Upscaling the financing of Residential Renovation in Belgium

Final report

Reference: 2023-SFPIM-Réno_Résidentiel

March 2024

Version: 24-03-20_02

Context: In line with its general mission, SFPIM aims to play a key role for the energy transition in Belgium, especially by supporting sectors which suffer from market failures.

SFPIM has recently been involved in key projects to unlock large-scale financing for energy renovation, such as the Design-Renovate-Finance-Mechanism (DRFM) for the energy renovation of buildings owned by federal entities. Building on this experience SFPIM has commissioned CLIMACT and ENERGINVEST to carry out this study, with the support of FINANCITE, with the aim to provide a macro assessment of the financing needs and a roadmap for the design and implementation of two financing mechanisms needed to accelerate energy renovation in Belgium.

Disclaimer: The conclusions of this study are those of the consortium responsible for carrying out the mission. They are based exclusively on the subjects identified during the consultations carried out with selected stakeholders. One of these conclusions is also that other aspects, not examined in the context of this study, deserve to be examined subsequently.

The content of this document does not reflect the official opinion of SFPIM.

Authors:

- CLIMACT: Quentin Jossen, Jérémy Pontif
- EnergInvest: Jean-François Marchand

Contributors:

- CLIMACT: Lukas Theunis, François-Olivier Devaux, Pascal Vermeulen
- EnergInvest: Miguel Casas
- Financité: Annika Cayrol, Bernad Bayot

Abstract: Setting-up a “Home Renovation Loan Scheme” could enable more Belgian households to financially access the deep energy renovation of their house and improve their living conditions while underpinning the transformation of the renovation sector in line with climate objectives. This study explores solutions to better leverage private finance at the required scale, to complement public finance that remains deployed in too limited volumes. Next to regional efforts to lower the investments via subsidies on interest rates or on investments, the federal level can activate guarantee and co-financing instruments to lower the costs of private finance. This study explores the quantitative implications (market segments, distribution of costs across stakeholders) and provides guidance for the implementation of some of these instruments. It builds on techno-economic and financial modelling work as well as stakeholder consultations[1]. The goal of this document is to outline some elements required to make climate renovations accessible to all households, provide guidance on the needed policy actions and highlight the priorities to be worked out in the next months.

[1] See *Appendix G - Planning of the mission and organizations involved*

KEY RECOMMENDATIONS FOR POLICY MAKERS

Quickly leveraging financing at scale:

- **If governments can afford it, massive public financing (grants and lower-cost capital) would better ensure the conditions for a fair transition** and lower the total costs for households and governments. Total investments to meet the climate targets are tremendous, as reaching the 2050 EPC targets amounts to €389 billion.
- **Alternatively, improve homeowner's access to private financing by developing the Home Renovation Loan Scheme** presented in this study, which leverage private finance at scale with optimized public and total costs. It activates both federal and regional actions needed to reduce total costs of private financing for homeowners (thus improving access to financing).
- **Federal action should target instruments to lower the interest rate (guarantee and cofinancing instruments), enable extended maturities and reduced requirements for assessing the consumer's creditworthiness (legislative updates)**. Regional action should target the reduction of credit needs by reforming and amplifying the grant system and supporting a structural reduction of renovation costs.
- **Refine the design and build a solid implementation roadmap of these instruments,** with a clear action plan and strong stakeholders' engagement, steering the implementation of the suggested Home Renovation Loan Scheme in line with the renovation calendars.

Required complementary actions:

- **Keep investigating and experimenting innovative financing solutions and mechanisms** (third-party financing, PACE financing, etc.), to widen the portfolio of financing solutions and better answer each homeowner's situation and launch pilot projects in the three regions.
- **Develop further socioeconomic knowledge on Belgian household typologies** through data collection thanks to surveys and socio-economic studies.
- **Reform the grant administration processes** to (1) make it simpler and faster (2) leverage grants as a prefinancing solution to reduce the loans size and (3) allow OSS to prefinance grants and request them on behalf of the homeowners.
- **Strongly develop OSS renovation services, key enabler for the upscale of deep energy renovation financing**, with integrated visions of OSS at regional level and with an "OSS certification & quality standard framework" to leverage OSS as both projects and risk reduction enablers. Make sure to leverage the regional needs of this framework to ensure simplicity, efficient governance, and economies of scale. Boost market players across the renovation value chain to develop level three OSS models, together with the implementation of the suggested OSS framework.
- **Financial barriers must not overshadow the many obstacles to energy renovation,** such as skilled workforce shortage, sociocultural factors and administrative complexity for both renovation professionals and homeowners.

1. ADDITIONAL MEASURES ARE NEEDED TO ACCELERATE ENERGY RENOVATION AND REACH THE 2030 AND 2050 TARGETS

Belgium and its Regions committed to contribute to the EU long-term objective to achieve climate neutrality by 2050 at the latest. The long-term renovation strategies (LTRS) aim to be aligned with key housing policies for high-quality, energy-efficient, and affordable housing for all. Building on this, regional LTRS target the renovation of most of the existing residential buildings to the energy performance certificate (EPC) A by 2050[2], with the ambition to reach a carbon neutral building stock by 2050. To reach these objectives, 180 000 dwellings should be deeply renovated to such level every year from now on. For now, Belgium and its regions are not on track to achieve such results: renovation rates remain low, and most projects do not improve energy efficiency as much as they should (deep renovations are estimated to account for less than 0,1% of the residential building stock per year). Existing measures are not sufficient, and the inaction cost increases as years go by.

Several conditions are required to increase the pace and volume of deep renovations[3] and reach the 2050 targets, such as the implementation of strong regulation (i.e., mandatory renovation calendars) and support measures (i.e., integrated home renovation services under the form of one-stop shops, financing, and support mechanisms), comprehensive local renovation and urban planning strategies to ensure the relevance of renovation investments (e.g., identify the best strategy between demolition and renovation) and to achieve synergies between policy objectives (e.g. mobility or housing).

Total investments to meet the climate targets are tremendous, as reaching the regional 2050 EPC targets amounts to €389 billion. This study considers the (lower) ambition set in the regional mandatory renovation calendars (see appendix A.2), which requires to invest a total of €278 billion by 2050, of which €161 billion by 2033.

Therefore, it is urgent and imperative to establish a national strategy to finance energy efficiency of buildings based on a comprehensive assessment of financing needs and a clear indication of these needs' share to be covered by public expenditure. The 2024 elections are certainly an opportunity for political parties to express their vision in this regard and to let them to later incorporate their ambitions into their government programs.

[2] Label C+ for the Brussels Capital Region, defined as 100kWh/m^2/year.

[3] A deep renovation is considered as a renovation in 1 step to one of the 2 best attainable EPC labels. This means to label A or B in Wallonia and Flanders, and to label B or C in Brussels (see Appendix A.1 for the details of the differences across regions).

2. CRITICAL MARKET FAILURES REMAIN, THEY MUST BE OVERCOME BY LEVERAGING PRIVATE FINANCIAL INSTRUMENTS TOGETHER WITH SPECIFIC PUBLIC INTERVENTION

Homeowners come in a variety of financial situations when their financing power[4] is compared with the net investments[5] they must make for the deep renovation of their dwelling. While public and private financing solutions are available (in too limited scale), there remain homeowner profiles to whom no adequate solution is offered.

Figure 1 shows the distribution of the financing power of Belgian homeowners considered in this study and illustrates how it can be increased with energy savings triggered by energy renovations. Results must however be considered cautiously as they derive from a series of working assumptions (see appendix A.3), given the lack of data. Furthermore, such an evaluation is carried out instantly and does not prejudge changes which will occur during the repayment period: the repayment capacity will obviously be influenced by elements external to the renovation. These elements can be the evolution of income and other household expenses. They can also be specific to the renovation: the real monthly energy savings, the price of energy and the loan interest rate, if variable, will altogether determine the actual savings achieved on the energy bill.

Uncertainty as to whether the projected financial savings will actually be achieved can have a negative effect on the evaluation of the financing power by the lender but also dissuade households who do not wish to take the risks generated by these uncertainties. This will be all the more important as the repayment period is long.

The quantification provided in this study focuses on homeowners aged below 65 years old (€38 billion deep energy renovation investments by 2033). Solutions should however be designed to meet the needs of 65+ homeowners and could also be accessible for energy renovations in the rental market.

The market fails to provide all homeowners with solutions tailored for deep energy renovation and should provide solutions that are accessible to the highest number. These market failures are both technical (project complexity) and economical (project financing). Previous studies by J. Albrecht [6] concluded that ~40% of homeowners aged below 65 years old cannot finance the deep energy renovation of their dwellings, a figure

---

[4] Financing power is considered as monthly repayment capacity, derived from homeowners' socioeconomic profiles and potentially increased with monthly energy savings that directly depend on the renovation's depth.

[5] Net investment = Total renovation costs minus the public support for which homeowners are eligible and energy savings

[6] For Flanders: J. Albrecht, and S. Hamels (2020). De financiële barrière voor klimaat- en comfortrenovaties. For Wallonia: J. Albrecht, S. Hamels, and C. van de Water (2022). Les obstacles financiers aux rénovations climatiques et de confort en Wallonie. For Brussels: J. Albrecht, S. Hamels, and C. van de Water (2022). Les obstacles financiers aux rénovations climatiques et de confort à Bruxelles

that recent increases in renovation costs and interest rates have since contributed to worsen. The inability to finance upfront costs is one of the main barriers that block the wide uptake of deep energy renovations. Based on the results presented in Figure 1 (and sensitivity analysis in Figure 23 of the appendix), we estimate that only 10% to 20% of the deep energy renovation investments that are required by 2033 could be addressed with current market financing solutions. The improvement of financial instruments is necessary, including the reinforcement of existing ones, the set-up of new financial models, the development of supporting mechanisms, and a more active and proactive engagement of financial institutions (Bertoldi & al., 2020)[7]. The question is not anymore *if* but rather *how*. Public intervention should therefore contribute to the development of new instruments to reduce the risks perceived by financial institutions and by households[8],with the aim to better leverage private finance.

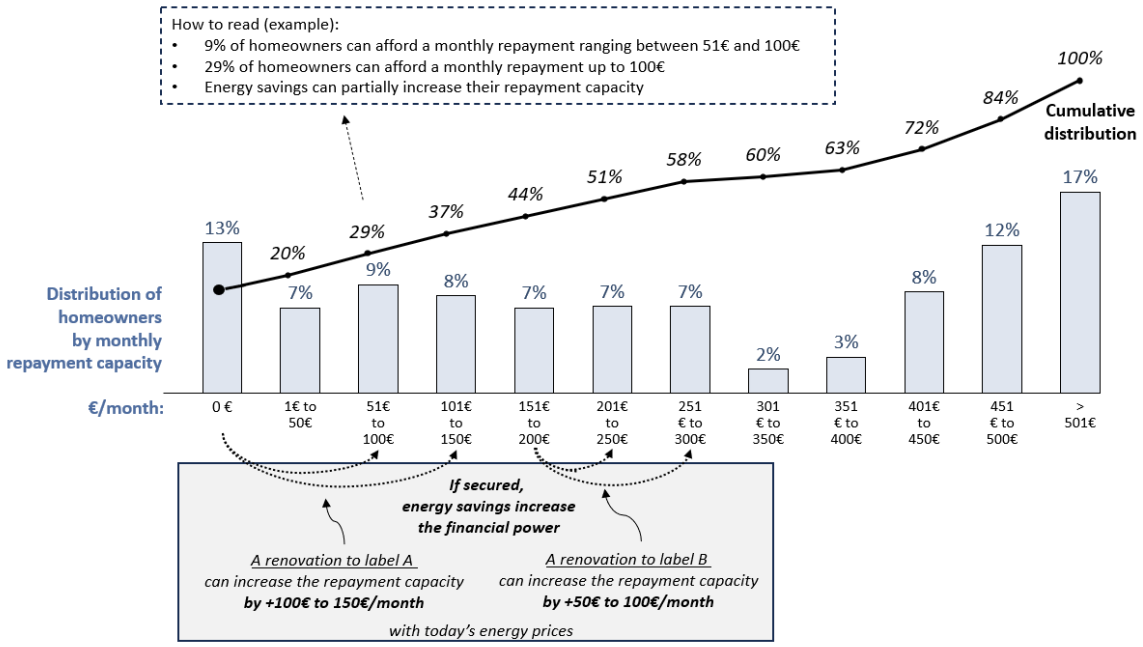

Figure 1 - The Belgian homeowners' financing power (below 65 years old) calculated in this study combines socio-economic profiles and energy savings.

Public financing mechanisms are not sized to the right level and are not suitable for the deep energy renovation by homeowners with too weak financing power. In terms of volume, in 2023 in Belgium public (or subsidised) loans accounted for ~7%[9] of the €10

7 Bertoldi et al. (2021). How to finance energy renovation of residential buildings: Review of current and emerging financing instruments in the EU

[8] who do not wish to take the risks linked to the above-mentioned uncertainties

[9] This estimation is based on data provided by regions, which has not been officially published yet. There are high volume discrepancies between regions.

billion yearly investments required to meet the targets[10]. In terms of market fit, 55k€ to 60k€ maximum loan amounts are not high enough to cover the deep renovation costs for the worst-performing buildings. And many households cannot afford the monthly repayment charges, do not wish to take the risks linked to the above-mentioned uncertainties or have no access to long-term financing schemes (i.e., people older than 65 years old). Besides, the articulation between public grants and pre-financing mechanisms is limited. Firstly, grants cannot be used to bridge the gap between the maximum loan amount and the investment costs of deep energy renovation, as grants are deduced from the maximum loan amount. Secondly, grants are not systematically factored in the assessment of the eligibility to a loan based on the homeowner's financial capacity. At last, a significant Mattheus effect happens as – at EU level – 65% of the bonuses are going to "free-riders" (high-income households who would have renovated anyways regardless of the existing public grants).

If public authorities fail to provide adequate financing at scale, private finance must be leveraged. To secure the implementation of regional obligation timeframes and reach the 2030 climate targets, policy makers should promptly define a clear strategy to bridge the financing gap, based both on massive public financing and the leverage of market-based private financing instruments through more specific public interventions. This study further develops the latest and introduces a Home Renovation Loan Scheme (1) to reduce the financing gap for a large proportion of less creditworthy homeowners while (2) boosting investments in renovation by the creditworthy ones.

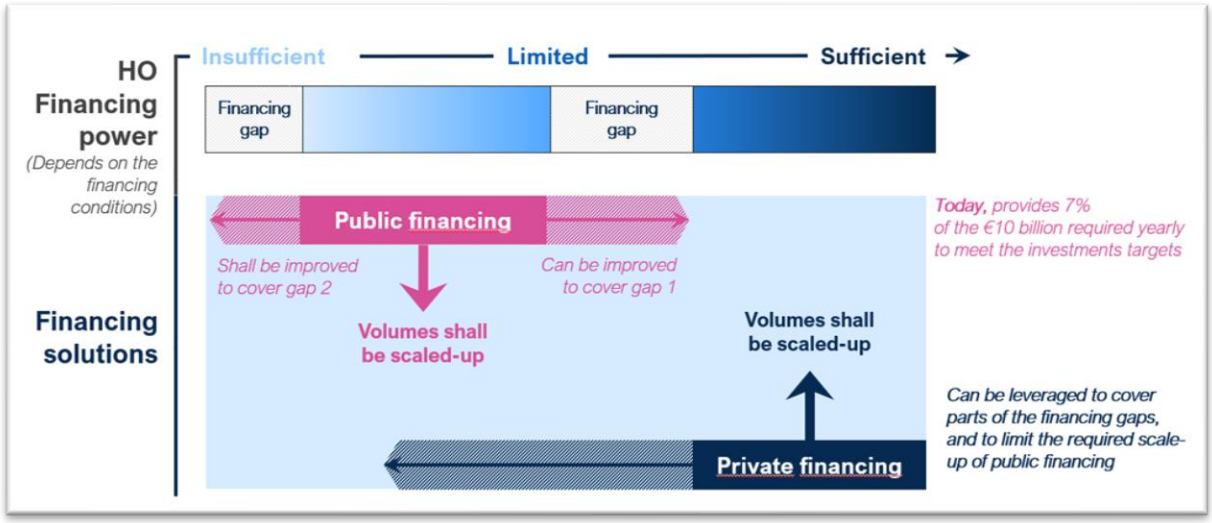

Figure 2 - Schematic representation of public & private financing scale-up to cover homeowners' financing needs

[10] Assessing the current market's coverage rate by public and private loans would be an interesting development of this study but is not its purpose. This study rather develops both public and private loans' unsuitability for homeowners, whether in volumes or access criteria.

