Interreg Baltic Sea Region

Co-funded by the European Union

ENERGY TRANSITION RenoWave

Energy One-Stop-Shop

- A guide for energy efficiency in Home-Owned Multi-Apartment Buildings

Guideline for OSS service providers

All downloads can be found here under “Solutions”:

https://interreg-baltic.eu/project/RenoWave

Table of contents

The RenoWave project

The project RenoWave establishes cooperation among homeowners, construction companies, energy agencies, and public authorities to initiate more energy-efficient renovations in home-owned multi-apartment buildings (HOMABs).

The main result of the RenoWave project will be a One-Stop-Shop (OSS) extended model that includes traditional and additional OSS services to cover all necessities for implementing energy-efficiency measures in HOMABs.

Project partners:

1. County board of Dalarna (Sweden)
2. City of Lappeenranta (Finland)
3. Vidzeme Planning Region (Latvia)
4. Association of Communes and Cities of Małopolska Region (Poland)
5. Magistrate of the City Bremerhaven (Germany)
6. Baltic Environmental Forum Latvia (Latvia)
7. Housing Initiative for Eastern Europe (Germany)
8. Let’s renovate the city NGO (Lithuania)
9. Polish Foundation for Energy Efficiency (Poland)
10. North Sweden Energy Agency (Sweden)
11. Development Centre of Võru County (Estonia)

RenoWave implementation time: January 2023 – December 2025

About the guide

"If you act as a one-stop-shop, plan to launch or support a one-stop-shop service for energy efficiency, this guide is for you."

The guide includes recommendations for all necessary steps in increasing energy efficiency in building stock, focusing primary on home owned multi apartment buildings.

The technical assistance module gives recommendations for all necessary steps for an energy renovation project.

The guide has been extended with guidelines for:

- How to collect, analyse and set targets for the building stock.
- How to set up collaboration forums for stakeholders
- Communication and marketing strategies

The guide is primary designed for OSS targeting Home Owned Multi Apartment Buildings, but can be as relevant for other types of buildings.

This guide is intended for those who act or want to act as a One-Stop-Shop with services that support building owners in energy efficiency. It targets also policy makers in charge of implementing the Energy efficiency building directive. Residents of multi apartment buildings can also benefit from this guide.

Why energy efficiency?

The EU Renovation Wave strategy aims to accelerate deep renovation in the EU-27. Around 75% of the building stock in the EU is considered energy-inefficient according to current building standards and is in **urgent need of large-scale renovation**, according to "*A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives*," Brussels, 2020.

According to the same report, renovation not only helps to meet **climate and energy targets** but also improves **living standards** for the 15% of the EU population living with issues such as leaking roofs, damp walls or other forms of bad indoor climate, or the ones living in energy poverty. However, the current rate of renovation to improve the energy performance of buildings is only 1%, while the rate of deep renovation, which improves energy performance by at least 60%, is only 0.2%.

From an economic perspective, energy efficiency is one of the easiest ways to eliminate energy waste and lower energy costs. It is also one of the most cost-effective ways to reduce air pollution, help families meet their budgets, and help building owners to improve their economic situation. Energy expenses are a significant part of building operation. Lowering power peaks might also lower the costs for electricity.

Renovating a multi-apartment buildings to improve energy efficiency often increases its resale or rental value, providing a return on investment. Without renovation, the value of the building and its apartments decreases over time.

"Energy efficiency means using less energy to perform the same task."

What is a One-Stop-Shop?

A one-stop shop offers a multitude of products or services to its customers, all under one roof. A one-stop shop can refer to a single physical location or access through a single website.

Energy one-stop shops offer people access to a range of information, advice and support on home energy upgrades in one place without the need to visit many different institutions or service points.

The one-stop shop approach brings together expertise across multiple sectors. This results in consumer-focused services, with less duplication and fewer gaps in service provision.

"An Energy One-stop-shop (OSS), is a business or organization that provides all information and services needed to implement energy efficiency measures and projects. The OSS can be a specific physical location or a virtual one."

There are some obvious advantages to a one-stop shop for consumers as well as the organization operating them. Convenience for customers is a big one: not having to go to multiple actors to meet their needs, and services can be tailored to customer needs. From a business perspective, expanding the offerings of products and services can provide a steady revenue stream.

The downside of the one-stop shop may be that it is hard to be an expert on the same level as by professionals specialising in different fields.

Energy Performance Building Directive (EPBD)

The revised Energy Performance of Buildings Directive (EPBD) aim at achieving a fully-decarbonized building stock by 2050.

Zero-emission buildings

The revised Directive makes zero-emission buildings the new standard for new buildings. All new residential and non-residential buildings must have zero on-site emissions from fossil fuels, as of 1st January 2028 for publicly owned buildings and as of 1st January 2030 for all other new buildings, with a possibility for specific exemptions.

Fossil-free primary energy

Fossil fuels for heating should be phased out by 2040. 100% of the total annual primary energy use, in new buildings from 2030, will have to be covered by renewable energy generated on-site, nearby or from a renewable energy community, energy from an efficient district heating and cooling system, or energy from carbon-free sources.

Solar energy

New buildings should be made “solar ready” so that they can host rooftop photovoltaic or solar thermal installations. Solar installations should be fitted on large existing public buildings and existing non-residential buildings going through major renovations.

Minimum Energy Performance Standards

Each member state will adopt its own national trajectory to reduce the average primary energy use in residential buildings by 16% by 2030 and 20–22% by 2035.

The national measures will have to ensure that at least 55% of the decrease of the average primary energy use is achieved through the renovation of the worst-performing buildings. Member States are also required to establish a pathway to comply with lower maximum energy performance thresholds by 2040 and 2050 as part of their National Building Renovation Plans.

Energy Performance Certificates (EPCs)

The revision of the directive includes measures to make EPCs clearer, more reliable and visible. It also includes measures to base them on a common template across all 27 EU Member States with a number of

indicators on energy. Under the revised EPC, there will be a common A-G scale. The ‘A' rating will correspond to zero-emission buildings while the ‘G' rating corresponds to the very worst-performing buildings in each country, with the remaining buildings in the country distributed among the classes in between. The recast EPBD also includes common requirements to have national databases on the energy performance of buildings with access to those databases with publication of aggregated information. Building renovation passport schemes will also be introduced across all Member States to provide reliable and personalised renovation roadmaps to building owners planning a staged renovation of their building.

One-stop-shops for energy efficiency in buildings

Member States shall ensure the establishment of technical assistance facilities, including through inclusive one-stop-shops for energy efficiency in buildings, targeting all actors involved in building renovations, including homeowners, along with administrative, financial and economic actors, including microenterprises and SMEs. Member States shall ensure that the technical assistance facilities are equally available across their territory depending on population distribution by establishing at least one one-stop-shop per region and in any event per 45 000 inhabitants.

One-stop shops for energy efficiency in buildings shall be independent public entities, cross-sectorial and interdisciplinary and shall provide their service free of charge for the users.

“The OSS has a positive impact on the local economy, creating new jobs and developing local skills. By working with local construction companies and energy service providers, it strengthens local supply and service chains.”

Comparing Home-Owned Multi-Apartment Buildings in Baltic Sea Region (BSR)

The **technical condition** of the building stock in the different BSR countries vary. New buildings are generally more energy-efficient than older ones. Buildings from the 1950's, 60's and 70's are generally not that energy-efficient. For example, the buildings from the former Soviet Union era are typically in need of deep renovations, uniting Baltic States and Poland in the same challenge. In Sweden and Finland, the focus is on step-by-step renovations to improve energy efficiency further, but from a more energy-efficient starting point. Phasing out fossil energy sources is a challenge for all countries. Although in Sweden, hardly any fossil fuel is used for heating of buildings thanks to biomass, district heating and heat pumps.

In many cities, energy efficiency measures in historical buildings face extra challenges.

The **ownership and responsibilities** of the multiapartment buildings in the BSR vary a lot, creating different challenges that need to be considered when designing the support.

The situation in Sweden, Finland, Germany, and Poland is more similar and conditions are more supportive to facilitate energy investments. In the Baltic Countries, with no multiapartment houses owned by public organizations or private companies, there are no larger building owners that would pave the way for investments and services in energy efficiency. Lithuania and Latvia face a special challenge, having multi-family residential buildings with no formal associations to organize and take responsibility for the buildings.

In this guide term HOMABs is used for residential buildings with multi apartments that are owned by the residents of the apartments.

Home-**O**wned **M**ulti-**A**partment **B**uildings = "HOMABs"

Ownership of HOMABs

Sweden, Finland, Germany, and Poland have a mix of multi-apartment buildings owned by private companies, public organizations, and HOMABs. Estonia, Latvia, and Lithuania have a much larger share of home-owned multi-apartment buildings.

Legal ownership form for HOMABs

There are basically three different legal forms of ownership each with important variations.

1. In association-owned multi-apartment buildings, the building is owned by a homeowner association. Members of the association own the right to use the apartment in return for a fee. The users do not formally own the apartment, but own shares in the association.
2. In co-operative-owned multi-apartment buildings, the building is owned by a homeowner association, but members of the association rent their apartments from the association.
3. In condominiums, or "condos", the residents own their apartments. A homeowner association owns, sets rules, and takes care of the shared spaces. Residents are members of the association. There are also condominiums without an association for shared spaces. Homeowners then share the ownership of such areas in the buildings. Rules and responsibilities for homeowners are defined in law and decisions are taken jointly in democratic ways.

