

## In-depth case study

The “Expo I” condominium near Brussels



**Fig. 1:** The Expo I condominium in Jette (Brussels), before (left) and after (right) retrofit

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# 1 Theoretical frame

The aim of this report is to develop an understanding of the enabling environment that led to the renovation project of a specific condominium, from the decision-making process to the financing scheme that was used, via the support system from which homeowners benefitted, throughout the process. In short: what are the crucial elements and enabling environment that allowed the energy retrofit in condominiums?

## 1.1 Enabling environment

Energy retrofit in condominiums involves collective decision making, the complexity of which is believed to be one of the main barriers to retrofitting as there is a strong heterogeneity in the occupants in terms of age, education, income, or occupancy status. Varying interests and perceptions can make it difficult to gather people around a common project. Whereas some owners are willing to, and pushing for, the energy retrofit of their condominium, others can block the decision by voting against the project. It is therefore necessary to understand what motivates co-owners to behave the way they do, in order to create an enabling environment stimulating the acceleration of energy retrofitting of condominiums. (Ramirez Tamez 2018, Sottovia 2018)

An enabling environment is understood as a set of interrelated conditions that impacts the potential to bring about sustained and effective change; in this case, impacts on the capacity of co-owners to engage in energy retrofitting. According to the literature, four main pillars are involved in creating enabling environments:

- **Policy**, a generic term regrouping political will and support through policies, strategies and governments' capacity to engage, such as the creation of energy efficiency requirements (Living Cities 2009) or the creation of mandatory pluriannual plans for renovation, ensuring that co-owners adopt a long-term vision toward retrofitting (Liverzay, Teissier et al. 2016, Plan Bâtiment Durable 2018).
- **Finance**, through the development of supportive financial regulations and mechanisms (e.g. tax credits, tax reduction/exemption, public loans/grants, green public procurement) and the mobilization of funds for implementation. Among the solutions specific to energy retrofit, literature suggests the creation of financial incentives and attractive financing programs to deal with the initial cost of energy retrofitting such as zero interest financing or clean energy assessment districts.
- **Capacity and internal organization**, to ensure sufficient investment in human (condominiums) capacity and skills development. For instance, there should be a dedicated budget and staff for the retrofit, and technical training opportunities for the energy referent. A prerequisite for enabling environment could also be the identification of clear management roles and responsibilities (condominiums' structure and role delegation among co-owners) across institutions and agencies (condominiums) (e.g. data and information, creation of planning tools and management guidelines). Capacity and skills development could also mean providing a free (= subsidized by public authorities) consultant who guides the condominiums with the procedures.
- **Socio-cultural acceptance**, through the presence of social capital and trust (within the condo, towards the service providers and towards the intervention), which involves communication practices, information networks and third-party services. The intervention should match the users' perceptions, preferences and commitments. For example, changing paradigm from energy retrofit to global amelioration of building would help the decision to retrofit by taking into account co-owners' priorities and interests (Plan Bâtiment Durable 2018). Also, in order

to maintain positive perceptions, information regarding energy-efficiency interventions should be made clear and easily available, with measures including minimal paper work requirements and information services that help owners in choosing contractors. Renovation professionals, technologies and contractors must be reliable and capable of meeting participants' expectations to increase social capital and trust.

## 1.2 Focus group

In order to investigate the enabling environment surrounding successful energy retrofits, several in-depth case studies were conducted within the Interreg NWE “ACE\_retrofitting<sup>1</sup>” project. Focus Groups are generally used to gather people's opinions, ideas, and beliefs on a certain topic (Copley Focus Center 2012). Surveys or questionnaires can be useful, but cannot capture the depth of a person's thoughts, feelings or understanding, whereas focus groups allow to gather more useful information in a shorter period of time. In this interactive context, people are encouraged to discuss thoughts freely with other participants, which typically generate ideas and can provide a wealth of information through open ended, broad, and qualitative responses (Adams and Cox 2008). The main purpose of focus group research is therefore to draw upon respondents' attitudes, feelings, beliefs, experiences and reactions in a way where other methods are not applicable. Focus groups can provide insight into complicated topics where opinions or attitudes are conditional or where the area of concern relates to multifaceted behaviour or motivation (Smithson 2007). They are particularly useful when there are power differences between the participants and decision-makers or professionals, which could be the case in the context of a condominium renovation project.

The idea is that in-depth case studies will lead to insights into what constitutes an enabling environment, so that other local authorities can create their own enabling environment. Creating an enabling environment implies interacting with a variety of actors and external factors (legislation, finances, etc.), that must be in place in order to accelerate the energy retrofit uptake. In order to understand the interrelations of personal and external factors, the **social ecological model** (SEM) can be used. Consistent with systems thinking, this model is a theory-based framework for understanding the intricate interactions among individual, interpersonal, organizational, community and societal factors that determine behaviour (Centers for Disease Control and Prevention 2020). A system is a set of activities, actors and settings that influence or are influenced by a specific situation. The effectiveness of planning behavioural change intervention can be increased when using a systems perspective to assess the needs and strengths of a population; to comprehend a problem and its causes; to create a group of stakeholders to design, carry out and diffuse an intervention; and to choose the most efficient influence points to address a certain problem (Ramirez Tamez 2018). An approach of looking at environmental agents (decision makers or role actors) at every ecological level (individual – home-owners; interpersonal – co-owners of the condominium; organizational – property manager, condominium board, architect; community – municipality and its services; societal – legislators) allows for multiple influences both within and across levels to enhance behavioural change. Interventions using SEM centre their attention on agents in positions to exert control over aspects of the environment (Bartholomew, Markham et al. 2016).

In this analysis (see Fig. 2 hereunder), the home-owner is at the centre of the model. The co-owners of the condominium are at the interpersonal level, since they belong to a group of people connected by their shared rights on a single building. The condominium associations (the General Assembly of co-owners, the condominium board) is at the organizational level, because it is a system with specific

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<sup>1</sup> <https://www.nweurope.eu/projects/project-search/accelerating-condominium-energy-retrofitting-ace-retrofitting/>

objectives and with formal multi-level decision-making processes. The city/metropole is considered at the community level since it is a social place (in terms of sense of living, common values, culture, norms, language and problems) shared by the individuals. Finally, (French, in this case) society is the larger system possessing the means to control some aspects of the lives and development of their constituent systems (Bartholomew, Markham et al. 2016, Ramirez Tamez 2018, Sottovia 2018).

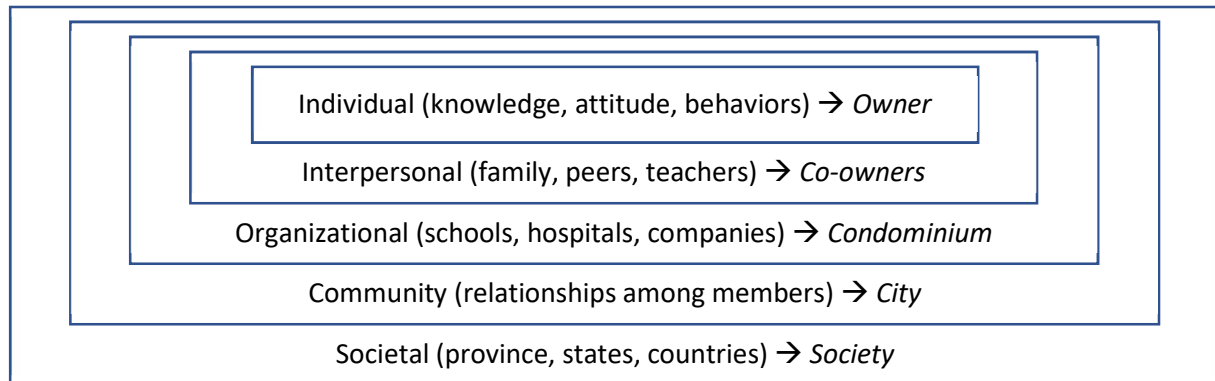


Fig. 2: The social ecological model (SEM) (Ramirez Tamez 2018).

### 1.3 Semi-structured interview

The analysis of this “in-depth case study” in Grenoble is conducted during a two-and-a-half-hour meeting in the ALEC offices, using a semi-structured interview of the focus group. Semi-structured interviewing is best used when you won't get more than one chance to interview someone. Conducted conversationally, the semi-structured interview is also often accompanied by follow-up why or how questions. The interviewer and respondents engage in a formal discussion, following an interview guide (mainly a list of questions and topics that need to be covered during the conversation), but with the added ability to follow topical trajectories in the conversation that may stray from the guide when this is appropriate, providing the opportunity to express views in one's own terms and identify new ways of seeing and understanding the topic at hand. (Longhurst 2010, Adams 2015)

As it is difficult to focus on conducting an interview and jotting notes, this meeting has been recorded, with all participants' consents, and later transcribed for the sake of analysis and reporting.

