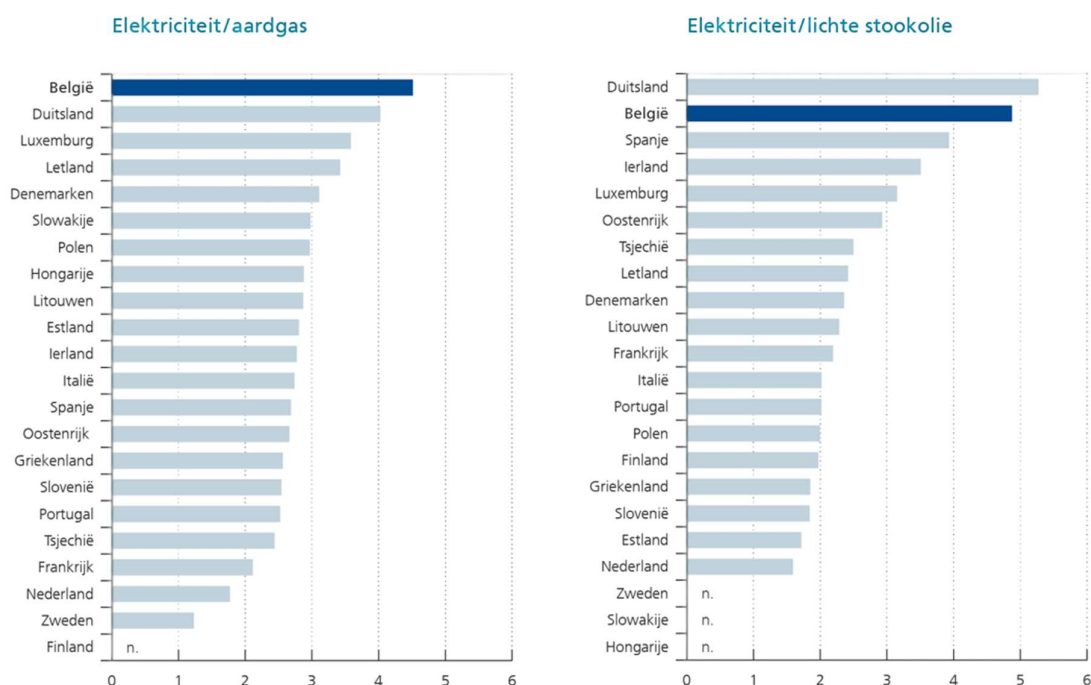


Figure 61 : 2016-2022 Average Electricity-to-Gas Price Ratio (left) & Electricity-to-Fuel Oil Price Ratio (right) (NBB, 2023)

2. Increasing Grants for Low-Income Landlords

Of the 855,000 Belgians who own more than one house or apartment, 67% own 2 properties, 28% own between 3 and 5 properties, 4% own between 5 and 10 properties, and 1% own more than 10 properties (BE REEL!, 2024). While many assume landlords are wealthy, about half of Belgian landlords rent only one or two extra properties, according to Damen et al. (2025). De Smalen & Winters (2024) give numbers of another magnitude for Flanders: 71% of private landlords rent out only one home. These small-scale owners often lack the capital to invest in deep renovations. Targeted subsidies for this group can help overcome upfront cost barriers and enable broader participation in climate policy goals (Elgendy & Mlecnik, 2024)

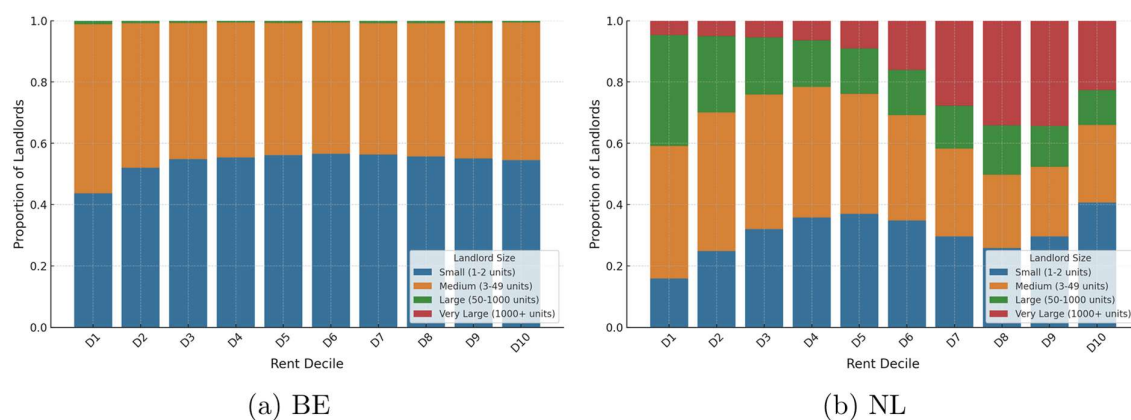


Figure 62 : Landlord Size by Rent Decile – Belgium vs. the Netherlands (Damen et al., 2025)

3. Simplifying Subsidy Applications

Administrative complexity remains one of the major deterrents for renovation. Landlords, especially elderly or less digitally literate ones, often do not apply for subsidies due to unclear requirements or the time-consuming process. One-stop-shops like *De Energiecentrale* or *Verhuurderspunt Gent* have proven that personalized support and bundled services reduce this barrier significantly (Bielen et al., 2023; Stad Gent, 2023).

4. Addressing Information Gaps

Many landlords are unaware of existing support tools or legal obligations related to renovations. Coordinated communication strategies, proactive outreach by local governments, and clear public platforms are vital. Using pre-filled applications and trusted intermediaries can enhance participation (BE REEL!, 2024)

5. Post-Renovation Rent Control

Without safeguards, renovation can result in rent increases that displace vulnerable tenants. Tools like renovation contracts, temporary rent caps, or conditions linked to subsidies can help mitigate this risk. Social rental agencies (SVKs) already implement models where fair rent adjustment is tied to quality improvements (Woonzaak, 2023; Bielen et al., 2023).

