

Co-creating Integrated Home Renovation Services for co-owned condominiums CondoReno - Deliverable D5.2

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Co-creating Integrated Home Renovation Services for co-owned condominiums

D5.2



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Terminology list

This document uses the following definitions.

APC: Agence Parisien du Climate

BCCA: Belgian Construction Certification Association. BCCA is responsible for the certification of products, persons, processes and systems in the construction sector. It also issues technical approvals for products or system components for which no standard exists. In addition, it develops quality frameworks for construction processes and consults with relevant stakeholders in advisory councils and sectoral technical committees.

BOEI-method: a Dutch method for building inspection carried out using a standard methodology for fire safety, maintenance, energy and insight into compliance with legislation and regulations.

Business model: A "business model" is a conceptual framework that outlines the core aspects of how an organization operates, generates revenue, and sustains its operations. It typically delineates the key components of a company's strategy, including its value proposition, target market, revenue sources, cost structure, and distribution channels. This model serves as a blueprint for how a business intends to create and capture value in the market, guiding its overall approach to conducting activities and achieving long-term sustainability and profitability (Osterwalder et al., 2005; Fiel, 2013; Laffont-Eloire et al., 2019).

Condominium: A private residential unit within a multi-unit building where each unit is individually owned, while common areas are owned collectively by all unit owners. This form of ownership combines private ownership of an individual unit with shared ownership of common property (Feather, 1990; Van der Merwe, 2016).

Communication and IT intermediaries: These intermediaries play a role in facilitating the outreach communication and implementation of information technology solutions to enhance energy renovation processes.

Consultants: Intermediary actors who provide expert advice and guidance on energy renovation strategies, often assisting in decision-making and planning.

Co-owner: an individual that owns – or has the right to use spaces and goods through a deed that determines the possession of a share of spaces and goods in a condominium structure.

Condominium associations: The legal entity that brings together all co-owners of a condominium (Van Der Merwe, 2015). The CA is represented by a General Assembly. It is responsible for the daily management, maintenance and renovation of a building owned by co-ownership. Not to be confused with local/regional/national associations of homeowners that can exist through membership fees, and have a different legal status (called homeowner associations)

Condominium Manager / Property Manager / Syndic: A professional appointed to oversee and coordinate the day-to-day operations, maintenance tasks, financial administration, and contractual obligations on behalf of the condominium association. Their responsibilities include executing decisions made by the board or general assembly, managing service providers, ensuring legal compliance, and facilitating communication among co-owners and stakeholders.

DBFM-contract: A DBFM contract is an integrated contract form, whereby the execution of various parts of an infrastructure project is entrusted to a single private contractor, the private contractor.

Under a DBFM agreement, the private contractor will be responsible for virtually all operational aspects of the infrastructure project: Design, Build, Finance and Maintain.

Demand side: This term refers to the individuals or entities who trigger, represent, and encourage the demand for energy renovation services.

Finance and management: This encompasses the strategies and actions related to the allocation of financial resources for energy renovations, as well as the managerial aspects of overseeing such projects.

Geïntegreerde woningrenovatiediensten (GWRD): Gecoördineerde woningrenovatiediensten die worden aangeboden door professionals of teams van actoren van op elkaar afgestemde disciplines (Milin & Bullier, 2021). See also: IHRS.

Integral approach for renovation: A comprehensive method that considers multiple aspects of a building's upgrades and renovations that considers individual preferences and societal perspectives, offered by professionals or teams that streamline the renovation process (Žegarac Leskovic & Premrov, 2019).

Integrated Home Renovation Services (IHRS): Coordinated home renovation services offered by professionals or teams of actors from aligned disciplines (Milin & Bullier, 2021).

Intermediaries: Actors, institutes, or organizations positioned between the supply and demand side, between the public and demand actors, and/or between the public sector and the supply side with a specific mission or activities to bridge gaps between these actors.

NEN2767: a Dutch standard for the uniform and objective measurement of the condition of buildings, infrastructure and installations. The standard describes a method for determining and recording the technical condition with a condition score from 1 (new) to 6 (very poor), and serves as input for drawing up a long-term maintenance plan (MJOP).

One-stop-shop: A service or business model that offers a wide range of services or products in a single location, aiming to provide convenience and efficiency by centralizing multiple related services for the customer (Boza-Kiss et al., 2021).

Public actors: This includes government agencies, public institutes and regulatory bodies that influence and regulate the energy renovation sector at the European, national, regional, and local levels, using distinct types of policy instruments.

Stakeholder: Stakeholders in the context of energy renovations for condominiums refer to individuals or entities that have a vested interest in the process and outcomes of such renovations. This typically includes condominium/flats/building owners, building managers, renovation service providers, energy efficiency experts, local authorities, construction SMEs and any other parties directly or indirectly impacted by the renovation efforts. These stakeholders often play essential roles in decision-making, funding, planning, and implementation processes related to energy renovations within Homeowners associations (Brown, 2018; Franklin, 2020; Estay et al., 2021; Milin & Bullier, 2021).

Supply side: This refers to actors, entities or businesses that offer products, systems, services, and solutions related to energy renovations, such as contractors, suppliers, and energy providers.

VEKA: Flemish Energy and Climate Agency

For understanding the Business Model Canvas (see annex 1) following definitions can be useful:

Channels: The various ways through which the service providers reach and serve their target group (Osterwalder & Pigneur, 2010).

Cost structure: The overall expenses associated with the business model operations (Osterwalder & Pigneur, 2010).

Customer relationship: The nature of interactions and engagement between the business model owner and the target group (Osterwalder & Pigneur, 2010).

Customer segments/beneficiaries: Specific groups targeted for delivering the value proposed (Osterwalder & Pigneur, 2010).

Key activities: The main activities executed by the service provider to deliver the proposed value (Osterwalder & Pigneur, 2010).

Key resources: The critical assets and capabilities required for delivering the proposed value (Osterwalder & Pigneur, 2010).

Key partners: External collaborations that enhance the effectiveness of energy renovation efforts (Osterwalder & Pigneur, 2010).

Revenue streams/Value streams: The sources of income or benefit generated (Osterwalder & Pigneur, 2010).

Value Proposition: The unique value or benefit that the business model owner offers to the customer segments (Osterwalder & Pigneur, 2010).

1. Executive Summary

The primary objective of the CondoReno project is to create and replicate Integrated Home Renovation Services (IHRS) in Flanders and the Netherlands to achieve label A condominium renovations with condominium associations. The project addresses the challenge of coordinating multiple stakeholders involved in the renovation of co-owned condominiums, including co-owners, condominium associations (CAs), condominium managers, contractors, financial institutions, and government bodies.

The report outlines the steps taken to build and multiply IHRS, focusing on stakeholder mapping, co-creation with internal and external stakeholders, digital support, and quality assurance. Subsequently, we describe the initiatives that WNR and the energy houses of Antwerp, Ostend and Mechelen took to develop an IHRS through co-creation processes with local stakeholders from the demand and the supply side. These initiatives concern local stakeholder groups in The Netherlands and Flanders, various training and knowledge exchange initiatives, a digital resource center, the creation of two IHRS originating from the supply side.

The report demonstrates that co-creation processes can significantly enhance the demand and supply of IHRS for condominiums. Key recommendations include strengthening collaboration between authorities, aligning renovation incentives with CA needs, and exploring long term and innovative financing models. The development of a standardised IHRS model and stronger public-private partnerships are also emphasised.

The CondoReno partners will focus on further refining their IHRS models, implementing and disseminating the CRM system, expanding training programs, and exploring new financing options.

Samenvatting

Het primaire doel van het CondoReno-project is het opzetten en repliceren van Geïntegreerde Woningrenovatiediensten (GWDR) (in het Engels: Integrated Home Renovation Services of IHRS) in Vlaanderen en Nederland om label A-renovaties van appartementsgebouwen te realiseren in samenwerking met verenigingen van eigenaren. Het project richt zich op de uitdaging om de verschillende belanghebbenden bij de renovatie van appartementsgebouwen in mede-eigendom te coördineren, waaronder mede-eigenaren, verenigingen van eigenaren (VvE's), syndici, aannemers, financiële instellingen en overheidsinstanties.

Het rapport schetst de stappen die zijn genomen om IHRS op te zetten en te vermenigvuldigen, met de nadruk op het in kaart brengen van belanghebbenden, co-creatie met interne en externe belanghebbenden, digitale ondersteuning en kwaliteitsborging. Vervolgens beschrijven we de initiatieven die WNR en de energiehuizen van Antwerpen, Oostende en Mechelen hebben genomen om een IHRS te ontwikkelen door middel van co-creatieprocessen met lokale belanghebbenden aan de vraag- en aanbodzijde. Deze initiatieven hebben betrekking op lokale stakeholdergroepen in Nederland en Vlaanderen, diverse opleidings- en kennisuitwisselings-initiatieven, een digitaal kenniscentrum en de oprichting van twee IHRS'en vanuit de aanbodzijde.

Het rapport toont aan dat co-creatieprocessen de vraag naar en het aanbod van IHRS'en voor appartementsgebouwen aanzienlijk kunnen verbeteren. Belangrijke aanbevelingen zijn onder

meer het versterken van de samenwerking tussen overheden, het afstemmen van renovatiestimulansen op CA-behoeften en het verkennen van langetermijn- en innovatieve financieringsmodellen. Ook wordt de nadruk gelegd op de ontwikkeling van een gestandaardiseerd IHRS-model en sterkere publiek-private partnerschappen.

De CondoReno-partners zullen zich richten op het verder verfijnen van hun IHRS-modellen, het implementeren en dissemineren van een CRM-systeem, het uitbreiden van opleidingsprogramma's en het verkennen van nieuwe financieringsmogelijkheden.

2. Introduction

This report is a result of the LIFE project CondoReno (www.condoreno.org). The main objective of this project is to create and replicate Integrated Home Renovation Services (IHRS) in Flanders and in the Netherlands, for achieving label A condominium renovations with homeowner associations. A specific objective was developing IHRS supply and demand for condominiums, using co-creation trajectories with local stakeholders in three Flemish cities (Antwerp, Mechelen, Ostend) and by activities in the Netherlands.

The aim of this report *Co-creating Integrated Home Renovation Services for co-owned condominiums* is to provide a description of elements that support setting up and developing IHRS for condominium renovation and to illustrate how the CondoReno partners managed to build and multiply IHRS over time. This report illustrates how demand and supply for IHRS at co-owned properties can be improved through co-creation processes, using the development of various CondoReno IHRS as example.

In chapter 3 we take the reader in a nutshell through the aspects that need to be addressed in this process of community building for the IHRS. In this description we will link to other CondoReno reports for more detailed information on the topic.

In chapter 4 we describe the activities the CondoReno partners organised to build strong, trustworthy partnership with the demand and supply side and to contribute to a capacity building programme. Hereby a focus is made on the quality assurance of condominium renovations to improve awareness and trust, and possible training and licensing schemes that could offer exploitation on a local or regional scale. Detailed information on the diverse activities was collected and compiled as part of a specific communication task.

In chapter 5 we present our conclusions and recommendations after 3 years of IHRS-building.

The City of Mechelen compiled and edited this report as a Work Package leader in co-operation with the other CondoReno-partners. Where possible, reference is made to deliverables of other work packages. For comprehensive information on the activities mentioned in this report, we refer to the Event & Dissemination tracker which is maintained within Work Package 8 of CondoReno, being 'Communication and Dissemination'.

3. Building an IHRS: working in a field with many parties

Integrated home renovation services (IHRS) offer co-owners of apartment buildings an integrated approach that supports them in informing, planning, financing and carrying out renovations to the common parts of their building. In doing so, an IHRS works in a complex field with many parties.