## 2 Case study

### 2.1 Focus group participants

In the development of this case study, stakeholders from these different scale levels were met:

- One homeowner, president of the condominium board, acted as representative of all co-owners, at the **personal and interpersonal levels** in the SEM.
- M. Vincent SPRUYTTE from the Managimm Group, syndic<sup>2</sup> of the condominium. Managimm presents itself as a proactive professional syndic organisation, which “vision is not limited to General Assemblies or annual expense statements”, but finds that “controlling or decreasing expenses is primordial to allow financing of necessary structural retrofitting”. Its mission is, therefore, to “make the implementation of large-scale mandatory renovation works possible, thanks to a professional administration of expenses and the creation of revenues to finance

<sup>2</sup> “syndic” is the French-speaking term for building manager. They are the physical or legal person in charge of the management of the building, mandated by the General Assembly of a condominium

them.”<sup>3</sup> The syndic represents, in the Social Ecological Model, the **organizational level** of the condominium (the board members could also be considered part of this level).

- M. RODRIGUEZ SAMPER, an architect from ROSAM, mandated by the condominium to oversee the renovation project, would also be considered part of the **organizational level**, although his organizational skills apply more to the retrofitting project than the condominium structure.
- M. John MACHIELS, representative of the “Fédérale Assurance” finance and insurance body. This group developed a loan solution (see chapter 3.6.3 below) for co-owners’ associations destined to finance renovation works on condominiums. They, therefore, belong to the **community level** of the SEM.
- M. Denis VANDE PUTTE, representative of the Atradius insurance group, acting as the insurer guaranteeing the financing scheme (see chapter 3.6.3 for details on the Atradius Insurance). As part of the financing body, they are representative of the **community level** in the SEM.
- One additional member of this focus group was Yves MAENHOUT, a technical expert with many experiences dealing with condominiums and helping them reach decisions in retrofit. In this case, according to the minutes of the 22<sup>nd</sup> January 2018 General Assembly, he was mandated to study the insulation solutions in order to present a technical and financing analyse to the next General Assembly. As a technician, he would also be part of the **community level** of the SEM.

## 2.2 “The Expo I” condominium: data sheet

Prior to the interview, a questionnaire was sent to the syndic, with the declared objective to know more about the case study beforehand, so as to spend as little time as necessary on the day of the meeting to understand the renovation project and the organisation of the condominium.

The condominium is called the “Expo I”, and is located in the municipality of Jette, in the Region of Brussels-Capital, Belgium. This building from 1967 regroups 130 apartments (40% of which are rented), with an average surface of 85m<sup>2</sup> per dwelling.

Costs for energy consumption in the condominium are partly (25%) divided based on dwellings areas (quotas), the rest is divided based on readings of calorimeters (for heating consumptions) or individual meters for DHW (Domestic Hot Water) consumptions. Costs related to the renovation project are shared between co-owners based on dwellings areas, which relate to quotas of each owners on the common property.

First decisions towards this renovation process were reached in May 2017. The works were voted by a qualified majority of more than 75% of the co-owners present or represented (law applicable in 2018)<sup>4</sup>. Works were voted during a General Assembly, as they relate to common parts of the condominium (facades, roof, technical and aesthetic choices...). The windows are private property however; although the decision was collective (to insure the coherence of the project and the unity of the building), windows replacements were paid individually by all owners, and most of it was already done before facades renovation works.

The actual retrofit process started in October 2019 and was still in progress at the time of the meeting. The East façade was already retrofitted, works were still implemented on the North façade, then would be moved to the West and South facades.

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<sup>3</sup> <https://www.managimm.com/fr/a-propos-de-nous/mission-et-vision/>

<sup>4</sup> This law has changed in 2019. Nowadays, 2/3 of those present or represented quotas would be enough to vote for the same renovation packs (see chapter 3.2).

Many apartments were suffering from water infiltration and thermal bridges from façades, and from a water tightness problem<sup>5</sup> around balconies and passageways, which resulted in a significant deterioration of the concrete. All these elements have prompted the co-owners to intervene and renovate the building.

Facades were initially composed of a reinforced concrete system of beams and columns, with a filling in light aerated concrete blocks, and French stone imitation concrete covering tiles, directly attached with metal hooks and mortar on the blocks. Those tiles were dismantled, and a 100mm-thick thermal insulation layer of polyisocyanurate boards was added on the external side of the concrete blocks (with a necessary vapour barrier). A new covering in fibre cement panels was added (with a necessary rain barrier). On facades with balconies, the thermal insulation of the façade consists of a 120mm-thick layer of expanded polystyrene, with a roughcast cover. This chosen technique allowed to reduce the overall thickness, and therefore allowed to limit the reduction of the balconies space, without reducing the thermal insulation performance. In order to decrease the effect of the thermal bridges along the balconies' connections with the insulated facades, thermal insulation will be added to the balconies ceilings, and an insulated slab to the balconies floors.

In 2016, the roof was insulated with a 120mm-thick layer of polyisocyanurate, prior to the façade renovation works, and the water tightness membranes of the whole roof have been replaced and fixed. Therefore, the renovation project which is at the heart of this meeting did not include the renovation of the roof. It must be noted however that this particular retrofit had been financed by the investment of a telecommunication provider, in exchange for the placement of antennas. The roof was actually rented out to three telecommunication providers, who paid 9 years' worth of rent in one instalment, 168,000€. An additional regional financial incentive of 90,000€ helped the General Assembly to vote for a roof renovation that would virtually cost nothing to them. After the 9-years period, the telecom providers will have to pay the rent as they would have normally done.

In 2018, two cogeneration<sup>6</sup> units, each with a thermal power of 43,5kW and an electrical power of 20kW, were placed to produce heat (to supply in heat and domestic hot water the apartments) and electricity (hence the "co-generation" name). The quantity of electricity produced is important: in addition to supplying the common parts of the condominium, the surplus can be sold to co-owners of the condominium, or back to the grid (see chapter 3.6.2).

The members of the condominium board are submitted to the owners' association vote every year.

As far as the financing of the renovation works, the minutes from the 29 April 2019 General Assembly declare that the first slice of the works is paid via a 400,000€ withdrawal of the condominium's reserve savings fund. The same minutes mandates the syndic to take out collective loan from the Fédérale Assurance Group, with an Atradius ICP Insurance, for the remaining payment.

Other "important"<sup>7</sup> work packages included interventions for security (new railings, compliant with current standards, had to be placed on all balconies of the West and South facades) and salubrity reasons (leakages from water supply and evacuation systems, which created punctual damages, have to be repaired individually by owners). To these works must also be added the repair of all degraded

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<sup>5</sup> "Water tightness refers to the capacity of a material, or construction, to be impervious, impermeable, or built so tightly that water cannot enter (or escape). Water being considered the worst enemy of construction, a lack of tightness often results in damages such as mold or, in this case, damages to concrete construction.

<sup>6</sup> A cogeneration unit is a machine that simultaneously produces heat and electricity. Most frequently, thermal engines or gas turbines are used to produce electricity. Heat produced in the process, which is usually lost, is then recovered.

<sup>7</sup> Described in the questionnaire as work packages which had an important energy impact, which initiated the will to renovate, or which were revealed as crucial in the development of the project or the decision-making process. They do not include normal maintenance, partial replacements or minor works.

concrete works, mainly on balconies and passageways (new insulated slabs, new water tightness membranes and new floor coverings). The collective water network was also retrofitted (new pipes, new drains...).

The total cost of the project is 2,574,000€, and the expected outcome is a 20% reduction in energy consumption, along with a notable aesthetics improvement and an increase in apartments values.

### 3 Interview

Due to the Covid-19 related confinement issues, the meeting had to take place through the means of a videoconference platform, instead of the usual face-to-face meeting media. The interview started with the interviewers welcoming the participants, presenting themselves and the ACE Retrofitting project. The meeting was recorded with the consent of the participants, all of which signed consent forms and a small identification questionnaire. The transcript of the meeting allowed this reporting.

Each participant was asked to write, in the chat section of the videoconference platform, their thoughts for each part of the renovation process. These thoughts could be about key moments, key actors, key meetings, problems they encountered... any first idea that popped to their mind when thinking back to the pre-renovation phase. The participants complied, briefly brainstormed and gave their answers (in bold hereunder), which could be summarized in 4 categories:

- The first cluster of these thoughts could be summarized under the term **“convince”**. For example, the condominium expert considers it important to **“conduct and enliven General Assembly meetings, be didactic”**. The co-owner, president of the condominium board, considers important to **“try and convince enough co-owners”**, and to **“convince the General Assembly, despite rebellious members’ obstructions”**.
- Another cluster, although related, might be best summarized under **“orchestra”**. The syndic sees himself as a **“conductor”**, wishes for an **“active condominium board”**, and advises to **“gather the right people: experts, architect, financiers”**. The condominium expert agrees that **“the board must be involved as much as possible, from the start, in the project”**.
- Another cluster could be made from the idea that the experts need to **“know the problems”** to be solved, whether they can be analyzed by an expert (such as **“recent pathologies”** or **“building structure”**), or known by the co-owners (**“listen to co-owners’ comments”**). It can be linked to two other concepts vocalized by participants: **“envision the building”** (knowing the actual state of the condominium permits to better define your objective), and **“do not idealize”** (retrofitting needs to remain a rational project to fix the problems, not a technically and economically irrational vision).
- The notion of **“costs”** is always important when considering renovation works. This can be brought to the table by co-owners (**“find the budget”**), the syndic (**“start by creating savings, revenues”**), the architect (**“find the cost-efficiency optimum”**), or other experts (**“estimate costs to inform co-owners”**)

The chapter 3.1 hereunder describes the challenges that were met by the participants before or during the renovation phase of their condominium. Chapters 3.2 to 3.6 delve into examples of the ways described by the participants, used to deal with those (or other) challenges.