6. Supporting Collective Renovation Efforts

Renovating at the scale of entire buildings or neighbourhoods increases efficiency and cost-effectiveness. Programs like *Collectief Renoveren* in East Flanders and district-wide renovation pilots in Ghent have shown how coordination through homeowners' associations (VMEs) and syndics can reduce transaction costs and technical barriers (Draaiboek Stad Gent, 2023; Elgendy et al., 2024)

7. Energy Renovations in Social Housing

Ensuring housing affordability during the energy transition requires closer alignment between energy and housing policies. This includes linking renovation subsidies to social housing goals, enabling long-term rental affordability, and supporting mixed-income building strategies (Bruggeman et al., 2022)

8. Ensuring Policy Stability

Policy volatility is a barrier (Conradie et al., 2023). Landlords and investors hesitate to act when regulations and support schemes frequently change. Long-term consistency in subsidy rules and financial products is essential to build trust and encourage participation in renovation plans (BE REEL!, 2024)

These primarily financial incentives alone are not sufficient. Supporting renovation in the private rental sector requires a comprehensive mix of pricing policy, regulatory clarity, technical assistance, and social safeguards. Local governments and intermediary actors can play a critical role in adapting these tools to the specific needs of small-scale landlords and buildings with mixed ownership. The next chapter will explore support strategies aimed at reducing the burden of renovation processes.

CHAPTER 6 - UNBURDENING STRATEGIES

"Make the green option the easy option." – Nudge (2022)

Achieving widespread energy renovations requires more than just financial support. The current landscape, with its “lasagna” of complex regulations, makes the renovation process time-consuming and daunting. Simplifying these processes can lower the threshold for homeowners and landlords to embark on renovations. This chapter focuses on *unburdening*, i.e., simplifying the renovation process and thus boosting renovation uptake.

Unburdening involves reducing psychological, technical, administrative, and financial hurdles through tools such as one-stop shops, pre-financing models, collective approaches, and tailored communication. This chapter outlines the main challenges in the renovation landscape (Section 6.2), presents effective unburdening strategies (Section 6.3), proposes actionable policy tools (Section 6.4), and reflects on behavioural and international insights to support a just and inclusive energy transition (Section 6.5).

6.1 Challenges in the Renovation Process

Despite a growing policy emphasis on building renovation, landlords in the private rental sector continue to face numerous practical and psychological barriers that hinder progress. These challenges make targeted “unburdening” strategies not only helpful but essential. Without intervention, renovation uptake remains low, especially among small-scale property owners who dominate the Belgian rental market.

One of the most cited obstacles is **administrative complexity**. Subsidy systems, despite their growing generosity, often involve fragmented, overlapping procedures that are difficult to navigate. Research by Bielen et al. (2023) shows that nearly half of eligible landlords do not apply for available subsidies, citing the time-consuming and opaque application processes as a primary deterrent.

A recent evaluation by Steunpunt Wonen (Valcke & Van den Broeck, 2025) highlights that, although the *Mijn VerbouwPremie* and *Mijn VerbouwLening* are designed to be inclusive, they remain significantly underutilized by private landlords. Despite generous incentives, uptake is limited due to administrative complexity and the absence of targeted outreach strategies. Implementation barriers are particularly pronounced for applicants with low digital literacy. The evaluation identified substantial procedural hurdles, including lengthy processing times and limited accessibility. These issues disproportionately affect socioeconomically disadvantaged groups (Valcke & Van den Broeck, 2025).

Although tenants represent approximately 22.7% of Belgian households, only 1.1% of approved *Mijn VerbouwPremie* applications came directly from tenants and just 4.3% from private landlords. This indicates an underrepresentation of the rental sector in the distribution of renovation subsidies (Valcke & Van den Broeck, 2025).

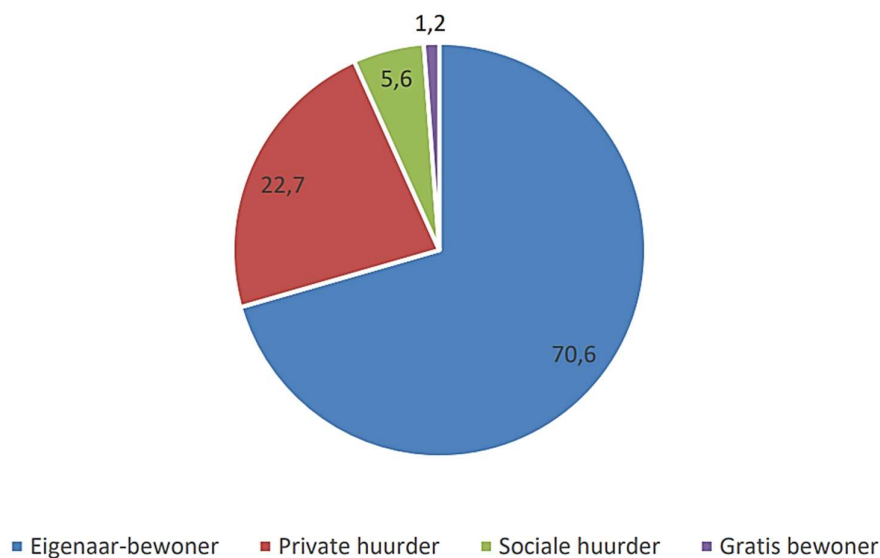


Figure 63 : Ownership Status of Flemish Households in 2023 - Tenants Make Up 22.7% of Belgian Households (Woonsurvey 2023, via De Smalen & Winters, cited in Valcke & Van den Broeck (2025))