In Sweden almost all HOMABs are association-owned, but in Finland HOMABs are condominiums with an association. Poland has a mix of association-owned and condominiums with associations. In Germany and Estonia, all are condominiums that must have an association as a legal body to be responsible for shared spaces in the building. Also, in Latvia and Lithuania they are all condominiums, but there are no requirements for having an association. Residents own shares of common areas and functions of the building. Residents can jointly decide to contract a building management company for maintenance and different services.

Decision-making in HOMABs

Due to the difference in legal forms of ownership, the decision-making also varies between BSR countries when it comes to energy investments. In Finland, Germany, Estonia, Latvia, and Lithuania almost all decisions about investments need to be taken by all homeowners jointly, but it is enough when most residents favour the decision.

In all the cases when a legal association exists, one can also make its own decisions, at least smaller ones. Often, larger decisions go to a general assembly for discussions and decisions.

The contracting partner for energy investments

In cases where there is an association, it can sign a contract. If not, like in Lithuania and Latvia, a mandate to sign a contract can be given to a housing association or a person. But the actual invoice will have to be sent separately to all residents in the building. Of course, this is an extra challenge for making investments happen and it is of extra importance to have supporting institutions that act as a middle hand between HOMABs, construction companies, and credit institutions.

Payment for electricity and heat

In all countries, it is the apartment user/owner that has a contract with the electricity supplier and pays according to the actual use based on separate invoices, based on real measurements (meters).

How HOMABs pay for the heat varies. In Sweden, Finland, and Latvia there is one contract for the building and cost is then distributed to homeowners based on calculations. This is also mostly the case in Estonia. In Lithuania, homeowners have individual contracts with the heat supplier and the cost is distributed by calculations. In Germany, it is common to have more than one heating system in the same building.

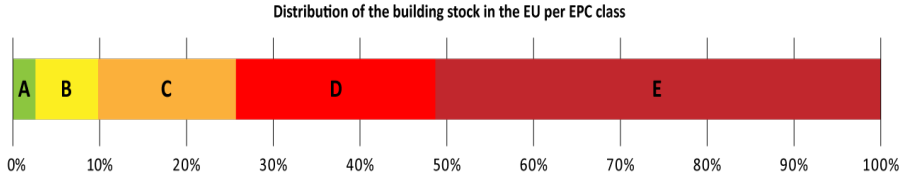
For heat, it is more challenging to establish economic incentives on an individual level since very few apartments pay according to their real use. At the same time, the incentive exists for the HOMAB association in the cases where the contract is signed by an association.

Characteristics of HOMABs as target group for energy efficiency:

- Generally, not as professionally managed as buildings owned by public organizations or private companies.
- Lacking the knowledge on energy efficiency that public and private organizations have access to.
- Usually have some legal form that lays down the rules and process of decision-making among residents.
- Residents will not “build capacity”: you won’t renovate so many homes in a lifetime.
- Decision making can often be a challenging process without natural coordination and with diverging interests.
- Home renovation can be a painful journey!

Energy use and climate emissions in buildings

In the EU, there is a huge energy efficiency (EE) potential in the residential multi-apartment building stock. Buildings are the single largest energy consumer in Europe. At present, about 35 % of the EU's buildings are over 50 years old. 85 % of EU buildings were built before 2000 and amongst those, 75% have a poor energy performance (according to Eurostat energy balances and EEA Greenhouse Gas Inventory, 2023). At the same time, only about 1 % of the building stock is renovated each year.



Energy use and climate emissions for buildings in the BSR

The final energy consumption for households corresponds to in average 25% of the total energy consumption; Sweden (19%), Finland (23%), Estonia (28%), Latvia (26%), Lithuania (28%), Poland (24%) and Germany (28%). The average energy use in multi-family buildings amounts to 180 kWh per square meter for heating, cooling and hot water in the same countries.

The variation in energy use is entirely dependent on whether the building has been energy renovated or not. Unrenovated buildings often have an energy use in the range of 150-300 kWh/m2, while renovated buildings can lower their energy use to under 100 kWh/m2.

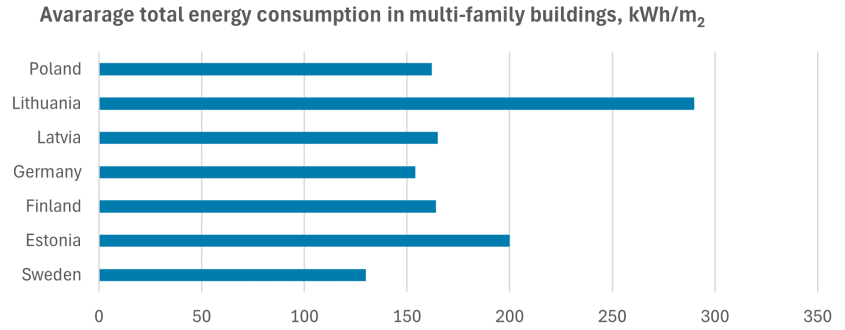


Figure 1 Average energy consumption for heating, cooling and hot water in BSR countries.

For households in general, most energy, 64%, is being used for heating. About 17 % of the energy is used for procuction of hot water. The rest of the energy is used for common areas and by households for cooking, lighting and electrical appliances. Except for in Germany, energy for cooling is still very marginal.

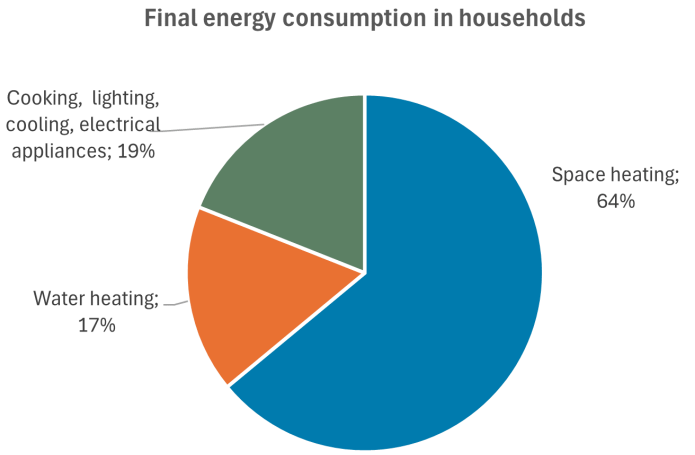


Figure 2 Energy distribution in households in Estonia, Latvia, Lithuania, Finland, Germany, Poland and Sweden. 2023. Source: Eurostat

The energy sources for heating and production of hot water vary a lot between countries in the BSR. In all countries district heating is a key energy source. In for example Sweden and Finland a bioenergy is the dominant energy source, while in for example Germany and Lithuania the main energy sources are fossil.

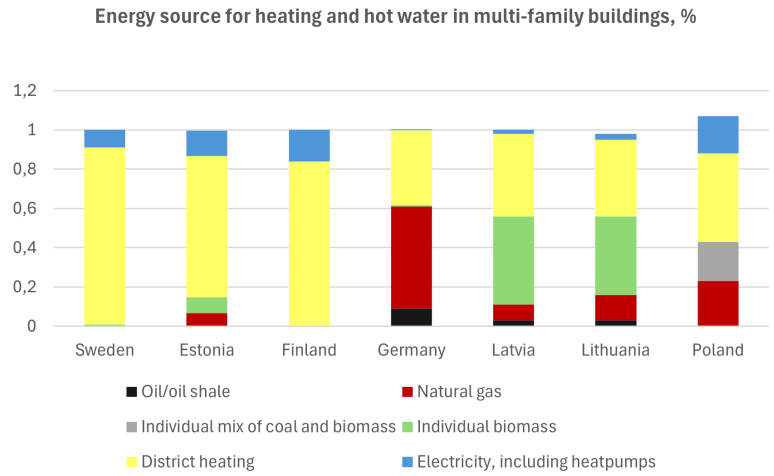
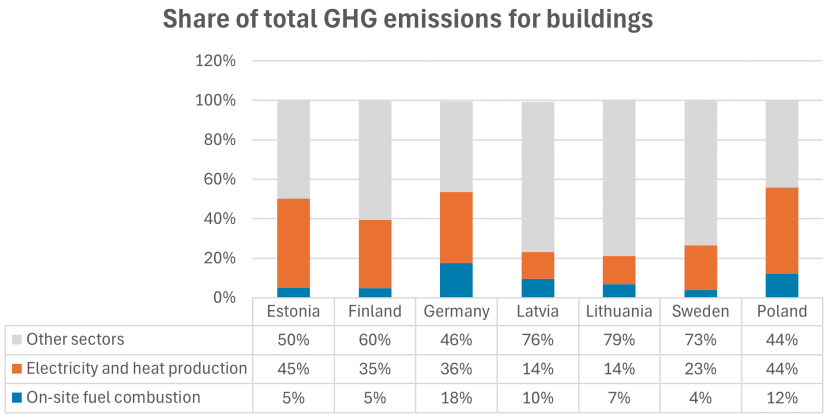


Figure 3 Energy source for heating and hot water in multi-family buildings, precent of total energy use.