### 3.1 Meet the challenges

The challenges that arise during a renovation project can be many. Some of them, quite recurrent in every retrofit (such as the choice of techniques to insulate and heat, or the search for financial schemes), are dealt with by the support team of technicians, architects, syndic... Others, which are more specific to condominiums, need to be managed carefully and, sometimes, in creative manners.

#### 3.1.1 Convincing the GA

The main problem, generally speaking, when it comes to deep retrofitting of condominiums, is quite obvious. By gathering many different co-owners with varied interests, the General Assembly (GA) of the condominium is a particularly complicated decider to convince to agree on a common global energy retrofit project.

*It is complicated to convince co-owners [...] because they do not see their interest in the insulation of the roof when they live on the first floor of a 17-storey building. It's the role of the expert, the architect and eventually the EPB- expert to explain [that].*  
(Vincent SPRUYTTE, syndic)

The president of the condominium board also considers convincing the GA to be the main problem:

*It's always the same problem, having to convince the General Assembly. It's usually a handful of co-owners who try to convince the others to vote against the project, and it's always difficult, having to face those recalcitrant owners.*  
(co-owner, president of the condominium board)

Many matters can be at the heart of the argumentation inside the General Assembly. During this meeting, the main topics that needed some debate were the necessity to renovate at all (lifted by preliminary inspection of the facades and exposure of the damages, see chapter 3.3), the need for an overall retrofit, the choice of insulation technique, and the means to finance the project. Most of those obstacles have been lifted by a thorough project planning before presentation to the GA, and the communication skills of the team (syndic, experts and president of the condominium board).

#### 3.1.2 Administrative complication

The design team faced a complication, brought by the regional administration. The thermal regulations impose, in those retrofitting projects, that all walls subjected to change must be thermally insulated to reach "new building standards". This means, for example, that when someone decides to retrofit a roof, they must seize the opportunity to insulate it, to reach a U-value of 0,24 W/m<sup>2</sup>K; but if nothing is done to the facades other than a fresh layer of paint, insulation is not obligatory. In this case, the architect estimates that they "have been pushed to the extreme by the administration, regarding the necessity to insulate this building".

*We presented a preliminary draft of the project, and discussed with them before asking for the building permit, and everything went well. [...] We had already decided to insulate 95% of the envelope in this project. On the South façade, however, as it is often the case with this type of buildings, concrete floor slabs are extended out of the facades to create balconies, without any thermal breaks, resulting in thermal bridges. The only solution in this case would be to completely insulate the balconies slabs, but the investment would be high for very little energy gains. There's no profitability, it's worthless. So, 95% of the envelope is or will be insulated, but those thermal bridges will not be solved, and we have the law with us. We nevertheless received a letter from the*

*municipality, obliging us to insulate everything, including the balconies slabs. Those additional 200.000 euros, just to insulate those exterior balconies slabs, would threaten to ruin all the efforts consented by the co-owners and the syndic, and risk bring down the whole project.*

*We are currently trying to justify why we won't do that. It's not easy, it has to be explained, and argued. [...] EPB laws provide guidelines, but we have to remain pragmatic, consider the best value for money principle for the co-owners, who are the clients. [...] The municipality had been quite open-minded and collaborative along the whole process, until that condition (which goes beyond the regulation's requirements). We were surprised, we brought a lot of arguments to not have to do it. We want to improve the building, we respect the law, and yet we get frustrated because of an authoritarian answer from the administration. (M. RODRIGUEZ SAMPER, architect)*

### 3.1.3 Managing complaints

During retrofit, the syndic was confronted to co-owners or occupants' complaints, for example on damages inside the apartments. The syndic has to bring in the expert, possibly the contractors, to evaluate the damage and propose a solution. Fortunately, the contractors on this project never denied their responsibility, they repaired cracks, repainted walls, brought their insurance for broken window glasses. After the first phase, though, and in order to avoid endless discussions on a crack that might have been there for years, the technical team advised and carried on preliminary situational inventories of the apartments, with the help of M. MAENHOUT, the expert, who worked hand-in-hand with the condominium board and was a precious asset to the project.

## 3.2 Obligations

Globally, legal requirements and civil responsibility can be considered fitting levers to convince the General Assembly. "Civil responsibility" is developed in chapter 3.3 ("Know the problems"), as it pertains to the obligation, for the syndic, to enlighten the problems in the condominium (such as the facades falling onto the public space below) and the responsibility of the co-owners in that regard. The president of the condominium board agrees that it is important to remind the co-owners about their legal responsibility regarding the state of the building:

*One way [to convince the GA] is to play on obligations, on willingness to avoid problems, on civil responsibility and the threat that if you voted against the project and an accident happens [with façade cladding falling, for example], it can turn against you. Then there's a way to take charge, to argue in favour of the project.  
(co-owner, president of the condominium board)*

When it comes to big renovation projects, it seems necessary to first specify the legal requirements regarding the decisions. In a property owned solely by a single owner, they naturally have the right to decide, alone, how and when to start the renovation (provided that they respect a number of other requirements on urban planning, thermal insulation, etc.). In a condominium, the decision must be taken by a majority vote of the General Assembly. Two interesting new pieces of law are mentioned by the focus group (specifically the syndic) as crucial developments in the decision-making process:

- Since January 2020, an important improvement brought by law is that the majority needed to start works such as complete renovation of a condominium, has decreased from 75% to 66% (of the people present and represented at the General Assembly).

*That's a big progress, because 75% was a lot.  
(Vincent SPRUYTTE, syndic)*

- Furthermore, the new law on condominium no longer factors in abstentions from voting. Before this law, abstention votes were considered as votes against the project. Therefore, the necessary 75% of positive votes<sup>8</sup> could be reached more easily.

*If 99% of co-owners refrain from voting, and one co-owner votes in favour, then we have a unanimous vote in favour.*  
(Vincent SPRUYTTE, syndic)

Another obligation that has a precious value in convincing the co-owners to engage in a deep retrofit of the whole building is rooted in the way the global costs of the condominium (regarding heating expenses, for example) are shared between the different parties.

*Many co-owners forget that the official documents ruling the condominium oblige the syndic to apportion the energy consumption of the building to each apartment based on their share in the condominium. Each co-owner pays according to the size of their apartment, and therefore to their share in the global heat losses of the building, including the roof.*  
(Vincent SPRUYTTE, syndic)

### 3.3 Know the problems

The participants to this focus group all agreed that a visual inspection of the state of the building (and its pathologies) prior to the works was crucial, and should be done in every case, for each project. The results of this assessment should be presented to the General Assembly when needed, to expose potential benefits, or consequences if ignored.

*In condominiums, everyone sees their own little domain, their “home sweet home”, their balconies, and they do not always see the global shell of the building. It’s didactic to show people, through a general visit of the building, and a visual report with a lot of photos, what is going on in other parts of the building, that’s how you raise awareness of the majority. Without mentioning names or specific locations, it is important to show what goes on in the building, and alert on possible aggravation. [...] It is often interesting to allow for a search for preparatory or primordial works through a complete pre-analysis of the project, the building’s pathologies, in order to come prepared to the GA.*  
(Yves MAENHOUT, condominium expert)

In this case, they discovered, for example, that the walls which were set to carry the weight of the insulation and cladding, were “barely existing”. The concrete structure of beams and columns of this building is supposed to be filled with “solid blocks”; the inspection, however, revealed that the filling was instead made of run-of-the-mill rubbish, which made fixing the new cladding very complicated.

*We saw the cladding come loose, the façade convex, which indicated that there was some kind of dilatation, things moving. It is true that we ought to do a partial dismantling of the façade, considering all the risks. Campaigns of trial borings and drillings should be more systematic, if we can do it without inconvenience for people living in apartments on the other side of the façade.*  
(M. RODRIGUEZ SAMPER, architect)

The syndic is responsible to make this kind of disorders visible to the condominium. When Managimm took over the management of the condominium, they saw the state of the balconies and decided to dismantle the stones which no longer held to the structure, and it opened a lot of eyes.

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<sup>8</sup> The project was, in this case, voted before the new law decreasing the threshold from 75% to 66%.