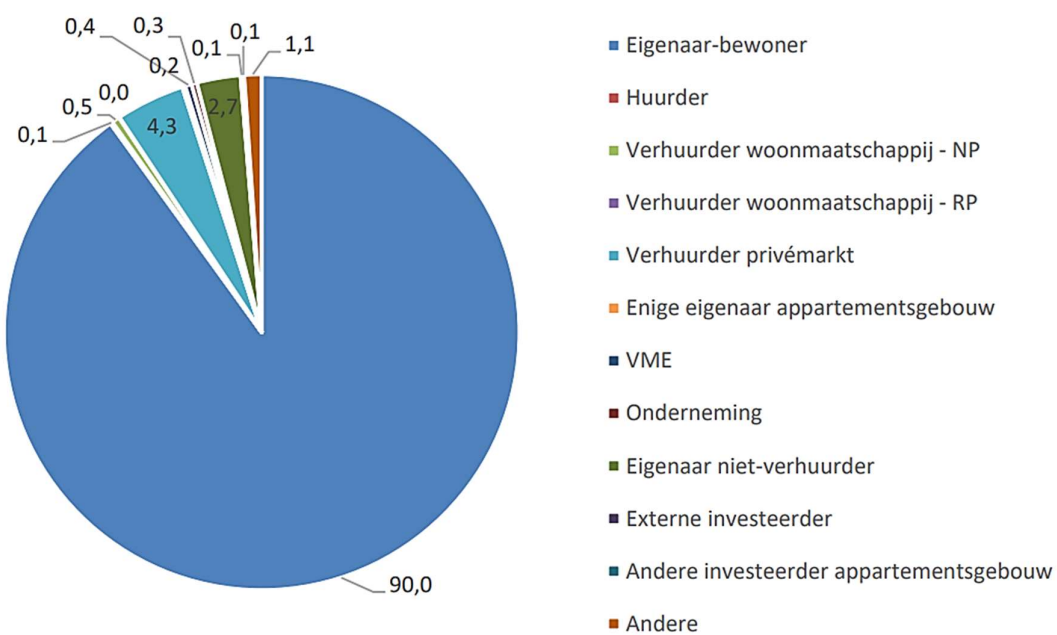


Figure 64 : Distribution of subsidized dwellings by type of applicant - Only 5.4% of MVP Applications from Tenants or Private Landlords (Valcke & Van den Broeck, 2025, data from MVP/VEKA)

In cases involving co-owned apartment buildings, it becomes more complex due to shared decision-making structures and coordination demands among multiple owners.

Closely linked to this is a **knowledge and expertise gap**. Many landlords, particularly older or non-professional ones, lack the technical knowledge to select optimal renovation strategies or evaluate the return on investment. EnergyVille (2024) notes that this lack of confidence can lead to inaction or suboptimal choices, especially in a landscape of rapidly evolving technologies such as heat pumps and smart insulation systems.

Another structural barrier is the well-known **split incentive problem**, where the landlord bears the cost of renovation while the tenant benefits from reduced energy bills. This misalignment reduces the economic motivation for landlords to invest, especially when there is no mechanism to recover part of the energy cost savings through rent or other incentives (Kattenberg et al., 2023).

There is also considerable **uncertainty about costs and returns**. Many landlords hesitate due to fluctuating material prices, unclear timelines, and unpredictable savings. As Van Maele (2023) explains, even generous subsidies cannot fully compensate for perceived investment risk, particularly if the expected energy savings are modest or if resale value benefits are unclear.

In addition to the unpredictability of returns, a study by Gepts et al. (2025) found that renovation activity typically lags 15 to 24 months behind loan approvals. The study therefore underscores the importance of long-term policy predictability and stable financing tools to maintain momentum and investor confidence.

Finally, psychological factors also contribute to delay. According to Peter Conradie (UGent-IMEC), decisions are often postponed not just by uncertainty in financial outcomes, but also by general doubts about timing and technological maturity.

A further challenge is posed by **labour market bottlenecks**. Belgium currently faces a shortage of qualified construction workers, especially in trades like insulation installation, HVAC systems, and structural retrofitting. This results in long waiting times and inflated costs, which dampens renovation momentum (National Bank of Belgium, 2025). As more homes enter the renovation pipeline due to stricter energy performance regulations, competition for skilled labour is expected to intensify.

In addition to these structural barriers, more **everyday constraints** also play a role. Many landlords cite a lack of time or energy to manage a renovation project, especially if they are already dealing with other responsibilities or are unfamiliar with construction processes. For elderly landlords - who make up a substantial portion of the rental market - this factor is particularly acute. Research by Bielen et al. (2023) notes that around **75% of landlords are over the age of 64**, a demographic that is less likely to engage with digital platforms, follow up on complex procedures, or initiate major investments late in life.

Lastly, renovation in **multi-unit buildings** presents an added layer of complexity. In Belgium, shared apartment buildings are managed by a "Vereniging van Mede-Eigenaars" (VME), or owners' association. Any renovation must be approved by the group. Up till 2025, energy renovations required a two-thirds majority vote. Fortunately, this has been changed to a 50% majority. However, in practice, reaching agreement is still not easy - especially in buildings with many different types of owners. Even when subsidies are available, it is often difficult to make decisions that a majority can support, particularly when large sums of money are involved (Smismans, 2024; CondoReno, 2024).

Without structural support, financial incentives alone will not be enough to trigger the large-scale renovations needed.

6.2 Unburdening Strategies

To overcome the barriers identified in the renovation process, a range of unburdening strategies has been developed in Flanders and beyond. These approaches focus on simplification, targeted guidance, and reducing financial and procedural uncertainty. They are especially crucial for small-scale landlords and co-owners, who often lack the time, resources, or technical expertise to manage complex renovation projects.

6.2.1 One-Stop Shops (OSS)

One-stop-shop (OSS) models centralize access to renovation advice, subsidies, financing, and contractor coordination. In Flanders, this approach is embodied in the network of *Energiehuizen*. A leading example is De Energiecentrale in Ghent, which has supported over 17,000 households with renovation projects worth €58 million, reducing CO₂ emissions by approximately 5,800 tonnes annually (EU Sustainable Energy Week, 2024; Stad Gent, 2024).

Other OSS models include SAAMO's Goed Plan, which provides personalized support for vulnerable households. In collaboration with local governments and welfare services, it offers step-by-step coaching, technical advice, and help with paperwork (Departement Omgeving, 2023).

The Energent cooperative runs *Collectief Renoveren* in East Flanders, combining OSS services with collective renovation offers. The program emphasizes citizen engagement and digital support tools.