- Demand side: co-owners and Condominium Associations (CAs)
- Between demand and supply side: condominium managers, supply-demand intermediaries
- Supply side: architects, engineering offices, building contractors, but also commercial banks and (social) credit providers
- Governments, on various levels (local, regional, national)
- Parties engaged in the IHRS itself

Starting an IHRS means progressively building a (local or regional) community around condominium renovations. In order to succeed, the following aspects need to be addressed, in linear or parallel steps, in this process of community building:

- Stakeholder mapping to get a good view on and understanding of the parties to be involved
- Co-creation with internal services of local authorities
- Co-creation with local and regional external stakeholders (demand and supply side, financing sector...)
- Setting out a clear renovation roadmap and providing digital support to internal and external stakeholders
- Installing a system for quality assurance along the renovation process.

We will clarify each of these aspects below.

3.1 Stakeholder mapping

When setting up an IHRS, it is important to involve various parties so that all technical, financial, legal and social aspects of the renovation are covered, and this throughout the whole customer journey.

In a previous action - see CondoReno Deliverable D.2.1 [Declarations joint business development](#) - stakeholders interested in creating IHRS were listed and categorized for the Netherlands and Flanders and on the European level. When looking at the local level the stakeholders can be roughly identified as:

- **Co-owners of apartment buildings:** They are the primary target group. Their needs, wants and financial possibilities determine how the service will be designed.
- **Professional and voluntary condominium managers:** They are an important secondary target group because they are responsible for the daily management of the apartment buildings. Their support and expertise around the technical, financial, legal and social aspects of a condominium renovation is crucial for a steady and smooth renovation process.
- **Energy consultants, engineering offices and architects:** They advise CAs and condominium managers on the condition of their building, the necessary maintenance and repair work, energy-saving measures and the technical feasibility of renovation

projects. In an integral renovation, it is essential that they compile all this building information into a renovation master plan. Where necessary, they prepare designs for (aspects of) the apartment renovation (e.g. in the case of an in-depth façade renovation).

- **Financial institutions:** Commercial banks and other social or commercial credit providers can offer loans and financial products that make integral renovation of apartment buildings affordable for co-owners.
- **Contractors and construction companies:** These parties carry out the renovation work and are essential for practical realisation.
- **Suppliers of e.g. building materials and energy-efficient technologies** such as solar panels, insulation materials and heat pumps. They can help inform co-owners and raise awareness about integral renovation towards label A. In complex cases, their expertise can be used to design customised solutions for specific renovation issues.
- **Governments services and agencies / energy houses:** Local, provincial, regional and national governments can provide support through adapted services, subsidies, regulations and policy initiatives.
- **Intermediary actors:** these are actors who can influence the wishes and expectations of co-owners and CAs. E.g. energy cooperatives that support CAs to collectively set up renewable energy solutions, or real estate agents and appraisers who can provide insight into the higher market value of apartments after renovation. Neighbourhood associations and social experts can play a role in creating and activating a network of interested residents. Knowledge, research and training institutions can work out an adapted offer for guiding actors who want to develop a joint business model for IHRS for condominiums. Communication and IT intermediaries can play a role in developing tools to support decision-making processes.

Such a stakeholder mapping was conducted for and by the CondoReno partners Antwerp, Ostend, Mechelen and WNR for their IHRS.

On a higher level, a stakeholder mapping was done for Flanders and the Netherlands. In this mapping also professional associations, support and training centres came into focus. With the information from this latter stakeholder mapping, the national advisory councils for Flanders and the Netherlands were composed.

At last, an international stakeholder mapping was done, which formed the basis for the International Advisory Board.

We incorporate the international stakeholder map below as an illustration of our way of working.

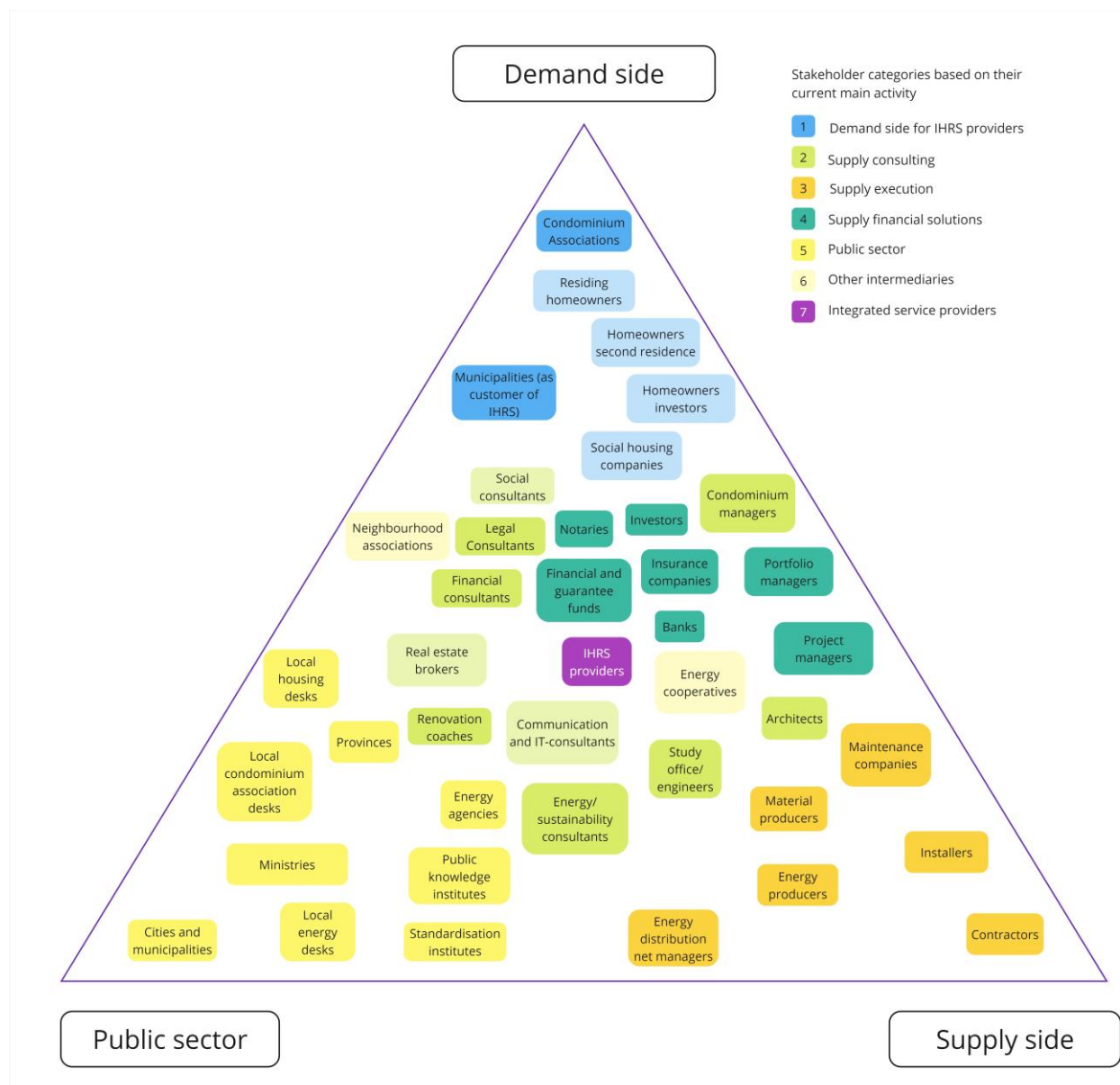


Figure 1: Stakeholder map of international stakeholders for the development of IHRs for CAs (indicative for International Advisory Board). Source: TU Delft.

By listing and organising all relevant stakeholders and their specific interests, roles and influence through stakeholder mapping, the IHRs can be set up in a more effective and targeted way.

A stakeholder mapping executed in co-creation with relevant parties offers a good insight into the expectations and needs of stakeholders and enables initiators to prioritise collaborations and thus optimise the use of (often limited) resources. Stakeholder mapping also helps to identify bottlenecks, such as funding issues or communication barriers, and to develop solutions that meet the needs of all stakeholders.

Stakeholder network analysis Public Energy houses, Flanders

Stakeholder categories based on their current main activity

- 1 Demand side for IHRS providers
- 2 Supply consulting
- 3 Supply execution
- 4 Supply financial solutions
- 5 Public sector
- 6 Other intermediaries
- 7 Integrated Home Renovation service providers

Stakeholder is in contact with IHRS

Quality - What type of relationship

Formal Relationships

Collaborative Relationships

Operational Relationships

Conflict and competitive Relationships

Power and influence Relationships

Network governance Relationships

Direction

One directional

Bi-directional

One directional

Intensity

Weak

Moderate

Strong

- A Primary Stakeholders
B Secondary Stakeholders
C External Stakeholders

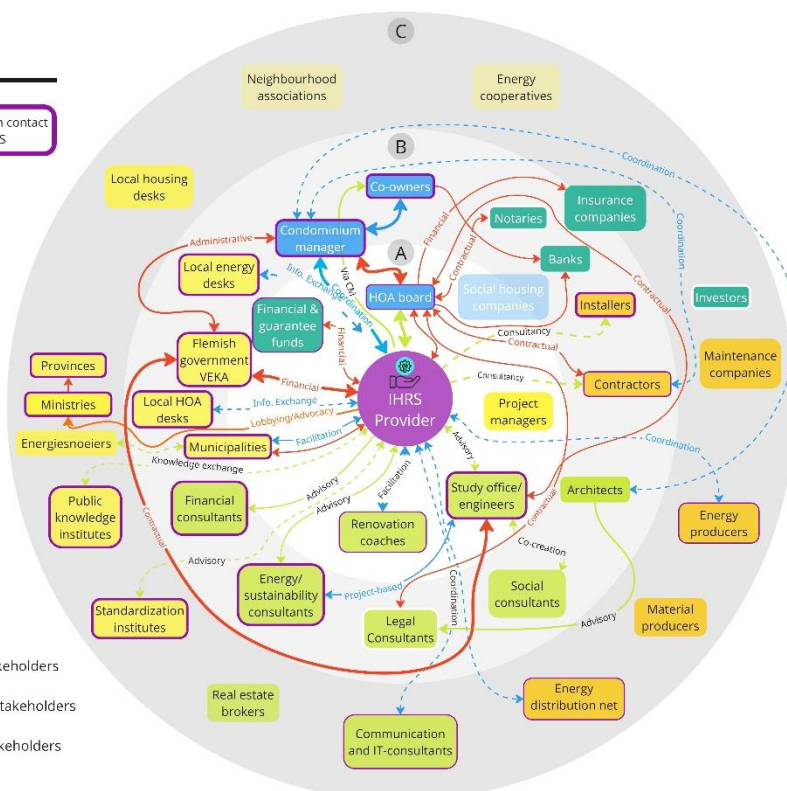


Figure 2: Roles and relations between different stakeholders of IHRS for condominiums (Flemish situation)
(Source: Elgendy, R. et al., 2025)

You find more on the stakeholder mappings in [D 2.1 Declarations joint business model development](#) and in the article: *Intermediaries in Action: How Integrated Home Renovation Service Providers Engage Stakeholders in Energy Renovations for Homeowner Associations*¹.

3.2 Co-creation processes with internal stakeholders

In the renovation of apartment buildings typically multiple municipal departments are involved, as these projects are often multidimensional and touch several policy areas. Municipal services involved in apartment renovation include, among others:

- **Energy House / Housing and Energy Counter:** advises residents around renovation works that increase the building's energy efficiency and improve the quality of living. It also offers renovation guidance and supports co-owners in financing their apartment renovation through applying for loans and grants. The energy house is often also the Service from which the IHRS is initiated.