Throughout the EU, 36 % of the EU's energy-related GHG emissions come from buildings. The greenhouse gas emissions caused by buildings is very much connected to the type of energy sources that are being used for heating and hot water. In countries with a high share of fossil fuel the GHG emissions from buildings correspond to nearly 50 % of the total emissions. In countries with high share of biofuel for district heating, the GHG emissions from buildings is less than 20 %.



	Estonia	Finland	Germany	Latvia	Lithuania	Sweden	Poland
Other sectors	50%	60%	46%	76%	79%	73%	44%
Electricity and heat production	45%	35%	36%	14%	14%	23%	44%
On-site fuel combustion	5%	5%	18%	10%	7%	4%	12%

Figure 4 Percent of total GHG emissions (excluding LULUCF and aviation/shipping) for buildings 2021. Except for on-site fuel combustion a share of emissions from electricity and heat production should be counted for buildings, but statistics on that share are missing. Source: European Environmental Agency

Climate impact from building material and construction

There is a conflict of interest between energy and climate targets that needs to be taken very seriously. Some energy efficiency measures, like a deep renovation, could actually have a larger climate impact than could be offset by the efficiency improvements, especially through the use of cement, steel and aluminum.

3 key areas to lower climate impact from energy renovations:

- **AVOID** the extraction and production of raw materials by utilizing a circular economy with reused buildings and recycled materials wherever feasible.
- **SHIFT** to regenerative material practices wherever possible by using low carbon earth- and bio-based building materials.
- **IMPROVE** reconstruction methods through goals, data handling, design and on-sight planning.

Overview of different levels of Energy OSS

The OSS structure is flexible and there are no clear definitions for the different levels. The different levels of OSS services mainly depend on the degree of responsibilities and how wide the scope of services is.

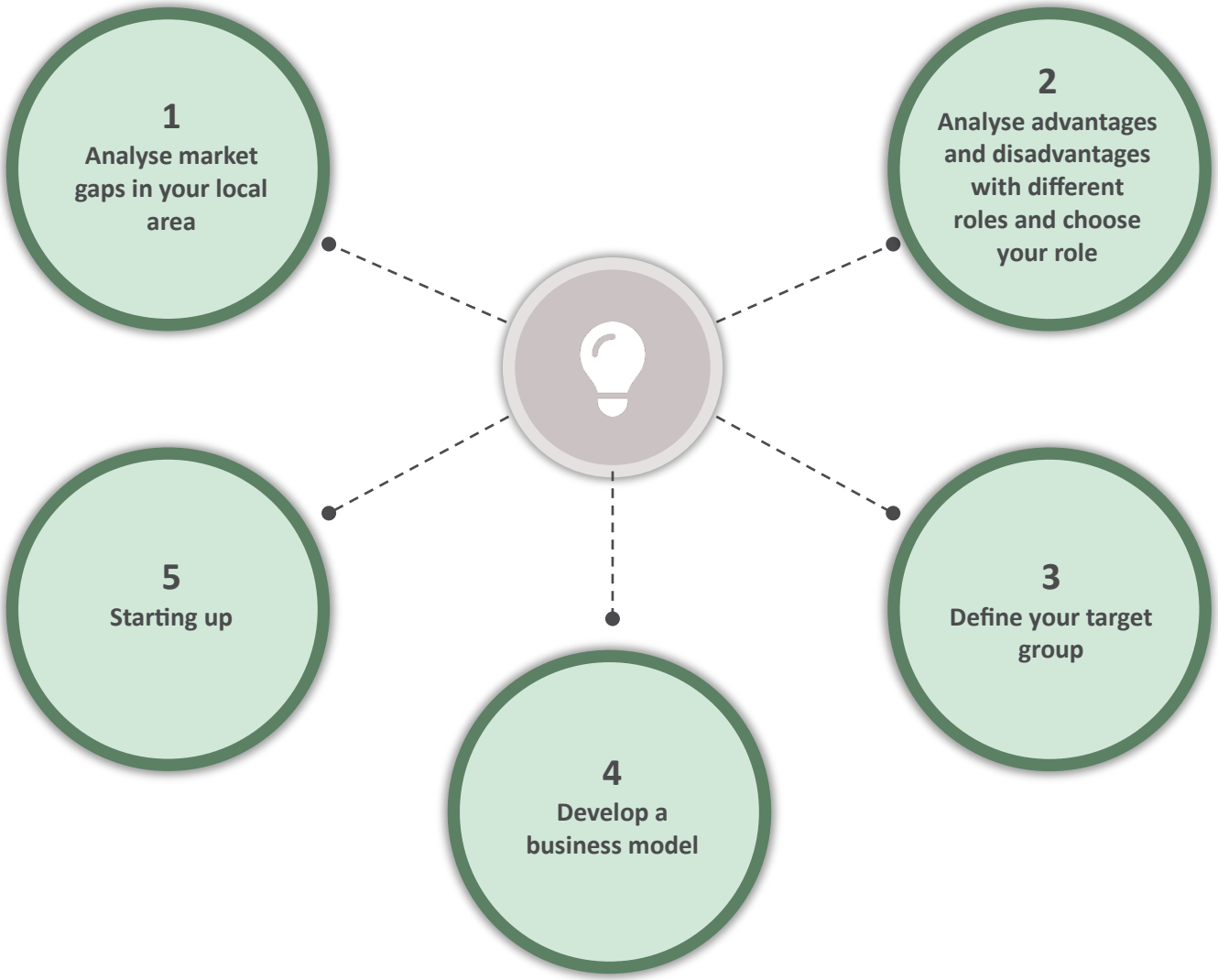
In principle, there are three different levels or models for OSS. The different models are conclusions from research by Milin and Bullier from European Commission.

	Advice model	Support model	Implementation model
Roles & responsibilities	▪ Raise awareness about energy renovations ▪ Detect target groups ▪ Provide general information ▪ Giving first advice	▪ Project design ▪ Responsible for the first part of the project ▪ Coordinate suppliers ▪ Overlooking the process	▪ Offer full renovation package/turnkey contract ▪ Bear responsibility for the renovation results and the overall project
Examples of OSS offers	▪ Advice ▪ List of suppliers ▪ Support in finding finance ▪ Cooperation	▪ Advice on how to implement energy efficiency measures and push suppliers to deliver as expected. ▪ Finding finance	▪ Project design ▪ Carry out and coordinate renovation work ▪ Guaranteed energy savings ▪ Finance solutions
Character	More of a public service than a business model.	A business model (beyond comfort zone for most public actors).	An all-inclusive business model.

There is both advantages and disadvantages with the different OSS models:

	Advice model	Support model	Implementation model
Advantages	▪ HOMABs get support free of charge, Interesting if only seeking first information ▪ OSS can more easy set up such model and it is less costly.	▪ HOMABs get direct access to all services, assistance with coordination and higher guarantee of good quality. ▪ OSS can establish longer relations, but take lower risks than implementation model.	▪ HOMABs can sign one single contract or at least a lot less actors to coordinate. Ensures quality, energy savings and follow-up. ▪ OSS gets complete control over the process. Larger economic scale and easier to attract loans when bigger investment volumes.
Disadvantages	▪ HOMABs have to manage more on their own, e g suppliers, contracts and work coordination. ▪ OSS has harder to reach ambitious level of renovations and it is harder to reach all HOMABs.	▪ HOMABs have to manage more contracts, find finance and might not have guarantee on energy savings and quality. ▪ OSS gets more actors to coordinate and might be less attractive than OSS with implementation model	▪ HOMABs have to pay extra for this service ▪ OSS needs to put in more resources. Competing with market players force the OSS to charge fees for the service.

Recommendations for setting up an OSS and deciding on business model



1 Analysing market gaps

The very first step is to carry out a detailed analysis to understand the market in your area and its gaps. This analysis should give you answers to questions like:

- **What kind of residential buildings do I have on my territory and what are the needs for energy efficiency and renovations?**
  Are buildings in general in need of deep renovations or step-by-step further improvements? What is the technical status of the buildings?

- **What type of homeowners lives in these buildings?**
  Is it low-medium-high income profile of residents? Nationalities and language barriers? Are the residents in general older or younger? Approach, key messages, and the level of support should be targeted to each group.

- **How much knowledge do the homeowners have on energy?**
  Do you already know the knowledge level, or can you find out in other ways? If the knowledge level is probably low, more resources can be expected to be needed for information and decision making.

- **Are there national programs for energy efficiency in residential buildings and do they offer technical and/or financial support?**
  National programs can define how the support needs to be set up.

- **Deep renovation vs single measures:**
  Deep renovations generate larger projects to a larger cost, which is an advantage if the OSS is dependant on revenues from fees charged to clients as a % of the total renovation. At the same time, it is easier to reach a decision about step-by-step renovations.

1
Analyse market gaps in your local area

- **What support do homeowners need?**
  Is there a need to audit potential energy measures or do building owners in general already know what actions to take but need support in implementing them? Is there a need to find and coordinate service suppliers? Do they also need financial support?

- **What market actors are active in your area?**
  What kinds of service supplier already operate in the area? Are there already some one-stop-shops? Is there an energy agency that has an active role? What type of enterprises operate in this area?