*It helped showing the true state of the building, get people convinced that this should have been done years before, that the professional syndic before us did not do anything about it, although it was their responsibility.*  
(Vincent SPRUYTTE, syndic)

*It had been ten years of stones falling from the facades, but it took a few hammers blows for people to understand the severity of the state of the façade.*  
(co-owner, president of the condominium board)

This inspection, however, was not carried out “in time” (before the renovation started), but after having discovered the first damages to the facades. Arriving too late in the process, it demanded some technical adjustments in the retrofit, although no additional costs have been asked by the general contractor, thanks to the “expert in condominiums, his excellent work and relations”. This is good news, because the technical team feared that some discoveries would oblige them to go back to the General Assembly and ask a vote extending the budget, then having to go back to the bank to ask for more money, and to the insurance company to adjust the premium. M. MACHIELS, from the Fédérale Assurance Bank, confirms that it is complicated to modify the loan amount afterwards, because it involves a new analysis, a new General Assembly, new delays, new documents to sign, an uncertainty about the agreement from the bank, and the possibility for the general contractor to stop the works that have already been started, waiting for the bank’s green light. For the syndic, this major obstacle can be difficult to lift in front of the GA:

*Co-owners could have felt deceived. We have to avoid additional costs, be very clear from the start about the engagement co-owners make, insure there are no surprises. Getting back to General Assemblies with new information on something that should have been known already is complicated. Co-owners tend to feel like hostages, obliged to agree with contractors’ terms and claims for additional budgets. It’s necessary to come to the General Assembly with the right budget evaluation, and the same can be said about the bank. Asking for additional money when the works have begun is not easy.*  
(Vincent SPRUYTTE, syndic)

In every project, the opportunity to visit a maximum of apartments where there are problems or pathologies must be taken, because it will increase the understanding of the building and its state, of the problems to solve, and it will help to raise awareness among the General Assembly, notably among landlords. Some problems appear in rented places, where landlords can remain deaf to their renters’ demands for repair. Getting inside those places helps to understand why it is necessary to renovate and insulate, and it helps the syndic to convince co-owners on necessities and budgets. Instructed by the board and the syndic, the condominium “technical” expert did an inventory in some apartments’ interiors. In the apartment of the president of the condominium board, major water leakages appeared on the façade most submitted to the weather elements, so intense that the radiator’s ties to the façade were completely rusted, and the radiator fell. In other apartments, some living arrangements and situations (such as overcrowding) accentuated problems that were already there, for example caused by thermal bridges (fungus, leakages due to condensation...).

*I sometimes have to calm the debate down, and argue that these people are not responsible for the cause of the problem, only for its accentuation. There’s cohabitation, solidarity to respect inside condominiums. I wish people would stop condemning those who are in this situation: they only accentuate a situation caused by a technical, not behavioural, default. [...] It was a first approach, and people who were affected by “bad living conditions” felt like we were interested in their fate. Often, in condominiums, when you only represent a 10% minority,*

*your problems are not getting addressed. It needs a first approach that is more human, so we did it.*  
(Yves MAENHOUT, condominium expert)

### 3.4 Partnership between experts and deciders

#### 3.4.1 The role of the condominium expert

The president of the condominium board mentioned the crucial help they received from the “expert in condominium”, who succeeded to convince the GA at the third meeting, even though he’s been verbally manhandled by several co-owners in the previous occurrences.

He joined together with the architect to “better develop renovation projects for multi-unit residential buildings”.

*This job is not easy, but it is gripping. Due to the multiplication of owners, condominiums can present challenges, but we are tenacious.*  
(Yves MAENHOUT, condominium expert)

It was also his job to establish the specifications with the architect, and distribute the works to general contractors. His stance on the matter is always to favour quality (coming from skilled contractors with good reputation who use qualitative materials) over quantity (i.e. a contractor using low-skilled workers and bad quality materials to lower his prices). The main reasons behind this deliberate choice are the responsibility of the technical team on the long run, the possibility of ulterior works, and the guarantee on the results. In this kind of project, as in many others, there is a will to engage with serious contractors, who have a better shot at staying in business and could intervene afterwards if necessary.

*I always say, in General Assemblies, that I prefer to withdraw from a project, rather than having to deal with contractors who systematically use low-skilled [...] workers. I call these projects “partnership”, because I consider that we have to embrace the project together and together, bring it to successful completion. I do not wish to cause financial problems to the condominium, choosing contractors because of their low prices, and then having to deal with all sorts of troubles and obstacles during the works. It’s a deliberate choice of mine, [...] I need some kind of quality and sustainability guarantee from them.*  
(Yves MAENHOUT, condominium expert)

Another role of building expert is to check the compliance between what we prescribed, and what is implemented. They ask contractors for specification sheets and samples, check all through the work phases that it matches the demands, that materials are compliant with Belgian and European laws.

*Local contractors are generally more trustworthy when it comes to materials. [...] It is coherent with the idea of a partnership: we are not just there at the beginning, then disappear after votes. We are here constantly, until completion of the works, with the condominium and the syndic.*  
(M. RODRIGUEZ SAMPER, architect)

During retrofit, the expert in condominium is hired to follow the works with the architect and the syndic. He participates in the weekly site visits and meetings (and many other technical, analytical or control visits), and reports to the syndic and the co-owners on the progress.

*We receive, each week after the site meetings, a report from our condominium expert, sometimes some photographs, with an indication of what is happening or what needs to change. I think it helps. We post it on the condominium website, so that anyone can read it, see the*

*progress, difficulties, information on delays. It's an easy way, for a syndic, to inform the co-owners.*  
(Vincent SPRUYTTE, syndic)

He also warns of the next phases (so that co-owners know when scaffolders will be placed in front of their windows, when they should expect problems, noises, dust...), and thus alleviates fears and frustrations, "helps the medicine go down".

### 3.4.2 The role of the syndic

The syndic's role is to execute the General Assembly's decisions, under the eye and control of the Condominium Board, a committee of elected members of the co-owners' General Assembly members.

*We consider the syndic an orchestra conductor. He has to come up with ideas, because no co-owner comes up with an energy retrofit project for the building. Without a syndic and a motivated condominium board, nothing gets done in condominiums.*  
(Vincent SPRUYTTE, syndic).

The syndic mentioned that the previous manager limited his action to administrative works, focused more on financial economies and never acted on any renovation project for the condominium, never even put any retrofitting item (on a technical or financial level) on the General Assembly agenda. Yet, some façade cladding was already falling. The arrival of a new, and motivated, syndic in 2017, changed the stakes by bringing an important part of the puzzle:

*The arrival of this new syndic changed everything. [...] Only when we changed syndics did the project finally moved forward.*  
(co-owner, president of the condominium board)

*In three years' time, [we] managed to convince the co-owners of the technical feasibility, [...] come with financial solutions, and they vote, when it's been 20 years they were talking about it and did nothing until then. I think it suited the previous syndic. Without technical and financial support, without help in management and directions coming from the syndic's knowledge and proactivity, nothing gets done apart from legal obligations.*  
(Vincent SPRUYTTE, syndic)

M. SPRUYTTE is convinced that all syndics should be more proactive and seek those solutions. They have trainings available, which bring complete new sets of skills.

*I remain convinced that the syndic really has a primordial role to play from the start. We talked about the other experts, but they are the one to launch the renovation projects. If they do not put all their energy into it, nothing will get done. I also think that we need to get all syndics trained on energy and technical issues. 99% of our training sessions are on administrative management of condominiums and book-keeping. It's important, but the new generation's awareness needs to be raised on energy, because there is a lot of money to make or save, for condominiums.*  
(Vincent SPRUYTTE, syndic)

### 3.4.3 The General Assembly, the condominium board (and its president)

The **General Assembly** is composed of all co-owners of the condominium, whether they occupy their dwelling or rent it out. In this particular case study, the landlords seemed particularly involved, too, which surprised the expert:

*When it comes to investment, owners who occupy their apartment are generally much more sensitive and receptive when they have the means, whereas landlords are often less receptive.*

*Here, we have 40% of landlords, and when M. Spruytte announces 95% of votes in favour of the project, it's exceptional. It might be the first time so many landlords accept and participate in the development of such a project.*

*(Yves MAENHOUT, condominium expert)*

Inside the General Assemblies, **condominium boards** are elected representative who manage “daily matters” of the condominium, generally follow the retrofitting project weekly, and report to the General Assembly. The Condominium Board is holding several meetings a year (even more so during the implementation of renovation projects), which is a plus for the syndic, as the General Assembly usually only gathers once a year.

The condominium expert and the syndic acknowledged the help of the condominium board, especially the president, in taking part in the project, even when they knew the amounts at stake.