3. A HOME RENOVATION LOAN SCHEME TO ATTRACT AND LEVERAGE PRIVATE FINANCE

The Home Renovation Loan Scheme is designed to make the implementation of regional renovation calendars possible. It further focuses on deep energy renovations jointly triggered by regulatory and complementary instruments, as deep renovations better guarantee energy savings but also result in the biggest financing gaps for households. The first analysis in this study focuses on the financing of these by 2033, making up two third of the total investment required, worth €90 billion over a 10-year period.

The Home Renovation Loan Scheme is the outcome of a consensus among the selected stakeholders consulted in the scope of this study and previously in the frame of the Sustainable Energy Investment Forum initiative. It builds on national and international best practices by combining at the right level instruments such as end-to-end renovation support services, grants, interest rate subsidies, guarantees and counter-guarantees and co-financing facilities to reduce financing gaps and improve access to finance for homeowners. The scheme aims to combine in a well delimited cooperation framework European, national, and regional policy instruments as well as limited public funding sources to leverage the network capacity and the massive available finance in the retail banking sector, both public and private.

This study was limited to exploring the two solutions favoured by the selected stakeholders consulted and did not explore other solutions, such as third-party financing. Other solutions also deserve to be studied at a later stage because they could overcome obstacles which have been identified and which are not solved by the two examined instruments in this study. Among these obstacles are the objectively insufficient solvency of households as well as their refusal to take the risk linked to their repayment capacity evolution.

The Home Renovation Loan Scheme (HRLS) could work as follows:

- **A national public financing instrument under the form of a guarantee and counter-guarantee covering deep renovation work to provide below-market interest rates** and enable more households to access finance. The instrument would blend European, federal, and participating regional public funding optimising costs and leverage to provide risk relief, enabling retail financial institutions to account energy savings in their creditworthiness analysis, to extend the maturities and to offer below-market interest rates. The instrument would also be used to release home equity[11] in a cost-effective way for elderly households with limited pensions and younger households facing larger financing gaps, but also, possibly, landlords. Retail financial institutions would have to compete to access the instrument, with the obligation to transfer the benefit of the guarantee to the borrower through a minimum interest rate discount. A specific or differentiated regime could be foreseen for public retail financial institutions. The instrument would be set up and managed by a financial operator to be designated and would provide banking integration similar to the existing guarantee instruments for SMEs set up by regional investment structures (PMV, Finance.Invest, Wallonie Entreprendre).
- **As an option, the financing instrument could be complemented with a public or public-private co-lending facility** (e.g. on a pari-passu basis with the retail financial institutions) contributing to further reduce the interest rates by blending lower cost public funds with retail funds. This co-financing facility could be structured as a revolving fund fed by the issuing of long-term green bonds guaranteed by the Belgian rating. In accordance with the regulations governing the use of revenues from the Emissions Trading Scheme (ETS-2), it could be also supplemented by the future revenues from the auctioning of CO2 emission rights and/or from the European Social Climate Fund to optimise the cost of capital. The co-financing facility could target the low-incomes households, aligning with the social objectives of the regions. In addition, a differentiated co-financing regime could be provided for public retail financial institutions in order to enhance their funding capacities to fill funding gaps more adequately and/or to better balance risk and reward requirements between public and private retail financial institutions.

[11] Home equity is the value of a homeowner's financial interest in their home. In other words, it is the actual property's current market value less any liens that are attached to that property.

- **Two standardized renovation loan products to meet market needs** (activation and gap reduction) and offer a degree of flexibility, both designed in conjunction with capital grants and interest rate subsidies:
    - **The Instalment Loan for Renovation (ILR)**, an unsecured loan with maturities of up to 20 years (and possibly 30 years) with capital grants and interest rate subsidies designed to enable the greatest number of households to take on the burden of debt (capital + interests).
    - **The Fixed Term Mortgage Loan (FTML)**, a secured loan with maturities up to 20 years (and possibly 30 years) to address households with a mortgage capacity (within ongoing mortgage or through new mortgage) and a solvency limited to the payment of interest.
- **Adaptation of the legislative framework for consumer credit and the prudential rules applicable to credit institutions, limited to loans falling within the scope of the Home Renovation Loan Scheme**. The aim would be to raise the ceilings and extend the authorized terms of instalment loans, possibly up to 30 years. The conditions for assessing consumer creditworthiness should also be softened, so that energy savings (for the ILR and FTML) and deferred property gains (for the FTML) linked to renovation work could be included in the calculation of creditworthiness. On the basis of the public financing instruments that would be put in place, prudential rules could also be adjusted to offer greater flexibility to account for renovation loans.
- **Targeted additional regional public financial support using the right proportion of capital grants and interest rate subsidies** to increase the number of households accessing the loan scheme. Participating regional authorities could further increase the leverage of the scheme by reducing the debt burden of low-incomes households in line with their environmental and social objectives.
- **A well-funded and accredited network of regional qualified One-Stop-Shops** (OSS) to provide hundreds of thousands of quality renovations to homeowners and reduce performance risks for lenders. The OSS would be accredited by the participating regions. They would (1) provide households with guidance and services on the minimum required aspects of the energy improvement or refurbishment of their home and (2) provide the participating retail financial institutions with the certificate of eligibility for the guarantee (and the co-financing) instrument(s) in respect of such improvements. Funding for the development of these OSS networks could combine technical assistance grants provided by the participating regional authorities and equity or growth loans provided by the regional investment structures (PMV, Finance.Invest, Wallonie Entreprendre). As part of an overall policy, this approach could also capitalise on extended use of European funding sources by combining technical assistance funds (Elena) and SME support funds (EIF/EIB).

The structuration and the process of the Home Renovation Loan Scheme are described in Figure 3 and Figure 4.

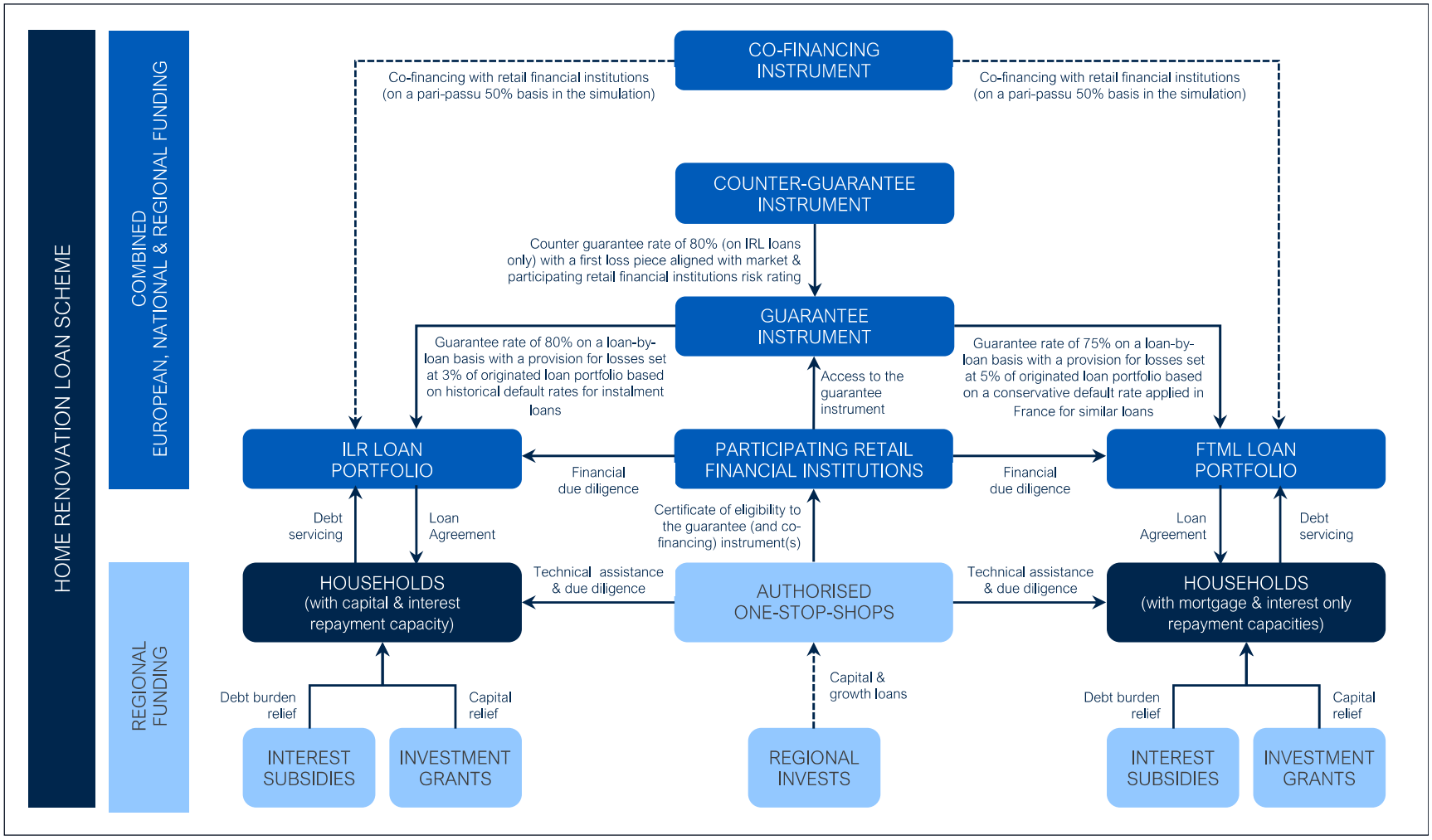

Figure 3 - Proposed Home Renovation Loan Scheme

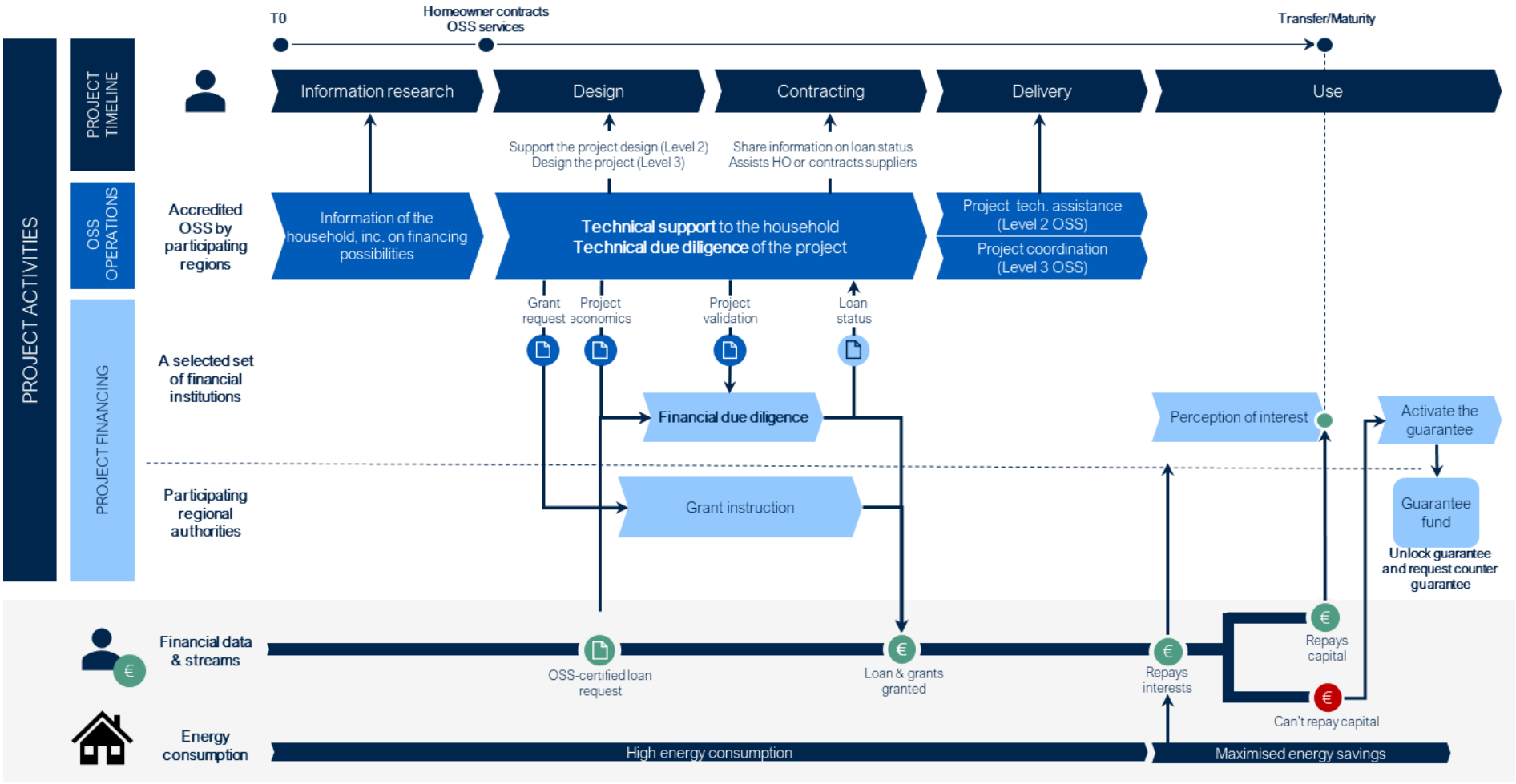

Figure 4 – Process of the Home Renovation Loan Scheme

4. THE SCHEME OPENS THE DOOR TO INCREASED ACCESSIBILITY TO PRIVATE FINANCING WHILE LOWERING COSTS FOR HOMEOWNERS AND GOVERNMENTS

A selection of scenarios *(see Table 2, p.*18*)* has been modelled *(see Figure 5, p.*20*),* to study how various sizing options for the different financing instruments would impact 1/ the addressable market (share of homeowners who can afford the monthly repayments) and 2/ the costs and their distribution across actors *(see* Figure 6*, p.21*). Detailed modelling assumptions are provided in appendix.

The quantification's scope is homeowners aged below 65 years old as data – although limited – was more robust. **Investments within this scope amount to €38 billion out of the €90 billion[12] for deep renovation to trigger by 2033**.

Modelling results

In terms of addressable market *(see Figure 5, p.20):*

- **Limiting the interest rate allows to increase the addressable market,** as most homeowners would access financing with interest rates below 3%. The entire market could be covered with zero interest loans, which suggest dedicating such instrument for the financially weaker homeowners. **However, it leaves a credit portfolio dominated by the (more costly) FTML**, although with a market share slightly lower, gained by the ILR with an increased loan maturity.
- **Increasing grants shifts the credit portfolio towards a higher share of (less costly) ILR**, in addition to increasing the share of homeowners that can access financing, thanks to a lower investment burden.