- **What added value could be offered?**
  Bureaucracy for application procedures for renovation projects can be reduced, offering a single place where residents can file applications and at the same time receiving support to avoid mistakes.
  An OSS can overview energy efficiency programmes, tracking how many buildings have been upgraded, what energy savings have been achieved and what benefits these measures have brought to the local community.

If the market is mature enough, meaning that homeowners are keen to renovate and the private companies are present and ready to offer a one-stop-shop service (which is rather unlikely), you should just support and promote in a fair and inclusive way the existing private actors' activities.

However, if the market is immature and fragmented, you may decide to set up your own one-stop-shop that will stimulate the market and motivate private companies to enter it.

2 Analysing your role

Choose the business model and a legal structure that matches best with your local context, the maturity of the market, your ambition as well as experience, in conjunction with available financial and human resources.

In general, the more mature the market, the less intervention is needed from the public sector as the private sector is ready to get involved.

Where markets are immature, local authorities will target Advice and Support models. Without public subsidies, the private sector will hardly get involved in these models. They are also relevant in cases where the local authority does not want to intervene and compete with the private sector.

When it comes to choosing the legal status, local authorities have several options at hand. Before you create a brand-new entity, double check whether one of the existing structures could take up this mission.

Public in-house one-stop-shop

A one-stop-shop can be integrated in the city administration as part of a public authority.

Advantages:

- By working closely with local authorities, the model can rely on strong political support which can speed up the decision-making and implementation process.
- Having full control over the OSS activities, allowing it to respond more quickly to emerging challenges and adapt activities to local needs.
- Easier to apply for funding to set up an OSS, which can cover part of the initial costs.
- Easier for the OSS to influence local policy.

Drawbacks:

- The model may be less dynamic and flexible, which may affect its effectiveness.
- It may be more difficult to recruit suitable staff.
- The OSS is heavily dependent on annual budget.
- OSS may be less accessible to potential users.
- This type of OSS is not suitable for the ESCO (Energy Service Company) model, which requires a different approach to energy management.
- The OSS will not be the main focus for the organization.

Public one-stop-shop entities

A one-stop-shop can be a local or regional energy agency or another public structure, in the legal form of a company.

Advantages:

- The external model is more dynamic and flexible, allowing it to work faster and more efficiently.
- It may be quicker to set up an OSS in this form, especially if existing structures or agencies are used.
- The OSS has an independent budget, which increases its financial flexibility and the possibility of implementing projects.
- The creation of an external OSS can send a strong political signal about the authorities' commitment to improving energy efficiency and support for local initiatives.

Drawbacks:

- Less control over the activities of the external OSS, which can make it difficult to monitor its activities and influence operational decisions.

Conclusion:

The choice of organisational and legal model depends on the specific needs and capabilities of the local authority. An analysis of the advantages and drawbacks of both models will help make an informed decision on the most appropriate solution for a given region or city.

A one-Stop-Shop model can prove itself contributing to a more efficient use of resources, reduced administrative costs, and an increased public involvement in building energy efficiency issues.

Public-private-entities

An OSS can have the legal form of being a public company, but being financed by private capital. It may include companies, foundations or associations.

Advantages:

- More independent of public budget.
- By engaging the private sector, the model can benefit from additional funding and expertise.
- Public-private cooperation allows for the sharing of project risks, which increases financial security.
- Such partnerships send a strong political signal, demonstrating the authorities' commitment to energy efficiency development and cooperation with the private sector.

Drawbacks:

- The process of establishing such partnerships can be time-consuming and costly, due to the need to negotiate and agree on the terms of the cooperation.
- Managing a public-private entity requires a high level of competence and experience.

Private entities

An OSS can operate as a private company with private financial resources. It can be financed partly by public money, through public procurement or franchising.

Advantages:

- Own financial resources and expertise, and independent of public budget.
- Less risk for the public actors.
- Private entities often operate more dynamically and flexibly.

Drawbacks:

- No direct control of the OSS from the public side.
- “Betting on one horse”: The selection of a single private partner carries the risk of being dependent on the financial and operational health of the private partner.
- Private entities may be more susceptible to budget fluctuations, which may affect the continuity of project implementation.

Benefits for entrepreneurs

✓ **Increased competitiveness**
Companies operating under an OSS gain a competitive market advantage. By offering a comprehensive range of services, they are able to attract more customers and better tailor the offer to the needs of the market, which increases the company's attractiveness

✓ **Scalability and flexibility of operations**
The OSS model enables easier scalability and flexibility of operations. Companies can respond quickly to changing market needs and it is easier to introduce new services or expand into new markets.

✓ **Synergy and innovation**
Operating under the OSS model fosters synergies and innovation. Working with different partners and integrating different services in one place fosters the exchange of knowledge and experience which leads to creating innovative solutions.

✓ **Strengthening relationships with partners**
The OSS model supports the building of strong and lasting relationships with business partners. As a result, companies operating under the OSS model can rely on the support and involvement of partners in the implementation of joint projects.

3 Defining target group

The OSS need to define which client segments to address. The same OSS can support energy efficiency in several different segments, e g industry, premises and residential buildings. Among residential buildings there are several segments, such as single-family houses, rental multi-apartment buildings (privately or publicly owned) and home-owned multi-apartment buildings, HOMABs.

Regardless of what kind of operations that the OSS will target, the same general basic services need to be offered. Having an overview of the companies and buildings in the segment, running information and marketing campaigns, offering energy audits, and producing plans for energy renovations, etc. However, the tools and services adopted need to be for the actual target group.

Having industries as the target group calls for deeper and more complex knowledge, including on industrial processes. On the other hand, the willingness to pay for services that helps to lower the costs for energy are higher since the energy use is higher.

Having premises as a target group, for example office buildings, sport arenas and shops, also calls for special knowledge on the different building types. Energy saving potential can be high and therefore the willingness to pay for services can also be high.

Residential building owners are the largest target group in quantity. The professionalism is not as high in building management, and the willingness to pay for energy services is often lower. However, at the same time, it is common with public programmes to support energy efficiency.

There are four main different kind of HOMABs in the Baltic Sea area in terms of legal status with different challenges in terms of attracting them as clients to the OSS:

Association-owned multi-apartment building and Cooperative owned multi -apartment building

In both cases there is an association with a board that has the legal right to take decisions for the whole building. It makes it much easier to reach decisions about investments. The fact that buildings formally are jointly owned makes it easier to find finance for investments, making risks for financial institutions lower.

Condominium multi-apartment building with association

An association with a board has the legal right to take decisions for the whole building. It makes it much easier to reach decisions about investments.

Condominium multi-apartment building without association

In this case there is a challenge with multi-stakeholder decisions. There is also more challenge in finding finance for investments where every homeowner has to be approved for loans.

4 Developing a business model

To develop a viable business model, a business model canvas is useful:

Customer segments

Who will be the clients?

One-stop-shop key activities

What will be the activities that will be offered to HOMABs?

Key partners

What are the key partners of the OSS and how will they contribute?

Value propositions

What benefits do you offer to the selected market segments, and how does it differ from other offers already available For example, focusing on financial support, focusing on technical support, or both.

Cost structure

What are the most important and most expensive costs? E.g. fixed costs for office & administration, training, marketing.

Revenue streams

Are the clients going to pay for the services? If yes, how much and how? What other revenues can you expect?

Key resources

What key resources (physical, human, financial, intellectual, IT-support, energy experts, web, etc) does the OSS require?

Customer relationship & channels

What cost-efficient and suitable channels are best to reach customers? Examples include: One-to-one meetings, information sessions and events, written communication (social media, web, newsletter, advertising), key partners.

The role of other actors

There are several other actors that can have key roles in providing support for energy efficiency.

Actors	Role
Architechts and Engineers	▪ Simplified diagnosis and recommendations ▪ Project design ▪ Quotation and financing plan ▪ Quality assurance
Craftspeople and Installers **Technology solution providers**	▪ Simplified diagnosis and recommendations ▪ Renovation work
Banks	▪ Financial solutions
Energy utilities	▪ Communication ▪ Technology solutions ▪ Statistics and follow-ups
HOMAB umbrella associations	▪ Building stock data ▪ Marketing and communications ▪ Stakeholder forums ▪ Group procurements ▪ Energy technical assistance
Public authorities and **Energy agencies**	▪ Overview and detection ▪ Marketing and communication ▪ Simplified diagnosis and recommendations

5 Starting up – Advice along the way

Once the planning and organisation phase is complete, the implementation of the OSS can begin. This includes the start-up of operations, featuring technical infrastructure and customer service offices. It is crucial to monitor progress and make the necessary adjustments to ensure the effectiveness of the OSS.

A project coordinator should be appointed to oversee the implementation of the OSS. Operational procedures and quality standards should be established.

Build a network

Work together with local authorities, entrepreneurs, building companies, energy service providers, and banks to build a solid network of partnerships.

It can take time

Attracting homeowners to renovate their building can take time.

Start small – scale up

Avoid a situation with too high fixed costs in relation to sales volume.

Become an expert and have problem-solving skills

Train yourself to become a real expert. An OSS should have proven competence in providing services from planning to implementation. Experience in solving problems that occur along the project is key.