¹ Elgendy, R., Mlecnik, E., Visscher, H., & Qian, Q. (2025)., Intermediaries in Action: How Integrated Home Renovation Service Providers Engage Stakeholders in Energy Renovations for Homeowner Associations, Sustainable Built Environment Conference, submitted for publication.

- **Town Planning Department:** responsible for permits, zoning and building code compliance.
- **Housing Service:** focuses on housing quality, unfitness and uninhabitability declarations, renovation assistance to vulnerable groups, sometimes subsidies for renovations.
- **Environment and Sustainability:** advises on energy efficiency, insulation, sustainable materials and renewable energy.
- **Public Works:** involved in infrastructure works around the building, such as utilities or sewerage, but also involved when CAs want to occupy the public domain in their renovation works. In cities, a Less Nuisance Coordinator is part of the Public Works Department. This official interacts with CAs and construction companies about the size, duration and organisation of the taking public domain.
- **Heritage Department** (if applicable): provides advice on energy renovation to protected buildings or buildings in historic zones.
- **Finance Department:** manages municipal grants and budgets available for renovation.

Often these services operate independently of each other.

When an energy house successfully wants to build an IHRS for condominium renovation, it is necessary to streamline policies for and services to CAs and condominium managers in co-creation between the energy house and various municipal departments. So that guidelines and policies from the city reinforce each other and do not work against each other. Elements that support this streamlining include regular (structural) consultation moments where plans for / topics around condominium renovation are discussed jointly with employees from the various policy domains / services. By connecting various perspectives, awareness will grow in other departments that apartment buildings have specific needs and requirements and that the method of approaching them cannot simply be equated with that of dwellings. Also shared digital tools to centralise planning, documents and communications can support collaboration between municipal services and contribute to streamlined IHRS service delivery. For example, a central Customer Relationship Management (CRM) system or an online platform on which multiple departments can consult permits and/or city planning regulations.

3.3 Co-creation processes with external stakeholders

For setting up an IHRS on condominium renovations co-creation with actors from the demand and the supply side of condominium renovation is essential. On the demand side this means getting to know and to bond with the co-owners, the Condominium Associations and the condominium managers in your work field, particularly also at the local level. Support from the condominium manager is important because they often have great influence on the Board of Co-ownership, and by extension the CA. A condominium manager who is open to integral renovation and willing to cooperate with the IHRS is the gateway to co-owners for all buildings under his/her management. And the opposite is also true: a condominium manager who doesn't believe in renovation master planning and integral renovation can be a serious barrier for building a community with condominium associations and wo-owners.

In personal encounters, meetings and co-creation workshops the renovation coach of the IHRS explains the aim and the method of the IHRS and explores the interest in condominium (integral)

renovation and the benefits of the IHRS for it. Upon mutual interest, they can make cooperative arrangements. Here a well-defined renovation roadmap can be leading. After all, the roles and responsibilities assumed by the parties involved in the renovation process are different in the successive phases of the renovation process. (see also: *D.3.2 [Toolkit for CA decision making](#)*)

The same encounters, meetings and co-creation workshops are needed to get the supply side on board. It is important to develop with local and regional stakeholders from the building sector (e.g. engineering offices, architects, contractors, installers,...) a shared vision for condominium renovations and the role of the IHRS in this. In addition, because governments must act as neutral partners in the process, it is important to provide an (online) matchmaking platform through which the energy house or counter can refer CAs and condominium managers to concerned building professionals. Here, it is important to agree on the quality criteria that apply to the renovation works as a prerequisite for cooperation. Agreements must also be made about the way building professionals register in a matchmaking platform or digital resource center, the method of referral and follow-up by the IHRS,....

When building an IHRS, it is important to realise that external stakeholders from the demand and supply side need time to embrace the idea of an IHRS, to grasp their and others' roles in the renovation process, and to become aware that collaboration in this can lead to better or faster renovation results. Patience, empathy and perseverance are therefore necessary virtues in building an IHRS.

Effective stakeholder management requires a context-sensitive, adaptive approach, with communication functioning as the core mechanism for coordination and alignment. Clear, timely, and coordinated communication can align expectations, enhance transparency, and build the trust necessary for behavioural change and IHRS adoption. However, in time expected roles and responsibilities of stakeholders need to be defined, for example using a RASCI model. Furthermore, it is important to regularly reassess aims, modalities and sources of information delivery, and to evaluate the adequacy of delivered information using feedback. For IHRS development it is particularly relevant to regularly (re)assess the needed stakeholder input in different phases in the renovation journey. An important goal of the co-creation process is to build strong trustworthy networks and trusted referral to actors delivering services in a next phase based on information delivered by actors involved in a previous phase.

3.4 Digital support for IHRS

Digital tools are essential for streamlining and enhancing IHRS. They help coordinate stakeholders, simplify processes, and effectively manage the whole process in a comprehensive way. In deliverable *D5.1 [A digital resource center for IHRS](#)* we extensively describe the building blocks of a digital resource center. In this report we summarise the different tools that are useful for condominium renovation processes.

Ideally the IHRS works with a **project management tool / platform** that keeps everyone aligned on project progress by coordinating tasks, timelines, and responsibilities among stakeholders. In a minimal way, this project management tool is a shared Excel spreadsheet that covers all phases and steps of the renovation advice process, e.g. the Excel spreadsheet Energy House Antwerp used after their IT systems were hacked. Taking project management one step higher, the PM tool is embedded in a customer relationship management (CRM) system where the employees of the IHRS can manage interactions with various stakeholders such as condominium associations, condominium managers, building professionals, etc. In the same system they can also track

inquiries and ensure personalised support throughout the renovation journey (from renovation idea to renovation execution and aftercare). In a maximal way, the project management tool is part of a mutual workspace where the demand and supply side can work together on renovation projects, such as the [Coachcopro platform](#) of APC.

Also needed are **financial planning tools and subsidy calculators** that help understand the financial aspects of renovation, including available budget in the reserve fund, monthly service costs of the CA, cost estimations, available subsidies, and financing options. These financial tools are useful for two target groups: the employees of the IHRS and the co-owners and condominium managers. The first group need financial planning tools to translate the total cost of the planned renovation works into a cost for an average apartment, and to calculate for what work the CA can take out a loan or apply for premiums. Co-owners and condominium managers use these tools for a first, quick idea of the feasibility of the project.

Since the simulations tools that the Flemish Energy and Climate Agency (VEKA) provides are only valid for dwellings, the CondoReno partners developed and refined own simulation tools specifically aimed at condominium renovations. Energy House Antwerp developed the Financial Matrix, that makes it possible to simulate, based on the cost price of the renovation for the building, what the individual contributions of the co-owners will be and how they can finance the works. With feedback from Ostend and Mechelen they prepared a final version that can be shared with the other energy houses in Flanders. Energy House Mechelen developed an Excel spreadsheet to simulate, on the one hand, the basic subsidy that a VME can apply for when carrying out energy renovation works and, on the other hand, the additional subsidies that co-owners with a limited income can apply for.

On **the website of the IHRS** referrals need to be made to tools that support the renovation journey to co-owners. In Deliverable 5.1 ... we published an extensive list of digital tools on (condominium) renovation in Flanders. We present the tools in this list according to the phases of the road map of a condominium renovation. This list includes, among other things:

- **Tools that unlock building data**, like [the Woningpas \(the building paspoort\)](#) in Flanders, and urban planning information about the building,
- **Diagnostic tools** that give first information on the energy performances of the building and suggest tailored renovation measures, like the [Check je huis \(Check your Home\)](#) tool,
- A **matchmaking platform** where condominium associations and condominium managers can search for building professionals, like [Build Your Home](#) or [Vind een bouwprofessional in je buurt \(Find your building professional in your neighbourhood\)](#) or [Vind uw aannemer \(Find your contractor\)](#),
- **A tool for appointment scheduling.**

Obviously, the digital information center must be clear and user-friendly.

The development of a digital resource center requires collaboration with IT and communication stakeholders. Furthermore, it makes sense to also align various municipal departments to share data and use the same system. For example, the system can be coupled to Building Information Modeling software (BIM), Geographic Information System software (GIS), sustainability assessment software, AI systems, and other. Stakeholders have to be aligned regarding data management and privacy.

3.5 Implementing a system of quality assurance

Quality assurance in the integral renovation of apartment buildings plays a crucial role in ensuring that the project meets the set requirements and expectations². This process of quality assurance requires a systematic approach in all phases of the renovation project: from project preparation to design and execution. Quality assurance does not focus only on the technical aspects of a renovation. It also involves social and group dynamic elements of the decision-making process.

In **project preparation**, the focus is on a thorough analysis of the existing situation, including building inspections and legal-financial conditions. A clear delineation of goals and quality criteria is essential. During **renovation design**, the focus is on ensuring technical feasibility and sustainability. Here, attention is paid to the energetic and comfort-technical high quality of a certified product, component or building system. For an integrated, cost-conscious renovation design, it is important to collaborate with architects and engineers who are experienced in this kind of design. Regular design reviews and testing designs against predefined standards, such as energy efficiency and comfort, are important steps here. **When carrying out renovations**, detailed supervision is crucial. This includes the selection of qualified contractors, frequent quality checks on site and the implementation of deviation management procedures. The use of checklists and audits can help monitor progress and ensure that the final delivery meets the pre-set requirements.

² Rose, C. (s.d.). *Handleiding Kwaliteitsborging WNR. Klanteisenspecificatie en Verificatie- & Validatieplan*. Ede, Stichting KERN, pp.48.

4. Co-creation activities and results

In this chapter we report on the initiatives taken by the CondoReno partners in setting up and developing the IHRS. Energy House Antwerp and WNR had already established a basic IHRS operation for CAs at the start of CondoReno. Energy House Oostende and Energy House and City of Mechelen started from their experiences with single-family homes in this regard. This difference in starting point also shows in the type of activities that were set up.

4.1 Local stakeholder groups with the demand and supply-side

4.1.1 Energy House Antwerp

Thanks to the already existing initiatives in Antwerp, local stakeholder groups had already begun to take shape before the start of CondoReno. However, additional efforts were undertaken to further strengthen these groups. Through the organisation of various events, stakeholders were brought together to foster stronger connections and expand networking opportunities.

One of the key initiatives involved hosting **mini-ateliers**, where representatives from local governments, as well as stakeholders from both the supply and demand sides, came together. These sessions focused on topics such as the renovation master plan light, spatial valorisation potential, and diverse business models. The goal was to collaboratively explore how these themes could help accelerate the renovation wave of apartment buildings. Additionally, these workshops provided an excellent platform for stakeholders to connect and discover collaboration opportunities.

A strong emphasis was placed on raising awareness of the legal framework to better support condominium associations in navigating their renovation plans. This was achieved through dedicated **information sessions** that provided a comprehensive overview of the available support services. Beyond offering practical guidance, these sessions aimed to increase awareness of the benefits of pursuing renovation projects. To ensure greater accessibility, these sessions continue to be organised regularly and are now also available as [webinars](#) on the youtube channel of Energy House Antwerp.

Furthermore, a **biennial live event** is organised to directly present the initiative's offerings to local supply-side stakeholders, including condominium managers, notaries, and landlords. This event created a platform for direct interaction, enabling stakeholders to ask questions and explore further collaboration opportunities. This targeted approach laid the groundwork for stronger networks and increased engagement, ultimately contributing to the acceleration of the renovation wave in Antwerp.

