

Country study Flanders

A PESTLE analysis on the environment for citizen-led renovation services in Flanders

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About this report

To support the development of sustainable building renovation activities by energy cooperatives and communities (citizen-led renovation) we have analysed three business models – operated by Carbon Coop (UK), Energy Communities Tipperary Cooperative (Ireland), and Klimaatpunt/Pajopower (Flanders) - for the delivery of such activities. To accompany the business model overviews we have analysed the context in which they operate using the PESTLE method looking at Political, Economic, Social, Technological, Environmental, and Legal factors relevant to citizen-led renovation in the respective countries. Additionally, the same analysis has been done for the Netherlands, and will be undertaken for the Basque country. This study on Flanders has been the third in this set of five 'country analyses'. This study was prepared as part of the 'Citizen-led Renovation' project funded by the European Climate Foundation.

About citizen-led renovation

Citizen-led renovation is energy communities and/or cooperatives undertaking renovation activities for, and with, their members and local communities. This includes renovation, energy efficiency in buildings, and sustainable heating and cooling. Furthermore, these activities are often combined with installing renewable energy systems. Renovation activities range from performing energy audits and providing information to homeowners, all the way to guiding households through the entire renovation journey, which includes planning, financing, delivery of measures, and evaluation (a 'one-stop-shop' or 'integrated home renovation' service).¹

Although the offered services differ from cooperative to cooperative most citizen-led renovation programs share a few common traits:

- Citizens are involved in the renovation process and governance of the initiative and/or project;
- As social enterprises without focus on profit cooperatives can act as a trusted partner providing independent advice and support;
- The development of local businesses and skills of people involved is supported by the program;
- Activities are adapted to local conditions and local networks and partnerships are created. Energy cooperatives and communities are rooted in their local communities and often act in partnership with local authorities, SME's, and other community groups and/or NGO's. Many follow a neighbourhood approach.

¹ For more information see: <https://www.rescoop.eu/citizen-led-renovation>

Summary

The current state of the housing stock in Flanders, combined with the strong ambition of the government to renovate 90% of the Flemish buildings by 2050, make there is a good potential for sustainable renovation services, which could also offer opportunities for citizen-led renovation services.

There are many relatively in-efficient detached and semi-detached buildings and a below EU average level of apartments in Flanders, although overall building quality has improved over the years. Moreover there is a large heterogeneity of buildings, meaning a tailored approach to renovation services is likely to have more success. This fits well with the characteristics of citizen-led renovation programs. Moreover, there are already a few citizen-led renovation programs in operation forming a good basis to expand on. There seems to be a limited offer of other renovation services in Flanders, with, in addition to the cooperatively run services, only the government supported regional energy agencies and services coming from EU projects being active.

A major challenge for Flanders will be to decarbonise the heating system, with the gas network still being expanded and a considerable amount of homes still using heating oil. First initiatives on district heating are being developed, and could potentially be an opportunity for citizen-led renovation programs.

Barriers:

- High electricity prices could be a barrier in switching to more sustainable heating systems such as heat pumps.
- Tenants are generally not motivated to engage in energy efficiency, likely due to the split incentive between tenants and the owner of the building. This poses a barrier to increasing renovation rates, but could be an opportunity for awareness campaigns and services aimed at tenants.
- Lack of contractors with sustainable renovation skills

Opportunities

- Energy Performance Certificate demands for deep renovation in Flanders include demands on minimum renewable energy production which could be favourable for citizen-led renovation programs being run by energy cooperatives, as they have experience with renewable energy systems.
- Support measures for shallow renovations. Although not enough to tackle the renovation challenge, such minor subsidies can be an opportunity for citizen-led renovation programs as simple measures
- A culture supporting energy efficiency, with surveys finding 40 % of households are motivated to increase the energy efficiency of their home
- A minimum energy performance standards for windows will gradually take in effect from 2023 onwards. This could fuel demand for renovation services.