Finding local suppliers with the right quality

Finding local suppliers that meet your quality can take time, and training might be needed. Building relations and partnership together takes time.

Build trust and stay neutral

The OSS must inspire confidence among the target group, investors and others. The OSS can build trust by proving good results.

Building relationships with customers is extremely important. Open and proactive communication with customers helps to build trust and increase customer satisfaction. Stay neutral and independent of technical solution suppliers and services required for the project.

An online platform is needed

To present services and help HOMABs to take decision on the next step, an online platform is essential.

Marketing!

Find your communication channels and build on trust!

Build and keep relationships with authorities

If you are a private OSS there might be possible to get subsidies from local or regional authorities for establishing the OSS. If you are a public OSS, the interaction with local and regional authorities can be used as a great advantage for setting the image of a “neutral” actor. In both cases authorities can support with marketing, actions and policy.

Consider alternative revenue sources

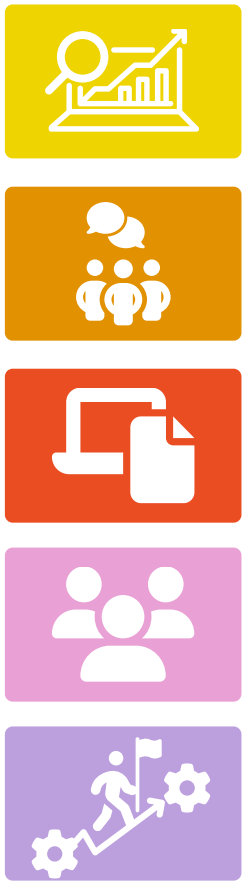
Sourcing alternative revenues from different services helps the OSS to be more economic stable and less vulnerable.

Monitor and evaluate

Regularly monitor the effectiveness of OSS activities and make the necessary adjustments to adapt to changing customer needs and expectations.

Elements of an OSS

The different elements that need to be part of an OSS to cover the full scale of needs:



Overview and detection

Marketing and communication

Training

Collaboration forums

Technical assistance

Overview and detection

Data and knowledge about building stock. Knowledge of HOMAB's energy performance and target group.

Marketing and communication

Awareness-raising marketing and communication. Collecting and promoting good examples. Promotion of services offered by others.

Training

Training for target group. Knowledge transfer. Promotion in a physical office or shop.

Collaboration forums

Organize collaboration forums for HOMABs.

Technical assistance

- Simplified diagnosis and recommendations by support for preliminary self-assessment and providing simplified diagnoses based on standardised typologies and calculations.
- Auditing and project design including recommending relevant energy-saving measures, building inspections and energy auditing, energy passports, etc.
- Having an overview of quality suppliers, support contracting, trainings of suppliers.
- General advice on financing options, support in addressing grants, making financial plan for investments.
- Providing financing solutions.
- Carry out renovation work.
- Worksite coordination and supervision, quality inspection
- Quality assurance guarantees and follow-up. Provide maintenance.

Overview of the building stock, setting targets and detecting target groups

Access to reliable building data is key to improving building stock. It enables informed decisions on energy efficiency, renovation and sustainability. With details on building type and energy use, decision-makers can set targets to improve building stock. Good data supports the identification of buildings with poor energy performance, enabling targeted improvements that reduce emissions and operational costs. The revised EPBD aims to improve data availability through national building databases, digital building logbooks and better energy performance certificates.

Target setting is an important part of every policy of coordinated action since it offers a way to measure and monitor the effectiveness of the action. For buildings, target setting also enables more coherent policy planning. The importance of setting targets from the building stock has also been highlighted by the recast of the Energy Performance of Buildings Directive.

A good overview and knowledge of the building stock in the OSS operation area is the starting point for being able to detect and reach prioritsed target groups. The priority can be based on for example buildings with high energy consumption, building owners with high motivation, specially building types or buildings that lack EPC.

Downloads: Find the complete guide for data handling and energy efficiency target setting on the last page of this guide.

OVERVIEW AND DETECTION

Finding data on the building stock

Define relevant data

The first step is the initial definition of the kind of data that might be relevant for the assessment of the building stock energy performance and for detecting the target group. The list will in most cases be a "wish-list" since a lot of the data can be hard to find.

- Number of buildings
- Number of HOMABs
- Building area (m^2)
- Building living area (m^2)
- Year of construction
- Number of floors
- Type of HVAC systems used in buildings
- Homeownership rate (%)
- Building ownership structure
- Primary energy source
- Usable energy (kWh/m^2)
- Electricity production energy source
- Final energy consumption of the building stock (kWh/m^2/year for hot water and space heating.
- Existent energy class of building [Letter]
- CO_2 emissions of the building stock [tonnes]
- Solar gain (kWh/m^2)

Finding data

The next step is to find out what data sources exist and what data that can be collected from those data sources. Below are some experiences and recommendations from the RenoWave pilots:

- It is relevant to find out whether anyone can access the data or if it is accessible only for a specific type of actors.
- It is also important to address the geographical area at which data is available, from which sources it comes, and how reliable or up-to-date the information is.
- Reflect the local context and additional data sources. Consult the National Statistical Office website, and check out sources like the national building register, EPC database, Eurostat, EU Building Stock Observatory, etc. to identify what data about buildings is collected. It is useful to check what kind of data is offered by commercial sources and if the same can be accessed through public institutions:
  - Pay attention to the unique building data collected for the context you are operating in.
  - Explore indicators in national, regional, or local policies and if they are available.

Fortunately, in the future access to the data will be simplified, as the member states will be obliged by EPBD to set up a national database for the energy performance of buildings which allows data to be gathered on individual buildings and on the overall national building stock.

Some of the obligatory indicators in EPBD:

- Number of buildings and total floor area (m^2)
  - per building type (including public buildings and social housing)
  - per energy performance class
  - nearly zero-energy buildings
  - worst-performing (including a definition)
- Number of energy performance certificates (EPC)
- Annual renovation rates: number and total floor area (m^2)
- Primary and final annual energy consumption (ktoe)
- Energy savings (ktoe)
- Share of renewable energy in the building sector (MWh installed or GWh generated)
- Annual operational greenhouse gas emissions ($kgCO_2eq/(m^2.y)$)

- Annual operational greenhouse gas emission reduction ($kgCO_2eq/(m^2.y)$)
- Market barriers and failures (description)
- Energy poverty (definition)
- Primary energy factors
- Annual renovation rates: number and total floor area (m^2)

Some optional indicators in EPBD:
- Reduction in energy costs (EUR) per household (average)
- Annual life-cycle Global Warming Potential ($kgCO_2eq/(m^2.y)$) in new buildings

Partners in RenoWave project have developed national roadmaps for its data sources, its availability, and how to collect the data from these sources.

Once you have identified the relevant data sources and assessed their availability, you can map what is missing and suggest how to replace the missing data.

Setting targets

To set energy and climate targets for the building stock facilitates coordinated and ambitious actions. Realistic goals will provide information about what effect expected actions will have. They also provide ways to measure and monitor the effectiveness of the actions. Targets can be set for local, regional and national level.

Setting targets for the building stock is of greatest interest for public OSS actors in coordination with local or regional policy. In the new EPBD it is an obligation to set national targets for 2030, 2040 and 2050.

Methodologies on how to set energy efficiency (EE) targets for the whole residential building stock as well as individual buildings has been piloted in the RenoWave project.

Indicators

It is good to have ambitious targets, but they have to be realistic. Define the indicators that will be used for the target setting, for example:
- Final Energy Consumption of the building stock
- EPC class of the building
- Usable Energy
- Primary Energy Use
- CO_2 emissions from the use of buildings
- Energy renovation rate

Additionally, it makes sense to evaluate some of the indicators per m^2 to have a better understanding of the energy efficiency and to be able to compare. EPC classes may be compared as a share of the building stock having a certain energy class.

Obligatory indicators in EPBD

The new EPBD require targets for the worst-performing building stock and will measure it through primary energy use. Identifying this part of the building stock to focus on first is therefore important.

Some of the obligatory indicators are:
- Targets for annual renovation rates: number and total floor area (m^2) – per building type and worst-performing,
- Targets for expected primary and final annual energy consumption (ktoe) – per building type and per end use
- Expected energy savings – per building type
- Targets for the increase of the share of renewable energy
- Numerical targets for the deployment of solar energy in the building
- Targets for expected greenhouse gas emissions ($kgCO_2eq/(m^2.y)$)
- Targets for expected greenhouse gas emission reduction (%)
- Expected wider benefits; percentage reduction of people affected by energy poverty

Benchmarking in the Baltic Sea Region

The purpose of benchmarking is to enable a simplified comparison to get an overview of the energy performance of the building stock in relation to others. Benchmarking is also relevant for individual buildings, to compare energy performance and make estimations on potential savings.