In terms of costs *(see* Figure 6*, p.21)*

- **The HRLS[13] reduces total public costs** to meet the short-term target.
- **The HRLS allows significant costs reductions for regions** with limited costs at federal level.
- **The HRLS drives down financing costs for households** with limited costs for the governments.

Different limitation/attention points must however be considered when reading these conclusions *(see following page)*

[12] of which €24 billion for homeowners over 65 years old and €28 billion for dwellings on the rental market
[13] Home Renovation Loan Scheme

The following paragraphs, tables and figures further explain the scenarios and modelling parameters.

The following limitation and/or attention points must be kept in mind while reading the quantitative results:

- Reachable market shares are to be considered in light of the financing power provided in Figure 1. However, socio-economic knowledge must dramatically be improved. Furthermore, the repayment capacity will obviously be influenced by elements both external and specific to the renovation (see section 2, p.6):
- This uncertainty about the realization of financial forecasts can negatively affect the lender's evaluation of homeowners' financing power but also dissuade homeowners. This will be as important as the repayment period is long.
- While public guarantees reduce the risks for credit providers, they do not by default reduce this uncertainty for homeowners given the existence of possible recourses exercised by the guarantor with regard to the defaulting homeowner.
- The quantitative results reflect current market conditions and do not consider the evolution of renovation costs or interest rates.
- Multiple challenges might slow down the wide acceptance of the proposed mechanisms: 1/ the loan duration, if inferior to the projected return on investment period allowed by the renovation (it is particularly true for an in-depth renovation), may dissuade households, 2/ will there be cultural barriers associated with FTML, 3/ the global repayment charge will be mechanically higher in the case of the FTML and may dissuade households from using this kind of credit, 4/ possible fear of being listed in the Centrale des Crédits aux Particuliers (CCP) in the event of default.

To study the costs two complementary approaches have been considered in terms of loan portfolio:

- **Approach 1 – "full portfolio"** – considers that all homeowners within the scope must renovate by 2033. Therefore, the renovation should be fully financed for homeowners with no access to financing. Although this gives orders of magnitude of the total costs of the scheme, the need for public support in the fully funded segment is probably overestimated as the homeowners might still be able to bear some financial contributions.
- **Approach 2 – "€5 billion loan portfolio"** – considers an implementation of the scheme limited to €5 billion loan portfolio (financing volumes apply on the amount net of grants). This approach is designed to isolate the impact of the fully funded scheme in the cost analysis. It is designed with a 60% share of FTML in the portfolio.

From the initial list of scenarios designed to study the impact of financial parameters on the market reach (Figure 5), the costs under the two portfolio approaches have been evaluated for the following selection scenarios:

Scenario:	**Rated at**	**(counter-) guarantee instrument**	**co-financing instruments**	**Regional capital grants**	**Regional interest rate subsidies**	**Maturities (years)**
A Current market conditions	5,70%					20
B	4% (1,70% rate discount due to the guarantee)	x		limited (40% for non-creditworthy households)		20
C **Recommended**	3% (2,70% rate discount due to combination financing instruments)	x	x	limited (40% for non-creditworthy households)		25
D	4% (1,70% rate discount due to the guarantee)	x		limited (40% for non-creditworthy households)	interest rate subsidies of 2%	20 / 25
E	4% (1,70% rate discount due to the guarantee)	x		increased (up to 80% for non-creditworthy households)		25
F	4% (1,70% rate discount due to the guarantee)	x		increased (up to 80% for non-creditworthy households)	interest rate subsidies of 2%	25
G	funded at 2% by the government					20 / 25

The Table 1 hereunder provides first insights on the possible quantitative design of the instruments included in the Belgian Home Renovation Loan Scheme under the recommended scenario (scenario 5). The global sizing of the scheme and of its underlying instruments needs to be refined as a next step to this study:

Table 1: Possible quantitative design for the instruments included in the Belgian HRLS

Recommended scenario[14] **Combination of (counter-)guarantee and co-financing instruments rated at 3% (2,70% rate discount due to combination financing instruments) with limited regional capital grants (40% for non-creditworthy households)**	**Full portfolio**	**€5 billion loan portfolio**
Investment needs	b€ 37,7	
Investment triggered with the HRLS	b€ 20,1	b€ 6,2
Investment coverage	53%	16%
ILR portfolio (loan volume)	b€ 6,5	b€ 3,0
ILR interests	b€ 2,5	b€ 0,8
FTML portfolio (loan volume)	b€ 9,9	b€ 2,0
FTML interests	b€ 7,3	b€ 2,3
Guarantee cost	b€ 0,5	b€ 0,15
Counter-guarantee cost	b€ 0,2	b€ 0,6
Regional grants cost*	b€ 3,9	b€ 1,2
Total public spending cost	b€ 4,5	b€ 1,4
Households cost	b€ 26,1	b€ 8,0
Public spending related to the triggered investment	23%	23%
Households cost related to the triggered investment	130%	130%

* In these scenarios, regional grants are limited to 40% of the investment and only applied to non-creditworthy households (as defined in input of the model, based on the conclusions by Albrecht), who stand for ~50% of the investment portfolio in both approaches.

[14] The recommendation applies to the financial instruments to activate at federal level, not on the level of grants. The level of grants is chosen as working assumption.

Table 2 - Modelling scenarios

	Scenarios	Addressable market[15]	Costs associated with full coverage (€37.7 billion investments in deep renovations by homeowners < 65 years)	Costs associated with a €5 billion loan portfolio
A	**Current market conditions**[16]	Only 18% of households can afford the monthly repayment	Public spending is high (€31,4 billion) due to the low reach, as it is considered that the renovation should be fully financed for homeowners left without financing option. The cost to households amounts to €12,3 billion.	Public spending is limited to the costs of grants for the financed investments (€0,38 billion). The costs to households amount to €9,6 billion.
B	**(Counter-) guarantee instruments** to discount interest rate to 4%[17]	Increase the reach up to 36% of households	Public spending is cut by €4.9 billion (at the benefit of the regions) while the cost to households increase to €20 billion due to the improved coverage. Nevertheless, the set-up of the guarantee instrument allows to cut the cost to borrowers by €1,9 billion.	Investments triggered increased by 6%. Public spending increases by €0.55 billion, while the cost to households is reduced by €1.39 billion.
C	**Additional co-financing instrument** to limit the interest rate to 3%[18]	Increases the reach up to 53% of households	Public spending is cut by €9,3 billion (at the benefit of the regions) and the cost to households grows up to €26,1 billion, again due to the improved coverage. Nevertheless, the set-up of co-financing instrument allows to cut the cost to borrowers by a further €2 billion. The scenario offers one of the lowest total public spending amongst the options modelled (€22 billion).	Investments triggered increased by 15%. Public spending increases by €1.0 billion, while the cost to households is reduced by €1.58 billion.

[15] In % of homeowners
[16] Considered as 5,7% interest rate for 20 years instalment loans and fixed term mortgage loans.
[17] Discounted rate of 1,70% based on the contractual requirements of the guarantee and counter-guarantee set-up by the Strategic Banking Corporation of Ireland (SBCI) for the Irish Government's *Home Energy Upgrade Loan program*.
[18] Based on a pari-passu co-financing share of public funds rated at 2%.

D	**Interest subsidies** to lower the interest to 2%	Increases the reach up to 82% of households	Costs are considered without the impact of the co-financing instrument (i.e. subsidies are used to lower the interest rate from 4% to 2%). In the best scenario (20-year maturity), public spending could be cut by €7,6 billion while the cost to households rises to €31,2 billion due to the improved coverage and the balance between ILR & FRML loans. These scenarios are not considered as valuables in comparison with scenario C.	Costs are considered without the impact of the co-financing instrument (i.e. subsidies are used to lower the interest rate from 4% to 2%). In the best case, investments triggered increased by 19%. Public spending increases by €2,8 billion, while the cost to households is reduced by €3 billion. Additional triggered investments have a significant public cost in comparison with scenario C, but these scenarios could be aligned with the social objectives of the regions.
E & F	**Increased grants & increased grants with interest subsidies**	Increases the reach up to 98% of households	Here again, costs are considered without the impact of the co-financing instrument. These scenarios do not improve public spending, which remains slightly higher (above €26 billion) than with scenario C. The main appeal of these scenarios is that they considerably reduce the cost to households, up to €17,3 billion in the best case.	Here again, costs are considered without the impact of the co-financing instrument. Investments triggered increased by up to 172%. Public spending increases by €11 billion while the cost to households is reduced by €2,8 billion. Additional triggered investments have a significant public cost in comparison with scenario C, but these scenarios could be aligned with the social objectives of the regions.
G	**Zero-interest public loans**	100%	These scenarios are presented for illustrative purpose only. They require total public spending similar to that in scenario C, while having no significant impact on the cost to households (slightly higher than in scenario C).	These scenarios are presented for illustrative purposes only. In the best-case scenario, triggered investment increases by 23%. Public spending increases by €2.9 billion, while the cost to households is reduced by €4.6 billion. This scenario may have a significant impact on the cost to households compared with scenario C. The difference is borne by the increase in public spending of €1.83 billion compared with scenario D.

.

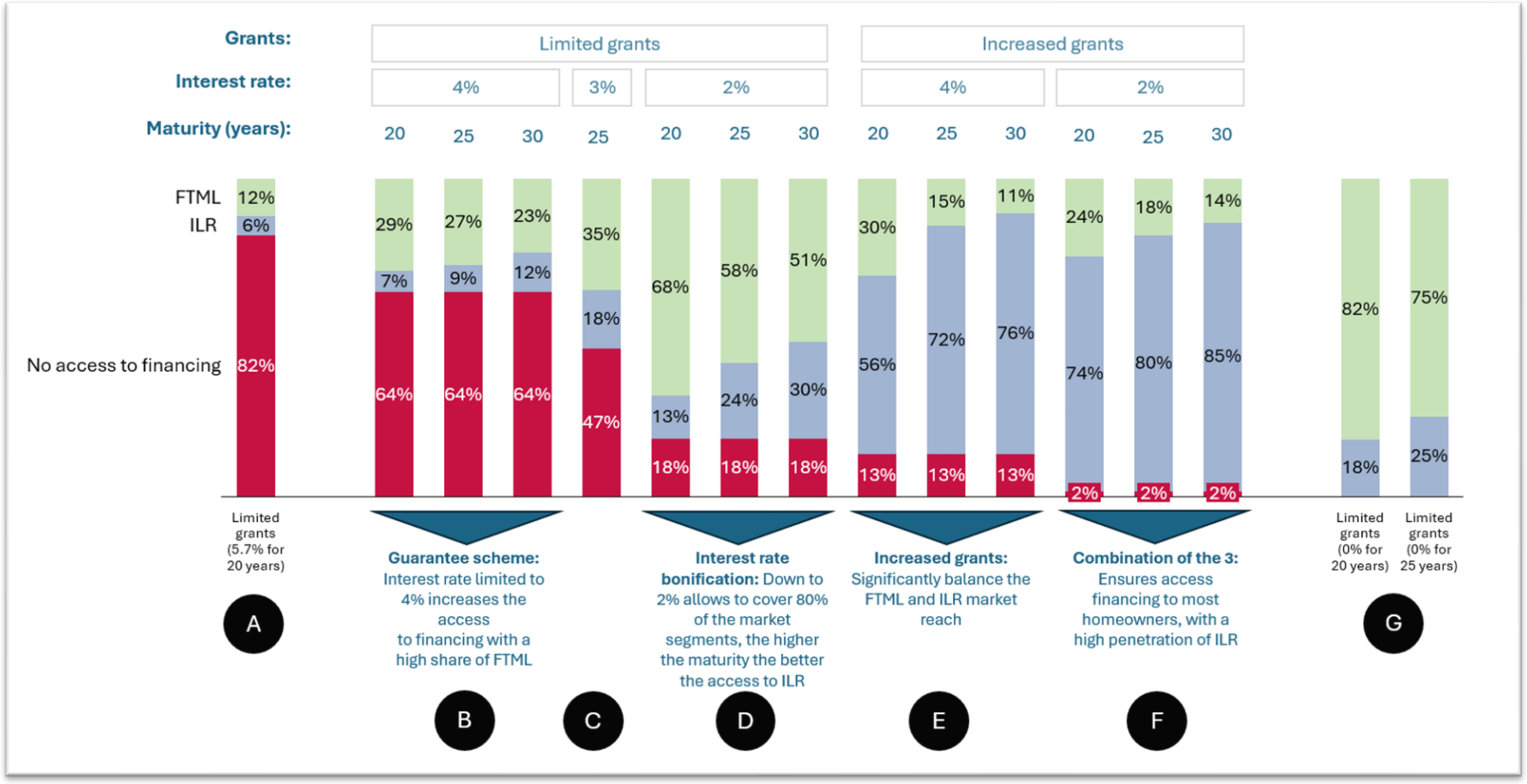

Figure 5 - Reachable market shares (within the investments for deep energy renovation by owner below 65 years occupying their dwelling to trigger by 2033) by financing condition scenario

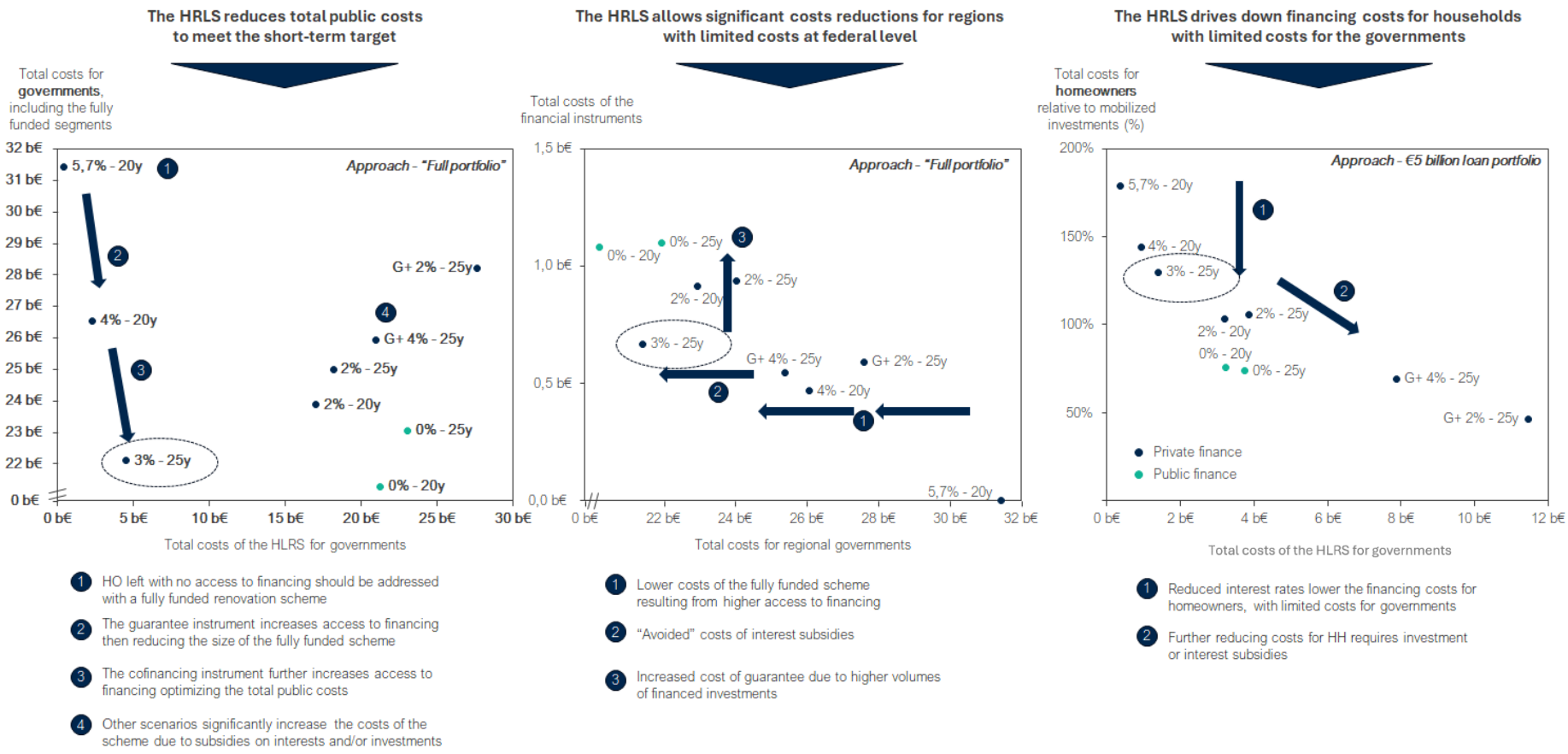

Figure 6 - Comparison of scenarios for the design of the Home Renovation Loan Scheme based on a selection of cost indicators

(1) Total costs of the financial instruments include the costs of the guarantee and he counter-guarantee.
(2) Total costs of the HLRS add to (1) to costs related to capital and interest subsidies.
(3) Total costs for the government add to (2) the costs of a fully funded scheme to cover investments that cannot access the HLRS.
(4) Total costs for regional governments include costs related to capital and interest subsidies as well as the costs of a fully funded scheme.