To keep stakeholders informed and engaged, a **monthly newsletter** is published, reaching 7300 subscribers from diverse stakeholder groups. The newsletter includes updates on renovation projects, information about grants and loans, and highlights local initiatives such as depaving efforts. It serves as a valuable resource for staying informed about environmental topics and related developments.

Last, in collaboration with **Atradius**, an **information session** was organised to present the key aspects of the mandatory credit insurance. The session included an interactive Q&A, ensuring

participants could address their specific concerns. By opening the event to external participants, other energy houses were also able to join, broadening the reach of the initiative and strengthening networks across stakeholders.

4.1.2 City of Mechelen

Local stakeholder groups with demand and supply side were embryonic formed in previous projects, like Climate District 'Mechelse Vesten' (2020 – 2021) and the EU City Facility project (2021-2022). In a diverse composition and on three occasions co-owners, condominium managers, architect and employees of engineering offices brainstormed together with the project team on different topics around condominium renovation. From the discussions, interest emerged in the local network for:

1) **Building a network with condominium managers.** Energy House and City of Mechelen started in December 2023 with networking lunches with professional condominium managers. In these networking lunches that are organised 2 à 3 times a year, condominium renovation related topics are discussed, such as: Solar panels and energy sharing on condominiums, Mijn VerbouwLening (My Renovation Loan), Charging units for e-cars and e-bikes in underground garages and fire safety, Mijn VerbouwPremies for CAs and individual co-owners (My Renovation Grants). Through the networking lunches the condominium managers feel seen, heard and supported by the City of Mechelen. Condominium managers also appreciate the networking lunches as an opportunity to get to know each other more. As a result of the community building with the professional condominium managers city of Mechelen gets more direct questions from condominium managers for support on different topics around condominium renovation. In September 2024 city of Mechelen organised the first networking moment for voluntary condominium managers. Also, this group was very pleased to get support from the city of Mechelen. A next networking moment for voluntary is scheduled for autumn 2025.

2) **Creating a local stakeholder group with CAs and co-owners:** Through information sessions on condominium renovation and the renovation master planning, events such as the Knaal Energy Festival (2023 and 2025), and information sessions during the Housing Fair in Mechelen (2024 & 2025) we informed co-owners and CAs about condominium renovation and the support they can get from the Mechelen IHRS. Energy House and City of Mechelen will organise their first 'Evening for the Co-owners and Condominium Associations' in autumn 2026 or spring 2026, depending on the information provision on the recent changes in the Mijn VerbouwPremies and the impact on the Mijn VerbouwLening. It will be an evening with short workshops, an information market and opportunity for personal advice (on reservation).

3) **Building a network with study firms, local architects, and building professionals.** During the start-up phase of the IHRS, the City of Mechelen built up contacts with building professionals step by step, in parallel with the steps taken by CAs during their renovation process.

In the first two years of the IHRS, the focus was mainly on developing a working relationship with the study bureaus of the VEKA framework contract on renovation master planning. Contacts were also made with other (local) engineering offices and study firms in the context of case support and within the Learning Network Apartment Renovation organised in autumn 2024 and spring 2025 by Embuild Flanders. With local architects, the City of Mechelen has contact through the architects' association AMO (Architecten Mechelen en Omgeving). When CAs are looking for an architect, we refer them to AMO members.

The Embuild Learning Network was an occasion for Energy House Mechelen to connect with building professionals in the region. With several of the contractors we established a working relationship, based on mutual understanding of the added value of each other's services. To enlarge those working relations with the building professionals, Energy House Mechelen organised together with Stekr, the energy house of the municipalities around Mechelen, a well attended breakfast activity for building professionals in September 2025. Topic of discussion was: 'A sound quotation as the basis for a successful premium application'. Both energy houses will also explained their way of working and encouraged construction professionals to join the contractors' collective so that they can also be found in [Vind een bouwprofessional in je buurt](#), the digital matchmaking platform of Stekr and Energy House Mechelen. For the coming months, Energy House Mechelen expects to further expand contacts with contractors as the first renovation master plans for apartment buildings are delivered and CAs evolve towards investment decisions and renovation design.

4.1.3 Energy House Ostend

At the start of the CondoReno project, there was no local network around the renovation of apartment buildings in Ostend. This led to a step-by-step construction of the local network, and this on several levels simultaneously. Before starting this, the internal organisation around the service of apartment buildings within Energiehuis Oostende was set up.

In the first instance, **a participatory and informative process was set up with the local condominium managers**. By informing this group about the IHRS offer and talking with the condominium managers about their needs and concerns, we tried to adapt the services of the energy house as much as possible to the feedback. Since the start of CondoReno, an **annual general information session** is organised in the spring, during which a state of affairs regarding CondoReno, but also regarding the services of the energy house, is explained.

Since summer 2024, the communication plan was rolled out to contact co-owners directly.

To this end, **two info moments** were organised in June and September 2024, during which the co-owners received an explanation of the CondoReno project and the services of the energy house. After the presentations at the info moment, the co-owners had the opportunity to ask detailed questions around the various services of the energy house: renovation coaching, technical advice and guidance, renovation master plan, energy sharing, photovoltaic panels, tenant support, etc. The plan is to periodically organise an information moment for this group in the future.

A local heat plan is being drawn up for the city of Ostend. The development of a local heat strategy is done by setting up a **participatory process of different stakeholders**. Energy House Ostend also participates in the workshops to give valuable input on the renovation of apartment buildings from practical experience and lessons learned. After all, apartment buildings will play an important role in the local heat transition. Especially since the city of Ostend has an operational heat grid with a lot of expansion potential. Within this process, strong partnerships are being forged with the various relevant local city departments such as Public Domain Department, Housing Department, Strategic Coordination Department, Urban Development Department, Environmental Policy Department, etc.

Regarding the construction sector, an approach will be worked out during 2025 to engage with this group of stakeholders. From Embuild Flanders, connections are being made with the local cell

in West Flanders, but among other things, collaborations with the local Department of Economics (Economisch Huis Oostende) are also being considered.

On 19th of November, Energiehuis Oostende will organise a lecture in collaboration with Clabots Advocaten, who is also a member of the Flemish Advisory Board. The subject of the course is about the renovation master plan, specifically for condominium managers (cf. Syndics). The lecture will be organised by Syntra West, a knowledge institute active in the province of West Flanders. Experiences and good practices will be shared, along with why one should develop such a long-term plan, the theoretical fundamentals of a good renovation masterplan, and the important implications and remarks of working with a renovation masterplan.

Next, there will be an information session that will be organised for the strategic climate cell of the city, in order to translate empirical insights and results into the local climate strategy. Further alignment of the local policy instruments is necessary to scale up the renovation of condominiums in the city of Ostend. Therefore, strong collaborations between the City of Ostend and AG Ostend (incl. Energiehuis Oostende) will be reinforced.

In the first half of 2026, a workshop for local condominium managers will be organised to share the outputs and outcomes of the pilot projects. Furthermore, one will search for further opportunities, adjustments and other suggestions in order to improve the IHRS of Energiehuis Oostende. The format will probably be a network and lunch event.

4.1.4 WNR

The Living Cost Neutral Renovation Foundation (WNR) originated from the association DNA in de Bouw* (DNA). DNA has about 85 motivated members from small and medium-sized enterprises (SMEs) and the self-employed. They are professionals in the field of energetic building (Passive House) and do so in the most responsible, cost-effective, healthy, bio-based way possible, i.e. with a focus on people and planet. Because the DNA members felt the need to tackle renovations to apartment buildings with a VvE board more decisively, an IHRS was set up specifically for flat renovation, Stichting WoonlastenNeutraal Renoveren (Foundation for Housing Cost Neutral Renovation).

WNR's genesis also immediately explains its strong networking with actors from the renovation world. WNR regularly takes part in various **knowledge sessions organised by DNA**. In these sessions, it transfers its knowledge in the field of process support for CAs from its practical experience. A similar type of close cooperation has WNR with knowledge institute KERN, which is also a partner in this CondoReno project. Where possible, WNR provides substantive knowledge for training courses. KERN offers these education and training courses on the market. A good example is a series of **webinars**, the basis of which was fully developed by WNR, with KERN watching over the didactic content and form.

WNR does initiate **a periodic substantive coordination meeting with its financial, legal and construction advisers**, with the primary aim of following product and service developments in the market, as well as informing back and forth on the progress of ongoing projects.

Finally, WNR organises **regular consultations with stakeholders related to the specific projects**. The homeowner association board is often present at these, but not always. The local government also often makes a valuable contribution. The stakeholders invited to these vary greatly and depend on the phase of the project and the location.

4.1.5 TU Delft

Co-creation activities for supporting the onset of IHRS for CAs were further also stimulated in the Netherlands by the project coordinator TU Delft. TU Delft used the annual CondoReno national advisory to enhance collaboration between different types of stakeholders by demonstrating co-creation opportunities. TU Delft also organized specific topical workshops and presentations, like on the SBE22 conference in Delft (12 October 2022), on the IEBB symposium in Delft (19/11/2024), a CondoReno workshop in Tiel (28/3/2023) and The Hague (22/11/2023), a workshop with energy cooperatives Energie Samen South Holland in Delft (05/10/2023), expert meetings with OSS, innovation and financial stakeholders in Delft (11/4/2024; 03/07/2024; 12/02/2025).

Furthermore, meetings were held with various stakeholders to address the creation and multiplication of IHRS for CAs. Regarding public IHRS, meetings were held with Rotterdam (10/01/2023 and 08/03/2023) to support synergies with the SaveTheHomes project, the Province of South Holland (04/09/2023) and the municipalities of Breda (21/02/2025), Amsterdam (Venserpolder project, 16/04/2025) and Delft (supporting Urban Energy Institute activities on this topic). Regarding private actors, for example meetings were held with OnderhoudNL (07/03/2023), Energiesprong Alliantie (20/12/2023), MilieuCentraal (05/11/2024; 18/12/2024), Verbouwstromen (17/7/2024) and Energieverdienmodellen (26/06/2025). TU Delft also supported co-creation by engaging activities with colleagues and local stakeholder, e.g. using the MBE, BK and The Hague newsletters to announce progress and activities and request research input.

Regarding international synergies and co-creation, EU Peers meetings, OSS sister project meetings and specific European projects were followed (e.g. OpenGela, KK Hög Sweden, SaveTheHomes, Serafin network,...). Also, specific strategic support for co-creation was offered in other countries, like for the Walloon Region (CAP Construction, 03/09/2024), the EU energy poverty network Barcelona, 15/10/2024), French stakeholders Energiesprong France and La Maison Passive France (07-08/04/2025), the energy efficiency center of the Czech university in Prague (19/03/2025) and the Slovenian ministry of environment (28/05/2025).

In the coming period, further co-creation activities are planned. Amongst other a Dutch national follow-up project MOOI-TRIK resulted from the co-creation activities, that will allow to use the CondoReno co-creation group for deploying IHRS in Almere and Lelystad. Furthermore, a workshop will be organized addressing the housing sector during the Wooncongres 2025 in Amersfoort and for the Low Tech Festival 2026 organized by DNA in de Bouw.

4.2 Co-creation workshop with supply side and activating the creation of 2 IHRS

For matchmaking with the supply side, the CondoReno partners had a different starting position. WNR, Energiehuis Antwerpen and Embuild Vlaanderen already had (structural) contacts with actors from the construction world working on apartment building renovation from their origins

and/or their existing operations. By embedding in the network of DNA in de bouw, the construction world forms the primary community within which WNR operates. Energiehuis Antwerp built its network over the years through case mentoring and an annual live event for local supply-side stakeholders. Energiehuis Oostende and the city of Mechelen did not yet have these contacts with building professionals. For them, the priority in the first two years of the CondoReno project was to develop a community with the condominium associations and condominium managers. And, by doing so, to stimulate also a demand for condominium renovation by leading homeowners' associations towards the VEKA framework contract for renovation master planning.