For benchmarking of building stocks in the Baltic Sea Region, the following indicators are proposed:

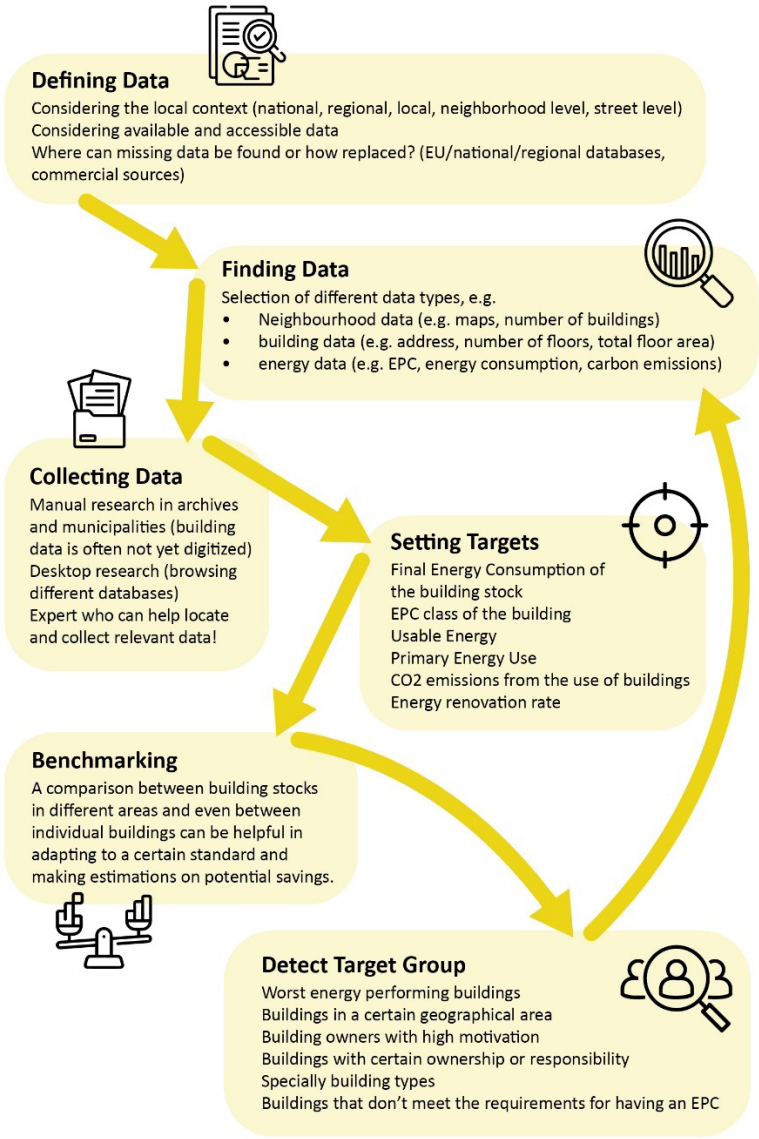
- Primary energy use (kWh/m², year)
- Annual renovation rates: number and total floor area (m²)
- Final Energy Consumption (kWh/m², year)
- EPC classes of the building stock (New EPBD will make the EPC classes more harmonised across the member states)

Detect target group

An OSS needs to find the right target group to approach with its offer. Having good knowledge of the building stock is a necessary starting point. What buildings to target can be defined based on different factors:

- **Worst energy performing buildings**
  - A main category to reach energy targets
- **Buildings in a certain geographical area**
  - The OSS can operate in one municipality or other area
- **Building owners with high motivation**
  - Supporting motivated homeowners is always more easy
- **Buildings with certain ownership or responsibility**
  - The OSS can cooperate with Homeowner umbrella associations.
- **Specially building types**
  - There can be special programmes or projects focusing on solutions for particular types of buildings
- **Buildings that don't meet the requirements for having an EPC**
  - Offering EPCs for those can be a door-opener.

Step-by-step



BEST PRACTICE EXAMPLE

Dalarna region analyses and set targets for the whole building stock

The region of Dalarna in Sweden has produced a roadmap for an energy efficient and low-emission building stock. Available data sources were mapped. A data code was developed so that data from the national real estate register could be combined with the database of Energy Performance Certificates (EPC). As a result, a list was made of all HOMABs in the region and their size together with energy data from reported EPC.

In the next step, a deep analysis of the energy data was made together with Dalarna university. 37 % of the residential buildings are multi-family homes, most of them built in 1960-1980 of high quality. 32 % of the multi-family homes are owned by the residents (HOMABs). The rest is rented apartments from municipalities or private companies. Only 17 % of the HOMABs has an energy efficiency equal to the requirements for new buildings. The rest has one or two energy classes below that.

Based on a dialogue with experiences building managers and experts, a conclusion was made that it is possible to renovate multi-family buildings to reach a primary energy consumption of 100 kWh per square meter heated area, without having to do deep renovation. Rough overview of the energy efficiency potential of possible measures:

<table>
<tr><td>Exchange of thermostats/ valves + optimization of heating system</td><td>Efficient water taps and nozzles</td><td>Optimisation of ventilation systems</td><td>Facade insulation</td></tr>
<tr><td></td><td></td><td></td><td>Doors</td></tr>
</table>

The problem with deep renovation is that it comes with a high cost that will not be paid back by the reduction in energy costs. Many of the deep renovation measures also generate greater climate impact than the proposed savings.

The energy efficiency potential was analysed together with the requirements in the updated Energy Performance Building Directive, concluding that the goals in the directive would be met if almost the full potential was realised. Calculations were also made on how much CO_2-emissions would be saved.

Concrete regional energy targets were set for the whole building stock. For multi-family homes the target is to reach under 100 kWh per square meter heated area in primary energy consumption before 2030. For most buildings in Dalarna that has district heating it means the requirement not to use more than 150 kWh per square meter in real energy consumption. For buildings with heat pumps, it means not to use more than 58 kWh per square meter in real consumption. A campaign was launched under the title:

“Under 100!”

The roadmap also includes concrete actions that needs to be taken to reach the targets. They cover low climate impact from the building and renovation process, increased knowledge and cooperation among the building sector, more efficient use of existing buildings and smart energy systems.

The roadmap including the targets for the buildings stock was adopted by a high-level regional energy and climate policy board under presidency of the county governor.

Developing the roadmap has been a part of piloting the data handling methodology in the RenoWave project.

BEST PRACTICE EXAMPLE

Interactive Digital Technical Assessment Tool in Lithuania

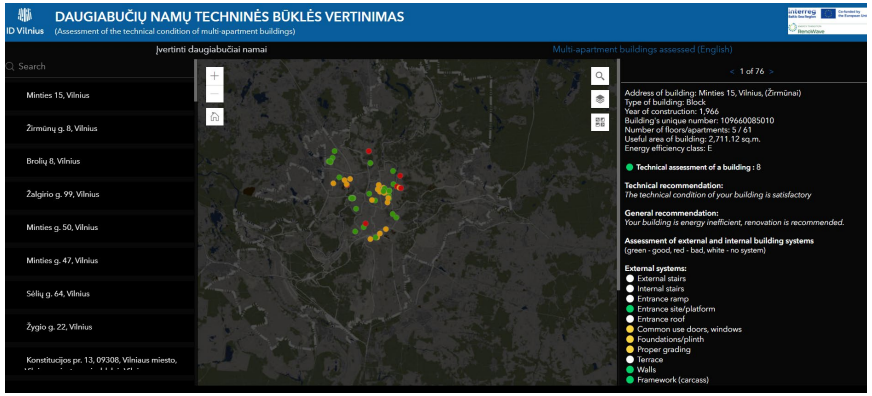
An interactive GIS platform-based digital tool which has been developed by **Atnaujinkime miestą** (Amiestas) is used to foster the renovation of multi-apartment buildings via providing actual information about the overall technical state of a building and the technical state of every specific engineering system such as foundation, walls, heating, etc.

The tool also replaces the paperwork for facility management companies providing annual/seasonal technical assessment reports in digital shape, therefore these companies can easily identify defects/faults, make photos and generate reports.

The repository of data collected from the actual technical assessment of each multi-apartment building is visualised by uploading the actual data to a geo information system (GIS) platform and developing an interactive map.

An interactive technical assessment map for multi-apartment buildings can be accessed via: **LINK**.

Each building is evaluated based on its technical condition and assigned a score ranging from 1 to 10, along with a corresponding colour classification (red, yellow, or green). A comprehensive overview of the technical state of all buildings across the city is visually represented on a map. By selecting a specific building, users can access detailed technical assessments, assigned scores, colour classifications, and corresponding reports.



Benefits of the digital technical assessment tool:

- Streamlines the organization and digitalization of data on multi-apartment buildings requiring renovation, categorizing them through a traffic light system based on urgency.
- Provides continuous updates to residents about their building's condition, increasing awareness and encouraging proactive renovation decisions.
- Enhances the efficiency of OSS operations by improving data accessibility, decision-making, and communication with residents.