5. OSS ARE KEY TO SUPPORT THESE MECHANISMS

Integrated home renovation services under the form of One-Stop-Shops (OSS) to support homeowners in their renovation journey are stressed by stakeholders as a key lever not only to improve the renovation rate in the short-term, but also to support the renovation market transition and more particularly to enable lenders to mitigate performance risks in the long term.

A One-Stop-Shop (OSS) is a structure that provides renovation services to households throughout their renovation project. Services range from guidance to assistance or to renovation works contracting and delivery. Three levels of OSS model exist:

- **The level 1 model:** the OSS informs **the households about all aspects of a project** (project phases, regulations, financing possibilities, local support measures). Level 1 OSS in Belgium are the Guichets Energie and Homegrade.
- **The level 2 model**: the OSS not only provides a clear information but **assist the household during the works. However, the households remain the project owner.** Level 2 OSS in Belgium are the Local Energy Renovation Platform and the the Energiehuizen currently strengthening their services via the FOSSTER project.
- **The level 3 model: the OSS takes the full ownership of the energy renovation project**. The household only acts as a client. Examples of level 3 OSS in Belgium are RENO+ and Renocity.

Ongoing public initiatives to structure networks of OSS are in place in all three regions, but stakeholders recognise that these must be strengthened as they do not currently achieve the level of service or quality required to provide lenders with the required means to perform the technical due diligence and assess performance risk. Stimulating renovation market players (engineering offices, architects, contractors, craftsmen, etc.) to develop or join forces with level 2 or level 3 OSS structures for households is therefore, in the context of this study, considered to be both essential and an integral part of the scheme.

Renovating with or through a level 2 or 3 OSS should be a mandatory criterion to be granted a FTML or an ILR. As they have a direct influence on (1) the selection of contractors and (2) the work execution, level 2 and 3 models theoretically offer sufficient technical guarantees (relevant investments, targeted energy savings, etc.). Moreover, **level 3 OSS can significantly reduce the projects costs**, thanks to scale effects (project volumes and aggregation). On the opposite side, as their role is limited to informing households, **level 1 OSS can't guarantee that households who consulted them will implement a qualitative energy renovation project** (level of energy savings, no technical lock-ins, etc.)

As the amounts borrowed are high (especially for deep energy renovation projects), the FTML (especially) and the ILR are not riskless. The above-mentioned guarantees offered by level 2 and 3 OSS limit these risks.

For the credit providers to trust the OSS technical due diligence of projects, a shared framework that lists both a minimum list of services to be provided and quality protocols to be applied must be defined: for the project design (level of energy savings, coherence within the global renovation journey to the highest EPC possible), the work execution (airtightness, constructive nodes, thermal bridges, etc.), controls of quality protocols. This framework can be defined at a regional level but should embody a mutual scope between regions, to simplify its governance and operation. **Further discussions with all stakeholders shall lead to the definition of this framework, its governance and the operational processes** between credit providers and OSS (data exchange, scope of responsibilities for data collection, etc.).

To achieve volumes and implement this framework, current public OSS initiatives will have to be scaled-up, whether in terms of project volumes or services, and market initiatives will have to be boosted, together with the framework implementation. Success stories such as the OSS implementation by the SEAI [19] in Ireland have laid groundwork to build a robust roadmap for OSS developments in Belgium.

[19] https://www.seai.ie/grants/home-energy-grants/one-stop-shop

6. DEVELOPMENT PLANNING

The above sections have shown that the proposed Home Renovation Loan Scheme can increase homeowner's access to private financing, leveraging private finance at scale with optimized public and total costs. It activates both federal and regional actions needed to reduce total costs of private financing for homeowners (thus improving access to financing). Federal action should target instruments to lower the interest rate (guarantee and co-financing instruments), enable extended maturities and reduced requirements for assessing the consumer's creditworthiness (legislative updates). Regional action should target the reduction of credit needs by reforming and amplifying the grant system and supporting a structural reduction of renovation costs.

As a next step to this study, the detailed design of the scheme should be refined as well as the design and the activation of the complementary measures (legislative evolutions, OSS framework, etc.), in line with the ambition of the renovation calendars and climate targets.

The following figure shows the key tasks and steps in the detailed development of a Home Renovation Loan Scheme as part of a cooperative process between the stakeholders, the participating regional authorities and the federal government. It could be carried out over a period of 2 years in order to provide detailed roadmaps, investment and financing plans including budget timetables for approval by policy and financial decision-makers.

Figure 7 - Key tasks & steps to elaborate a Home Renovation Loans Scheme for approval.

Appendices

A. Quantification of the investments

A simple calculation of the cumulative renovation cost to reach the long-term renovation targets by 2050 only through deep renovations results in a total of 389 b€. However, with the same renovation cost assumptions, our model results in a lower amount of 278 b€. The difference arises from (i) the higher degree of complexity in the model through various drivers, (ii) the hypotheses made and (iii) the input data.

More details are provided below for each of the three elements mentioned above. First, the most recent characteristics of the building stock are discussed in *Appendix A.1 Characteristics of the building stock*. This important set of data is the starting point of the modelling. Second, the considered policies from the regional renovation calendars, together with hypotheses behind their model implementation, can be found in *Appendix A.2 Renovation calendars*. These parameters are the main drivers behind the future projections of the building stock evolution, from the starting point onwards. The third appendix, *A.3 Working hypotheses of the techno-economic model*, contains the remaining hypotheses of the model, i.e. the distribution between direct label-A and multi-step renovations, renovation cost assumptions and floor area ranges of dwellings.

A.1 Characteristics of the building stock

The current situation concerning the building stock differs in each region. This impacts the total number of dwellings to renovate and the associated costs. We provide below the EPC label distribution in each region, a comparison of the EPC label definition from an energy perspective and the number of single-family houses and apartments per label.

EPC label distribution

More than 50% of the dwellings in each region have one of the 3 worst EPC labels (Figure 8). Hence, the majority of the dwellings will have to be renovated in the coming years. This distribution is the starting point for our computations. They originate from the most recent long-term renovation strategies of each region (2019-2020)[20,21,22].

[20] Flemish LTRS, 2020: Vlaamse_langetermijnrenovatiestrategie_gebouwen_2050_asqdbs.pdf (vlaanderen.be)
[21] Walloon LTRS, 2020: gw-201112-strategie-renovation-2020-rapport-complet-final.pdf (wallonie.be)
[22] Brussels LTRS, 2019: download (environnement.brussels)

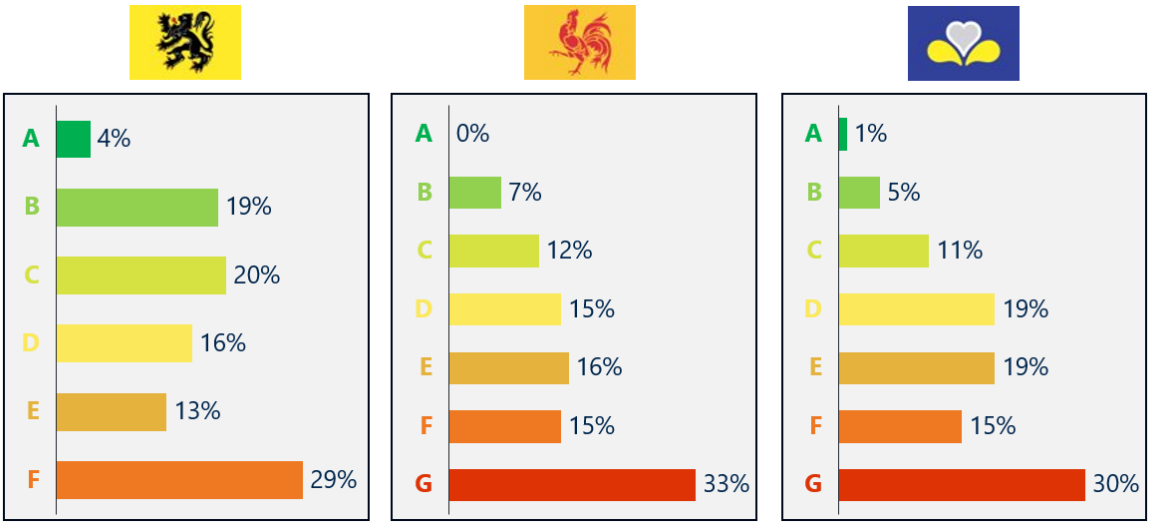

Figure 8 - Distribution of the dwellings over the different EPC labels, per region.

Comparison of EPC label definitions

The primary energy consumption behind each EPC label differs per region (Figure 9). This is important to consider when comparing EPC label distribution/evolutions between the regions. It also impacts the translation of long-term EPC targets to primary energy consumption. An EPC label B in the Brussels Capital Region[23] (partly) overlaps with a label A in the two other regions. Hence, in our model computations a renovation to label B in Brussels is assumed to be equal to a renovation to label A in Wallonia and Flanders. A label B is thus the highest possible EPC label to obtain in Brussels, in our computations.

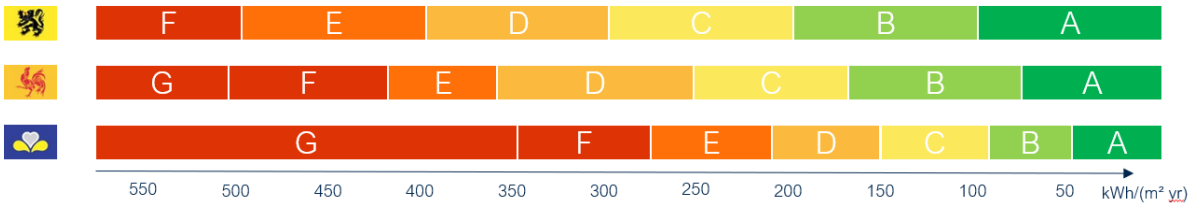

Figure 9 - Link between EPC labels and the primary energy consumption, per region.

Distribution of single-family houses vs apartments

Both the distribution of dwelling types over the EPC labels and the division between Single-Family Houses (SFH) and apartments impact the total renovation costs. In Flanders and Wallonia, SFH cover the majority of the dwellings, while in Brussels apartments are the predominant dwelling type (

Table 3).

Table 3: Absolute numbers of apartments and SFH per EPC label and per region.

[23] Hereafter referred to as Brussels.

	Flanders		Wallonia	
Label	**SFH**	**Apartment**	**SFH**	**Apartment**
A	51308	55184	0	6410
B	235161	339597	54994	64101
C	384809	203758	137485	73717
D	363431	101879	206227	54486
E	320674	59429	233724	41666
F	782445	89144	233724	28846
G	0	0	508693	51281
Total	2137828	848992	1374847	320507
% per region	72%	28%	81%	19%

A.2 Renovation calendars

A more detailed renovation calendar is required to compute the yearly evolution of the investment needs. Such a renovation calendar, amongst other renovation policies, is governed at the regional level. Hence, each region has its own definition of the EPC/EPB labels[24], long-term target and regulatory framework[25]. It is important to note that the long-term renovation obligations in the renovation calendars (Figure 10) differ from the long-term targets. In this computation of the investment needs, the renovation obligations from the renovation calendars are considered, and not the long-term targets. We provide below the assumptions for each region.

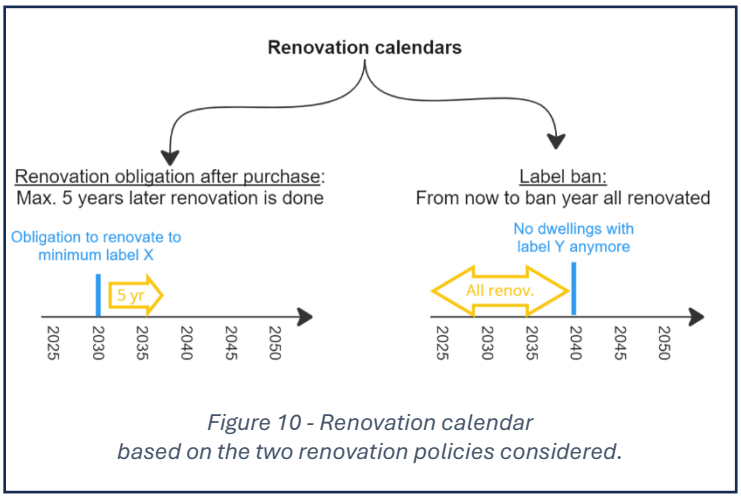

Figure 10 - Renovation calendar based on the two renovation policies considered.

[24] e.g., a label A in Flanders is not equal to a label A in Wallonia, energy-performance-wise. It is thus important to be cautious when comparing EPC labels or other linked parameters between regions. *Appendix A.1 Characteristics of the building stock0* provides an overview of each region's definition with respect to the primary energy consumption.

[25] With varying levels of political and legislative maturities.

Figure 10 shows the two renovation policies that drive the yearly renovation and investment computation in our model. These are (i) the renovation obligation after purchase and (ii) the banning of a label. Besides the renovation dynamics set by the mandatory renovation calendars, investment volumes are driven by:

- **The renovation depth**, which is a combination of deep and multi-step renovations. The distribution between both depends on the renovation trigger[26]. Detailed assumptions are provided in *Appendix A.3 Working hypotheses of the techno-economic model*.
- **The renovation costs**, that depend on the initial label and the label after renovation. The specific values are also provided in *Appendix A.3 Working hypotheses of the techno-economic model*.

The current renovation calendars are the primary driver of the building stock evolution in our computations. According to these renovation calendars, the worst EPC labels should start to disappear from 2030 onwards (Figure 11). By 2050, a mix of EPC labels A, B and/or C should remain, depending on the region.