As the first renovation master plans are delivered and condominium associations are working towards investment decisions, building a community with construction professionals also adds clear value to the IHRs. In 2025, both Energy House Ostend and Energy House and City of Mechelen focus on building a community with the supply side. They are supported in this by the contacts they built up during the meetings of the Flemish national advisory board and the Learning Networks Condominium Renovation that were organised in autumn 2024 and spring 2025 by the Flemish CondoReno partners, with Embuild in the lead.

In the text below we give information on the concept and execution of the learning network, followed by information on the 2 extra IHRs which are in development.

4.2.1 Learning Network Condominium Renovation

A learning network is a form of collegial learning, where people work in a fixed group, during several meetings around a common theme. In such learning context, knowledge and experiences are deliberately exchanged between participants and speakers. Participants can count on practical advice from colleagues from the sector, experts from knowledge institutions and other external stakeholders.

During the learning network various actors in the construction chain participated in the interactive knowledge sharing:

- Renovation Specialists - HVAC Installers - Construction Companies
- Building owners,
- Consultance & Engineer offices
- Energy Houses
- Renovation Coaches
- HOA and property managers

Due to the great interest in the topic, the learning network started with 25 participants, but the group got bigger and bigger over the sessions. Not only because participants who initially registered for a session kept coming. But also because speakers who were invited to share their experiences and expertise in the first sessions of the learning network stayed connected for subsequent sessions. In total 58 unique persons participated in the learning network. Most of them participated in the 4 sessions, some in one or more sessions.

The content of condominium renovation was divided over 4 sessions (see table below).

Table 1: Programme Learning Network Condominium Renovation

Session 1 : Setting the scene • The Roadmap of the renovation process • Raising awareness among owners and information channels • Setting up a project team. • Condition condition measurement and • Multi-Year Maintenance Plan (MJOP) • Preparation of a Renovation Master Plan (RMP)	Session 2 : Contract agreement lines Viable business models • Facilitate • Coordinate • Construction team formula • ESCO model Who takes on the role of renovation director? How do we organise the contractual agreements? Who assumes what responsibility?
Session 3 : Funding • Owners want an overview of the expected costs for their apartment. • How can you provide insight into the renovation cost per housing unit? • What funding options are available for an CA, for the study work and for the execution of the works? • Available allowances, simulation of grants and energy savings	Session 4: The integrated approach - Quality and performance guarantee Depending on the level of ambition of the ACO, different BMs are conceivable. But how do we guarantee the results of the process? • Product Warranty • High-quality execution • Performance Guarantee • Quality Certification • Renovation As a service?

From each of the sessions comprehensive notes were taken. They were elaborated in a report.

The first learning network (autumn 2024) concluded with five concrete follow-up steps, to be taken in spring & autumn 2025. For some of these steps the CondoReno partners will be in the lead, for other steps participants of the network will take the lead.

- A **10-point wish list** with specific action points that has been discussed with the cabinet of Flemish Minister De Praetere as input for Flemish policy on supporting the renovation of apartment buildings (appointment on 19/05/2025). Embuild has taken the lead to write and edit this wish list, together with the other Flemish CondoReno partners.
- Organising a **test run of training programs for diverse stakeholders**. In spring 2025 the CondoReno Partners, together with KERN and Pixii (The Passive House Platform in Flanders) prepared a multi-day training course on condominium renovation, which combines technical, legal and social aspects of such renovation. (For the content, see 4.5 Knowledge transfer to support the quality assurance of IHRS). The try-out started end of September 2025, with renovation coaches of the Flemish energy houses. After an evaluation, these programs will be refined and tailor made for other stakeholders involved in condominium renovation, such as contractors, co-owners or condominium managers.
- Organising a meeting with stakeholders to develop a **method/protocol for creating a "light version" of condition assessment reporting**. This is necessary as a first step for a Condominium Association, especially for smaller buildings (<15 apartments). BCCA (the Belgian certification body for the construction industry) took the lead here, together with

Embuild Flanders. Several engineering firms volunteered to participate and also VEKA (Flemish Energy and Climate Agency) was involved in interim coordination moments (spring 2025). During the meeting of the Flemish Advisory Board (September 2025) BCCA presented a draft version of a method for basic condition measurement of condominiums, based on the NEN2767 and the BOEI-method, both condition state measurement methods from The Netherlands.

- **A deep-dive meeting on the DBFM (Design, Build, Finance, Maintain)** case that the engineering office Sweco is currently piloting. Developing a new IHRS business model. The plan was to organise a workshop in the Flemish Advisory Board (September 2025) where this new business model could be presented and discussed. Due to the confidential nature of the discussions between the initiators of the DBFM case and the still conditional nature of the project, the exploratory meeting with the CondoReno partners will take part behind closed doors. Additionally, we will have further discussions to explore a "Construction Team" formula and an ESCO (Energy Service Company) model. (October 2025)
- **Discussions with providers of financial products specifically for CAs**, both from the commercial banking sector and other financial organisations that have shown interest in our CondoReno project. (November 2025)

As interest in this first learning network exceeded the anticipated capacity, Embuild Flanders organised two additional learning networks in the spring of 2025. One was organised for construction professionals from the provinces of West and East Flanders, and one for construction professionals from the provinces of Antwerp, Flemish Brabant and Limburg. This time, it was decided to work with a smaller group in order to facilitate more interaction between the participants. A total of 40 participants took part in these two learning networks.

4.2.2 IHRS in development

From the second year of CondoReno Embuild Flanders started to look for opportunities to build 2 extra IHRS from the building sector. During the exploration of the market and whilst making progress in the CondoReno project, we met and still meet several parties who are searching their own way and trying to work out a business model for condominium renovation. , e.g.

- A Belgian energy auditor that wants to expand its operations to include renovation guidance and relieve co-owners in flat renovation
- An Energy Service Company that realises sustainable energy savings in buildings. They have ongoing projects in residential care centres, bespoke businesses, schools, cultural centres, government buildings and are now exploring the apartment building market
- A Belgian major bank that was the first to launch a long-term renovation loan for renovation of apartment buildings. They facilitate online matchmaking with building professionals for their customer-builders through additional online services offered from multiple partnership.
- A strategic design firm that develops and implements sustainable strategies to redevelop post-war buildings and condominiums for contemporary use.

These companies are the most advanced in building a IHRS for renovation of condominiums, but have not finished a full-fledged and market-ready model at the moment. The business models that emerge, are the following.

- **The private facilitators model:** In this business model a facilitator of a private firm takes on a director's role to further steer the renovation process and to further develop the outlined proposals into the best solution in various areas. In Finally, contractors are appointed to carry out the work.

During our project and through the learning network, through advancing insight and cross pollinating consultation moments, This model emerged. The initiator is taking inspiration from the work that the energy houses are delivering in the enabling model and working on this through the study phase and supervision of works. At the moment they are exploring the viability of their model.

- **Construction team and DBFM model:** In this business model an interprofessional team of construction professional actors work together to find the best possible option to achieve the desired end result. After a condominium association decides on renovation works, a construction team is put together to further develop the outlined proposals and to look for the best solution in various areas: Technical, Urban, Financial, Social. Setting up such a piece of expertise from the private market must be able to pay for itself in terms of efficiency gains, and that requires a certain scale of building. For example, buildings with more than 20 residential units, > 20 years old.

In 2024-2025 a bank and an engineering firm has carried out a test case with two apartment buildings in which the residents are maximally unburdened. Details of this project will not be made public until Spring 2026. So at the time of finalising this D5.2, we are unable to provide any detailed information on the initiators and the new business model they develop.

Another initiator is currently researching industrialised solutions to pack the building envelope and is surveying the market for construction companies that can enter a construction team formula to develop a BM and approach CAs.

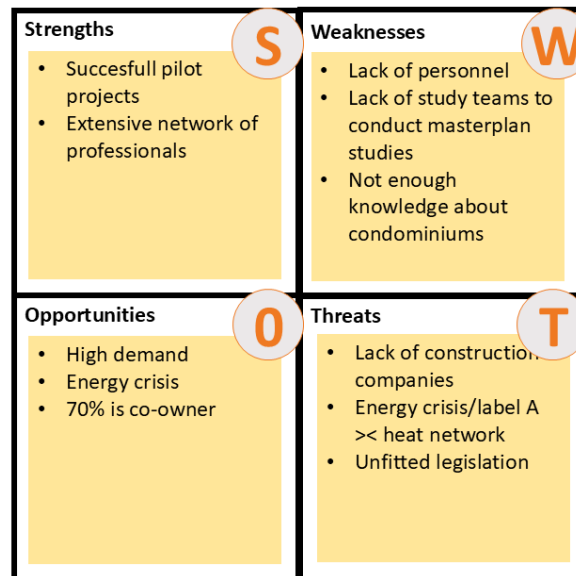
- The **ESCO BM**, which has obviously been around for some time, but in recent years has been investigating how to approach CAs as customers. After the decision of a CA, an ESCO company is appointed to further develop the outlined proposals and to look for the best solution for reducing energy consumption. In the case of an ESCO agreement, the company will derive its profits from the savings that will be realized after the renovation. This requires a certain scale. For example, buildings with more than 100 residential units with large energy consumption for renovation.

This initiator is currently exploring the possibilities of applying the ESCO working method to the renovation and energy performance of condominiums.

In annex 1, we present three business models that have gradually developed during the CondoReno project and under its influence. Today these three business models aren't yet fully developed and fully operational. But we believe these are the BMs that may be viable for the renovation of apartment buildings in the years to come. We see the following strengths and

weaknesses, opportunities and threats for these BMs. Their viability will depend the evolution of the threats, especially on changes in legislation and in market circumstances

SWOT ANALYSIS



4.3 Plan for a joint digital resource centre for IHRS for condominiums

A digital resource centre is essential for one-stop-shops around home renovation, as it provides a central source for all necessary information, tools and support. This type of platform simplifies complex renovation processes by giving owners access to guidelines, subsidies, technical expertise and contact details of trusted partners, such as contractors and renovation coaches. It reduces the threshold for individuals to take on renovation projects, speeds up decision-making and increases efficiency. Moreover, a well-designed digital resource centre can improve cooperation between stakeholders and promote the sustainability and quality of housing renovations.

Within the CondoReno project the Flemish project partners Antwerp, Mechelen and Ostend sought for a best approach for collaboration and licensing agreements and central maintenance. Parisian Climate Agency (APC) assisted them in the definition of their needs and contributed to the benchmark process related to improved digital services. They worked out the public (= front office) and private (= back office) parts of a digital resource center for their IHRS. For improving the status of existing digital tools and further develeop them, each of energy houses used internal resources and/or subcontracted a front-end or back-end developer. The improvements made during the CondoReno project are intermediate steps towards a single integrated platform for the renovation of apartment buildings, following the example of the Coachcopro, the digital resource center of APC.

As context elements changed, the ambition to develop an integrated platform changed towards the desire to link up as much as possible with the existing platforms being developed within VEKA and the Flemish energy houses or other initiators. To do so, we set out on implementation strategy where 4 principles are central. For each of these principles we describe an exemplary project result. You can get a more in depth view on the project results and impact in the [Deliverable D5.1 Building a digital platform for IHRS: Description and strategy of implementation](#).