Digital tools are increasingly important in supporting renovation efforts, but their effectiveness is often limited by barriers such as digital illiteracy, procedural complexity, and co-financing requirements. These challenges disproportionately affect small landlords and tenants in older housing stock (Anguelovski et al., 2022). The Mijn VerbouwPremie platform integrates multiple renovation subsidies into a single application system (Vlaanderen.be, 2024). It is complemented by Mijn VerbouwBegeleiding, a coaching service that connects households with energy experts for guidance throughout the renovation process (Vlaanderen, 2025).

To improve landlord engagement, communication models like the 7E Model (Enlighten, Enthuse, Exemplify, Encourage, Enable, Engage, Experience) and EAST principles (Easy, Attractive, Social, Timely) have proven effective in lowering psychological and informational barriers (aHa! inZicht, 2015).

6.2.2 Financial Risk Reduction

Many landlords hesitate to renovate due to concerns about upfront costs and uncertain payback periods. Tools like ESCOs and on-bill financing, as discussed in Chapter 5, help spread payments over time and link them to energy savings. Moreover, this provides a promising way to address the split incentive issue in rental housing (Elgendy & Mlecnik, 2024; Conradie et al., 2023).

6.2.3 Collective Renovations

Renovating at the neighbourhood or building level can lower costs and simplify logistics. Cities like Ghent and Antwerp have experimented with *wijkrenovaties* (neighbourhood renovations), where homes are grouped for joint interventions. These projects might improve efficiency, reduce costs, and support social goals such as inclusion and urban renewal (Atelier Romain, 2023).

Cooperative procurement further enhances affordability by enabling landlords to benefit from group discounts on materials like insulation or solar panels (EnergyVille, 2024).

Renovations in apartment buildings, co-owned through *Verenigingen van Mede-Eigenaars* (VMEs), face additional legal and organizational barriers. Although the voting threshold for energy renovations was recently lowered to 50%, decision-making remains slow due to absentee owners and mistrust among co-owners (Smismans, 2024; Van Peteghem, 2024).

To assist, OSS initiatives such as *De Energiecentrale* offer renovation coaching tailored to apartment buildings. For buildings with at least 15 units, VEKA covers up to 60% of the cost for creating a renovation master plan, with a maximum subsidy of €12,000 including VAT (VEKA, 2025). This eases coordination and helps professionalize decision-making.

6.2.4 Legal and Communication Support

Clear agreements and open communication are essential for smooth renovations in the rental sector. Social Rental Agencies (SVKs) in cities like Ghent and Leuven act as intermediaries between landlords and tenants, facilitating upgrades while protecting fair rent practices (Bielen et al., 2023).

Standard legal templates, such as renovation clauses in lease agreements, help define roles and avoid disputes (Woonzaak, 2023). In some cases, municipalities offer temporary rent reductions or relocation support for tenants affected by disruptive works (Bruggeman et al., 2022).

6.2.5 Tenant-Led Renovations

Housing and energy costs are converging burdens for low-income households. The EU average shows 18.5% of households cannot maintain thermal comfort, and over 40% of income may be spent on rent and bills in some income brackets (Ozdemir & Koukoufikis, 2025).

In certain situations, tenants can take the lead in energy upgrades. With landlord consent, they may carry out renovations in exchange for lower rent or longer lease security - an arrangement known as a Renovation Lease.

Since 2025, non-invasive energy improvements such as plug-in solar panels are also allowed without formal consent, provided they don't affect the building's structure. This policy empowers tenants to contribute to energy goals while reducing dependency on landlord initiative.

6.2.6 Workforce Solutions

Labour shortages remain a bottleneck for renovation progress. Fast-track training programs, like VEKA's *Renovation Workforce Acceleration Program*, aim to quickly prepare workers for key construction tasks (VEKA, 2024).

To supplement the domestic workforce, international recruitment strategies are being explored, particularly in coordination with neighbouring countries (National Bank of Belgium, 2025). Meanwhile, modular renovation techniques - such as prefabricated insulation panels or plug-and-play heat pumps - reduce on-site labour needs and shorten project timelines (EnergyVille, 2024). These methods are particularly useful for large or multi-family buildings, where time and access are often limited.

6.3 Behavioural Insights

Technical tools and subsidies alone are often not enough to convince homeowners or landlords to renovate. Behavioural science shows that how choices are presented can strongly influence decision-making. People do not always act based on rational cost-benefit analysis. Instead, they often prefer the default option, avoid complexity, and postpone action when uncertain.

6.3.1 Reducing Friction Through Defaults

One key behavioural insight is that people tend to stick with the default. In Germany, for example, more than 90% of consumers remained with a green electricity provider when it was set as the default option (Nudge, 2022). This principle can be applied to renovations as well.

Establishing default renovation paths - such as pre-filled application forms, preferred contractor lists, or suggested renovation bundles - can help people take the first step. These “standard packages” reduce choice overload and speed up decisions. Municipal services or one-stop-shops could offer such packages tailored to building type and income level. By removing friction and making the green choice the easy choice, more owners are likely to follow through.

6.3.2 Reducing Uncertainty

Another major barrier is uncertainty. Many landlords and homeowners postpone renovations because they are unsure about costs, the timing of works, or the real benefits. Research by Conradie et al. (2023) shows that property value expectations have a bigger impact on renovation choices than projected energy savings. Owners want to know if the investment will pay off if they sell the home, not just if the energy bills go down.

To reduce this uncertainty, renovation platforms should offer clear examples, real-life testimonials, and tools like cost calculators. One-stop-shop services that include guided decision support and easy-to-use planning tools can give property owners more confidence. Some platforms already integrate EPC simulations, step-by-step roadmaps, and renovation stories from similar homes.

6.3.3 International Models

Behavioural barriers can also be reduced at the system level. Some European cities have developed governance models that take pressure off the individual by handling renovations centrally:

- In Vienna, public housing entity Wiener Wohnen oversees and organizes large-scale renovations, simplifying the process for residents.
- Copenhagen has implemented a city-wide heating system that eliminates the need for individual households to manage heating upgrades independently.

According to Johan Albrecht, these models show that centralised coordination can make renovation more accessible and allow governments to act strategically across neighbourhoods. Especially for vulnerable groups, reducing the burden on individuals is key to equitable renovation (Albrecht, 2023).