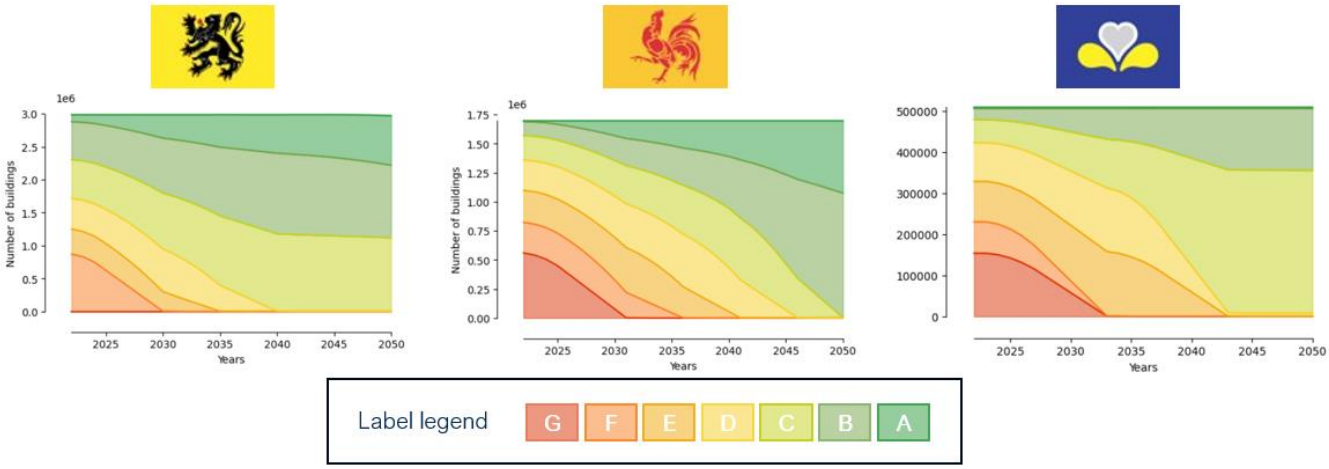

Figure 11 - EPC label evolution of the building stock in each region.

Renovation obligation after purchase

This renovation policy is linked to the purchase rate (different per region) and defines the minimal label to reach. It has already been implemented in Flanders and Wallonia, whereas in Brussels, there is no known plan. Figure 12 shows for each region in which the renovation obligation to a certain label is active. The renovation must be performed within 5 years after purchase. For example, a Flemish homeowner must renovate its dwelling to at least label D if it's purchased after 2023.

The purchase rate is an important driver behind the renovation obligation after purchase. This rate differs per region and is unequally distributed over the EPC labels. The general

[26] For example, renovation after purchase versus renovation by a mandatory milestone in occupied buildings.

purchase rate of dwellings can be extracted from the Long-Term Renovation Strategy (LTRS) of each region. These amount to 2,5%, 2% and 2% for Flanders, Wallonia and Brussels, respectively. Moreover, the Flemish LTRS states that 2% of the total 2,5% can be attributed to the purchase rate of label C and worse. The same share is assumed for the two other regions (with for Brussels this being valid for label D or lower, given the differences in the EPC definitions, as explained in *Appendix A.1 Characteristics of the building stock*). An equal distribution over the labels and a relative distribution between single-family houses and apartments are applied.

When a renovation obligation is in effect, the renovation must be completed within 5 years of purchase. In the model, an average delay time of 2,5 years, which approximates to 3 years, is applied.

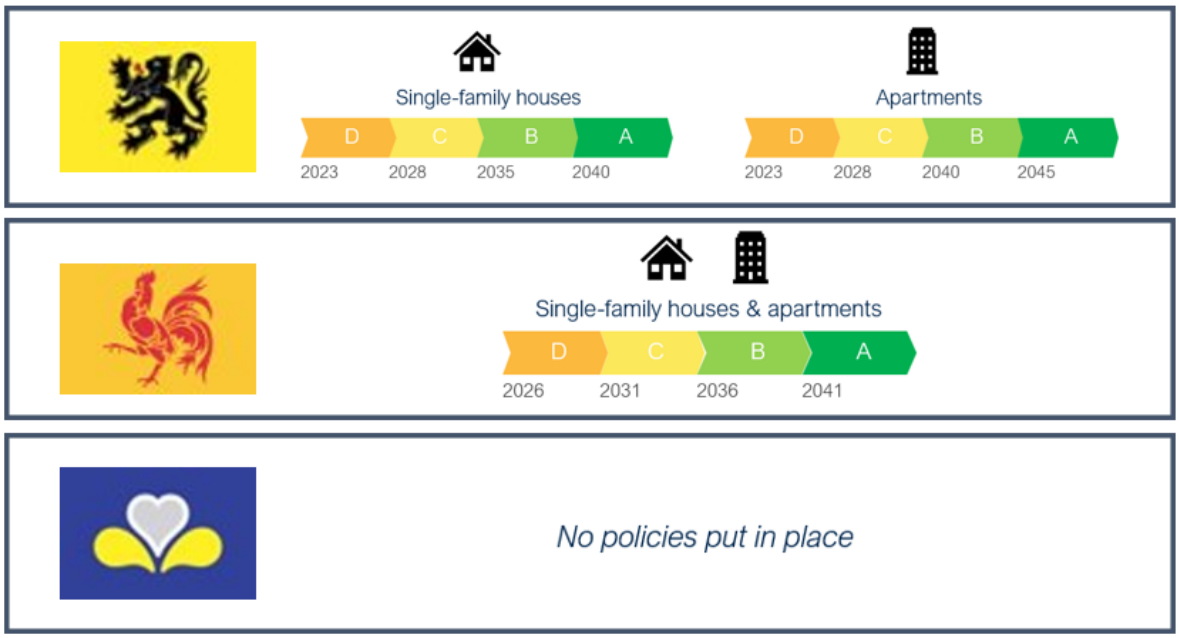

Figure 12 - Regional timeline for the renovation obligation after purchase policy.

Label ban

A label ban indicates that starting from the specified year, dwellings with that label must cease to exist. Therefore, all such dwellings need to be upgraded before their ban year, aiming for at least the next higher label. Figure 12 presents these timelines in the three regions. For example, all label G dwellings in Wallonia should be renovated to a better label by 2031 at the latest.

With regards to the label ban, the model works as follows: once a label ban is only 10 years away from the current year, the renovation of dwellings with that label can only be triggered by this reason. Hence, all the dwellings with the label that will be banned, are distributed between the coming 10 years to be renovated. This distribution happens in two phases, to mimic better the reality (Figure 13):

- During the first 5 years, there is a gradual increase in number of renovated dwellings with that label.
- Over the last 5 years, a constant number of dwellings with that label are renovated annually, ensuring no dwellings with that label remain by the time the ban year arrives. This ban year is thus considered a rigid threshold (there is no transition phase, delay, etc. implemented).

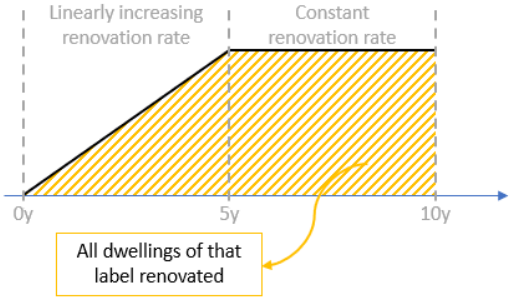

Figure 13 - Schematic of the label ban configuration.

This label ban policy has not yet been officially implemented in any of the three regions, but all the regions have plans for this mentioned in their LTRS or Climate and Energy Plan[27]. It is thus expected that such bans will be implemented in the coming years.

It is important to note the following points regarding the methodology and working assumptions:

- The mandatory schemes request that a renovation be performed within the 5 years after purchase. In our model an average value for the delay of 3 years is considered. A distribution over the different years of delay for action (0 to 5 years) would be closer to reality.
- The two renovation policies above are the only triggers considered, while there might be other support measures and incentives that drive renovations. However, the considered renovation depths go beyond the mandatory minimum, as explained in the next section.
- The purchase rate is assumed constant and equal to the 2023 activity.

A.3 Working hypotheses of the techno-economic model

Renovation depth distribution between label-A and multi-step renovation

The total renovation numbers and, hence, costs are impacted by the distribution between direct label-A and multi-step renovations. This distribution depends on the event that triggers the renovation. The different options are schematised in Figure 14 and discussed below.

A label-A renovation is defined as a 1-step renovation to label A. There is, however, an exception for Brussels. As is mentioned in *Appendix A.1 Characteristics of the building stock* the primary energy consumption of a label A is much lower than in the other regions, and the Brussels label B is very close to the label A of the other regions. Hence, label-A renovations correspond to label-B renovations in Brussels.

[27] Flemish Climate and Energy Plan : Microsoft Word - VR 2023 1205 DOC. Visienota Actualisering VEKP - 2 Bijlage TER (vlaanderen.be)

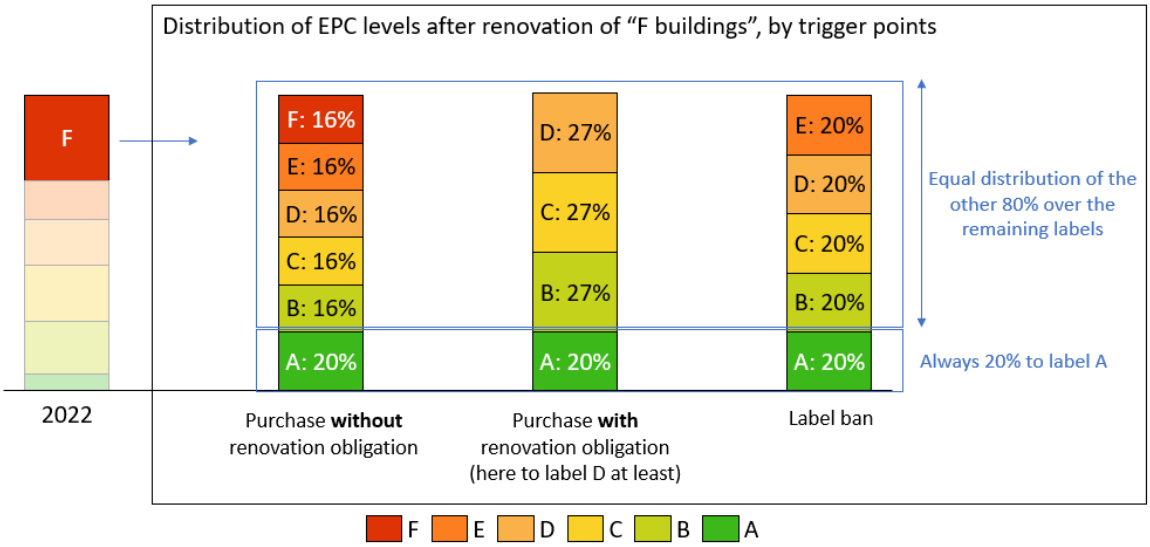

Figure 14 - Schematic of the different EPC label distributions after renovation, with the example for a F-label in Flanders.

Purchase without renovation obligation

When a dwelling with a given label (the starting label) is purchased without a renovation obligation being active for that label, this dwelling can stay unrenovated or can be renovated. Hence, it is assumed for each starting label Y that 20% will be renovated to label A (or label B in Brussels) after purchase. The remaining 80% is equally divided between label Y until label B (or label C in Brussels). For example, when considering a label F in Flanders, 20% will be renovated to label A and 80% to labels F to B (80% divided by 5 equals 16%), as illustrated in Figure 14.

Purchase with renovation obligation

When a dwelling with a certain label (the starting label) is purchased, with a renovation obligation being active for that label, this dwelling will be renovated. Hence, it is assumed for each starting label Y that 20% will be renovated to label A (or label B in Brussels) after purchase. The remaining 80% is equally divided between the minimal label for the obligation until label B (or label C in Brussels). For example, when considering a label F in Flanders that should at least go to label D: 20% will be renovated to label A and 80% to label D to B (80% divided by 3 equals 27%), as illustrated in Figure 14.

The banning of a label

When the ban of a label will occur in 10 years, all dwellings with that label will gradually be renovated to at least 1 label higher. It is assumed for each starting label Y that 20% will be renovated to label A (or label B in Brussels) after purchase. The remaining 80% is equally divided between label Y-1 to label B (or label C in Brussels). For example, when considering a label F in Flanders that will be

banned: 20% to label A and 80% to label E until B (80% divided by 4 equals 20%), as illustrated in Figure 14.

It is important to note the following points regarding the methodology and working assumptions:

- The value of 20% of renovations going to label-A is higher than the current estimations.
- The other 80% is equally distributed between the remaining labels (depending on the trigger point, see Figure 14), which is equal distribution is a simplification of reality.

Renovation cost

The total renovation costs are primarily influenced by the renovation costs for individual dwellings. Up-to-date data concerning renovation costs to reach given labels is lacking. It has however been possible to extract such data from audits conducted in Wallonia. Since the definition of the energy labels differs per region, the cost data from the audits has been extrapolated to the primary energy consumption of the EPC labels of each region (Figure 15). The renovations costs per region can be found in Table 4, Table 5 and Table 6. To reiterate, for Brussels renovations to label B are in considered as the deepest renovation possible, as is explained earlier in this section and in *Appendix A.1 Characteristics of the building stock*.

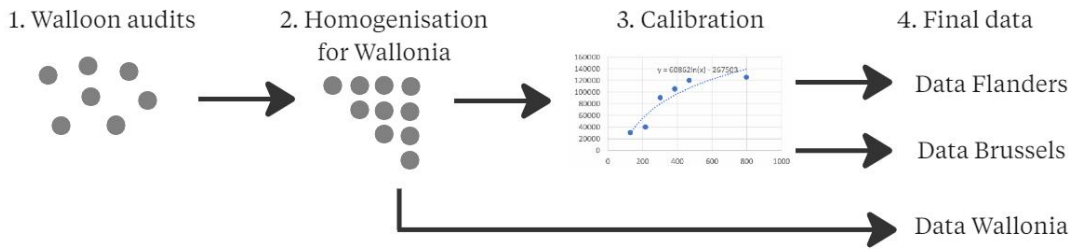

Figure 15 - Schematic of the methodology to obtain renovation cost data per region.

Table 4: Renovation cost from a given label to another label for Flanders, expressed in k€.

	Single-family houses						Apartments					
From\To	F	E	D	C	B	A	F	E	D	C	B	A
F		35	45	70	120	135		17	21	26	35	39
E			15	40	60	105			11	16	27	31
D				30	55	90				10	15	26
C					55	70					12	20
B						40						11

Table 5: Renovation cost from a given label to another label for Wallonia, expressed in k€.

	Single-family houses						Apartments					
From\To	F	E	D	C	B	A	F	E	D	C	B	A
G	35	55	65	85	110	125	10	16	19	24	32	36
F		30	40	60	105	120		9	12	18	31	35
E			15	40	60	105			4	12	18	31
D				30	55	90				9	16	26
C					30	40					9	12
B						30						9

Table 6: Renovation cost from a given label to another label for Brussels Capital Region, expressed in k€.

	Single-family houses						Apartments					
From\To	F	E	D	C	B	A	F	E	D	C	B	A
G		60	70	90	115		11	18	21	26	35	
F		25	30	50	85			7	10	15	25	
E			20	45	70				4	13	20	
D				25	50					8	15	
C					25						8	
B												

It is important to note the following points regarding the methodology and working assumptions:

- The cost assumptions for Flanders and Brussels are based on Walloon cost data. Cost of EPC jumps were derived for other regions considering the different definitions of the EPC scale (energy consumption level by EPC label). Real data for these two regions would improve the cost estimations.
- The costs are assumed to be constant in time, while they have increased significantly over the last few years.

Floor area

The floor area of houses and apartments varies by region, dwelling type, and label. In general, EPC databases indicate that dwellings with worse EPC labels have smaller floor areas. Table 7 summarises these floor area values per region.

Table 7: Surface area (m^2) per label, per dwelling type and per region.