The principles of the digital implementation strategy are:

- **Reversed subsidiarity:**

We harbour the principle that information that can be made available at a higher government level should not be elaborated by the local level. In Flanders, the Agentschap Wonen Vlaanderen and VEKA sign the regional housing and energy policy. With their services, the energy houses support the implementation of this policy. In recent years VEKA has already developed many digital tools, including, among others:

- Mijn Verbouwloket (My Renovation Counter) with an online application module for Mijn VerbouwLening en Mijn VerbouwPremies (My Renovation Loans and My Renovation Grants)
- the online simulator for Mijn VerbouwPremies (My Renovation Grants) of houses and private apartments; the heat pump ready simulator.

These tools were developed primarily with homes in mind and sometimes they can't be used for condominiums. E.g. the simulator for Mijn VerbouwPremies can't simulate the renovation grants for Condominium Associations. The Flemish CondoReno partners developed themselves an excel spreadsheet tools to convert the renovation costs of the condominium into the cost price for an average flat. This tool was extensively tested during the project. VEKA is now prepared to validate the tool and make it available for all energy houses.

- **Synergies:**

We seek synergies both between the digital tools for housing and for apartment buildings and between digital tools of public and private actors. Instead of creating a new platform for matchmaking the demand and supply side, we advocate with Embuild Flanders and Stekr to incorporate a new filter in their existing matchmaking platforms. This new filter let users look more targeted on type of building (e.g. house, small, medium, large and extra large condominium).

- **Phased construction of the digital resource center:**

The majority of the Flemish energy houses have insufficient financial and human resources to build (at once) a comprehensive digital resource center for their area of operation, as APC did for Paris. Therefore, we recommend building the digital resource center step by step, starting with a front-end website of local government / energy house where citizens, minimally, can easily find information about sustainable renovation of houses and apartments. In a more maximal version, the website goes beyond energy renovation and offers integrated information on relevant themes such as climate adaptation, nature-inclusive building, choice of materials, circularity, water use, etc. Next to develop is a back-end CRM system for follow-up of information requests, advice and renovation guidance, also structured according to the customer journey of a renovation project. A CRM is a necessary tool for the further professionalisation of the energy house or IHRS. It is recommendable to offer extra digital tools for renovation advisors and financial advisors, besides the CRM, e.g. the Check your offer-tool, matchmaking platforms, the Credit Finder, or the financial matrix for condominium renovation (excel worksheet developed by Energy House Antwerpen).

- **Giving information according to the information need of the customer:**

To ensure the effectiveness of a one stop shop website for condominium renovation, information must be tailored to the varying needs and awareness levels of co-owners en residents of condominium. These needs vary according to their situation as co-owner

resident, co-owner landlord or renter. The needs evolve along a behavioural change ladder—from unawareness to active renovation planning. Co-owners who are unsure or unaware of renovation needs benefit from concise, accessible content that highlights the advantages of renovation and helps identify potential issues. In contrast, those with concrete renovation intentions require detailed, technical information about materials, methods, contractors, and financing options. By aligning the depth and type of information on the website with the customer's stage of awareness – and by doing so with the renovation road map - the website becomes a more relevant and motivating tool for all users.

The 4 implementation principles and how the CRM and website of Stad Mechelen were developed in accordance with these principles - as an example for other IHRSs - is described in detail in deliverable D5.1 - *Building a digital platform for IHRS: Description and strategy of implementation*. Energy House Mechelen implemented and tested selected web platform modules (e.g. CRM, supply-demand matchmaking) which will also be done by Energy House Ostend (autumn 2025 – spring 2026, depending on the progress of the integration of the energy house in the city administration).

As part of D5.1, UIPI reviewed the annexes (CRM fields and the CRM Manual), ensuring coherent terminology and structure, and provided feedback on the demand-side user friendliness. To further contribute to demand-side input and validation, UIPI will organise a workshop where WP5 partners will present the CRM to UIPI's Belgian member association, SNPC-NEMS (Syndicat National des Propriétaires et Copropriétaires), and potentially also to the German association Haus & Grund Deutschland representing and working closely with co-owners on a national level, to incorporate their perspective on the user friendliness of the IHRS.

4.4 Matchmaking CA demand with IHRS supply and building strong, trustworthy partnership IHRS

Partners sought to shape collaboration and regulatory conditions to support collaboration between various types of stakeholders using models, methods and materials developed in the CondoReno project.

4.4.1 Building strong trustworthy partnership IHRS as instrument within climate action plans

To achieving the climate targets by 2030 the federal, regional and local governments in Belgium and The Netherlands develop climate action plans. One-stop shops for renovating houses and appartement buildings are becoming increasingly prominent in climate action plans.

Belgium

The Flemish and municipal climate action plans are embedded in the broader framework of the **Belgian National Energy and Climate Plan (NEKP)**, which stems from European obligations. This plan describes how Belgium intends to achieve its climate targets for 2030, including a reduction in greenhouse gas emissions of at least 47% compared to 2005. As Belgium is a federal state, the measures are divided among the regions.

Flanders is working out its contribution through the [Flemish Energy and Climate Plan \(VEKP\) 2021–2030](#), which brings together the Flemish strategy and actions. It sets ambitious targets such as a reduction in CO₂ emissions and a 30% decrease in the material footprint. In PART II: Decarbonisation: greenhouse gas emissions and removals from the VEKP, the Flemish government lists the initiatives that support owners and take care of everything for them when renovating their residential buildings. The integration and further expansion of the housing and energy desks plays a crucial role in this.

Excerpt from the VEKP 2021-2030³ (update 2025, p. 61):

“...From 2025 onwards, the existing support programmes were replaced by a strengthened, integrated support service centralised in the energy house. This current support service consists of five pillars:

- 1. first-line renovation advice and support for all citizens via the desk service, as already exists today;*
- 2. Basic My Renovation Support (at home) when carrying out energy-saving work for the middle and lowest income categories;*
- 3. support for target group-oriented programmes on making heating more sustainable: for the lowest income categories (for target group 3 after referral by the OCMW);*
- 4. Guidance on the installation of solar panels: for the two lowest income categories.*
- 5. My Renovation Guidance for apartments: co-owners' associations can also claim this type of guidance for the collective renovation of the common areas of an apartment building (see below).*

The energy house can provide these forms of support itself or call on external implementing partners with whom it draws up a cooperation agreement and who receive remuneration for this. In the coming years, we will continue to focus on strengthening basic renovation support in terms of scope and approach....³

Municipalities are joining the **European Covenant of Mayors** and the **Local Energy and Climate Pact (LEKP)**, in which they commit to contributing locally to these targets. Municipal plans are drawn up using tools such as the emission reduction measure tool, which enables cities and municipalities to calculate their CO₂ reduction scenarios and determine priority actions. These actions which focus on energy saving, greening the energy mix, electrification or climate adaptation through green and blue infrastructure, are specified in the local policy plan for the current legislative term. The Mechelen policy plan 2025-2030, for example, includes actions relating to the development of an IHRS for houses and apartment buildings/

Excerpt from the Mechelen policy plan 2025-2030, chapter 8 Climate, Nature, Green Spaces and Animal Welfare (2025, p.22)⁴:

218. To ensure better service, we are integrating the operation of the housing and energy desk.

219. Following the project at Nekkerspoel, we will carry out at least one collective renovation project with at least 50 homes every year.

220. Regarding collective renovations, we are primarily working with resources from the European project Refined. This allows us to carry out 5 neighborhood renovations and 20 apartment building renovations.

³ Vlaamse Energie- en Klimaatplan 2021-2030. Definitief geactualiseerde versie zoals goedgekeurd door de Vlaamse Regering op 18 juli 2025. (2025). Brussel, Vlaamse regering, p. 61.

⁴ Beleidsplan Mechelen 2025-2030. (2025). Mechelen, Stad Mechelen, p. 22.

The Flemish and municipal climate action plans together form a coordinated approach. The coherence between Flemish and local policy is ensured through the LEKP, which provides a framework for cooperation and coordination. Local authorities translate the Flemish objectives into concrete measures in their territory, while Flanders provides support through knowledge sharing, subsidies and monitoring instruments. This creates an integrated climate policy in which each level of government plays its role.

An important instrument within this approach is the development of energy houses towards one-stop-shops in Flanders. The energy houses function as accessible service points where citizens can go for advice on energy saving, renovation grants and guidance on sustainable renovations. The Flemish Energy and Climate Plan explicitly includes and acknowledges their strengthening and transformation towards one-stop-shops as a lever to increase the renovation rate and combat energy poverty, especially in more complex situations such as apartment buildings. The Flemish government encourages their development through subsidies and policy frameworks, while local authorities often actively promote these one-stop shops and integrate them into their own climate policies. In this way, Energy houses and the IHRS they offer, form a bridge between Flemish policy and concrete implementation at the local level.

The Netherlands

The Netherlands also has a comprehensive system of climate plans at both national and local level, similar to Flanders.

At the federal level, the **Climate Plan 2025–2035** is the central policy document. This plan describes the long-term strategy to make the Netherlands climate neutral by 2050. The aim is to drastically reduce greenhouse gas emissions and offset what remains within the Netherlands or the EU, for example through afforestation.

In addition, there is the **Integrated National Energy and Climate Plan** (INEK), which stems from European obligations. The INEK is based on the Dutch Climate Agreement and contains measures for the period 2021–2030, with a stricter reduction target of at least 55% CO₂ emissions by 2030. The Netherlands is also working on climate adaptation through the **National Climate Adaptation Strategy** (NAS). This strategy focuses on dealing with the consequences of climate change, such as sea level rise, heat waves and extreme precipitation. The NAS is supported by the National Implementation Programme for Climate Adaptation (NUP KA).

At the local level, municipalities are actively involved through the **Regional Energy Strategies** (RES). In these strategies, municipalities, provinces and water boards work together to implement the national climate targets at the regional level. Municipalities also draw up their own climate and energy plans, often in collaboration with local stakeholders. The Association of Netherlands Municipalities (VNG) supports local authorities in drawing up and implementing these plans and ensures coordination with national policy.

The coherence between national and local policy is ensured through consultation structures, joint programmes and monitoring. Policy instruments such as the RES and the Climate Agreement ensure that local efforts contribute to national objectives.

4.4.2 Matchmaking CAs of medium and large condominiums with engineering offices that offer renovation master planning

At the start of the CondoReno project energy house Antwerp had an open list of energy / engineering offices that could be recommended to condominium associations seeking to issue requests for proposals for the development of a renovation master plan. This list was composed of energy / engineering offices with whom the city had established positive working relationships and maintained good communication. However, the list was not exclusive, allowing flexibility for associations to work with firms outside of it.

In the summer 2022, by analogy with the Antwerp method, VEKA (the Flemish Energy and Climate Agency) set up a framework contract to support the renovation of apartment buildings. This contract focuses on drawing up renovation master plans for buildings with at least 15 appartements. The goal is to help Condominium Associations plan energy renovations and future-proof their buildings. The renovation master plan consists of three components:

- Condition State Measurement: An analysis of the current condition of the building, including technical, safety and residential quality aspects.
- Multi-year maintenance plan: A plan based on the condition state measurement, with investments and legal obligations for the next 20 years.
- Sustainable renovation scenario: A roadmap to achieve the long-term goals for 2050, including energy savings and cost estimates.

At time of writing of this report VEKA offers financial support of up to €12,000 (including VAT) for the preparation of a renovation master plan, covering up to 60% of the costs.