1. Background: building stock, renovation potential, & community energy

Background: building stock characteristics and renovation potential

In January 2019 Flanders counted around 2.7 million buildings, of which 2.4 million residential buildings (3,1 million dwellings) on a population of around 6.3 million. An estimated 50.000 buildings are vacant. Looking at the housing stock Flanders counts around 22 percent terraced, 20 percent semi-detached, and 30 percent detached houses and 28% percent apartments housing a total of 2.8 million households. Flemish houses are relatively large compared to the European average (125m² compared to 95m², and, although on the rise, the proportion of people living in apartments still lies below the European average of 40 percent. Moreover, the great majority of Flemish buildings dates from before the 1970's and around 30 percent from before 1945. Although quality of dwellings has improved still 12 percent was found to be in moderate, and 11 percent (310.000 dwellings) in poor or very poor condition, in 2018. The 310.000 dwellings – off which around 115 000 rented - in poor/very poor condition need to undergo either deep renovation or demolition and reconstruction. The majority of households are owner-occupiers (72%, slightly above EU average), with around 20 percent private and 7 percent social tenants. Rented dwellings generally have lower energy efficiency and quality than owner-occupied dwellings in Flanders².

In 2018 energy use by households amounted to almost 55 Twh (20 percent of total final energy use) and emissions from buildings amounted to 12.2 Mt Co₂ equivalents. Although emissions from buildings declined from 15.7 Mt in 2005, emissions have stabilised since 2014. Currently around 50 percent of all dwellings have an EPC rating, with apartments averaging at 248 kWh/m² and single family houses 418 kWh/m². As mentioned above housing quality has improved over the years which is also reflected in data on home insulation, with most dwellings now having some form of insulated windows and roof/attic insulation but many homes still not having wall and/or floor insulation. Although some of the improvements in energy efficiency and insulation are due to renovation reconstruction after demolition is also prevalent (16 percent of new builds or 4000 dwellings per year)³. The majority of the homes are heated with natural gas (68 percent), while 17 percent is still using oil, and 9 percent electricity (non-heat pump)⁴. There has been a steady decline of total household electricity use since 2009 despite an extra 200.000 households having been connected to the grid. With total electricity supplied down from around 11.4 TWh in 2009 to 8,6 TWh in 2019 and average household use declining from 4288 kWh per year in 2009 to around 3000 kWh per year in 2019.

² (Government of Flanders, 2020)

³ (Government of Flanders, 2020)

⁴ (Ipsos, 2019)

Although the average household use of natural gas has also gone down (from 17.755kWh/year in 2009 to 14.132 kWh/year in 2019) total use has returned to around 2009 levels (27,4 TWh) due to around 350.000 extra connections to the gas grid⁵. With new homes still being connected to the gas grid and a considerable share still using oil decarbonising heating in Flemish homes is still a considerable challenge.

The renovation rate in Flanders (as estimated by the government) currently lies between 0,6 and 2,5 percent, with around 17.000 permits for residential renovations granted in 2018 (not all renovations need permits). The majority of permitted renovations are shallow, leading to an increase of one label on the EPC scale⁶. In the LTRS the Flemish government identified the following barriers to deep renovation: lack of knowledge on energy efficiency measures and deep renovation, costs of renovation, split incentive between landlord/tenant, co-ownership, low transparency and continuity of policy measures, low motivation, impact on daily life of inhabitants⁷.

Reporting on energy poverty the Government indicates that around 680.000 inhabitants (11 percent, or around 280.000 families) live under the poverty threshold in Flanders (less than 60% of median income), and around 16% of all families live in energy poverty. With especially single-parent and elderly singles being at risk and those living in social housing. There are several support programs for people in energy poverty (see **Error! Reference source not found.**)⁸.

All the factors described above make it likely that the Flanders housing stock has a good potential for improvements in energy efficiency and sustainable renovation.

Background: community energy

Community energy in Flanders is well developed with over 17 cooperatives currently active, ranging from small (e.g. Pajopower with a few hundred members) to large (Ecopower, over 60.000 members). Most cooperatives have activities in both generation of renewable energy and energy savings/efficiency, with a minority also doing sustainable building renovation (advice)⁹. As part of the RHEDCOOP project (Interreg) cooperatives in Flanders, together with the umbrella organisation REScoop Flanders, have been developing sustainable building renovation activities¹⁰.