	Flanders		Wallonia		Brussels Capital	
Label	SFH	Apartment	SFH	Apartment	SFH	Apartment
A	273	97	224	99	262	103
B	222	93	202	94	225	90
C	203	87	205	86	207	84
D	188	85	187	82	196	80
E	177	84	185	79	188	77
F	156	81	162	78	181	74
G	-	-	154	75	168	69

For Flanders, an even more detailed breakdown was available for single-family houses, distinguishing between enclosed, semi-detached, and detached houses. To keep the same level of detail as the other regions, the weighted average of the more granular data has been calculated and the values presented in Table 7.

For Brussels, on the other hand, only an average value for this floor area per dwelling type (SFH or apartment) was available. The distribution for Brussels was obtained through a calibration with the Walloon distribution of floor areas per EPC label (and the primary energy consumption behind it).

It is important to note the following points regarding the methodology and working assumptions:

- The floor areas obtained are treated as constant over time, although in reality, they may change due to volume extensions accompanying renovations, which could limit the expected energy savings. In the modelling, dwellings from lower labels (with smaller floor areas) are renovated to better labels without any impact on their floor area.

A.4 Results

As explained above, the financing needs for renovation sum up to 278 b€ by 2050, with an important share of the investments concentrated before 2033. In fact, over half of the total investments (58%) is required within the next ten years (Figure 16). The total cost estimated by this modelling for 2050 is lower than what is estimated to reach the long-term targets through label-A renovations only, 278 b€ vs. 389 b€ (both using the same renovation cost assumptions). Overall, there is a close to equilibrium between the needed investments for deep renovations and multi-step renovations[28]. The slight shift of importance towards the investment needs for multi-step renovations can be clarified by (i) the fact that more multi-step renovations remain and (ii) the investment needs for deep renovations that decrease as the worst labels (with highest investment needs) are

[28] Figure 16 shows that by 2033 there is a 55%-45% distribution between deep and multi-step renovation investment needs, respectively, and this shifts to a 49%-51% distribution by 2050.

mostly triggered in the first 10-15 years. Moreover, there are important variations between time periods resulting from the renovation calendars. Graphics with these detailed yearly investment needs, as well as splits by region are provided below in Figure 18.

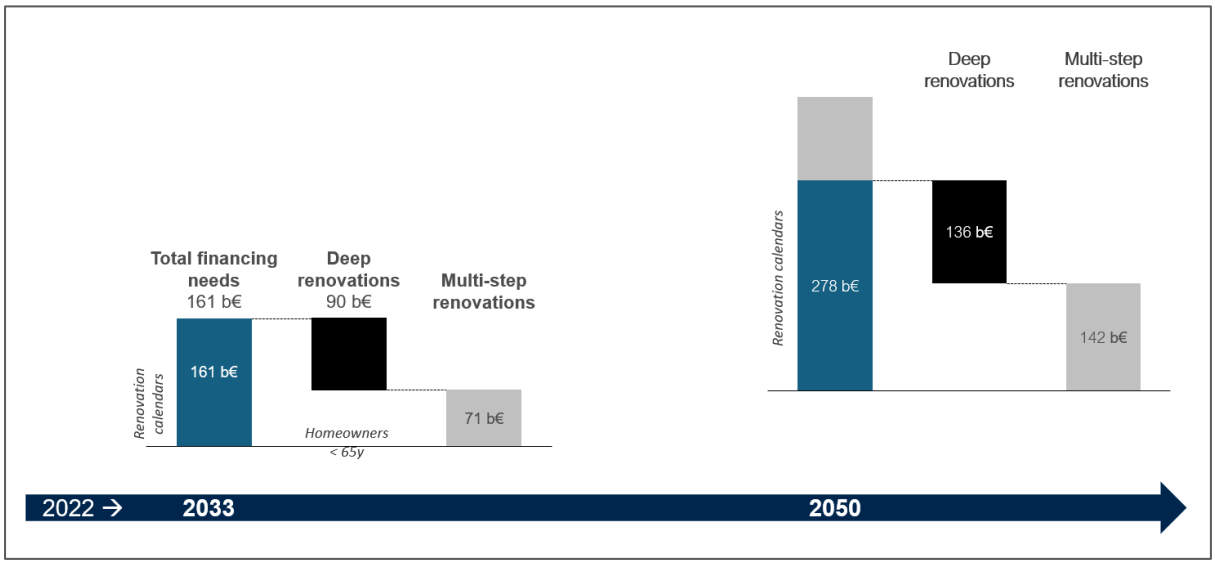

Figure 16 - Cumulative investment needs by 2033 and 2050, with split between deep renovations (black) and multi-step renovations (grey)

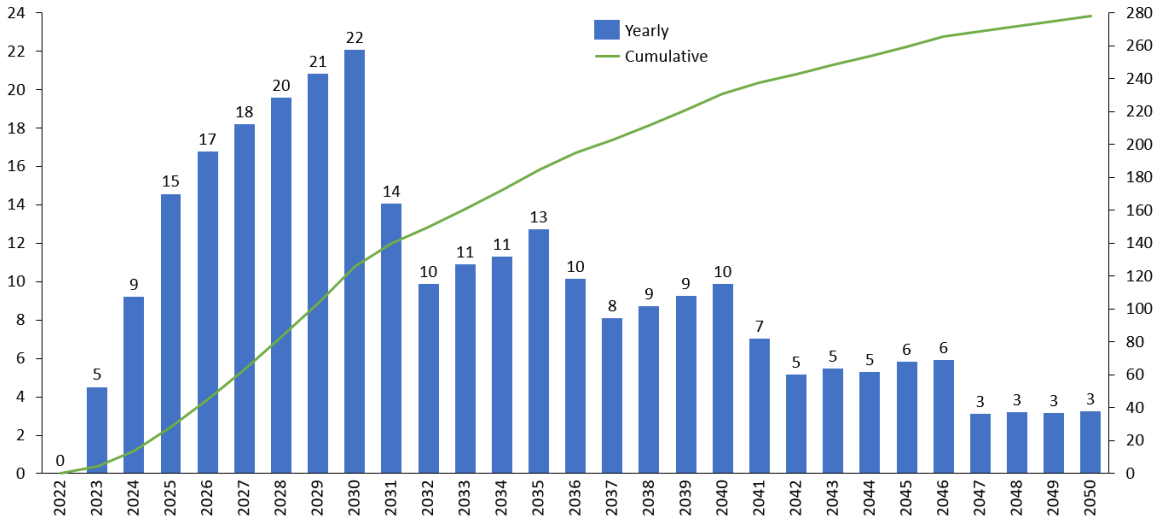

Figure 17 - Renovation investment calendar for Belgium (in b€), with yearly granularity (in blue and left axis) and the cumulative (in green and right axis).

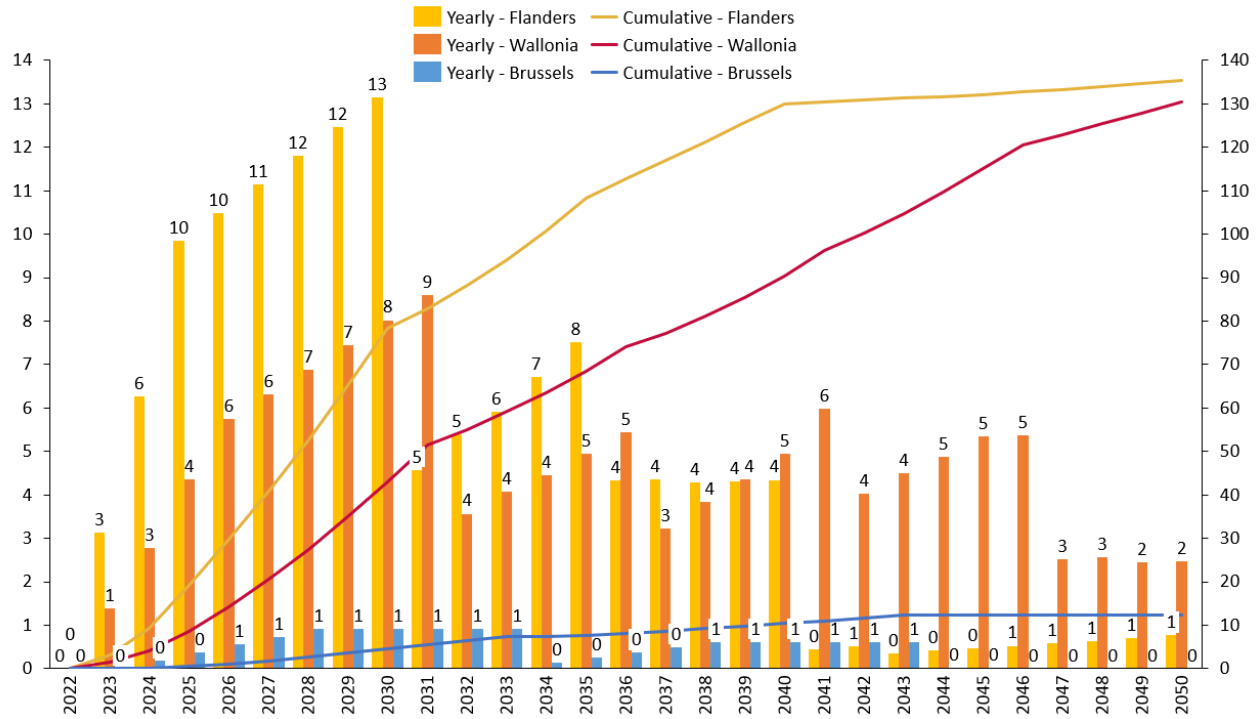

Figure 18 - Renovation investment calendar per region (in b€), with yearly granularity (left axis) and the cumulative (right axis)

B. Estimation of the financing power of homeowners

The preceding appendix (*A.1 Characteristics of the building stock*) offers details on calculating the evolution of the building stock and the associated renovation costs. Building on this information, an additional level of detail is introduced by examining the various household profiles associated with these dwellings. This information does not affect the total renovation or investment figures but is utilized to determine who can afford which renovations and which financial mechanisms can assist households in bridging the financial gap for their renovation. The distribution of household profiles and an analysis of their repayment capacities are explored in the next section.

B.1. Definition and distribution of household profiles

To cover the whole spectrum of households, two first high-level categorisations are (i) homeowner (owner-occupier) vs. tenant and (ii) below 65 years old (applicable for long term repayments) vs. above 65 years old (not applicable for long term repayments). Next, the distinction between households with sufficient vs insufficient financial capacity is made. A final categorisation is a more granular view on the ones with insufficient financial capacity. Not all household profiles contain the same degree of granularity in this categorisation. Figure 19 shows the categorisation from high to low level.

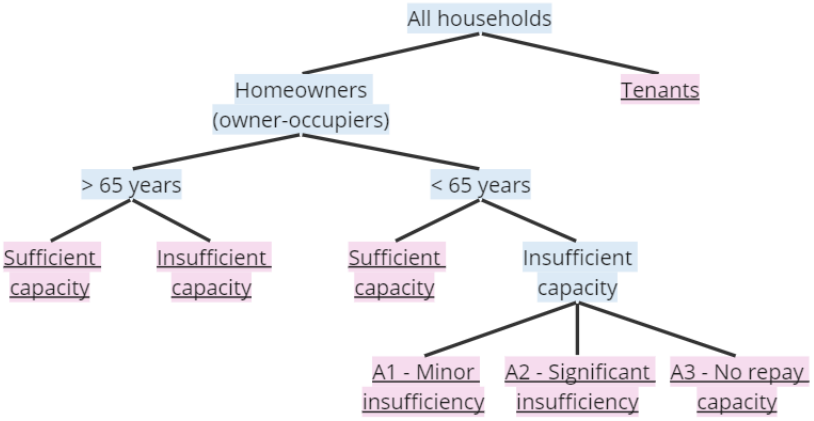

Figure 19 - Schematic of the household profiles, with the retained groups in light red and underlined.

A description of the different household groups is given below, arranged from least to most specific:

1. All **tenant** households, irrespective of their age or financial capacity, are grouped. This broad categorization arises from the lack of detailed data on their financial capabilities. The most granular data available is the share of tenants in each region (Table 8). Although this group was not the primary focus of this study, including them was crucial to encompass the entire spectrum of households.
2. **Homeowners above 65 years** with **sufficient** financial capacity. They are ineligible for long-term repayment mechanisms, and detailed information on

their financial capacities is limited. While it's important to include this group, they are not the main focus.

3. **Homeowners above 65 years** old with **insufficient** financial capacity. They ineligible for long-term repayment mechanisms and detailed information on their financial capacities is limited. While it's important to include this group, they are not the main focus.

Table 8: Distribution of homeowners and tenants in every region, obtained from the LTRS or Statbel[29].

	Flanders	Wallonia	Brussels Capital
Homeowners (%)	72%	66%	39%
Tenants (%)	28%	34%	61%
Total	100%	100%	100%

The four remaining groups come from previous work of J. Albrecht[30] and CLIMACT's 2022 study[31].

4. **Homeowners below 65 years** with **sufficient** financial capacity. This share of households is extracted from the results of prof. J. Albrecht's studies.
5. **Homeowners below 65 years** that face **relatively minor financial constraints** – **group A1** – and for which longer payback duration (30 years) could enable them to finance fully their climate renovation.
6. **Homeowners below 65 years** that have to cope with **significant financial constraints** – **group A3** – but with the ability to pay normal-to-high energy bills. Energy savings generated by the climate renovation could be factored in their financial plan to close their financing gap.
7. **Homeowners below 65 years** that have **no financing power based on their income** – **group A3** –, and that are barely or not at all able to pay an energy bill corresponding to decent living conditions. This group includes households in energy poverty but is not limited to these.

Household type distribution over the EPC labels

There is no quantitative data available on which household profiles live in which EPC labels and in what proportion. There is, however, the general idea that households with

[29] https://bestat.statbel.fgov.be/bestat/crosstable.xhtml?view=970cc107-ea33-4237-925b-d35a2f6a0cd0

[30] For Flanders: J. Albrecht, and S. Hamels (2020). De financiële barrière voor klimaat- en comfortrenovaties. 2020_de_financiele_barriere_voor_klimaat-_en_comfortrenovaties.pdf (agoria.be)
For Wallonia: J. Albrecht, S. Hamels, and C. van de Water (2022). Les obstacles financiers aux rénovations climatiques et de confort en Wallonie. Les_obstacles_financiers_aux_renovations_climatiques_et_de_confort_en_wallonie.pdf (agoria.be)
For Brussels : J. Albrecht, S. Hamels, and C. van de Water (2022). De financiële barrière voor klimaat- en comfortrenovaties in Brussel. Les_obstacles_financiers_aux_renovations_climatiques_et_de_confort_a_bruxelles-nl.pdf (agoria.be)

[31] BBLV-CLIMACT-study-Prefinancing-mechanisms-for-climate-renovation-accessible-to-all-Flemish-household-FINAL.pdf

less financial capacities live generally in the worst EPC labels. To obtain a certain distribution, the following indicators were used:

- Regional share of homeowners and tenants (Table 8).
- Regional EPC label distribution (Figure 8).
- Regional share of homeowners below 65 years with sufficient and with insufficient financial capacity for their climate renovation (from J. Albrecht's studies).
- The further distribution of homeowners below 65 years with insufficient capacity in 3 sub-groups (A1, A2, A3) from CLIMACT's 2022 study.
- The working assumption that (approx.) 72% of the homeowners below 65 years with insufficient financial capacity (A1, A2, A3) live in the two (or one for Brussels) worst EPC labels (from CLIMACT's 2022 study).