This framework contract took effect in spring 2023. The energy houses of Antwerp, Ostend and Mechelen lead CAs of buildings with at least 15 apartments towards this framework contract. This attribution is done both through general information sessions on the framework contract renovation master planning, and through explanations to the Boards of Co-ownership and/or the CAs (at a General Meeting). The energy houses guide CAs in the preparation of the application package, act as a sparring partner for CA and study agency in the preparation of the renovation master plan and provide financing simulations of the renovation works needed and/or chosen. They work with a declaration of commitment signed by the CA at the start of a renovation master plan process, to confirm the cooperation between CA, study bureau and the energy house.

For the first contracts concluded under this framework contract, CAs could choose the study agency themselves. This practice was tightened in spring 2024. From then on, CAs must engage with the lowest bidder. This entanglement has set off a race to the bottom in terms of price, mortgaging the thoroughness with which renovation plans are implemented. In several cases, the energy house has already had to intervene to safeguard the interests of the CA in cooperating with the engineering firm.

This spring (2025), VEKA plans an evaluation of the current framework contract. The CondoReno partners will provide input for this evaluation from their current operating practices. They argue that CAs should again be free to choose the tender that best suits their needs, instead of the one with the lowest price.

4.4.3 Matchmaking CAs of smaller condominiums with engineering offices that offer renovation master planning

With the implementation of the renovation master plan framework by VEKA across Flanders, energy house Antwerp uses the open matchmaking list no longer for CAs with 15 appartements or more. They target the matchmaking to smaller buildings with fewer than 15 residential units.

The city of Antwerp has also leveraged its Climate Fund to foster collaboration and establish trust with stakeholders. Antwerp's Climate Fund supports innovative projects that contribute to the city's ambitious climate objectives. A key initiative of this fund is the Samen Klimaat Actief, which was initially launched to drastically reduce CO₂ emissions from offices, light industry and retail spaces in Antwerp. Over time, this platform has expanded its scope to include all of Flanders and Brussels. It now serves as a valuable matchmaking tool, connecting condominium associations or individual property owners with engineering firms, contractors, and other professionals. The platform's independent operation and good governance are ensured by a formal Advisory Board, which includes representatives from the city of Antwerp. This approach provides a strong foundation for building trust and ensuring effective collaboration in renovation projects.

City of Mechelen refer smaller condominiums to the matchmaking platform they build together with Igemo (the intermunicipal association for the surrounding municipalities around the city of Mechelen) in the [See2Do project](#). This platform – [Vind een bouwprofessional in je buurt](#) - is hosted by Stekr (part of Igemo). Last year Mechelen referred multiple engineering offices and contractors who work for smaller condominiums to this matchmaking platform. In spring 2025 Igemo and city of Mechelen explore together the possibility of adding an extra filter on building size to their matchmaking platform. This extra filter would generate more accurate results for condominium renovation.

4.4.4 Matchmaking CAs with building professionals

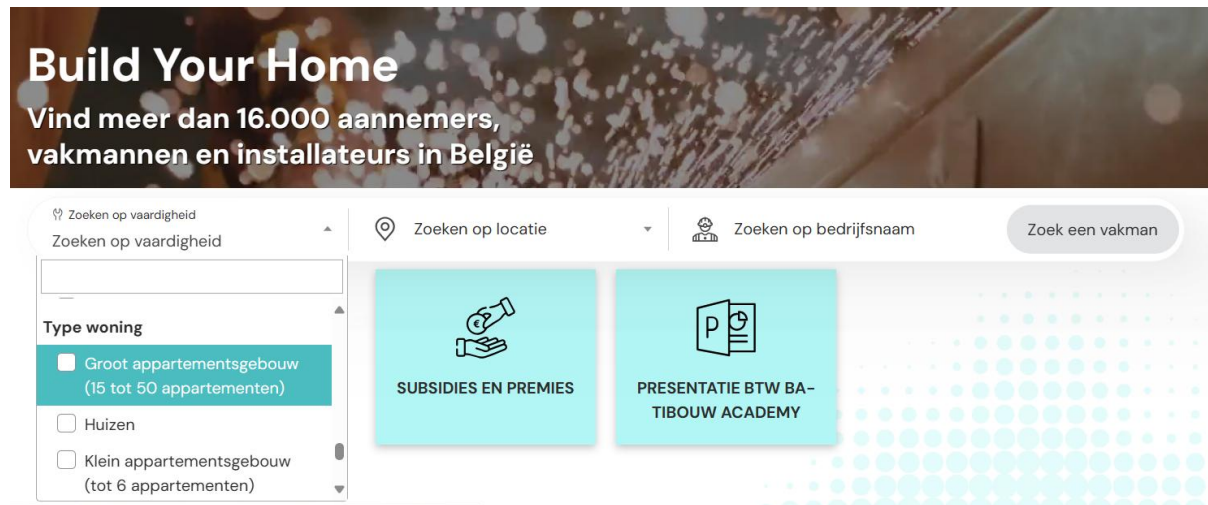
In deliverable D5.1, Plan for a digital resource center for IHRS, we listed the digital matchmaking tools that CAs can use to find construction professionals. CAs indicate that they do not use these tools very often, because they're not sure whether the construction professionals suggested are working for apartment buildings. When CAs contact the proposed contractors, they often turn out to work only for houses and/or smaller apartment buildings. For CAs of buildings from 7 to 8 residential units, the search is more difficult.

Rather than seeking the solution in creating a new digital matchmaking platform to stand alongside all the others, we asked the promoters of the existing platforms to make an adjustment to their platform. Specifically, they were asked to add an additional filter on the size of building for which the construction professional wants to work. Following categories were retained:

- house
- small apartment building (up to 6 flats)
- medium-sized apartment building (7 to 14 flats)
- large apartment building (15 to 50 flats)
- XL apartment building (50+ flats)

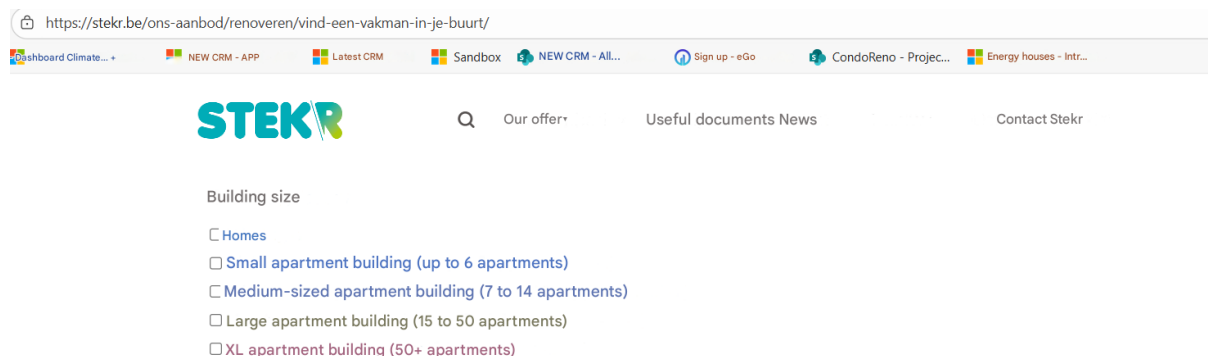
Embuild Flanders is the first organisation to apply this filter in its digital matchmaking platform Build Your Home. Pending on a total make-over of the digital matchmaking platform, the filter has

been added to the 'skills' search field. In the updated version, it will become a standalone filter option. The new filter 'Building type' was launched at the 16th Energy Congress in Mechelen.



Screenshot 1: Screenshot on the filter on building typologie on the matchmaking platform Build Your Home (source: <https://buildyourhome.be/nl> – date of visit: 23/09/2025)

Stekr also integrated this filter in their platform [Vind een bouwprofessional in je buurt \(Find a building professional in your neighbourhood\)](#).



Screenshot 2: Screenshot on the filter on building typologie on the matchmaking platform of STEKR (source: <https://stekr.be/ons-aanbod/renoveren/vind-een-bouwprofessional-in-je-buurt/> – date of visit: 23/09/2025)

The request to add a filter to their digital matchmaking platform was also made to:

- The Order of Architects for their platform [Vind je architect \(Find an architect\)](#)
- De Bouwunie for their platform [Vind uw aannemer \(Find your contractor\)](#)
- Ecobouwers for their platform [Zoek een bouwpartner in de buurt \(Find a construction partner nearby\)](#)

Ecobouwers responded that their platform does not yet include renovations of apartment buildings and that adding a filter for matchmaking is not relevant at this time. As a first step, they will recruit apartment buildings for their platform. The Order of Architects and the Construction Union have not yet responded to our call.

4.5 Knowledge transfer to support the quality assurance of IHRS

Renovation of apartment buildings requires a careful approach to ensure quality, improve energy performance and promote sustainability. Knowledge transfer plays a key role here, as it enables various parties involved to better perform their tasks and work together on high-quality, integral renovations towards label A. Within the CondoReno project, several knowledge transfer initiatives were undertaken to improve and guarantee the quality of condominium renovations.

- All CondoReno partners took initiatives on knowledge transfer to different target groups, in trainings, workshops and conferences.
- In work package 3, Stichting KERN developed a manual for supervisors of IHRS according to the WNR model.
- In April 2024 KERN gave a workshop on Quality Assurance for the Flemish engineering offices who operate within the VEKA framework on renovation master plan for condominiums.
- In the Flemish Advisory Board of 13 June 2024, the topic 'Knowledge transfer around integral renovation' was discussed in a round-table session.
- In the Dutch advisory board of 27 November 2024, the development of related financial tools and the risk assessment were discussed in the framework quality assurance. The participants found that the communication of the value proposition can be improved and that procurement procedures of municipalities should address quality assurance and affordable process management.



Photo 1: Flemish Advisory Board 13-6-2024, Round table around Knowledge transfer for integral condominium renovations



Photo 2: Brainstorm result on needs for knowledge transfer to different target groups (Flemish Advisory Board 13-6-2024)

- End September 2025 starts the multi-day training on condominium renovation for renovation coaches of the Flemish energy houses. Knowledge Institute KERN and Pixii take care of the aspects of quality assurance in this training.

In all of these knowledge transfer activities, community building and matchmaking was an underlying ambition of the activity. By providing informal network moments before or after the activities and by making public the participants contact details, we stimulated the matchmaking between participants outside of the activity.

During the last year of the CondoReno project (2025-2026) the project partners plan still multiple activities to enhance the quality of condominium renovations. Example given, the multi-day training on condominium renovation will be repeated in Spring 2026 for a larger group of renovation coaches and contractors. Together with the umbrella organisations representing co-owners and property managers, we will examine how this training can be tailored to their target group. After all, knowledge and understanding of quality assurance in the renovation of apartment buildings is also important to them.

And with BCCA we will explore possible pathways for developing a license scheme the method they are developing, in co-creating with the CondoReno stakeholders, for basic condition measurement of condominiums, based on the Dutch NEN2767 and the Dutch BOEI-method. It would be logical to develop the licence scheme within the BCCA itself.

In the following, we will take a closer look at the knowledge transfer activities, organized within CondoReno, for different target groups.

4.5.1 Knowledge transfer to employees of Energy Houses and IHRS

Energy houses act as information points and advisors for residents and co-owners and as sparring partners for condominium managers. In transforming their services into IHRS, the employees of energy houses supporting renovation of apartment buildings should be aware of and knowledgeable about, among other things:

- The importance of integral renovations for energy efficiency and comfort
- Various implementation options for integral flat renovation (in one go or in stages) and their implications for the decision-making process in the CA.
- Financing possibilities for renovation works tailored to CAs and individual co-owners.
- Flat law
- Communication, group dynamics and group participation processes

Trainings, case studies and supporting materials can equip them with the necessary knowledge. Within the CondoReno project, this knowledge transfer was shaped in a training series by and for energy house employees.