⁵ (VREG, 2021b)

⁶ (Government of Flanders, 2020)

⁷ (Vermeiren, 2017)

⁸ (Government of Flanders, 2020, p. 63)

⁹ (REScoop Vlaanderen, n.d.-a)

¹⁰ (REScoop Vlaanderen, n.d.-b)

2. Political

Factors: government priorities and policy to promote sustainable renovation; existence of funding tools and grants.

Government priorities and policy to promote sustainable renovation

Flanders has submitted its Long-Term Renovation Strategy (LTRS) as part of its obligations under the Energy Performance of Buildings Directive (Article 2; Directive 2010/31/EU)¹¹. The renovation strategy has also been brought in line with broader policy goals on housing and the environment such as alleviation of energy poverty, taking into account democratic trends, achieve high-quality, energy-efficient, and affordable housing for all, increasing supply of private and social rental housing, and improving spatial efficiency of the urban layout.

The Flemish government has as goal to reduce the emissions of its building stock to 2.3 Mt Co₂ by 2050. All residential buildings must achieve an energy performance level comparable to buildings built according to 2015 standards, reducing the average EPC by 75% to label A. While all non-residential buildings need to be carbon neutral. To reach the emissions reduction target residual energy use will also have to be met using sustainable sources. Currently only 3,5% of the building stock meets this EPC goal, to meet the EPC goal the renovation rate will have to increase to 3% per year amounting to around 95.000 houses (up from between 0,6 and 2,5 percent per year). With most current renovation being shallow this rate only brings a limited contribution to the 2050 goal. For non-residential housing the goal is to achieve 'carbon neutrality' by 2050¹².

To increase the renovation rate the national government and municipalities have established a variety of measures (see table [...], programs, and projects focussing on stimulating owners to start renovating their building. In their LTRS they have established that for most building types the 2050 goals can be reached through cost-effective renovations, but that most owners prefer renovating in stages. This has the risk of owners only doing partial renovations (evading further nuisance and costs). To overcome this one of the policy goals is to decrease the costs of deep renovations and stimulate deep renovations at trigger points such as sale, move, inheritance, etc

¹¹ (Government of Flanders, 2020)

¹² (Government of Flanders, 2020)

Government policy and support measures (grants, funding, instruments, tax incentives, etc.)

Policy and support measures for sustainable renovation, energy efficiency, and renewable energy	
Name:	Description
Renovation Pact	To contribute to reaching EU climate and energy objectives and EU regulation such as on NZEB and the LTRS the Flemish government launched a 'pact' in 2014 to develop an action plan on renovation together with 43 stakeholders. The goal was set to have every building renovated to new build standards (energetically) by 2050. Currently around 3,5 percent of the existing housing stock meets this target. As part of the pact programs were developed around building passports, renovation advice (including support for the "benovation" advice being given by Pajopower/Klimaatpunt), good practice and business models, policy integration and communication, energy poverty, and reforming existing energy efficiency grants ¹³ .
Housing ID (building passports)	The first version of renovation passports called 'Housing ID' was launched in 2018. It provides information on the building (including past renovations), relevant planning and permitting data, and advice on how to improve the energetic performance of the building. The introduction of the renovation passports was combined with awareness campaigns and technical support through renovation advice programs.
Subsidies and financial incentives for renovation	<p>'Neighbourhood' Premium for coordination of collective renovation projects. Project coordinators and renovation advisors can receive a grant of 600 euro's per building/unit through DSO Fluvius with a maximum of 7500 per building. The households need to invest in at least one out of a set of predetermined measures.</p> <p>'Home' Premium for households through the DSO. Households can get a grant for roof/attic insulation, wall insulation, floor/cellar insulation, high performing windows, heat pumps and heat pump boilers, solar boilers, and Solar PV. Low-income households can also get a grant for installing a condensing boiler. The premiums are determined on a year to year basis.</p> <p>Low income households can also get a discount voucher for energy saving fridges and washing machines and a free 'energy scan' of their home.</p> <p>'Rental Insulation Premium': Support for tenants/landlords investing in roof and/or wall insulation or high-performing windows.</p> <p>Fiscal incentives for deep renovations: discount on real estate tax, a reduced tax rate when buying property, and a reduced inheritance tax rate.</p>

¹³ (Government of Flanders, 2020)