BEST PRACTICE EXAMPLE

Live Energy Efficiency Map of Võru County, Estonia

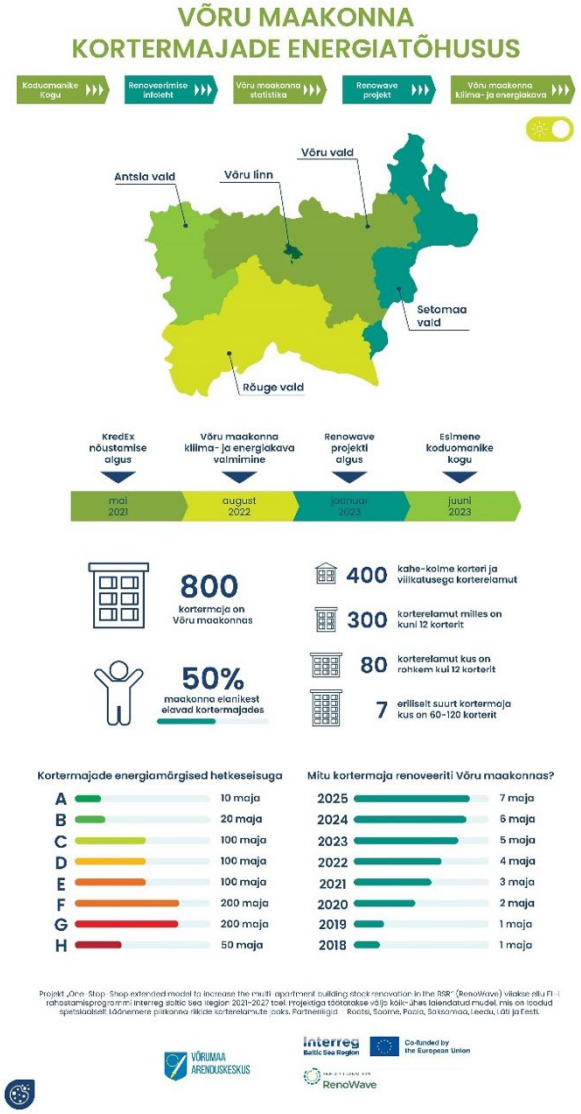
Without clear data on which buildings are most energy-inefficient or where renovation has already happened, decision-makers cannot easily prioritise actions. Homeowner associations lack motivation, and financial or technical support is harder to target effectively. This lack of visibility slows down the entire renovation process. To solve this, the live energy map was developed as part of the RenoWave project to provide a real-time, visual overview of energy performance and renovation activity at the municipal level, empowering stakeholders to plan and act with confidence.

Why This Dashboard Matters

- **Local Relevance**: Focused on Võru County, the map highlights the energy performance of HOMABs by municipality, such as in Rõuge, giving stakeholders actionable geographic insights.
- **Interactive and Visual**: Unlike static reports, the map is dynamic and user-friendly, offering key performance indicators (KPIs) like energy class distribution, renovation rates over time, and apartment stock breakdowns.
- **Automated, Real-Time Data**: The tool is directly connected to the Estonian Building Registry via an API. Data updates automatically. This ensures the map always reflects the most current building information available, reducing human error and administrative burdens.
- **Engagement**: The visual dashboard helps non-experts understand renovation needs.

What's Innovative About It

- **Operationalising Strategy:** The tool turns strategies and plans into practice by visualising renovation progress in real time. It supports coordinated action and helps municipalities identify priority areas.
- **Part of the One-Stop-Shop Model:** The tool provides transparent baseline data and continuous tracking, empowering actors to align their renovation initiatives.



Conclusion

The live energy map isn't just a data dashboard—it's a powerful coordination and engagement tool for accelerating HOMAB renovations. By automatically integrating national registry data and visualising progress in a user-friendly format, it supports the mission of advancing energy efficiency.

Communication strategies and marketing materials to raise awareness

The establishment of One-Stop-Shops (OSS) for multi-apartment building renovation requires a well-structured marketing and communication approach to effectively engage homeowners, decision-makers, and key stakeholders. Given the complexity of the renovation process—spanning consideration, planning, financing, and implementation—clear, strategic communication is essential to ensure that potential users understand the benefits and navigate the process with confidence. The RenoWave project recognizes that many homeowners lack the knowledge, motivation, or financial clarity to initiate renovations A targeted marketing strategy helps address these concerns by offering tailored messages, problem-based solutions, and accessible information channels.

A successful OSS must not only provide technical and financial support but also foster trust and long-term relationships with its clients. The marketing module ensures that OSS services are positioned as reliable, transparent, and beneficial for both individual homeowners and the broader community. By applying customer-oriented and problem-based marketing strategies, the module helps to identify key target groups, craft relevant messaging, and select appropriate communication channels. It emphasizes the importance of building credibility through educational content, real-life renovation success stories, and interactive engagement, such as community events and direct consultations.

The OSS Marketing and Communication module includes:
1. Communication and Marketing Strategy
2. Evaluation
3. General Advice Material

Downloads: Find the complete Marketing strategy guide and General Advice material on the last page of this guide.

MARKETING AND COMMUNICATION

Communication and Marketing Strategies

A successful OSS must focus on customer needs, offering tailored solutions and clear communication. **Customer-oriented marketing** builds trust and long-term relationships, while **problem-based marketing** directly addresses homeowners' concerns about costs, decision-making, and renovation processes.

Market Segmentation

The first step for understanding OSS clients and tailoring our marketing efforts is marketing segmentation, which is crucial because it enables us to understand the OSS audience on a deeper level and tailor our marketing efforts accordingly. The main types of market segments are **demographic**, **geographical**, **psychographic**, and **behavioural segmentation**. Considering these four marketing segments and the aspects they contain, create a profile for a one-stop user.

Advice #1 Profile your OSS client

Considering these four marketing segments and the aspects they contain, create a profile for a one-stop user:

1. Who would have the greatest interest in OSS service?
2. Who would be more challenging to reach, but we should do that?

Target groups

There is a need to pay attention to two types of target groups:

1. **Type of buildings and their ownership.**

- Association-owned multi-apartment building
- Cooperative-owned multi-apartment building
- Condominium multi-apartment building with an association
- Condominium multi-apartment building without an association

2. **The decision-makers and other target audiences that should know about the OSS services**

Advice #2 If you're trying to speak to everyone, you're speaking to no one.

Marketing and Communication Goals

Once we have a better understanding of our target groups, a goal needs to be defined for what the OSS organization wants to achieve. A successful OSS marketing and communication strategy should aim to:

Increase brand awareness: Ensure homeowners and stakeholders recognise OSS as a trusted service provider.

Boost engagement and participation: Encourage more homeowners to seek consultations and use OSS services.

Enhance trust and credibility: Provide clear, transparent information to reduce scepticism and encourage decision-making.

Facilitate informed decision-making: Equip homeowners with the necessary knowledge to initiate renovation projects.

Content and messaging strategy

A communication and messaging strategy is essential to a successful marketing strategy. This strategy involves identifying key messaging points and selecting the best communication channels to reach the target group.

The key message should be clear and concise statements that effectively respond to the problems of the target group.

Different communication channels may be more effective for various audiences, so choosing channels most likely to reach and engage with our target audience is essential.

Implementing effective campaigns will help us to create long-term relationships with OSS clients and build trust and loyalty by providing value and addressing the needs and concerns of the target group.

Examples of communication channels:

- Informative flyers in residents' mailboxes
- Social media
- Building managers
- Events & public hearings
- Local media – TV, newspapers
- Direct marketing – knock on the door

Implementing effective campaigns

1. Set your campaign goals and budget.
2. Be clear on your target audience and decide on the best channels to reach your target group.
3. Brainstorm campaign concepts.
4. Detail your distribution strategy to gain awareness and credibility
5. Creating compelling and valuable content.
6. Create an estimate of how long each process should take
7. Create a shared campaign calendar with activities to help everyone to stay on track.
8. Start to execute your marketing campaign.
9. Monitor campaign metrics and success.

Advice #3 Focus on clear goals, compelling content, and continuous feedback to ensure long-term success and meaningful impact.

Evaluating Campaign Success

Evaluating a communication campaign is essential for understanding its effectiveness in achieving set goals. Clear, measurable objectives help determine success by assessing whether the campaign reached the target audience, delivered key messages, and influenced perceptions or behaviours.

During the evaluation, compare planned and actual results using both **quantitative** (e.g., website traffic, social media engagement, OSS client growth) and **qualitative** (e.g., audience feedback, content relevance) indicators. Gathering feedback helps refine strategies and improve future campaigns.

Key evaluation criteria include defining objectives, tracking KPIs, analysing audience engagement, assessing customer satisfaction, and measuring long-term impact. A structured post-campaign analysis identifies successes and areas for improvement, ensuring more effective marketing efforts in the future.

BEST PRACTICE EXAMPLE

Marketing and communication Material "Shape Your House For A Better Future"

Aimed at active tenants, owners, board members, or building managers, it provides key arguments for building renovation; focusing on improving the technical condition, reducing energy consumption, enhancing indoor climate, and increasing property value. Advice material offers eight themes with practical strategies and arguments to help persuade others about the necessity of renovation.

1. Your House is About to Retire – Will You Take Care of It?
Buildings, like any structure, deteriorate over time. Without proper maintenance and renovation, their structural integrity declines, leading to higher energy consumption, safety risks, and reduced comfort. The first step in ensuring a sustainable future for your home is evaluating its current condition. Assessing insulation, energy performance, and structural wear and tear can provide valuable insights into necessary improvements. A well-maintained building not only ensures safety but also retains its market value and reduces overall energy costs in the long run.

2. Home Sweet Home – Is It Really So Sweet?
Many people take their homes for granted, assuming they provide sufficient comfort and safety. However, inadequate maintenance can lead to a poor indoor environment, resulting in health hazards such as mould growth, high humidity, and cold draught. Poorly maintained buildings can also pose structural risks, increasing the likelihood of emergency repairs that are costly and inconvenient. Addressing these issues through energy-efficient renovations improves both the safety and well-being of residents while reducing long-term costs.