These indicators were applied as follows:

- The share of **tenants** equals the regional share labels (Table 8), and follows the distribution of the EPC label (Figure 8)
- The relative distribution between **homeowners below 65 years** with sufficient financial capacity and with insufficient financial capacity (with its sub-groups A1, A2, A3) has to be equal to this distribution from. J. Albrecht's studies and the follow-up work in CLIMACT's 2022 study.
- The distribution of the **homeowners below 65 years** over the EPC labels in line with the working assumption of (approx.) 72% of A1, A2 and A3 living in the two (or one for Brussels) worst EPC labels.
- The distribution of the two **homeowner profiles above 65 years** is balanced around the above-listed criteria to be aligned with the regional EPC label distribution, and with a similar ratio between them as between the homeowner profiles below 65 years old.

The two abovementioned criteria result in the following household type distributions (Table 9, Table 10 and Table 11). The final distribution between SFHs and apartments is equal to the relative importance of both dwelling types (see *Appendix A.1 Characteristics of the building stock*).

Table 9: Distribution of the different homeowner profiles over the EPC labels in Flanders.

EPC labels	Insufficient financial capacity				Sufficient financial capacity		Total
	>65	A1	A2	A3	>65	<65	
A	0%	0%	0%	0%	1%	2%	4%
B	0%	0%	0%	0%	8%	12%	19%
C	1%	1%	1%	0%	5%	12%	20%
D	2%	1%	2%	1%	4%	5%	16%
E	3%	1%	2%	1%	3%	3%	13%
F	7%	1%	9%	4%	4%	4%	29%
Total	14%	4%	14%	7%	25%	37%	100%

Table 10: Distribution of the different homeowner profiles over the EPC labels in Wallonia.

EPC labels	Insufficient financial capacity				Sufficient financial capacity		Total
	>65	A1	A2	A3	>65	<65	
A	0%	0%	0%	0%	0%	0%	0%
B	0%	0%	0%	0%	3%	4%	7%
C	1%	0%	0%	0%	4%	7%	12%
D	2%	1%	1%	0%	3%	8%	15%
E	2%	1%	3%	1%	2%	6%	16%
F	3%	1%	4%	2%	2%	4%	15%
G	7%	1%	7%	7%	4%	7%	33%
Total	16%	4%	15%	9%	18%	38%	100%

Table 11: Distribution of the different homeowner profiles over the EPC labels in Brussels.

EPC labels	Insufficient financial capacity				Sufficient financial capacity		Total
	>65	A1	A2	A3	>65	<65	
A	0%	0%	0%	0%	0%	0%	1%
B	0%	0%	0%	0%	1%	4%	5%
C	1%	0%	0%	0%	3%	7%	11%
D	2%	1%	1%	0%	3%	12%	19%
E	2%	0%	2%	1%	2%	12%	19%
F	2%	0%	2%	1%	1%	8%	15%
G	3%	1%	9%	9%	2%	6%	30%
Total	10%	3%	15%	11%	13%	49%	100%

It is important to note the following points regarding the methodology and working assumptions:

- There is limited data on the size of each household group. The relative shares were aligned as much as possible to the available data (from the studies of J. Albrecht, for example), but these relative shares might not give the full view of reality.

B.2. Total Monthly Repayment capacity

The financing characteristics of households are expressed in terms of total monthly repayment capacity (TMRC - €/month). The TMRC is composed of two elements (see Figure 20): the monthly repayment capacity as such (MRC) and the monthly savings on the energy bill after renovation (MSA).

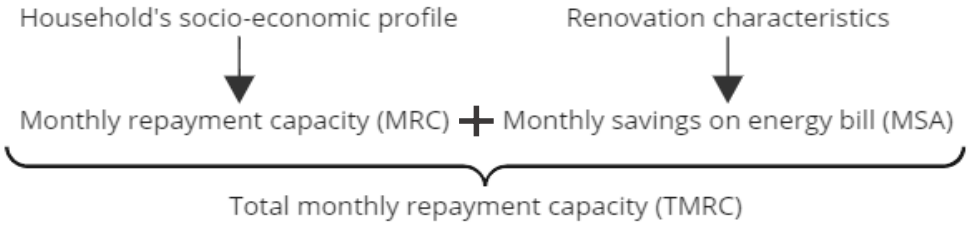

Figure 20 - Schematic of the TMRC.

First, the household's socio-economic profile allows for the quantification of their monthly repayment capacity (MRC). This is derived from previous work done by J. Albrecht and CLIMACT[32]. Sufficiently detailed data is available to perform background calculations for the four homeowner profiles under the age of 65:

- Below 65 years and sufficient financial capacity,
- Below 65 years and limited financial capacity – A1,
- Below 65 years and insufficient financial capacity – A2,
- Below 65 years and no financial capacity – A3.

For the computation of the MRC, work from CLIMACT's 2022 study was elaborated. For this, data from J. Albrecht's studies regarding financing gap (the rows in Figure 21) and renovation costs (the columns in Figure 21) were combined, with application of an equal distribution according to their respective shares. This data was then reorganised differently to obtain MRC ranges for our defined household profiles.

[32] BBLV-CLIMACT-study-Prefinancing-mechanisms-for-climate-renovation-accessible-to-all-Flemish-household-FINAL.pdf

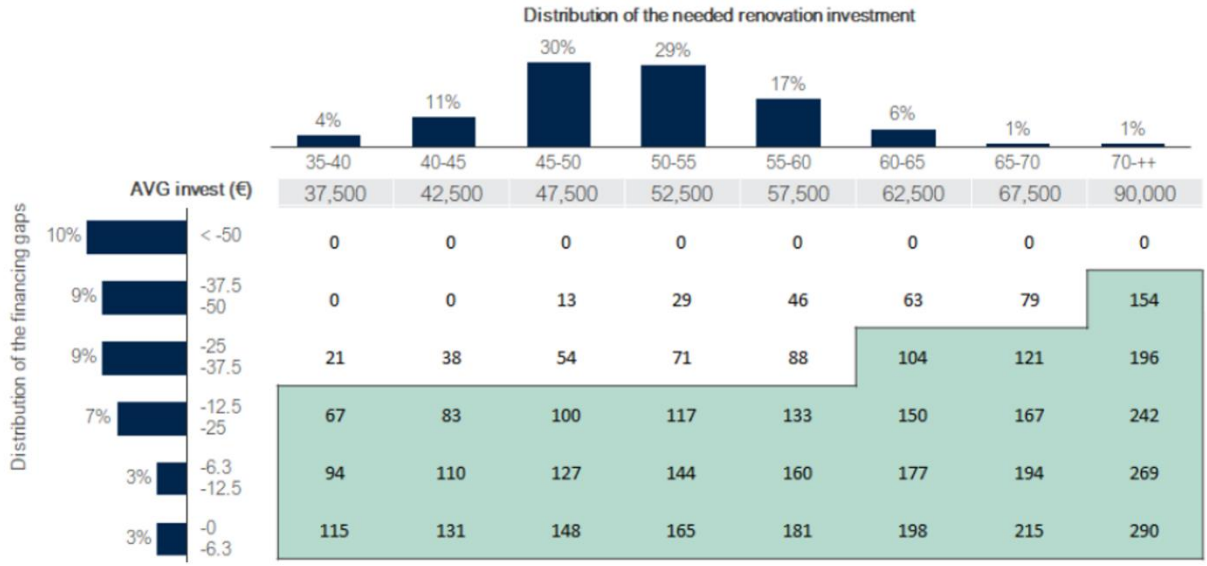

Figure 21 - Illustration of the elaboration on J. Albrecht's and CLIMACT's 2022 work. The rows correspond to financing gaps, the columns to renovation costs and the values in the table the MRC.

A distribution of the MRC ranges was obtained for each region. This MRC distribution is further specified with the distribution between SFH and apartments in each region (*Appendix A.1 Characteristics of the building stock*). Figure 21 shows a combined overview for Belgium with MRC ranges of €50.

Second, the renovation characteristics (EPC label improvement) provide a quantification of the monthly savings on the energy bill, after renovation (MSA). This quantification of the MSA is approximated through the following steps:

1. Hypotheses on the energy vector per EPC label are made (Table 12).
2. The primary energy consumption per label (kWh/m^2/year) is calibrated with the energy balance and corrected with a factor of 2,5 for electricity, for the applicable labels. (Table 13).
3. The difference in floor area (m^2), Table 7, together with the price per energy vector (€/kWh)[33] are taken into account to obtain a total difference in energy bill for going from a given label to another (€/year). These results can be found in Table 14, Table 15 and Table 16.

The TMRC combines both and is further used to evaluate whether a given household profile with a given TMRC can finance a given renovation. The characteristics of the renovation are important in this evaluation, and hence:

- The distribution of the household profiles over the EPC labels has to be considered (see above). For each household profile there is a more granular view available through the MRC, however, an equal distribution of the MRC

[33]For gas 0,10 €/kWh and for electricity 0,38 €/kWh, based on numbers from the VREG (https://dashboard.vreg.be/report/DMR_Prijzen_gas.html). It is assumed they stay constant over time.

ranges within each household profile distribution over the EPC labels is assumed[34].

- The distribution of renovations between deep and multi-step is of importance. This distribution is assumed to be the same for all household profiles[35].

It is important to note the following points regarding the methodology and working assumptions:

- The TMRC is only calculated and compared to the renovation costs for the homeowners below 65 years old. For the remaining different assumptions were used:
  - For homeowners above 65 years old, only the FTML is considered given the difficulty to engage in long-term repayment scheme. 100% of 65+ homeowners with sufficient financial capacity are considered able to afford the repayment of the FTML. For 65+ homeowners with insufficient capacity, the share of homeowners without access to financing within groups A1, A2, A3 combined is used as a proxy (same share applied).
  - Tenants are distributed as follows: 30% to FTML, 70% to ILR and 0% without access to financing, based on expert judgement and informed by very limited data published by IWEPS[36].
- For the computation of the MSA:
  - 2023 prices for gas and electricity were used and considered constant over time.
  - The energy mix (gas or electricity) per label was defined based on expert judgment. Since electricity is (currently) more expensive than gas, our computations lead to higher energy bills after renovation, which is unlikely in reality.
  - Rebound effects were not taken into account. The energy improvements were based on the primary energy consumptions per label corrected to account for real energy consumptions (lower actual consumption for the worst labels) and calibrated with the regional energy balances.

[34] For example, of A2 household profile the ones with a lower MRC are **not** more grouped in worse labels.
[35] It is thus not taken into account that household profiles that cannot finance their renovation might opt more for multi-step, or vice-versa.
[36] IWEPS, 2023. La structure de la propriété des logements en Wallonie et en Belgique

Table 12: Distribution of energy vectors over EPC labels per region.

	Flanders		Wallonia		Brussels	
Label	Gas	Electricity (e.g. HP)	Gas	Electricity (e.g. HP)	Gas	Electricity (e.g. HP)
A	0%	100%	0%	100%	0%	100%
B	0%	100%	0%	100%	0%	100%
C	100%	0%	100%	0%	0%	100%
D	100%	0%	100%	0%	100%	0%
E	100%	0%	100%	0%	100%	0%
F	100%	0%	100%	0%	100%	0%
G			100%	0%	100%	0%

Table 13: The primary energy consumption per EPC label and per dwelling, calibrated with the energy balance and corrected for the energy vector (kWh/m^2/yr).

	Flanders		Wallonia		Brussels	
Label	SFH	Apartments	SFH	Apartments	SFH	Apartments
A	28	32	22	26	10	11
B	46	46	39	41	26	27
C	144	150	134	139	38	40
D	168	177	157	166	121	128
E	186	196	175	185	142	151
F	216	225	189	200	162	172
G			221	227	198	210

Table 14: For Flanders the yearly financial impact on the energy bill after renovation from a given label (columns) to another (rows). Negative values are savings, positive values additional costs (€/year).

	Label to \ Label from	F	E	D	C	B
SFH	A	- 1.713 €	- 1.401 €	- 1.157 €	- 759 €	- 1.476 €
	B	- 676 €	- 224 €	92 €	597 €	
	C	- 1.132 €	- 742 €	- 457 €		
	D	- 752 €	- 311 €			
	E	- 479 €				
Apartment	A	- 856 €	-643 €	-489 €	-267 €	-507 €
	B	- 415 €	-185 €	-25 €	208 €	
	C	- 608 €	-385 €	-228 €		
	D	- 391 €	-160 €			
	E	- 236 €				

Table 15: For Wallonia the yearly financial impact on the energy bill after renovation from a given label (columns) to another (rows). Negative values are savings, positive values additional costs (€/year).

	Label to \ Label from	G	F	E	D	C	B
SFH	A	-2.098 €	-1.677 €	-1.663 €	-1.351 €	-994 €	-1.272 €
	B	-1.128 €	-657 €	-498 €	-173 €	297 €	
	C	-1.351 €	-891 €	-766 €	-444 €		
	D	-985 €	-506 €	-327 €			
	E	-713 €	-220 €				
	F	-504 €					
Apartment	A	-951 €	-773 €	-666 €	-533 €	-335 €	-521 €
	B	-535 €	-341 €	-228 €	-79 €	142 €	
	C	-659 €	-469 €	-358 €	-214 €		
	D	-463 €	-266 €	-152 €			
	E	-319 €	-116 €				
	F	-208 €					

Table 16: For Brussels the yearly financial impact on the energy bill after renovation from a given label (columns) to another (rows). Negative values are savings, positive values additional costs (€/year).

	Label to \ Label from	G	F	E	D	C	B
SFH	A						
	B	-1.689 €	-1.171 €	-848 €	-467 €	-990 €	
	C	-889 €	-308 €	49 €	469 €		
	D	-1.290 €	-740 €	-400 €			
	E	-933 €	-355 €				
	F	-603 €					
Apartment	A						
	B	-742 €	-510 €	-368 €	-202 €	-423 €	
	C	-392 €	-135 €	20 €	201 €		
	D	-567 €	-322 €	-173 €			
	E	-410 €	-155 €				
	F	-265 €					

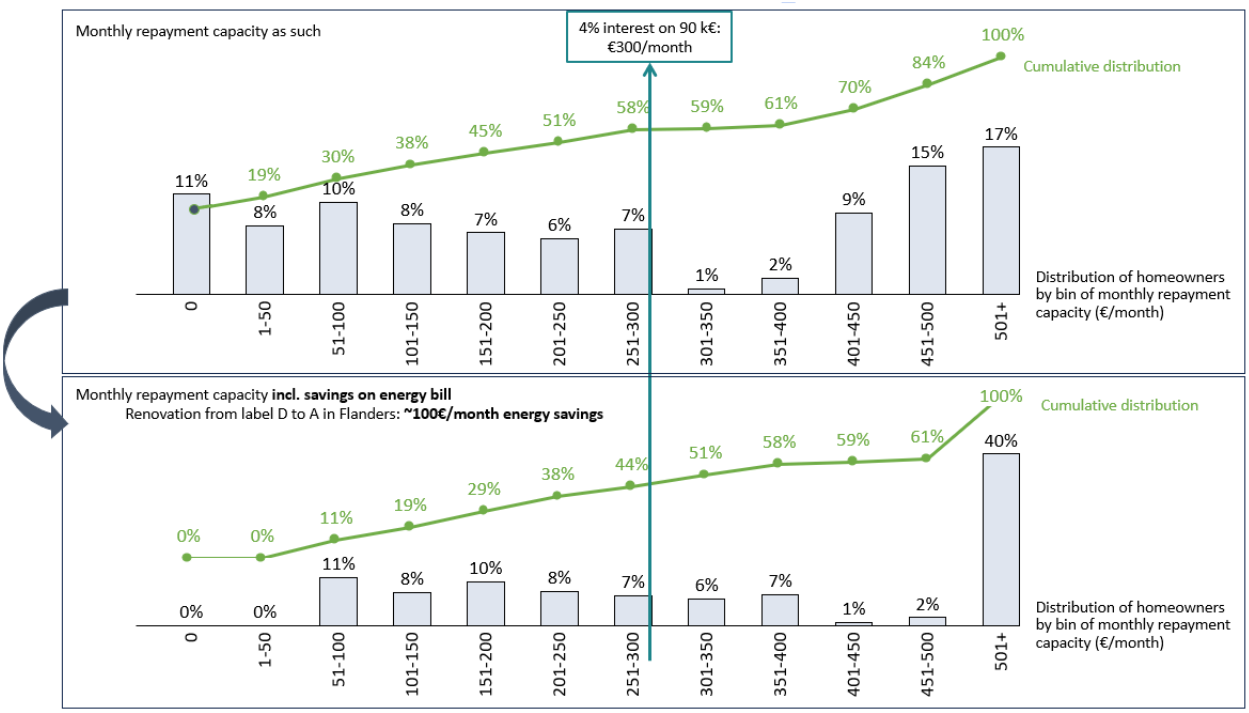

Figure 22 - Impact of including energy savings for the share of households that can finance the renovation.