The syndic and the expert confirmed the importance of role held by the board (because they represent the whole condominium), of their involvement and conviction:

*If the syndic has to convince the board to put the item on the agenda, and there are people inside the board applying the breaks, then it looks like the syndic is trying to force those items on them, and things could go badly. [...]*

*If a syndic has to start by convincing a board that is not buying the project, or did not want to put it on the agenda, the case is almost already lost. They have connections inside the building, they discuss the topics to put on the agenda, so if they feel like the project is not theirs, it's off to a bad start. Therefore, it is crucial that the board is “on board” with what the syndic proposes and understands why and how we can solve the financial and technical difficulties. There are several meetings with the board before presenting the project to the General Assembly, where the board needs to appear involved in the genesis of the project. An involved board, presenting a project that was well put together with the syndic, helps passing on the message that the syndic is not forcing a project “just to make more money”. Then, co-owners listen with complete confidence their neighbours they have known for 10 or 15 years. [...] The president of the board has been there for 30 years, knows a lot more people than I do. It's normal for them to have more trust placed in the president's voice than in a newly appointed syndic.*

*(Vincent SPRUYTTE, syndic)*

The condominium has, according to the syndic, the power to influence the votes of the General Assembly, which usually follows the board's advice. Therefore, the board can (and should) be a motor in the process:

*When we changed the condominium board and searched for a new syndic, we decided to get things back on track (we had some work done on the lower level in 2005-2006). My plan was to continue by retrofitting the facades, because nothing had been done before I took command of the board.*

*(co-owner, president of the condominium board)*

The **president of the condominium board** often acts as president of the General Assembly. It is an important job, which requires the skills to manage a large group of people, to control debates with diplomacy and politeness, to rebuff fake information spread by some co-owners opposed to the project, to search for valuable information against wrong arguments, and in some extreme cases, to exclude someone from the GA meeting, should they cross some lines. This role cannot be given to the

syndic, who is only invited to these meetings to offer support and experience, and could be seen as “dictators” in the condominium, should they try to force the project or dominate the debate. The syndic himself acknowledged, in this case, that it should remain the president of the board’s role to convince the Assembly of the legitimacy and relevance of the arguments brought by the syndic, the board or the expert.

Those situations can be difficult to deal with, because the president of the board is one of the co-owners, which means that they sometimes have to confront their neighbours, people they regularly meet in the common parts. Many presidents fear those who dare to speak up against them and the project, because they usually are people with strong opposition ideas. In order to avoid a situation where those elements hog the debate and succeed in convincing some owners, they sometimes have to show authority, and “dare to put people back in their place”.

*I fully agree with the syndic, it is what tips the scale in favour of one or another side, in many General Assemblies.*

(Yves MAENHOUT, condominium expert)

Each week, members of the condominium board have the possibility to join the meeting, present some items to the agenda, demands and remarks from co-owners.

*They are their ambassadors after all. It is crucial, during all the work phase, to keep the complicity with the condominium board, our human, physical co-owners’ spokesperson.*

(Yves MAENHOUT, condominium expert)

### 3.5 Communication

Part of a good communication is the ability to talk about the benefits of the deep retrofit project, and insist on what is important to the present co-owners. In this case, for example, the pre-retrofit communication was centred on the state of the facades, the improvement of indoor conditions, comfort, occupants’ well-being, monetary implications to doing nothing, and the increase in value that could be expected from such a project.

*We talked about reasons for starting a renovation project such as comfort, energy and financial savings, but the main motivation remains the state of the facades, the fact that stone cladding did not stick to the façade anymore, and some humidity problems in some apartments, fungus, things like that. Energy savings were an added advantage to motivate people, but not the main objective.*

(co-owner, president of the condominium board)

Information and good communication are at the heart of the association that is sought between the General Assembly, the condominium board, the syndic and the technical and financial teams. It is very important to come to the General Assembly with a project that considers co-owners wishes and comments, that addresses their concerns, that is well put together, reassuring, with a low probability for change and clear information on what will be done, how, at what cost, with the contractors’ timing and planning.

*I believe it all depends on the syndic, and the person presenting the project at the GA. Our expert can explain all this very well, without rushing people, considering all wishes and remarks.*

*I think it worked well, being able to address the Assembly, speaking correctly to people, explaining things, staying calm, it helped getting decisions.*

(co-owner, president of the condominium board)



This is valid for all aspects of the project, the technical side as well as the financial and insurance side. Experience of the technical team shows that people often feel overwhelmed by technical and financial information they do not master, which in turn blocks them from going forward in the project. Getting an estimate is important to people, to know what they engage in.

*You need to step in the co-owners' shoes, and make them your partners. Some people face financial difficulties, and you risk a fruitless hunt for votes.*  
(Yves MAENHOUT, condominium expert)

*Telling the co-owners how much it's going to cost avoids panic. They can then assess whether they can afford it or not, whether they'll need to raise funds. You need to be honest with the co-owners on the means to mobilize, in terms of money and time. Then you can make them your partners, because you already addressed some of their concerns.*  
(Yves MAENHOUT, condominium expert)

*Yet again, we are partners. This is not about a technician, a syndic, an individual, or even a bunch of individual leaders who need to address a condominium. It is important to me that all co-owners are aware of the fact that we are not there to force them into works, we are not there to make them spend money, we are here to say "this is what is happening in your condominium. If you want, we can help you." [...] And, lastly, it is important to be as didactic as possible. We need to stop being pompous, technical, to show that we have a knowledge they don't, we need to use simple words, photos, to explain to people who are not experts.*  
(Yves MAENHOUT, condominium expert)

The capacity of the technical team to convince people is rooted in their ease to popularize complicated matters, their ability to explain to everyone, even those "with less intellectual baggage", the necessity to retrofit.

*These are human beings, with their sensitivities, who might not be able to understand approaches that are too scientific or technical.*  
(M. RODRIGUEZ SAMPER, architect)

*It's the syndic's role to make this information accessible to all. If you do not have this sensitivity, or this technical knowledge, you'll get a lot of negative votes, because they will not understand why they have to agree on the roof insulation. [...] A syndic needs the skill of "popularization" in its everyday relation to co-owners. The same goes with our condominium expert, who has all the techniques to explain and make information available and understandable to all. It's a feeling you need to have, to explain to co-owners how a cogeneration unit generates heat and electricity, for example.*  
(Vincent SPRUYTTE, syndic)

As the project went on, the co-owners seemed to ease their position, as the first results came in.

*The East façade has already been insulated, and it gives very positive results to co-owners living on that side. We have encouraging feedbacks, people really feel a difference.*  
(Vincent SPRUYTTE, syndic)

*There is a way to present things in GA, even to landlords. Do not attack, but make them understand there is always a risk of not getting rents and facing problems with the authority. There is subtlety behind that, M. Spruytte and I have enough complicity to know when to talk and what to say to people in GA. Often, the condominium board prepares us to the Assembly,*

*to the kind of people we will meet there.*  
(Yves MAENHOUT, condominium expert)

Finally, a small but important part of communication around deep retrofit of condominiums is the presence of previous projects that could serve as examples:

*A decisive element in projects evolution is word of mouth. Syndics need to take an interest in projects that are implemented elsewhere. Word of mouth remains, for me, the best promotion for people to invest in the upgrade and insulation of their buildings.*  
(Yves MAENHOUT, condominium expert)

### **3.6 Money, money, money...**

#### **3.6.1 Real-estate value**

Some co-owners do not consider financial profitability to be of crucial importance when it comes to their “home, sweet home”, although all are concerned when it comes to find the budgets to renovate. As often, the problem is the reluctance of some members of the General Assembly:

*In a building like ours, there are always [...] older people, who believe it's not worth the effort or their interest, for the ten years they still have to live. And young owners, who do not have the money to invest because they still have loans. Only a part of owners has the material comfort to pay for this project, and would believe that 180€ per month for ten years is worth the trouble.*  
(co-owner, president of the condominium board)

According to the syndic, the main problem does not necessarily come from the eldest and youngest owners, but from landlords, whose perspectives are very different from owners who live in the condominium. They usually have to be really motivated by the fact that they will be able to increase the rent, or the real estate resale value. They are much more interested on the profitability of their real estate investment, and on the argumentation brought by the syndic about the extra charges.

Generally speaking, one cannot deny that the financial aspects of renovation projects often include the matter of not letting real estate value decrease:

*I live in a condominium that needs a deep renovation. 20 years ago, a two-bedroom apartment was worth 120,000 to 130,000 euros. Since then, we had several syndics who did nothing but alert the notaries and potential buyers, as they should, of the damages, and the same apartment is sold for 80,000 to 85,000 euros. That is a big devaluation, in 20 years' time.*  
(Yves MAENHOUT, condominium expert)

Maintaining the real-estate value is part of the argument, as well as the increase in value represented by a good energy efficiency. According to the syndic, co-owners are slowly starting to understand that there is a potential increase in value brought by an energy-efficient renovation.

#### **3.6.2 Start with savings**

The syndic took over the condominium's management in 2015-2016, and very quickly proposed a global renovation project of the building, and financial solutions to boot.

Their first action was to renegotiate all the contracts of the condominium with, for example, energy providers or elevators companies. Without reducing the charges of the occupants, this generally generates savings, which can be then used as a reserve to finance works on the building. Their next

move is generally to change the heat production systems: by replacing old atmospheric boilers by new condensing ones, for example, and not changing the occupants' monthly charges, they can generate new savings. The ultimate goal is to convince owners to implement renovation works on the building without having to "pay full price", as the savings will be budgeted in the operation.

*First, we have renegotiated the contracts with energy suppliers and did not change the owners' charges, so that the condominium could start saving money. Then we seized the opportunity of a much-needed change of boilers, and had a cogeneration unit installed, with that saved money.*

*Again, we did not change the charges, so that the energy savings were changed into financial savings by the condominium. And it is a satisfaction for owners to start making their own energy.*

*These key solutions are part of our plan to convince condominium in engaging vast amounts of money for retrofit: they see the profitability, they are reassured on a potential loan reimbursement plan. The formula works very well, and we are proud to say that many buildings are retrofitted thanks to our strategy.*

(Vincent SPRUYTTE, syndic)

The General Assembly has been convinced to install cogeneration units in the heating room, producing heat, Domestic Hot Water and electricity for the common parts. Electricity consumption decreased by 80%, generating a saving of more than 20,000€ per year. Those saved 20,000€ are not given to providers but stay in the condominium savings account.