- In March 2024 the CondoReno partners, together with Dubolimborg – partner in the European LIFE-project C-REAL, held a webinar on renovation master planning for condominium renovations for the other energy houses.
- In Januari 2025 CondoReno organised a training serie that covered co-ownership law. Staff of the Flemish energy house received half-day sessions on basic deeds and internal regulations, common and private parts, legal meetings and voting majorities and, finally, cost-sharing keys and annual accounts. This session was held twice for a total of 37 employees of the energy houses. The 2 trainers came from Energiehuis Antwerp and city of Mechelen.
- From this session, there was also a request to explain the formation of a CA for smaller apartment buildings. A webinar was held on 29 April.

- De Energiecentrale Gent, the energy house of the city of Ghent, picked up on the peer-to-peer knowledge transfer initiative of CondoReno and explained their allocation process for a CA loan in a webinar at the end of February 2025. It also made the corresponding process documents available.
- A recording of the three courses will be added to the [BE REEL!](#) platform, under the courses section.
- In autumn 2025 a multi-day course 'Renovation Advice for Apartment Buildings' is organised for renovation coaches from energy houses. This hybrid course with live training days, webinars and self study offers theory and practice around the peculiarities of apartment building renovation and around communication and basic principles of co-ownership law. For this training, the CondoReno partners combine their knowledge and expertise with those of KERN and of Pixii, the passive house platform in Flanders that has extensive experience in sustainable renovation advice and training on this subject.

The multi-day course in autumn is the try-out. After evaluation the course will be repeated for various stakeholder groups in 2026 and following years. For each course the structure and content of the course will be adapted to the target audience. The CondoReno partners will reach out to

4.5.2 Knowledge transfer to co-owners of apartment buildings

Co-owners decide on renovation projects. It is essential to make them aware of and inform them about, among other things:

- Their responsibility as a CA in establishing a reserve fund and preparing a reserve fund.
- The importance of an active co-ownership council or renovation working group, delegated by the CA, in an apartment building who, together with the trustee, can drive the decision-making process around (integral) renovation works and also follow up the works.
- The different steps in the renovation process, from idea to execution and aftercare, with attention to roles, responsibilities and possible thresholds for progress.
- The importance of developing a long-term vision around maintenance, replacement repairs and necessary energy measures for their building
- The importance of quality energy-efficient renovations. For this, it is important to explain and demonstrate with examples how quality renovations lead to lower energy costs, increase in property value and improved living comfort.
- Reading and understanding tenders for renovation works, also in relation to the preset energy standards and available renovation grants
- Financing options for renovating apartment buildings, including premiums, subsidies and loans.
- Legal consequences related to financing and property changes.

The Flemish energy houses transfer knowledge to co-owners and Boards of Co-ownership in various ways. This ranges from knowledge transfer in one-to-one settings via personal contacts and advice sessions at the counter, to transfer in one-to-many settings via meetings or information

sessions of specific Boards of Co-ownership or Condominium Associations, via information sessions and webinars open to co-owners from various CAs, via workshop or lectures,... Of course, the IHRS websites are also an important source of information. Besides knowledge transfer through their own channels, the energy houses also contribute to knowledge transfer in cooperation with umbrella organisations for co-owners active in Flanders, i.e. the United Owners and De Eigenaarsbond. Talks are currently ongoing to organise some more sessions for co-owners in June or autumn 2025 around communication and around assessment of renovation work offers.

Also WNR and KERN conduct knowledge transfers to CAs and co-owners through intake and guiding meetings along the renovation trajectory. On a regular basis WNR organises webinars around good CA governance, complex decision-making in the CA and the possibilities of living cost-driven renovation.

4.5.3 Knowledge transfer to condominium managers

Condominium managers manage CA's maintenance and even may coordinate renovation projects on apartment buildings. For them, it is important to:

- Have basic technical knowledge of renovation processes and quality criteria for living cost-conscious energy renovations.
- Understanding how to organise CA decision-making processes in such a way that decisions support and accelerate the progress of the renovation process.
- Have basic knowledge of financing options for integral renovation of apartment buildings.
- Have insight into alternative tendering procedures for integral renovation.

Since Condominium Manager in Belgium is a protected profession, professional condominium managers have an obligation to attend a minimum number of hours of in-service training annually. Knowledge transfer to condominium managers is therefore mainly done through the professional bodies of condominium managers. In Flanders, the BIV (Professional Institute for Estate Agents) offers an extensive range of training courses for syndicates. In the Netherlands, professional condominium managers can take appropriate training courses through the Vastgoed Business School.

To convince condominium managers to participate in the networking lunches, energy house Mechelen has applied to the professional institute for real estate intermediaries BIV as a recognised trainer. This application was also approved, allowing condominium managers to receive BIV points for participating in training activities organised by the city of Mechelen.

In the Netherlands, condominium managers are less organised than in Flanders and there are significant differences in tasks and responsibilities. Attempts to interest condominium managers in training activities offered by CondoReno have so far been unsuccessful.

4.5.4 Knowledge transfer to engineering offices and contractors

These professionals bear technical responsibility for design and implementation. Specific knowledge transfer includes:

- Information on regulations and quality standards in general and for integral renovation towards label A in particular.

- Updates on new technologies and techniques for energy-efficient renovations.
- Practical examples and methods for carrying out integral (housing cost-conscious) renovations at a high level.

A very extensive range of technical documentation, practical training courses and seminars is available in the market for this target group. Within the CondoReno project knowledge transfer was organised through:

- The workshop on living cost neutral renovations for Flemish engineering offices. Workshop organised by city of Mechelen in April 2024, trainers were WNR and KERN.
- The learning network on Condominium Renovation (autumn 2024).
- In deliverable D 3.4 Manual training for renovation services, a training programme is presented for professionals performing roles in IHRS renovation according to the WNR model. The training programme is based on the CondoReno roadmap for living cost-neutral renovations of apartment buildings.

4.5.5 Knowledge transfer to other European countries

Dissemination and replication are important goals of all LIFE projects. The project partners in charge of this are UIPI and EBC's. Their contribution to the co-creation of IHRS in Europe in several ways, builds on their extensive experience gained through UIPI's survey "Property Owners' perspective and Experience on Building Renovation" (WP6), and the organisation of international replication workshops (WP7), where matchmaking and the role of members in one-stop shops (OSS) emerged as central themes.

In total, eight workshops were held across France, Finland, Belgium, Czechia, Hungary (x2), Croatia, and Spain, engaging a broad range of stakeholders, including property owners, condominium managers, SMEs, craftspeople, and national and EU policymakers. These workshops provided valuable opportunities to test the replicability of project outcomes in diverse national contexts, while at the same time facilitating exchanges between demand and supply actors of integrated home renovation services (IHRS).

In this capacity, UIPI and EBC acted as trusted intermediaries, fostering dialogue, building partnerships, and highlighting how their respective members could contribute to the operationalization of OSS. This experience directly supports also Task 5.3 "Matchmaking condominium association demand with IHRS supply and building strong trustworthy partnerships", as it demonstrates both the practical feasibility and the strategic importance of OSS in different markets.

Furthermore, UIPI and EBC continue to consult their members to assess the feasibility of these models in other countries, thereby ensuring that the outcomes of CondoReno can be meaningfully scaled and adapted across Europe. This includes the workshop with UIPI's member association(s) on assessing user friendliness of the IHRS.

5. Insights and Strategic Reflections

The CondoReno project has demonstrated that the development of Integrated Home Renovation Services (IHRS) for co-owned condominium is both necessary and achievable—but only through deliberate co-creation processes. These services operate in a complex ecosystem involving co-owners, Condominium Associations (CAs), property managers, contractors, financial institutions, and governments at various administrative levels. The project's multi-city implementation in Flanders and the Netherlands has served as a living laboratory, revealing both the opportunities and challenges of establishing and scaling IHRS.

A key finding is that co-creation must occur at multiple levels: internally within local authorities, externally with stakeholders from both the demand and supply sides, and structurally through digital and policy frameworks. For IHRS initiatives starting from scratch, comprehensive stakeholder mapping is essential. This ensures that all relevant actors are identified and engaged early, laying the groundwork for trust and collaboration. Community-building efforts—such as networking events, peer-to-peer learning, and targeted outreach—are vital to foster awareness and shared commitment among co-owners and condominium managers. The development of digital platforms, structured around renovation roadmaps, can support these efforts by offering intuitive pathways for planning and collaboration.

For IHRS that are already operational, further development hinges on the implementation of robust quality assurance systems. These systems must go beyond technical oversight to include legal and financial safeguards. Matchmaking platforms that connect CAs with vetted professionals—especially those with experience in apartment buildings—can significantly streamline renovation processes. However, such platforms require rigorous contractor screening and ongoing monitoring, which demands dedicated resources. Training programs for property managers and co-owners are also critical to ensure informed decision-making and effective participation throughout the renovation journey.

Collaboration between authorities at local, regional, and national levels must be strengthened. Renovation incentives—such as subsidies and loans—should be better aligned with the specific needs of CAs to encourage energetic renovation initiatives. Regional cooperation frameworks between municipalities and energy houses can facilitate knowledge exchange and achieve economies of scale. The development of a standardized IHRS model, adaptable across different cities and regions, would support broader implementation and replication.

To engage the supply side, including the construction and financial sectors, the introduction of a certification system could help ensure adherence to quality standards. Public-private partnerships are essential to address structural challenges such as financing constraints and regulatory complexities. Co-creation workshops with construction professionals and energy advisors can foster the design of more efficient and effective renovation models. Innovative financing approaches—such as blended finance structures—should be explored to make IHRS projects financially viable. Further research into alternative business models will contribute to a more sustainable and long-term IHRS framework.

Finally, establishing a knowledge-sharing network that connects local governments, research institutions, and stakeholders from the building and financial sector will be key to disseminating best practices and accelerating the renovation wave across Europe.

Recommendations for Emerging IHRS Initiatives

- **Start with Stakeholder Mapping:** Identify and engage key actors early to build a supportive ecosystem.
- **Invest in Training:** Build capacity among staff and stakeholders on the technical, legal, financial and social aspects of condominium renovation through structured learning programs.
- **Develop Modular Digital Tools:** Begin with a roadmap-based website and CRM system, then expand with matchmaking and financial simulators.
- **Foster Trust Through Quality Assurance:** Implement screening protocols, renovation master plans, and transparent communication to ensure qualitative, integral renovations towards a label A.
- **Tailor communication and co-creation processes to the target group:** Align your communication and co-creation processes with the needs and working rhythm of the stakeholders you work with. E.g. condominium managers spend so many evenings in meetings with co-owners. Schedule activities for them in day hours. During day time, contractors work on location at the construction site. Organise live morning activities or online webinars in the evenings.

Recommendations for Local, Regional, and National Authorities

- **Apply Reversed Subsidiarity:** Centralise development of core tools (e.g., simulators, subsidy platforms) at regional level, allowing local actors to contextualise.
- **Promote Synergies:** Integrate public and private platforms to avoid duplication and enhance relevance.
- **Support Long-Term Funding:** Ensure continuity of IHRS operations through structural financing and European grants.
- **Standardise Data and Reporting:** Use shared architectures (e.g., OSLO standards) to enable interoperability and strategic insights.
- **Encourage Public-Private Partnerships:** Facilitate collaboration between energy houses, contractors, and financial institutions to develop innovative business models.

6. Annexes

Annex 1: Business model canvas of emerging business models for condominium renovation