6.4 Tools for Unburdening

To simplify the renovation journey, a comprehensive toolkit is needed. These tools reduce stress, clarify procedures, and support decision-making - especially for homeowners, landlords, and tenants who may lack time, knowledge, or resources.

1. One-stop-shops (e.g., Energiecentrale)

Provide reliable, accessible, centralized hubs for information, financial advice, and referrals to trusted contractors. Local examples like *De Energiecentrale* in Ghent demonstrate that coordinated support increases renovation uptake, especially when tailored coaching is offered (Stad Gent, 2024; VRT NWS, 2025).

2. Pre-approved contractor lists with fixed prices

Reduce uncertainty and accelerate decision-making. Lists of vetted contractors with transparent pricing help homeowners avoid delays and unexpected costs. This approach is especially important for elderly owners or first-time renovators (LLTRS, 2024).

3. Digital platforms

Facilitate communication between homeowners, advisors, and contractors, allowing for project tracking and smoother coordination. Platforms like *Mijn VerbouwPremie* integrate multiple subsidies into a single system, simplifying the administrative burden (Vlaanderen.be, 2024).

4. Prefab materials

Reduce on-site complexity and construction time. Prefabricated insulation panels, plug-and-play heat pumps, and ready-made renovation components reduce dependence on scarce skilled labour and help meet tight timelines (EnergyVille, 2024).

5. Bottom-up engagement

Mobilize local actors and communities to co-create solutions that are practical and locally relevant. Initiatives such as *Collectief Renoveren* (Energent) and *Goed Plan* (SAAMO) show how neighbourhood-level engagement can boost trust, reach vulnerable groups, and increase uptake (Departement Omgeving, 2023).

6. Encourage Risk-Free Financing

Increase pre-financing options through ESCOs and on-bill repayment programs. These models allow homeowners and landlords to renovate without major upfront costs, and repay investments through savings on energy bills (Elgendy & Mlecnik, 2024; Conradie et al., 2023).

7. Support Collective Approaches

The energy transition should not rely solely on individual behaviour change or scattered interventions. Collective approaches - such as energy communities, district-wide renovation schemes, and shared investment models - can deliver more stable and equitable outcomes, particularly in densely built environments.

One critical area of focus is the coordination of co-ownership structures (VME), which often face delays due to fragmented decision-making and competing priorities among residents. Facilitating joint action in these settings is essential. Policy tools such as renovation master plan subsidies, which can cover up to €12,000 per apartment building, are designed to support stakeholder alignment and long-term planning (VEKA, 2025; Smismans, 2024). By encouraging cooperation across ownership boundaries, these collective strategies help overcome administrative deadlock and scale up renovation efforts more effectively.

8. Enhance Tenant Safeguards

Require clear renovation agreements, provide relocation assistance or temporary rent caps during renovations to protect vulnerable tenants from displacement. Legal and social safeguards are essential for inclusive renovation (Woonzaak, 2023; Bruggeman et al., 2022).

9. Accelerate Workforce Development

Expand fast-track education to train workers in renovation skills. Support innovation in prefabricated systems and digital project tools to reduce labour dependency and shorten project duration (VEKA, 2024; EnergyVille, 2024).

10. Social housing as a relatively easy way to renovate housing stock

Social housing offers a comparatively straightforward and cost-effective pathway to decarbonizing the housing stock while addressing structural housing inequalities. By integrating energy and social housing policies, governments can efficiently align climate goals with poverty reduction strategies. Social housing agencies, with their capacity for large-scale planning and implementation, are well-positioned to lead in demonstrating scalable and equitable renovation models (EnergyVille, 2024; Bruggeman et al., 2022). Renovating social housing in bulk is often more efficient than scattered interventions in the private market and allows for tighter quality control, tenant protection, and long-term affordability. However, some observers remain critical of the current implementation capacity in Flanders. Although €4.5 billion in low-interest credits was budgeted for the 2019–2024 term, only around €750 million per year was effectively utilized. According to Dockx, Van den Broeck, and Winters (2023), this underutilization is not primarily due to a lack of financial resources, but rather to complex institutional reorganizations and a sluggish project pipeline. As they argue, “delays stem largely from multi-level governance failures rather than financial shortages. Planning bottlenecks and fragmented responsibilities have slowed the translation of political will into actual housing delivery” (Dockx et al., 2023). To realize the full potential of social housing in the energy transition, these administrative and organizational barriers must be addressed. Strengthening intergovernmental coordination and ensuring consistent political commitment are essential steps to accelerate progress.

Effective unbundling means removing these obstacles by offering tailored guidance, prefinancing, coordination of works, and simplified procedures. Integrating unbundling structurally into renovation policy, as a standard approach, will help ensure both climate impact and social justice.

SYNTHESIS PART 3 - ENABLING THE TRANSITION: FINANCING AND SUPPORT STRATEGIES

Achieving an effective energy transition requires financial incentives with support systems to simplify renovation processes. Renovations are not only about money - they must also be made easier to plan and carry out. Examples from Vienna and Copenhagen show that centralized renovation systems work well. In Vienna, the city leads renovations for social housing. In Copenhagen, a city-wide heating system helps reduce the work for households. These models help reduce stress and speed up renovations (Albrecht, 2023).

Clear rules, simple applications, and fair funding tools are essential. Governments can help by offering contractor lists, fixed prices, and technical support. One-stop-shops (OSS) like *De Energiecentrale* in Ghent already show how local guidance boosts renovation rates (Stad Gent, 2024; VRT NWS, 2025).

Chapter 5 shows that financial constraints remains a major barrier. Many owners, especially those with low income, cannot afford high renovation costs - even with subsidies. In many cases, the payback time is more than 30 years. This makes renovations unattractive for private owners (Climact, 2022; VEKA, 2024). To address this, Flanders needs more accessible financing tools, such as interest-free loans and repayment mechanisms linked to energy savings.