	<p>'Demolition/reconstruction premium': a grant of up to 10.000 euro when demolishing and reconstructing a building (only specific regions are eligible).</p> <p>Deep renovation bonus: in addition to other grants homeowners can received a 'bonus' from the DSO if they implement three or more measures over a period of five years. There are requirements as to minimum surface areas and insulation values that need to be covered. The grants are 1250, 1750, 2750, 3750, and 4750 respectively for 3 to 7 measures (receiving more when doing more measures).</p> <p>Social loans: below certain income threshold people can apply for social loans from the government or recognized private suppliers.</p> <p>Renovation premium: below certain income threshold people can apply for a 30 or 20 percent grant (of total invested sum) for home renovations.</p> <p>All measures are described in detail in the Flemish Long-Term Renovation Strategy.</p>
Low/zero interest government loans	In 2021 the government launched the 'ReNuveren' scheme offering people buying/inheriting a home up to 60.000 in interest free loans if they improve the EPC of their home from D/E to A, B, C within five years (amount depending on label increase).
Energy Programme	Poverty Programme aimed at alleviating energy poverty. Includes measures such as: instalment plans for energy debts, prepayment meters, a 'poverty check', zero percent interest loans, 20.000 free energy scans per year, and social programs for the private rental market (providing insulation measures with grant and technical support) ¹⁴ .
Collective programs	Purchasing In collaboration with the local providers of renovation services (some of which are citizen-led) some provinces offer collective purchasing program's for solar PV, heat pumps, windows, and insulation materials.
Pilot projects "collective renovation"	The BeReel! Project (with support from the EU Life program)
The Flemish Energy Fund	Filled with e.g. receipts from energy levies it can be used to provide subsidies supporting Flemish energy policy
The Flemish Climate Fund	Filled with e.g. receipts from EU emissions trading revenues, can be used for climate policy measures
Green Bonds	The Flemish government raised 500 million euro in 2018 through green bonds sold to institutional investors. The money was used to improve energy efficiency in public buildings, including schools, and build affordable homes.

¹⁴ (Vermeiren, 2017)

3. Economic

Factors: spending in the renovation sector; energy prices for households; renovation cost for homeowners and developers; cost of housing for homeowners/tenants.

Spending in the renovation sector

For 2018 an estimated 6 billion euro was spent on renovation and maintenance for private dwellings and social housing and private banks provided around 60.000 loans for renovation¹⁵. A study done on renovation in Europe estimated the investments in energy related renovation in Belgium as a whole at 8,4 billion euro in 2016, of which 618 million euro was spend on deep renovations. On average spending on energetic renovation for residential buildings ranged from 63 euro per m² for 'below threshold' to 296 euro per m² for 'deep'¹⁶. To reach the 2050 goal an investment of around 200 billion euro is needed, of which around 150 billion euro for residential buildings amounting to around 55.000 euro per house¹⁷.

Energy prices for households

The Flemish energy market regulator (VREG) provides data on prices for a 'typical' household. In 2020 this amounted to around 900 euro for 3500 kWh of electricity and around 1000 euro for around 23.000 kWh of gas¹⁸. There has been a slight decrease in prices since 2017¹⁹. In comparison with neighbouring countries Flemish households pay more for electricity but less for gas. With gas being relatively cheap this could pose a barrier to switching to more efficient heating systems such as heat pumps.

Cost of renovation for homeowners/developers

As mentioned under 'spending in the renovation sector' a deep renovation for a home in Flanders costs an estimated 55.000 euro on average. However, homeowners in Flanders mostly renovate their homes in stages²⁰. This means that the average amount being spend on renovations by households will likely be considerably lower than the estimated amount for a deep renovation. Moreover, the amount will vary considerably depending on the age, type, and location (urban /non-urban) of the building. With the average costs

¹⁵ (Government of Flanders, 2020)

¹⁶ (Ipsos & Navigant, 2019)

¹⁷ (Government of Flanders, 2020)

¹⁸ (VREG, 2021c)

¹⁹ (VREG, 2021a)

²⁰ (Government of Flanders, 2020, p. 12)

for a deep renovation of a building built before 1945 being estimated at 75.000 euro while deep renovation of a building built after 2000 is estimated at 31.000 euro²¹.