C. Addressable market segments

The inclusion of savings on the energy bill after renovation (MSA) in the total monthly repayment capacity (TMRC) increases the share of households that can finance their renovation through FTML or ILR. The MSA is an estimation of reality (see *Appendix B.2. Total Monthly Repayment capacity* for more *details). A sensitivity analysis on a selection of scenarios was performed to analyse the impact of excluding this MSA from the TMRC (Figure 23). The numbers should be compared with Figure 5.*

In each of the cases the share of households that can finance through FTML or ILR reduces by one-third to half. Considering the MSA is thus an important aspect to maximise the share of households that can finance through either of the two mechanisms.

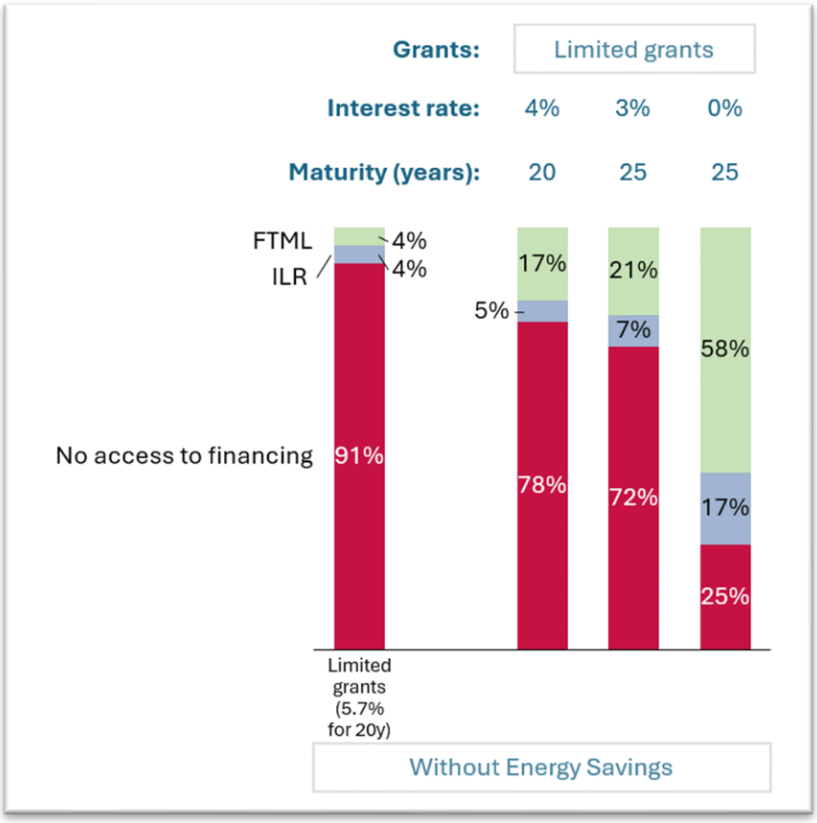

Figure 23 - Reachable market shares without considering the energy savings (within the investments for deep energy renovation by owner below 65 years)

D. Benchmark of financing mechanisms

A range of financing mechanisms was assessed using 3 criteria: 1/ The mechanism's potential to bridge the financing gap, 2/ The financial institution's appetite for the mechanism, 3/ The feasibility. This assessment was based on (1) the conclusions from the SEIF discussions and (2) previous works.

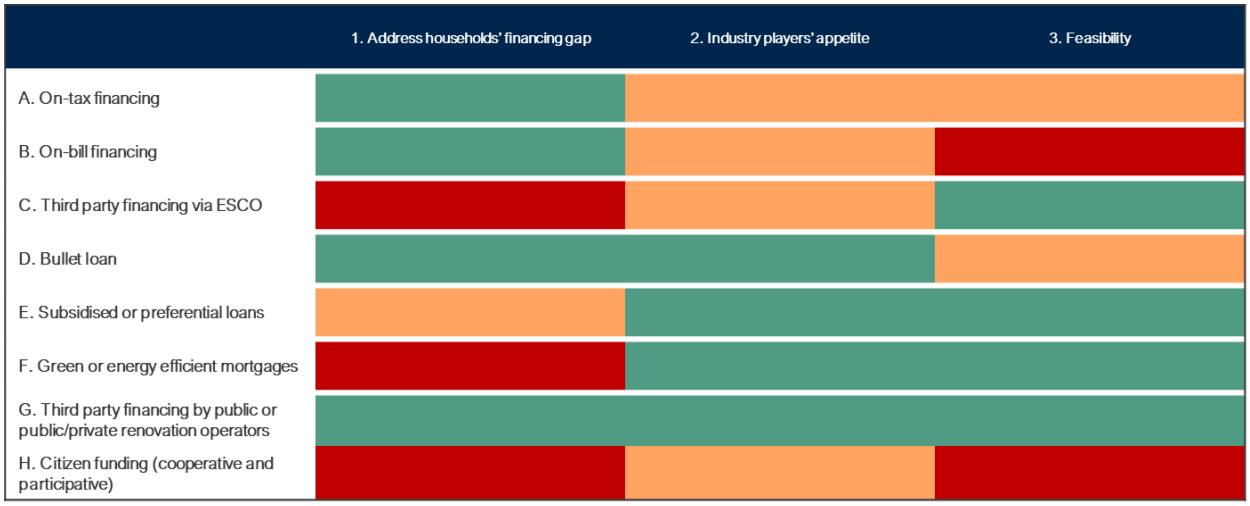

Figure 24 - Relevance assessment of innovative financing mechanisms

Two mechanisms where initially short listed and submitted for discussion to the selected stakeholders during the 1st workshop: the bullet loan (further developed into the FTML in the course in the project) and – supporting the momentum in the development of OSS projects in Wallonia – the third-party financing operator model (inspired by the French model of "Sociétés de Tiers-Financement").

Regarding the third-party financing operator, bearing in mind that in this approach third-party financing would involve for OSS operators to ensure financing, risk analysis and loan portfolio management, a consensus formed not to reproduce the French approach, mainly due to the complexity for OSS (in France, only 2 third-party financing operators effectively practice direct third-party financing, others act as retailers for financing products). The consulted stakeholders felt that it was preferable for both OSS and Financing Institutions to focus on their core business, which reoriented the stakeholder discussions towards the ILR based on the recently launched by the Irish government in collaboration with the European Investment Bank.

However: 1/ It would be interesting to further continue the discussion with other types of stakeholders, such as consumer associations for example, 2/ It should however be noted that other organisational and institutional approaches can be considered for the development of third-party financing, 3/ There are ongoing developments in France, going from "Sociétés de Tiers-Financement" to "Opérateurs Ensembliers". These should be closely followed to build on their learnings.

E. Home Renovation Loan Scheme: Additional insights on the selected financing mechanisms

The following table summarizes the main features discussed with stakeholders during the workshops and bilateral meetings when assessing the feasibility of a guarantee mechanism for the two types of loans that could be included in the Home Renovation Loan Scheme:

- **An Instalment Loan for Renovation (ILR)**, an unsecured loan with maturities of up to 20 years (and possibly 30 years) designed in conjunction with capital grants and interest rate subsidies to enable the greatest number of households to take on the burden of debt (capital + interests).
- **A Fixed Term Mortgage Loan (FTML)**, a secured loan with maturities up to 20 years (and possibly 30 years) designed to address households with a mortgage capacity (within ongoing mortgage or through new mortgage) and a solvency limited to the payment of interest.

Features	**Instalment Loan for Renovation (ILR)**	**Fixed-term mortgage loan (FTML)**
Key features	Instalment loan without collateral with capital repayment to finance the remaining costs of energy-efficiency renovation work on homes. Eligible operations similar to FTML (except for mortgage costs). The loan is granted to owners of a home, whether or not it is their main residence, and is not subject to any income conditions. The expected term of the loan is 20 years. The amount of the loan depends on the borrower's creditworthiness. The loan is conditional on obtaining a certificate of eligibility issued as part of a support mission by a One-Stop-Shop (OSS) approved by the relevant public authority. Participating lenders are covered by a guarantee fund for up to 80% of claims incurred. The guarantee premium and the risk relief is reflected in the loan rate. The guarantee fund is a company incorporated under Belgian law and	The loan is granted to owners of a home used as their principal residence, subject to income conditions to be determined by the relevant public authority. The loan may also be granted to landlords, without income conditions. The loan must be secured by a first mortgage on the property concerned. The capital is repaid at the end of the loan term or on early termination. Interest is repaid over time. There are no application fees or borrower's insurance. Early repayment, total or partial, with no charges other than the reuse indemnity. The expected term is 20 years. The amount of the loan depends on the value of the property according to a ceiling (LTV) to be determined by the competent public authority. The ceiling may be adjusted according to the age of the borrower, to be determined by the competent authority.

	managed by a body designated by the competent public authority. The guarantee fund is counter-guaranteed up to 80% of the guarantee by a counter-guarantee fund sourced by the competent authority and the European Investment Bank. The guarantee and counter-guarantee funds are sourced from a maximum originated loan portfolio cap.	The amount of work financed will be added to the value of the property according to criteria and ceilings to be determined by the competent public authority. The loan is conditional on obtaining a certificate of eligibility issued as part of a support mission by a One-Stop-Shop (OSS) approved by the relevant public authority. Participating lenders are covered by a guarantee fund for up to 80% of claims incurred. The guarantee premium and the risk relief is reflected in the loan rate. The guarantee fund is a company incorporated under Belgian law and managed by a body designated by the competent public authority. The guarantee fund is sourced from a maximum originated loan portfolio cap.
Conditions for calling-up the guarantee	Call for tenders based on loan volume and interest rate. Declaration of the loan to the guarantee manager. Drawing up and monitoring a loan file. Litigation management. Declaration of claim. No income limits apply. Subject to an eligibility certificate issued by an approved OSS. Post-clearance checks on guaranteed loans and claims reported.	Agreement between the State, the guarantee manager and the credit institution. Declaration of the loan to the guarantee manager. Drawing up and monitoring a loan file. Litigation management. Declaration of claim. Compliance with income limits. Subject to verification that the work financed is eligible for the loan. Post-clearance checks on guaranteed loans and claims reported.
Declaration of claims/eligibility	The claim must be declared within one year of the occurrence of the following two conditions. ▪ Registration on the national credit register or proof that the borrower's financial situation has been permanently compromised. ▪ Proof of the following: amicable negotiation,	The claim must be reported within one year of the end of the mortgage loan term if the mortgage does not allow the total amount outstanding on the loan to be repaid in full.

	conventional recovery plan, enforceable court decision involving a financial loss for the credit institution, debts deemed irrecoverable.	
Compensable loss/ characterization	The credit institution monitors and collects the entire loan. It establishes the compensable loss at the end of the recovery procedure. Compensable loss includes all sums owed by the borrower, after collection of sums resulting from any guarantees or insurance taken out by the borrower. Compensable loss covers the outstanding principal, all arrears (unpaid principal and accrued interest), penalties or interest on arrears relating to unpaid principal and accrued interest, and related legal and procedural costs.	The credit institution monitors and collects the entire loan. It establishes the difference between the definitive compensable loss and the advances received from the fund. If this difference is negative, the credit institution reimburses the fund for the surplus received. The compensable loss represents the final loss, net of the value of the mortgage. This loss covers the sums owed by the borrower, after collection of any sums recovered in respect of the exercise of the mortgage. The loss arises when, after the mortgage has been enforced, the loan debt is not repaid in full. The compensable loss covers the outstanding principal and unpaid interest, penalties or interest for late payment relating to the unpaid principal and interest, and the related legal and procedural costs.
Loss compensation	80% of the indemnifiable loss and advances until the endowments are exhausted. Allocations capped on the basis of the originated loan portfolio provided for in the call for tenders, based on a claims ratio of 3%.	75% of the indemnifiable loss and advances until the endowments are exhausted. Allocations capped on the basis of of the originated loan portfolio, revised and communicated annually, based on a claims ratio of 5%.

F. Roadmap

The detailed roadmap is provided in a separate document.

G. Planning of the mission and organizations involved

As part of its mission, SFPIM contributes to the acceleration of the energy renovation of private residential buildings by positioning itself as a key partner in a financing scheme for households. In this context, SFPIM has commissioned CLIMACT and ENERGINVEST, with the support of FINANCITE, to produce this study. As depicted below, the study structured around a macro-economic financial plan and a roadmap for the design and implementation of two financing mechanisms needed to accelerate energy renovation in Belgium, unfolded from October 2023 to February 2024.

The mission had a short timeframe (5 months), with a limited scope and resources. It encompassed a triple request: to build on existing practices in Belgium and abroad, to carry a modelling of the renovation needs and households financing possibilities, and to engage with selected stakeholders.

Figure 25 - The mission was divided into two key segments and unfolded over a period of five months.

The interactions with the selected stakeholders consisted of bilateral meetings as well as workshops. The first workshop in December was conducted in two parts (participants with a financial profile in the morning and One Stop Shop profiles in the afternoon). The second workshop in January was structured to include all participants throughout both the morning and afternoon sessions, responding to the necessity for a unified approach that facilitated a comprehensive discussion among all attendees regarding their diverse needs.

The following organizations participated to the **bilateral meetings**:

- Regional cabinets in charge of Energy

- Regional administrations in charge of Climate and Energy
- BNB-NBB
- SPF Economie
- Finance&Invest.Brussels
- International stakeholders to learn from best practices:
    - EIB (European Investment Bank)
    - SGFGAS (France - Société de Gestion des Financements et de la Garantie de l'Accession Sociale à la propriété)
    - SEAI (Sustainable Energy Authority of Ireland)

The following organizations participated in one or both **workshops** held in December and January.

Administrations	SPF SANTÉ PUBLIQUE - FOD VOLKSGEZONDHEID BRUXELLES ENVIRONNEMENT SPW TLPE - DIRECTION DES BÂTIMENTS DURABLES VEKA
Public financing institutions	EUROPEAN INVESTMENT BANK (EIB) NATIONAL BANK OF BELGIUM (BNB – NBB) ONESTO VLAANDEREN SOCIETE WALLONNE DU CREDIT SOCIAL (SWCS)
Private financing institutions and insurance companies	AG INSURANCEATRADIUS BELFIUS BANK BNP PARIBAS FORTIS FEBELFIN ING BELGIUM INVESIS KBC BANK
OSS	RENO+ (BUILDWISE & EMBUILD) RENOCITY (AGC) FOSSTER
Energy	C-ENERGY/CORDEEL GROUP KARNO KNAUF ENERGY SOLUTIONS