Importantly, however, a recent evaluation of *Mijn VerbouwPremie* and *Mijn VerbouwLening* stresses that financial aid alone is not enough. The study stresses that vulnerable households and private landlords often face informational and procedural barriers - from complex digital procedures to unclear eligibility rules. To overcome these, organizational support mechanisms like renovation coaching are essential (Valcke & Van den Broeck, 2025). Moreover, the report argues that public funding for landlords should be tied to stronger social conditions, such as guarantees for post-renovation affordability and housing quality standards. Without such safeguards, subsidies risk accelerating gentrification and displacing low-income tenants (Valcke & Van den Broeck, 2025). The phenomenon of post-renovation displacement of lower-income groups is referred to as 'green gentrification', a trend that is increasingly observed in major EU cities (Anguelovski et al., 2022).

This aligns with the findings in Chapter 6, which show that many people are discouraged not just by costs, but by the complexity of the process. Unburdening strategies are crucial here. These include personal coaching, legal assistance, and user-friendly digital tools, particularly for small landlords and older homeowners who may lack the capacity to plan and manage renovations on their own (Bielen et al., 2023).

In parallel, expanding the social housing sector remains a vital structural strategy. Social housing is more cost-efficient to renovate, as it can be managed collectively and at scale. Moreover, it helps relieve pressure on the private rental market and is not driven by profit motives. Vienna offers a compelling example: the city renovates thousands of housing units through a centrally coordinated approach, which reduces delays and inefficiencies. Households living in social housing units are not required to navigate decisions alone, enabling faster progress toward climate goals (Albrecht, 2023; Bruggeman et al., 2022).

Another group in need of specific support is apartment owners in co-ownership (*VME*). In these buildings, decisions need to be made by multiple people. This often leads to delays. Even if subsidies are available, owners are unsure or disagree. That is why extra support is needed for

Finally, the psychological dimension of renovation decisions should not be underestimated. Many homeowners postpone action due to uncertainty about costs, future property value, or fear of making poor decisions. Tools like cost calculators, relatable examples, and clear renovation packages can help reduce this uncertainty (Conradie et al., 2023). Behavioural nudges also play a role: people are more likely to act when renovation options are presented as defaults, when outreach occurs at key decision points (e.g. after a tenant leaves), or when they see neighbours doing the same (Nudge, 2022).

FINANCIAL		C6	Climate festival or energy day
F1	Local renovation loans	C7	Show home
F2	Local renovation grants	C8	Completed sample properties
F3	Loan for vulnerable groups	C9	Welcome event for new residents
F4	Group loan for VMEs	C10	Information evenings
F5	Group loan for neighbourhood renovations	C11	Home visits with personal advice
F6	Grant for drawing up an apartment building master plan	C12	Budget coach
F7	Grant for drawing up a neighbourhood renovation master plan	C13	Savings calculation
F8	Group purchases	C14	Mobile renovation unit or pop-up caravan
F9	Local distress purchase fund	C15	Neighbourhood ambassadors
F10	Rolling fund	C16	Deployment of OCMW, housing association, AGB
F11	Renovation contracts (cf. Het Pandschap)	C17	Sample walks
F12	Grant for landlords	C18	Resident surveys
F13	Pre-financing	C19	Targeted communication for notary, bank, estate agent
F14	Area-based VAT reduction	C20	Targeted communication, construction sector
F15	Third-payer system for renovations	C21	Targeted communication, landlords
F16	Deploy right of first refusal with housing association	C22	Targeted communication, VMEs and property management agencies
TECHNICAL		C23	One-stop shop for professionals
T1	Renovation coaches	C24	Coaching of VMEs
T2	Contractors' collective	C25	Supporting energy communities
T3	Training professionals	C26	Promoting Woningpas (Housing Pass)
T4	DIY technical support	C27	Course on living conditions and energy in integration process
T5	Transitional or replacement housing	POLICY & REGULATION	
COMMUNICATION, INFORMATION & A CAREFREE SOLUTION		B1	Mandatory renovation plan with permit
C1	Information website	B2	Renovation advice with permit
C2	One-stop shop for individuals	B3	Screening, building code
C3	Information campaigns, general	B4	Reconstruction, public domain
C4	Information campaigns, target groups	B5	Requirement for certificate of conformity
C5	Heat scan	B6	Mandatory renovation plan upon purchase
		B7	Facilitating extensions to apartment buildings

Figure 65 : Strategies for renovating the building stock (De Paep et al., 2024)

CONCLUSION

A fair and green energy transition needs more than just funding. It needs strong and long-term thinking government leadership. This thesis examined how energy renovations impact affordable rental housing and found that stricter energy standards are often linked to higher rents. While these increases are generally modest, they disproportionately affect low-income tenants, who have little margin to absorb added housing costs.

Although renovations can lower energy bills over time, landlords often raise rents to recover their investment. As a result, tenants may see no real net benefit. This mismatch is known as the “split incentive”: the landlord pays for the renovation, but the tenant enjoys the energy savings. It remains a persistent problem, especially in cities like Ghent, where over half the population rents.

Current policies fall short in addressing this issue. While landlords are obligated to renovate under EPC regulations, meaningful rent protections for tenants remain lacking - apart from restricted rent indexation for properties with an EPC label of E or F. Although financial support is available, it often benefits more affluent property owners rather than those in greatest need (Albrecht et al., 2021). In addition, many landlords, particularly older ones, are reluctant to invest and instead choose to sell their properties, further reducing the stock of affordable rental housing.

Renovations are also prohibitively expensive, typically costing €50,000 to €80,000 per unit, with payback periods exceeding 30 years (VEKA, 2024; Climact, 2022). For many landlords - particularly those relying on rental income or planning to sell - this investment is simply not worth the risk (Bielen et al., 2023).

Beyond cost, multiple uncertainties deter action. As Coppitters et al. (2025) argue, successful transition strategies must be robust enough to withstand economic and geopolitical shocks that can derail planned investments. Predictability and long-term support are essential.

Economist Mariana Mazzucato reminds us that markets alone cannot steer innovation in the public interest. Governments must do more than subsidize - they must lead, set clear goals, and ensure that housing remains affordable (Mazzucato, in Renson, 2024). Without this public guidance, the renovation wave risks leaving behind those who are already vulnerable.

If the government cannot fully finance the transition, it should at least facilitate public-private partnerships (PPPs). These allow public funds and private actors to work together while safeguarding social outcomes. Cities like Ghent and Mechelen are already experimenting with such models to ensure that investments also protect tenants (De Geest, 2024).