Furthermore, as electricity produced by cogeneration is considered "green", those units generate an annual income of 60,000€<sup>9</sup> in "Green Certificates"<sup>10</sup>. All this participates in decreasing the co-owners' parts in the reimbursement of a loan, or in their participation to charges.

Thanks to condominiums' legal entity statuses, and the creation of a turnover, the EXPO I condominium is entitled to recover the VAT<sup>11</sup> on produced electricity, and gets to sell the surplus of electricity produced to the grid. Moreover, the new European Directive on "Energy Communities" allows the condominium to sell the electricity for 0.2€/kWh to co-owners, whereas they had to sell it for 0.035€/kWh to providers. Deducting 0.09€/kWh for grid management and taxes, the remaining 0.11€/kWh allow the syndic to triple the money made by this sale.

*We are making so much savings that way, that co-owners contribute less now to the savings account, than what they were asked to pay before the renovation project. [...] I just got the numbers, the electricity bill, and the Green Certificates. At the next GA, we will be able to prove that the "costs" of the renovation works are not as high as they think. Many of them did not believe us when we told them, before retrofit, that they would be paying less.*

(Vincent SPRUYTTE, syndic)

### 3.6.3 Loan and insurance

Another crucial phase of the project appears before the vote in GA, where the syndic needs to set up the financial file explaining who pays what, and how.

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<sup>9</sup> According to the syndic, the condominium obtained 94,741.06 € for those certificates on a period of 18 months.

<sup>10</sup> The Green Certificates system is a support system for the production of green electricity, governed by regional decrees in Belgium. A green certificate is granted to the holder of a certified installation, each time a certain quantity of CO<sub>2</sub> is saved by the production of "Green Electricity". Electricity suppliers, to meet their obligation to declare an annual number of GCs (quota return), they buy them from private "green electricity producers". Supply and demand in GC meet on the market and a market price follows. Ultimately, suppliers pass on the cost of their quota return obligation to all of their end customers.

<sup>11</sup> According to the syndic, the condominium recovered 7,663.73 € in VAT for a period of 18 months.

When urgent renovation works need to be implemented inside the condominium, the co-owners' association can intervene. The condominium has a savings account, designed specifically to finance renovation works, containing money provided monthly by all co-owners. 400 to 500,000 € were deposited there, which were used to finance the first phase and to convince the bank on the existence of an internal effort to save money. Those savings constituted by the association, indeed, were not enough to finance the complete works, and co-owners do not always possess individual savings to do so. Those who do not, and/or are interested, can participate in a collective loan solution developed, for instance, by the Fédérale Assurance Bank. Using that opportunity, the syndic and the GA had the entire project's budget through loans and direct payments by the owners who did not wish to participate in the loan. This brings light onto other important stakeholders: the bank and insurance sectors. The information they hold is crucial to convince the Assembly to vote [in this case] a 2.5 million euros investment.

25,000 to 1,000,000 €<sup>12</sup> can be borrowed, at a fixed interest rate, and reimbursed in a maximum of 10 years. These loans are "no administrative burden, less expensive than personal loans, do not require mortgage collateral, offer the liberty to each co-owner to participate in this collective loan or not<sup>13</sup>, does not require solidarity from co-owners in case one of them does not pay."<sup>14</sup>

*That alleviates some of the fears older owners can have.*  
(M. MACHIELS, Federal Assurance bank)

The steps that must be taken to obtain the loan are:

- First, the association needs to define the "important and necessary" renovation works that would be implemented;
- The association needs then to search for financing schemes: reserve fund<sup>15</sup> of the association, personal savings and loans, collective loan;
- The syndic applies for a loan from the Fédérale Assurance Group, which replies by submitting a proposal and a loan charge insurance offer (if necessary or applicable);
- A General Assembly of the condominium approves of the renovation work package, the loan proposal and insurance offer, and mandates the syndic to contract the loan. Each owner of the condominium has the choice to participate to the loan.
- The syndic sends all necessary documents to the bank: written confirmation of the General Assembly decision, list of all participants, minutes of the General Assembly...
- The agreement is confirmed by the bank after a legal waiting period of 4 months
- The loan contract is established between the Fédérale Assurance and the co-owners' association, fixing the loan amount, interest rate, duration, monthly payments, insurance premium if applicable
- The borrowed amount is made available, to be liberated gradually, based on invoices.
- Co-owners pay their contribution to the co-owners' association, which then reimburses the loan to the Fédérale Assurance Group.

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<sup>12</sup> More is possible, but under derogation conditions

<sup>13</sup> In the case of the EXPO I, around 90 co-owners (out of approximately 140 owners) participated in the collective loan.

<sup>14</sup> <https://www.snpc-nems.be/fr/content/pr%C3%AAts-aux-associations-de-copropri%C3%A9taires-%E2%80%93-f%C3%A9d%C3%A9rale-assurance>  
<https://www.federale.be/fr/particulier/cr%C3%A9dits/pr%C3%AAts-copropri%C3%A9t%C3%A9/pr%C3%AAt-acp>  
[https://www.federale.be/docs/default-source/default-document-library/particulieren-particuliers/pr%C3%AAt-acp.pdf?sfvrsn=4bb27bd7\\_4](https://www.federale.be/docs/default-source/default-document-library/particulieren-particuliers/pr%C3%AAt-acp.pdf?sfvrsn=4bb27bd7_4)

<sup>15</sup> Obligatory since the 1<sup>st</sup> of January 2019

In Belgium, syndics are not always conscious that there is a way to finance renovation works through a collective loan. It is true that there are not a lot of actors in the Belgian financial world who accept to finance this kind of project, some banks even refuse.

*We are talking about a collective loan for the condominium, under the condominium's name, not a collective loan for several owners. [...] Without those financial solutions, many projects would never see the light of day. Public authorities should incite other actors from the banking world, because for now, there are only 3 people we can contact, for each project. Big banks tell us "no", outright.*  
(Vincent SPRUYTTE, syndic)

The syndic will hopefully reach out to banks and financial institutions to obtain a loan, proceed in a long exchange of information, in order to define the amounts needed from the bank, and for the insurance company. It is a difficult process, since they need to secure a loan (and an insurance) without having secured the votes of the GA.

*From the start, we intervene based on a first evaluation of the required amount, to analyse whether it is possible. We do not seek to put people into debt, so if we consider the monthly charges per owner to be too high, we might not advise on it. But we always want co-owners who participate to be covered by the Atradius insurance, in order to avoid a lot of problems.*  
(M. MACHIELS, Federal Assurance bank)

*In the pre-retrofit phase, we usually run simulations, based on possible amounts, so that we can give feedback on possible, but not binding, insurance fees. At this stage, we do not know yet who will participate in the collective loan, but the insurance allows this choice.*  
(M. VANDE PUTTE, Atradius insurance)

Details are clarified and refined later on. Only when the GA vote is secured, did they speak more seriously about the techniques to use, the amounts to borrow, the people who will participate in the collective loan, etc.

*When things are refined, and we know the exact budget, and the participant list, then we ask the syndic to provide a list of people who are more than 180 days late in paying charges. For those, we investigate further the last 24 months, which allows us to draw a more detailed profile of the condominium, and precise the insurance cost. But we can still refuse the condominium.*  
(M. VANDE PUTTE, Atradius insurance)

In terms of reimbursement, all co-owners participating in the loan are required to pay, monthly, the amount that was established when the loan was contracted (it amounted to 180€ per month for the president of the condominium board, for example). The syndic has generally opened a bank account dedicated to the renovation project, and uses the money to pay the bills when they arrive (and are confirmed by the expert). Those who did not participate in the collective loan, and decided to either use their own savings or go to a bank individually, will participate in the global reimbursement, depending on progress reports and bills made regularly by the architect and the condominium expert who follow the works. They will get several bills, depending on the progress, and will have to pay their complete part in several instalments, which can represent quite an amount to disburse every quarter.

In this case, and perhaps more importantly, the syndic proposed to link the reimbursement to savings (made by renegotiating the condominium contracts with insurances, lifts companies, and others), and

to the turnover created through the production of electricity by renewable energy sources. The money generated compensates the additional charges to be paid for the loan, or for the works.

The bank representative mentions that, practically speaking, they often observe partial anticipated reimbursements from a co-owner who wants to sell without debts, or from a condominium which suddenly has available savings. The syndic is still the obligatory passage to do so, and the owners must be aware that there is a small compensation to pay on the amount that is reimbursed at once.

The reimbursement period of the collective loan spreads over 2 to 10 years, and the interest rate of the collective loan is slightly higher than normal interests for mortgage loans that private people can get on the market nowadays, but lower than “all-purpose instalment loans”. It is also fixed, although a condominium asking for a 3-year loan will get a lower interest rate than a condominium asking for a ten-year loan.