Cost of housing for homeowners/tenants

In 2018 around 20 percent of Flemish households spent more than 30 percent of their income on housing, most of them coming from lower income groups. Around 50 percent of private and 20 percent of social tenants spent more than 30 percent of their income on rent²².

The EU uses a stricter definition (housing cost overburden rate) looking at the share of households spending more than 40 percent of their income on housing. For Belgium as a whole this amounts to around 13 percent of the households in cities, and 6,5 percent of the households in the country side. On average households spend 18,7 percent of their income on housing, which is slightly below the EU average of 20 percent²³. Housing in Belgium (both Flanders and Wallonia) is thus relatively affordable. This could be beneficial for renovation potential given that people are more likely to have the disposable income to invest in renovation measures.

Private sector financing methods

Some banks provide a 'green loan' with lower interest rates when more than 50 percent of the borrowed amount is used for energy efficiency or safety measures and social credit societies provide low interest loans for buying, constructing, or renovating a house (up to a certain building value).

4. Social

Factors: culture (in favour or not) of sustainable renovation and energy efficiency

Culture (in favour or not) of sustainable renovation and energy efficiency

It is often said Flanders has a culture of people wanting to build their own house. With land becoming increasingly scarce deep renovations are also becoming more popular. Whether these renovations also significantly improve the energy performance of the buildings is unclear.

²¹ (Steunpunt Wonen, 2019)

²² (Government of Flanders, 2020)

²³ (Eurostat, n.d.)

The Flemish governments' energy agency does a biannual survey on energy efficiency awareness among its citizens. Based on its 2019 findings the study grouped the Flemish public into five profiles²⁴. Overall the study found that 9 out of 10 families found energy saving important. But looking at the more detailed profiles made it found that around 17 percent of the Flemish public was 'indifferent' regarding energy savings, 25 percent 'passive', 18 percent 'relativist', and around 40 percent 'motivated' (around 20 percent each for instrumentally and intrinsically motivated). Among those indifferent about energy savings elderly (age 75+), tenants, low income, and low-education groups were overrepresented. Among instrumentally motivated those with high-education levels were overrepresented, while among autonomously motivated younger and, interestingly, low-educated people were overrepresented. On the whole tenants were much less interested in energy savings than homeowners, showing that specific awareness and support campaigns could be useful.

5. Technological

Factors: access to existing technological solutions; renovation skills and availability of professionals in the construction sector; Research and development in the renovation sector

Access to existing technological solutions

The LTRS mentions that new technologies facilitating the sustainable renovation of buildings with heritage value are still costly and their effectiveness not always sufficient. To help address this an EPC is being developed specifically for listed buildings²⁵.

Renovation skills and availability of professionals in the construction sector

An interviewed expert from the cooperative sector indicated that they were facing a lack of contractors skilled in sustainable home renovation, although the severity of the shortage differed per trade (e.g. there were many Solar PV contractors available, but only very few roofers). Moreover, most contractors were only willing to take on jobs in their local area. The LTRS confirms there is both a qualitative and quantitative shortage in the construction profession, adding that that 10 percent of all vacancies in 2019 were in the construction sector. It concludes that the amount of renovations needed to reach the 2050 goal cannot be met with the current labour reserve. The government is currently devising a plan to help tackle this issue and has partnered up with the construction industry to set up supportive measures and provide training²⁶.

²⁴ (Ipsos, 2019)

²⁵ (Government of Flanders, 2020, p. 44)

²⁶ (Government of Flanders, 2020, p. 61)

Research and development in the renovation sector

Research and development in the renovation sector is being undertaken by a variety of actors in Flanders, including the different levels of governments, the construction sector, universities, architects, and energy cooperatives. For example, through INTERREG projects on industrialisation of building renovation and cooperative renovation services²⁷. Government related research organisations such as VITO (Flemish Institute for Technologic Research) and private research centres such as the Scientific and Technical Construction Centre set-up by the construction industry are also involved in renovation related R&D.