In the long term, an effective solution is to expand social housing. This would relieve pressure on the private rental market, provide tenants with more secure options, and treat housing as a human right, not just a commodity. Social housing is often more cost-effective to renovate and easier to manage in bulk.

Vienna offers a compelling model. The city runs a large social housing system. It takes care of renovation planning and ensures fair rent levels. Individual owners are not left to navigate renovations alone, which reduces time, costs, and administrative stress. At the same time, it enables the city to advance its climate objectives while preserving housing affordability (Albrecht, 2023; Bruggeman et al., 2022).

The findings of this master's thesis point to several key conclusions. First, tenants are the ones in the weaker position in the current rental market. Demand is indeed high compared to supply. After renovations, low-income renters are especially at risk of renoviction, being priced out of their homes. Their choices are often limited to the cheapest, lowest-quality options. Second, EPC obligations can do harm if they are not combined with tenant protections, such as rent caps or legal support.

Third, while renovations help reduce energy use, they also raise rents. In many cases, the rise in rent is roughly equal to the savings on energy bills, meaning the tenant's total cost remains stable. Fourth, landlords encounter several obstacles, such as high upfront renovation costs, complicated procedures, and slow financial returns. As a result, many older landlords decide to sell their properties rather than renovate them, reducing the availability of affordable rental housing.

If this research demonstrates one thing, it is that real progress depends on government support to make the energy transition both fair and affordable.

As Marjan Minnesma from Stichting Urgenda has argued, the climate crisis should not be seen merely as a burden, but rather as a window of opportunity for structural change. With the right vision, the transition can be seen as a chance to create a housing system that is not only greener, but also fairer and more secure. If Flanders - and cities like Ghent - can align climate goals with housing justice, they have the potential to lead the way toward a more inclusive and sustainable future.

CRITICAL REFLECTIONS

Throughout this thesis, the Energy Performance Certificate (EPC) was used as a key metric to evaluate and discuss the energy performance of homes. However, the EPC is a limited tool; it does not capture the full picture of energy use or sustainability.

Recognizing these shortcomings, a group of architects (Etienne et al., 2024) formulated a statement titled "*Limits to EPB*". In it, they provide a series of sketches that highlight criticisms of how the EPC is currently applied and interpreted.

The illustrations below (Figures 66–73) are reproduced directly from their work and illustrate several nuanced yet essential critiques:

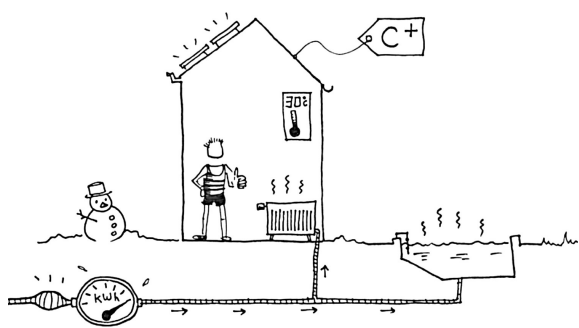


Figure 66 : Critical reflection : altered behaviour - After renovating, people often put the heating on a higher setting.

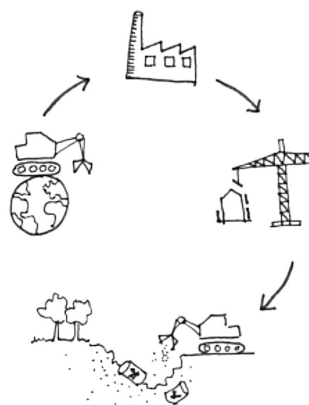


Figure 68 : Critical reflection : LCA - Life Cycle Analysis: the whole life cycle of building materials should be taken into account.

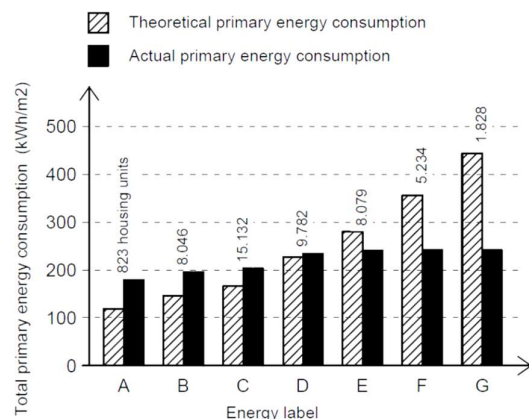
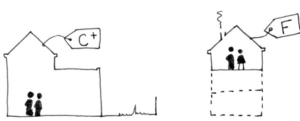


Figure 67 : Critical reflection : EPG - The Energy Performance Gap: in practise, people living in uninsulated homes are aware of this and pay more attention to saving where possible.



Figure 69 : Critical reflection : € vs. non-conform - Cheap label G²³ vs. expensive label C+²³?

²³ Wallonia and Brussels use a different scale for EPC-labelling



EPB label	C+	F
Surface of the Housing Unit	130 M ²	43 M ²
Occupancy	2 pers.	2 pers.
Theoretical Consumption /M2	100 kWh/M ²	300 kWh/M ²
Total Theoretical Consumption	13 000 kWh	13 000 kWh
Per capita Theoretical Consumption	6 500 kWh/pers.	6 500 kWh/pers.

Figure 70 : Critical reflection: m² per person - Real energy consumption will be a lot less in a smaller home than in a larger one, even if the EPC-label says otherwise.



EPB label	C+	F
Surface of the Housing Unit	130 M ²	130 M ²
Occupancy	2 pers.	6 pers.
Theoretical Consumption /M2	100 kWh/M ²	300 kWh/M ²
Total Theoretical Consumption	13 000 kWh	39 000 kWh
Per capita Theoretical Consumption	6 500 kWh/pers.	6 500 kWh/pers.

Figures 71 : Critical reflection : # of persons/home - Energy consumption per person will not only differ on EPC-score of home, but also on number of people are living in that home.