Atradius ICP<sup>16</sup> is an insurance protecting condominiums against the non-payment by one or more co-owners of the charges relating to their share of the credit or the annual charges voted at the General Assembly. Atradius ICP replaces the defaulting co-owner, and will not be taking actions against co-owners who are in order of payment. Therefore, the co-owners’ association must no longer initiate recovery procedures or bear the costs of recovery, lawyers, justice procedures...

The cash flow of the condominium is preserved as Atradius compensates the unpaid charges. The compensation is made up to 100% of the defaulting payments. Without any franchise, the coverage begins without any waiting period.

All co-owners of the condominium are insured, without exception (those who did not participate in the collective loan and its insurance, too). Therefore, the condominium is protected, the solidarity inside the condominium does not suffer, and the bank is reassured.

*The insurance reassures all co-owners, as everybody is protected from bad payers. We only turn against defaulting co-owners to recover due money, we never turn against those who do not present reimbursement problems.*  
(M. VANDE PUTTE, Atradius insurance)

*I can get behind what was said by Atradius: this insurance reassures every one, those who do not participate to the collective loan as well as those who participate.*  
(Vincent SPRUYTTE, syndic)

The syndic, who is the one to take out the insurance on behalf of the co-owners’ association, finds their administration simplified. Having to deal with the possibility of a collective loan, rather than having to deal with all owners getting individual loans facilitates the project, makes it easier to get works done. Those are big buildings, the budgets are huge, and I just have to contact 2 or 3 people to get a loan. In addition, they are relieved of the administrative burden caused by unpaid charges.

If the condominium chooses to change syndic, the new one would endorse the exact same responsibilities. In case people decide to sell their apartments before the end of the loan, two possibilities arise:

- On one hand, the loan can be linked to the owner. When a lot is sold, the syndic has to notify the notary on the amounts that are due by the actual co-owner, charges or loan participation. The GA, through the syndic and the notary, is then allowed to withdraw this amount that remains to be paid, when the papers are signed.

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<sup>16</sup> <https://atradiusicp.com/copro.html>  
<https://www.snpc-nems.be/fr/content/atradius-icp-assurances-aux-copropr%C3%A9t%C3%A9s>

- On the other hand, the apartment can be linked to the loan, instead of the owner. The notary gathers all information (presence of a loan, amortization tables, GA votes), informs the buyer who can renegotiate the price of the apartment accordingly. In the same way, the insurance is linked to the apartment, not the owner. So, when there is a change in owners, the insurance will cover the new owner who will have to pay the remaining amounts.

### 3.6.4 Incentives

All that remains of the financial incentives in 2020 are the regional subsidies targeting energy retrofit, to which every co-owner is entitled, through the possibility for condominium co-owners associations to apply for them.

*It is a legal entity, since 2010. The syndic will fill in the paperwork, and mention his or her details.  
It is logical that private owners in a condominium should be entitled to those subsidies.  
If they had a separate house, they would be. It would not be fair to deny those subsidies to some people, just because they act collectively. (Vincent SPRUYTTE, syndic)*

The president of the condominium board points out that the global incentive they received from the Brussels region was 90,000 €, for the whole building. He seems to regret, however, that it is now the only financial incentive given by the administration in order to motivate retrofitting. The syndic confirms that, from 2008 to 2012, owners could recover up to 40% of the costs through a reduction of their direct imposition.

*In some ways, taxes used to pay for renovation, it was great. It stopped in 2012, however.  
Only subsidies still exist nowadays. (Vincent SPRUYTTE, syndic)*

The president of the board wishes that some kind of tax deduction was still in place:

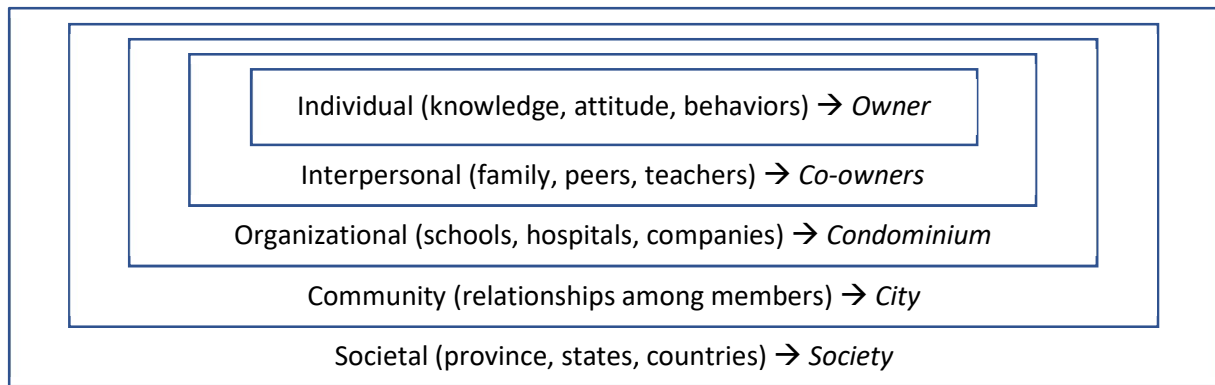
*I'd like to talk about the cadastral income, which is around 1,000 € per apartment.  
I think the Brussels region could help us there, and propose a decrease when you carry on important renovation works such as those we carried out.  
(co-owner, president of the condominium board)*

A disadvantage is that these subsidies only come when works are finished, when a proof of their implementation, and the payment of the bills, can be given. Therefore, the syndic decided, to not consider the regional subsidy in their financial plan to convince the co-owners, and did not deduce those incentives from the amounts to be paid. As a result, the 90,000€ were simply deposited on the condominium's saving account, creating a bonus for the General Assembly to decide what to do with it.

## 4 Conclusions

### 4.1 Enabling environment: socio-ecological model

As explained in chapter 1.2, creating an enabling environment for energy retrofit of condominiums implies the need to have in place a variety of actors and external factors (legislation, finances, etc.), which interrelations can be analysed using the **social ecological model** (SEM).



**Fig. 3:** The social ecological model (SEM) (Ramirez Tamez 2018)

The different success (and failure) factors creating the enabling environment in which this retrofit took place were discussed during the interview, and linked to the different levels of the social ecological model.

**Policies** are enabling factors that are implemented at the higher level (community and society), but have direct impact at lower levels (organisational and interpersonal). At the Belgian society level is, for example, the articles 577-2 to 577-9 of the Belgian Civil Code, revised in 2018 (which came into force on the 1<sup>st</sup> of January 2019), regulating the functioning of condominiums, granting them a legal status (under conditions), requiring the constitution of a reserve fund, lowering the needed majority for important renovation works from 75% to 66%, and leaving abstentions out of the ballot in case a vote is needed at the General Assembly. Another important policy at the regional level is the one granting financial incentives to condominiums implementing energy retrofits.

Other laws should be mentioned here, not because they enable the decision of retrofitting in itself, but because they require from those who decide to do so, to reach for excellence. They are by essence more stringent as they impose a threshold in quality (for the materials), efficiency (for heating systems, for example) or quantity of insulation (for example) to respect; as such, they might appear to be a hindrance rather than an enabling factor. However, it must be acknowledged that their objective is to enable the outcome to be qualitative. In this case study, are mentioned:

- The EPB legislation, which (at least for now) does not impose energy retrofits, but minimum requirements for thermal insulation (when a wall is indeed renovated) or systems' efficiencies (see chapter 3.1.2).
- The Belgian and European standards imposed on materials to be used in renovation (see chapter 3.4.1).

Globally, legal requirements and civil responsibility can be considered fitting levers to convince the General Assembly:

*One way [to convince the GA] is to play on obligations, on willingness to avoid problems, on civil responsibility and the threat that if you voted against the project and an accident happens [with façade cladding falling, for example], it can turn against you. Then there's a way to take charge, to argue in favour of the project.*  
(co-owner, president of the condominium board)

“Policies” can also be found at lower levels of the SEM, at the organizational level specifically. They are not laws per se, but legal documents regulating the functioning of a particular condominium. Such are the basic condominium acts and statutes, the condominium rules and internal regulations. Such tools have been mentioned by the syndic, for example when describing the manner to share the global costs



of the condominium between co-owners (see chapter 3.2), using this as an argument to convince all of them that they have a financial interest in deep-retrofitting the whole building.

The crucial availability of interesting **financing schemes** is coming from the society (through laws), community (through incentives mechanisms) and organisational (through banks) levels of the SEM. Condominiums (at the interpersonal level) are a special target group for financing bodies as they involve socio-economic diversity. At the EXPO I condominium, a collective loan was used, made available by the Fédérale Assurance Bank. Such loans have a tremendous influence in alleviating the concerns many of those vulnerable households might face when having to find the money to finance their part of the project. They are available to anyone, without any discrimination based on age, medical history or existing financial debts. There is no life or income insurance involved, which is also interesting for older people. By permitting vulnerable (the old and/or sick, those who cannot afford / be granted individual loans...) people in the condominium to join, they allow for some kind of solidarity in sharing the risks. This solidarity has nevertheless its understandable limits, represented by the absence of any solidarity in payments (co-owners, at personal levels, are not asked to pay, at the interpersonal level, for eventual bad payers).