6. Legal

Factors: e.g. building regulation, standards, and certification for sustainable building renovation; building energy performance certificates; other legal factors

Building regulation, standards, and certification for sustainable building renovation

Several legally determined standards regarding building insulation are in effect in Flanders. Since 2015 all independent dwellings need to have a roof insulation equivalent to an R-value of $0,75\text{M}^2 \text{ K/W}$. Homes can be inspected, this usually happens on request of tenants, and the owner can be forced to improve the insulation level. As of 2020 the norm for roof insulation can be evaded by showing that the dwelling has an energy use of between 400 and 600 kWh/m² depending on the dwelling type²⁸. As of 2020 a standard on the energy performance of windows, with the minimum being double glazing, has taken effect which will gradually enter into force. From 2023 onwards homeowners can be forced to adhere to the standard. Similar to the roof insulation standard showing that the dwelling meets the set general energy standards (see above) also counts in meeting this standard²⁹. In addition there are some requirements on boiler maintenance and having individual heating meters (in the case of collective systems).

As of 2021 an obligation to renovate small non-residential buildings will go into effect (minimum energy performance standards). After a building has switched owners the owner will have five years to improve the building up to EPC label C. As of 2023 owners of large non-residential buildings (again within a five year period) need to ensure a

²⁷ (Government of Flanders, 2020)

²⁸ (Government of Flanders, n.d.-d)

²⁹ (Government of Flanders, n.d.-b)

minimum of 5% renewable energy share in its energy use. This will be in addition to the standards described above³⁰.

Building Energy Performance Certificates

Flanders is expanding its (mandatory) use of EPC's. As of 2017 deep renovations need to meet specific demands regarding insulation, installations, ventilation, and overheating. And as of 2020 small non-residential buildings are required to have an EPC. The demands for deep renovations of residential, and non-residential, and industrial buildings are connected to the Energy Performance Certificate system. As of 2022 deep renovations of residential buildings need to achieve an 'E value' of at least 60 and generate at least 15kWh/m² in renewable energy per year. The 'E value' is a measure for energy use of the building taking into account both insulation levels and renewable energy generation. Owners can be fined if their renovation does not achieve the minimum standard³¹.

7. Environmental

No relevant factors, climate policies have been discussed in the section on political factors, while awareness on energy savings has been discussed under social factors.

8. Overview of existing schemes and relevant actors in the (citizen-led) renovation sector

Relevant actors (including existing/developing renovation services)	
Name:	Description:
Flemish Energy and Climate Agency	Internal agency part of the Flemish ministry of Environment, Nature and Energy with as goal to implement a sustainable energy policy. Main tasks include rational use of energy, environmental friendly production, implementation of regulation on management and distribution networks (gas, heat, electricity), and contributing to the implementation of the Flemish Climate Policy Plan.
EnerGent	Cooperative provider of renovation services, has been offering collective renovation projects since 2015.
ZuidrAnt	Cooperative provider of renovation services, using a similar 'Benovation' model as Pajopower/Klimaatpunt

³⁰ (Government of Flanders, n.d.-a)

³¹ (Government of Flanders, n.d.-c)

Pajopower/Klimaatpunt	Cooperative provider of renovation services (see also the 'business model report').
Volterra	Cooperative looking into developing a district heating system in the town of Eeklo (in addition to wind/solar).
REScoop Flanders	Umbrella organisation for energy cooperatives in Flanders.
Energiehuizen (Energyhomes)	There are 19 'energy houses' established by the Government of Flanders providing a first point of contact, information, and basic advice for inhabitants on sustainable home renovation ³² . Vulnerable households can also access zero interest loans through these offices.
Fluvius	District System Operator for Flanders, also provides small subsidies to households and renovation advisors.
Provincial Support Office for Sustainable Construction	There are five support offices for sustainable construction being run by provinces in Flanders. They provide information to households, but also support to companies and municipalities in their region. Some of them are also partners in renovation services/awareness campaigns with local cooperatives.
Network Sustainable Neighborhoods	A network of people coming from 12 neighbourhood level renovation projects with as goal to share experience and lessons learned.
RenoSeec	Collective renovation approach developed between 2014 and 2018. Currently operating a first project together with the city of Sint Niklaas. The RenoSeec team helps with both design and project management. They ask a fee of 3.5% of the investment above 30.000 euro.

³² (Energiehuis, n.d.)

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