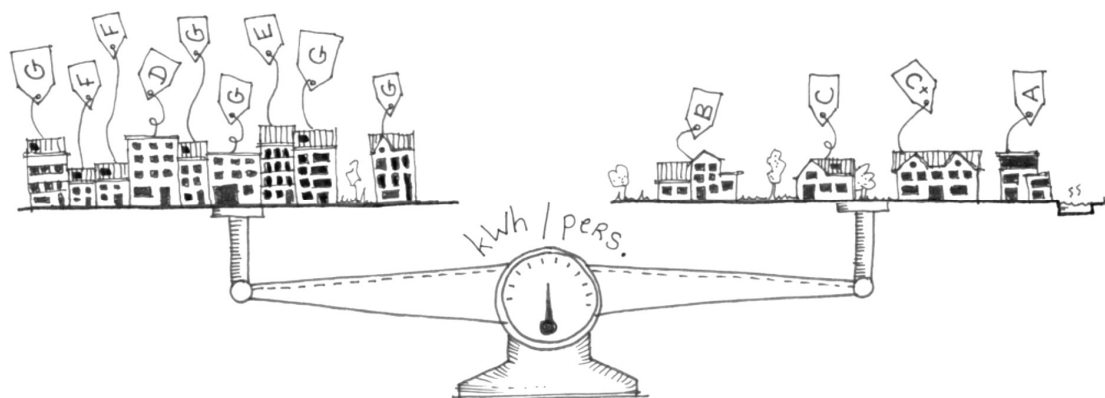


Figure 72 : Critical reflection : compactness in city - Open buildings with good EPC-labels, at the end of their life cycle, will generally consume more than closed buildings with bad EPC-labels in cities.

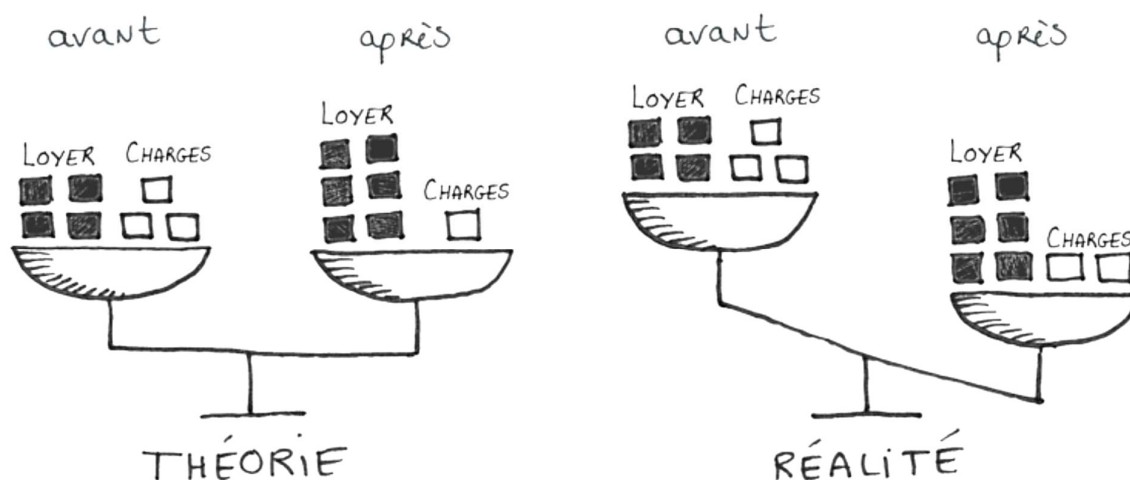


Figure 73 : Critical reflection : higher rent, lower energy bills? - In practice, additional charges are, partly due to psychological factors, often higher than theoretically expected.

SOCIETAL REFLECTIONS

This master's thesis contributes to a broader debate on social equity in energy transitions. Economic structures, policy decisions, and environmental imperatives are deeply intertwined with one another. Policies aimed at sustainability must also safeguard affordability to prevent displacement and social exclusion.

Housing as a Societal Equalizer

Historically, homeownership has been a vehicle for wealth accumulation, whereas renting has often been framed as a financial disadvantage. Energy transition policies could inadvertently exacerbate this divide. The *Matthew Effect* is a central theme: those with financial means can renovate and further increase property value, while those without resources are left vulnerable to rising rents, renovations, and energy poverty. This risks deepening existing inequalities, where access to stable, affordable housing becomes increasingly restricted.

Sustainability at Whose Cost?

Green policies present a paradox: while they aim to create a better future, they may impose hardship on renters today. The 'split incentive' issue is a significant challenge: landlords bear the costs, yet tenants reap the benefits. Consequence: higher rent or renovation. If landlords transfer renovation costs to tenants through rent increases, affordability becomes a critical concern. This raises a fundamental ethical question: *Who should finance the green transition, and how can we ensure the burden does not disproportionately fall on the most vulnerable?*

The Role of Government

Mariana Mazzucato's argument that governments should not merely regulate but actively lead transformation is highly relevant here: if the state does not intervene effectively, market-driven solutions alone will likely fail to ensure equitable outcomes. Policy tools such as more attractive loans, revolving funds, rent controls, and public-private initiatives should be considered.

Flanders' (outdated?) view on homeownership

A comparative analysis with, for example, Vienna and Copenhagen raises a fundamental question: *Why does Flanders rely so heavily on private homeownership rather than public housing models?* Vienna's coordinated renovation approach and Copenhagen's city-wide energy system provide alternative pathways. This invites reflection on how different governance models shape societal outcomes and whether Flanders is willing to rethink its traditional housing policies.

Conclusion : Energy Transition as a Social Opportunity

Rather than viewing the energy transition as a burden, it could be framed as an opportunity to reimagine housing as a fundamental right rather than a commodity. With the right policies, Ghent could set an example of how to balance climate resilience with social equity, ensuring that sustainability is not a privilege of the few but a shared societal gain. By implementing more targeted support, Ghent has the potential to lead by example, demonstrating that environmental and social goals can be pursued simultaneously.

USE OF AI

During the preparation of this work, ChatGPT was used as a supportive tool for revising and clarifying content. Additionally, several figures were created or modified using ChatGPT. After using this tool, the content was reviewed and edited as needed and the author takes full responsibility for the content of the master's thesis.

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