The **subsidies** and incentives were mentioned, also. The main problem being that they were only made available after completion of the works, they were not factored in budgeting the renovation works, but were deposited by the syndic in the condominium reserve fund to encourage posterior works. Despite these delays in payment, these “monetary gifts” influenced the co-owners positively.

Another major financial enabling factor for this renovation project is the mechanism of “**Green Certificates**”, a support system for the production of green electricity, governed by regional decrees in Belgium. When an installation allowing the production of green electricity (such as photovoltaic panels, or a cogeneration unit) is certified, the holder is granted green certificates depending on the installation potential to save CO<sub>2</sub> emissions. Those certificates are given a monetary value by the market, and can therefore insure a revenue for the holder for 10 years. They can be “sold”, each year, to electricity suppliers, who are required to meet obligations in green production. They are, therefore, interested to buy those Green Certificates from private “green electricity producers”, and ultimately pass on the cost of their quota return obligation to all of their end customers.

The renovation of the roof was not part of this retrofit project, but had been done a few years earlier (in 2016). This particular retrofit had been financed by the investment of a telecommunication provider in exchange for the placement of antennas. This scheme belongs more to the organizational level of the SEM: the roof was actually rented out to three telecommunication providers, who paid 9 years’ worth of rent in one instalment, 168,000€. An additional regional financial incentive of 90,000€ helped the General Assembly to vote for a roof renovation that would virtually cost nothing to them. After the 9-years period, the telecom providers will have to pay the rent as they would have normally done.

Finally, the insurance scheme must be acknowledged, because it is an important factor that enabled the decision-making in this project. The Atradius insurance, described in chapter 3.6.3, is provided by an insurance company that can be situated at the community level of the SEM. It covers all the co-owners of the condominium (not only the ones participating in the collective loan) against those who do not meet their obligations in the payment of their part of the project. It has the virtue of comforting all co-owners that they will not be considered responsible of bad payers. It simplifies the work of the syndic, who does not have to worry about legal actions and recovery procedures; and reassures the bank on the reimbursement of the collective loan.

Enabling the renovation of condominiums also implies the necessity to **use or build capacity**, and to lean on adequate internal organisation. At the heart of this consideration is the ecosystem of key

stakeholders, which can be divided in three main groups, depending on the level of the SEM in which they act.

At the **community level** of the SEM are the **professionals** acting as enablers, helping the co-owners define the financial aspects of the project: the financing bodies, represented by the banks and experts (Fédérale Assurance and Atradius Insurance groups, in this case), who helped owners round up the financial files and insure the financing scheme. At the same level could be found some governance bodies, should they have been mentioned as enablers. Unfortunately, this was not the case here.

At the **organisational level** of the SEM are the professionals with skills to answer owners' questions and complaints:

- The **technical assistance team**, represented here by the architect and the "condominium expert". They act as a team project manager, who took charge of the technical project, offered solutions and alternatives, followed the works, managed the workers, organised weekly meetings with the condominium board, informed on progress and delays, and generally acted as crucial guides, federating people. The expert, in particular, saw his work praised during this meeting, for his communication skills notably. It is important to stress this, as this profile is not always found in renovation projects; however, it seems undeniable that he acted as a great enabler in the implementation of this project, and took upon himself to overcome a number of usual obstacles in retrofits (e.g. convincing owners, finding skilled professionals, assessing technical solutions, negotiating with contractors...).
- **The syndic or property manager**, who acted at EXPO I as a facilitator between the various stakeholders and who was a motor to mobilize and motivate the co-owners. He was their advocate, administrative referent, and the project's orchestra conductor. Furthermore, the syndic came to the condominium in 2017 with a plan, a pre-established course of action that Managimm applies to all the condominium they manage, in order to help them save money to finance ulterior renovation works:

*It is part of our important "before retrofit" plan, to come up with such smart financial ideas. Now, we do this in all our buildings. [...] Let's consider another condominium, the Marius Renard, [...] they now produce 1.2 GWh of electricity, thanks to their cogeneration unit. [...] The turnover for this condominium is above 500,000 € per year. In time, it allowed us to propose and obtain a five-million-euros retrofit of the building. We had over 95% of positive votes, simply thanks to the financial solutions we came up with. Four years later, the co-owners never had to pay an extra euro.*  
(Vincent SPRUYTTE, syndic)

At the individual and interpersonal levels, is the team of "**insiders**", such as the condominium board and, in this case, a particularly motivated and involved president of the board. They are the "clients" of the project and an essential link between the co-owners whose interests they represent, and the professionals who have the answers and explanations they seek. The role of the president of the condominium board has been acknowledged as fundamental by the syndic and the condominium expert in convincing the General Assembly. They consider the involvement of the board as crucial: what is presented to the GA must be seen as their own project, not outsiders' (the syndic, or the architect) project imposed on them. Furthermore, the president has to be able to manage the GA, counter the opponents' arguments, keep the debates civil and constructive, and finally reach an agreement among the members of the Assembly in time for the vote.

Early **engagement** inside the condominium meant that socio-cultural acceptance at the lower levels of the SEM tended to be increased by the guidance by skilled, motivated, and dynamic professionals who

encouraged dialogue, communication, transparency of information, and gave reliable answers to the co-owners' questions. Another important element is that the renovation project remained a voluntary decision, a process which did not feel forced on any of the owners. This tended to reinforce the sense of ownership.

## 4.2 Lessons and advice

Projects can only be successful if all actors are mobilized, motivated and competent, and are able to mobilize a “**team spirit**” to work as a squad. The project must remain collective, and all actors have to be aware that it is a win-win-win situation, that they all want to work for the same objective, which is to retrofit the building.

The professionals must be the right **experts**, at the right place, and show “people skills” in the way they handle co-owners and assemblies. They have to be patient, mobilised, flexible, qualified, neutral, independent but kind teachers. The technical team should be composed of people who do not shy away from projects involving complex structures of “clients”, and should therefore be seen as crucial guides, whose role is also to federate people. They must be competent, as they have to give the adequate answer to the questions that arise among co-owners, and must show reactivity when they inevitably hit an obstacle or encounter a challenge. The syndic needs to show all the qualities that are asked from professionals (patience, flexibility, qualifications, neutrality, teaching skills), but is allowed (even encouraged) to be mobilised for, and show loyalty to, the condominium's interests. They are pointed out as an essential piece of the puzzle everywhere, when they are active and push the condominium board to act.

The implementation of renovation **boards** (small committee gathering co-owners who take mission to follow the retrofitting project on behalf of the whole condominium) has to be encouraged when it is possible, because they are generally composed of people who share a particular interest in the project, and are more aware of the responsibility they assume. This team of co-owners has to be motivated in seeing the project delivered and mobilized to insure swift communication between stakeholders.

**Financing** the renovation is a key aspect that could either win or lose the vote. Although transparency is essential on that aspect too, it might be wise to wait for the project to be sufficiently defined and developed before numbers are presented in General Assembly. A first phase of interaction between the professionals and the “renovation committee” (or condominium board) is necessary to settle on details, negotiate and finalize the project. In general, there is a need for an efficient, frequent and transparent **communication** between all stakeholders.

This case study highlighted some **missing pieces** of the puzzle, which have to be summarised in this “advice” section. It is, indeed, important to formulate recommendations to the different levels of the SEM in order for enabling environments to improve.

Several participants to the meeting mentioned that some obstacles could be lifted by implementing more **legal obligations**. The syndic, in this case, lamented that a law, such as the one that exists in the Flemish Region, does not exist to impose some retrofitting works to residential buildings. This obligation has the virtue to close all debates rapidly, when it comes to the decision to retrofit that wall:

*In Flanders, there is a law that imposes the insulation of all roofs, and it makes it easier for the syndic, because it's regulatory. In the Brussels region, such a law does not exist yet, so we have to convince people to improve the whole envelope for the benefits of all.*

(Vincent SPRUYTTE, syndic)

Nearly all participants wished for more public investments, in energy, time and money:

*We need more support from the municipality, for example on real-estate taxes, renovation incentives, and legal requirements.*  
(co-owner, president of the condominium board)

*We will not get passed the necessity to renovate the existing stock. That is the biggest challenge, convincing people, because a lot of stakeholders have to be involved. A lot of political actors need to go beyond the political discourse, and take action on the field.*  
(M. RODRIGUEZ SAMPER, architect)

*There are not enough public investments, and too many deprived areas with a need for renovation. I'm a firm believer in renovation, but we cannot wait too long, for buildings to be on the verge of collapsing. Renovation is the future, but the elected officials need to hear that we will need bigger means to achieve their goals.*  
(Yves MAENHOUT, condominium expert)

### **4.3 Conclusion**

The enabling environment surrounding a successful retrofit is shown in this case study to be more than just providing process facilitation or a financing scheme. It is a combination of engaged co-owners, an active building manager (syndic), outgoing and patient building professionals, process facilitation, local, regional and national policies or laws, proper financing mechanisms, subsidies, communication and, in this case, prior examples. It takes time to put an enabling environment in place. For different locations across Europe, different enabling environments are needed. Clearly, this requires giving more attention to condominiums at the local, regional, national and European levels.

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