3. Home is Not Only a Place – It Also Creates Feelings and Wellbeing
A home is more than just a shelter, it is a space that affects mental and physical health. A well-insulated, properly ventilated home ensures a comfortable indoor climate, reducing the risks of respiratory issues and allergies. Energy-efficient renovations help maintain optimal indoor temperatures, preventing overheating in summer and excessive cold in winter. A healthier indoor climate translates into increased productivity, better sleep quality, and improved overall well-being for residents of all ages.

4. Will Renovating the Building Pay Off in the Long Run?
One of the most common concerns about renovation projects is their financial feasibility. While initial renovation costs may seem high, they are an investment that pays off through reduced energy bills, increased property value, and lower maintenance expenses. Energy-efficient buildings require less heating and cooling, leading to significant cost savings over time. Additionally, many governments and local agencies offer financial incentives, grants, and low-interest loans to encourage renovation projects, making them more affordable and accessible.

5. How to Communicate with Those Who Resist Renovation?
Convincing homeowners and tenants to support renovation projects can be challenging, especially when they are sceptical about costs and benefits. Effective communication strategies involve presenting clear facts, real-life examples, and financial projections that illustrate the long-term advantages of renovation. Addressing concerns with transparency and engaging the community in decision-making processes fosters trust and increases the likelihood of successful project implementation. It is also essential to highlight non-financial benefits, such as improved comfort and better indoor air quality.

6. The Neighbourhood Approach in Building Renovation
Renovating multiple buildings within the same neighbourhood can lead to significant cost savings and efficiency improvements. By adopting a collective approach, homeowners can benefit from bulk purchasing discounts, streamlined administrative processes, and shared technical expertise. Community-wide renovations also contribute to a more attractive and sustainable living environment, increasing property values and strengthening social ties among residents. Coordinating renovation efforts with neighbouring buildings fosters a sense of shared responsibility and long-term commitment to energy efficiency.

7. Even One Person Can Achieve a Lot!
While large-scale renovations require community-wide support, individuals can still make meaningful contributions to energy efficiency. Simple actions such as sealing window gaps, using energy-efficient lighting, and optimising heating systems can lead to significant reductions in energy consumption. Small behavioural changes, such as adjusting thermostats and ventilating rooms properly, also enhance indoor comfort and sustainability. These small efforts, when adopted collectively, can create a substantial positive impact on a building's energy performance.

8. A Sustainable House – A Sustainable World!
Building renovations are not only beneficial on an individual level but also contribute to broader environmental goals. Energy-efficient homes reduce carbon emissions, decrease reliance on fossil fuels, and promote the use of renewable energy sources. Sustainable renovations involve using eco-friendly materials, incorporating green technologies, and minimising waste generation. By investing in sustainable buildings, homeowners and communities play a vital role in combating climate change and ensuring a healthier environment for future generations.

The decision to renovate a building is an investment in a better future!

Where to Download? The Shape Your House for a Better Future material is available for download at: http://www.interreg-baltic.eu/project/RenoWave.

Train the target group and actors involved in the OSS'

Marketing and communication campaigns will increase the awareness about the possibility in taking actions on energy efficiency. Campaigns will raise interest and create ideas on actions to take and it will increase the motivation to be involved.

The next step is increased knowledge. To go from being informed, to reaching insights and being able to see the pathway for further steps. This will be done by deeper information and training.

In most cases there is a lot of existing general information about energy efficiency and switching to renewable energy sources. Sometimes it can almost be experienced as an overload of information. The owner of HOMABs need to find their way through the jungle and find what's relevant for him or her.

The OSS role is to adopt and provide relevant information material for the target group as part of training the target group.

The target group for training activities can be both HOMABs, but also other stakeholders involved in the OSS network contributing to reaching the end target group. Training activities can also be focused on municipalities with the purpose to convince them to organize OSS services.

Downloads: Find the complete training guide and link to best practice on the last page of this guide.

TRAININGS

Training programmes

organising targeted training as part of knowledge management ensures that key players—such as municipalities, property managers, entrepreneurs, and residents—are equipped with the skills and information necessary to drive energy-efficient solutions.

Training equips stakeholders with the tools and insights necessary to effectively contribute to and benefit from the One-Stop-Shop framework. By fostering understanding and collaboration, these training programmes ensure successful adoption and execution of energy retrofitting projects, benefiting communities and the environment alike

How to Organise Successful Training?

Organising effective training sessions requires careful planning and a strategic approach. Here's how to ensure your training is impactful and reaches the right audience:

Step 1: Select the Right Topics
Different stakeholder groups have different interests and needs. Choose topics that are relevant and engaging for your target audience.

- Residents may need to understand the basics of energy efficiency and how they can benefit from better energy management.
- Building managers might be more interested in advanced strategies for optimising energy use in multi-family housing.

Step 2: Optimise the Training Format
The structure of your training sessions plays a crucial role in their effectiveness. Consider:

- Formats: Interactive workshops, on-site demonstrations, and virtual training sessions can accommodate different learning preferences and schedules.
- Trainers: Ensure your trainers have the right expertise. For example, HOMABs building managers will benefit from sessions led by OSS practitioners, building energy consultants, financial advisors, and regulatory experts with experience in multi-family housing.
- Methods: Combine theory with hands-on learning to keep participants engaged and facilitate knowledge retention.

Step 3: Maximize Outreach and Engagement
To ensure strong participation, focus on targeted promotion and partnerships:

- Collaborate with relevant organisations – for instance, partner with local authorities' associations when training municipalities to enhance credibility and reach.
- Tailor your messaging – highlight specific benefits, such as cost savings, regulatory compliance, and environmental impact to make the training more appealing.
- Use multiple communication channels – leverage social media, newsletters, and industry events to spread the word.

By carefully selecting topics, optimising the training approach, and strategically promoting your sessions, you can create impactful training programmes that drive real results.

BEST PRACTICE EXAMPLE

Training for Municipalities on Energy Efficiency in Małopolska Region, Poland

The Association of Municipalities of the Małopolska Region organized a series of open webinars for municipalities focused on energy efficiency (EE) management.

Step 1: Selecting the Right Topics
The aim was to provide comprehensive information about the One-Stop Shop (OSS) concept and practical guidance on how municipalities can establish such an initiative. Based on this goal, four webinars (each lasting approximately one hour) were conducted, covering the following topics:

- One-Stop Shop – How to Support Thermal Modernisation
- One-Stop Shop – Meeting Modern Requirements in Thermal Modernisation
- One-Stop Shop – Comprehensive Services in One Place
- Can the One-Stop Shop Concept Support Holistic Thermal Modernisation?

Step 2: Optimising the Training Format
To make the training format more accessible and effective, the following structure was adopted:

- Each session took the form of a one-hour webinar, making it easier for participants from remote areas to attend.
- Two experts were invited for each webinar: one specialised in energy efficiency management (often a journalist who also moderated the discussion) and the other an energy auditor or service provider, who shared real-life experiences.
- The sessions combined expert presentations with interactive discussions to engage participants and encourage knowledge sharing.

Step 3: Maximising Outreach and Engagement
To further increase the impact of the training, a dedicated guideline for municipalities was developed as a complementary resource. It covered:

- A holistic approach to energy efficiency management in multi-family buildings (HOMABs)
- Key steps in the journey towards achieving satisfactory energy efficiency
- How municipalities can support HOMABs in this process
- The OSS concept, including its various forms, available services, and benefits
- Legal and organizational frameworks for establishing OSS at the municipal level
- European best practices in municipal OSS implementation

The guideline was published in digital format and distributed free of charge to all training participants. Along with it, a recording of each webinar was also shared, allowing participants to revisit the content at any time.

Results
Across the four webinars, a total of **945 participants** were reached:

- Webinar 1: 294 participants
- Webinar 2: 306 participants
- Webinar 3: 194 participants
- Webinar 4: 151 participants

Arranging collaboration forums for the target group

The aim is to facilitate cooperation between homeowners and relevant stakeholders. It can be a rewarding meeting place, especially when the members plan and implement similar energy measures and investments in renewable energy.

Regional or local authorities, NGOs, energy agencies, other sectorial agencies, private enterprises and other appropriate organisations can participate in forum activities.

The forum provides a platform for sharing information, engaging discussions and exchanging good practices, experiences, and expertise among its members. The forum offers participants a comprehensive and fruitful platform for enhancing energy efficiency in buildings. Increased know-how will be ensured by inviting experts, authorities, energy companies and service providers to inform and promote existing best practices and solutions.

Members participate in the forum activities voluntary, and the forum has no official or legal status.

The forum can have a physical place to promote energy efficiency solutions.

Downloads: Find the complete guide for establishing collaboration forums, including country specific aspects, on the last page of this guide.

COLLABORATION FORUMS

Collaboration forums

Step 0 – Decide purpose of forums

- Agree on main purpose of the forum and to select appropriate leadership.
- Map and learn from already existing forums/forum models.
- Invite relevant stakeholders for cooperation in establishing forums.

Step 1 – Find target group

- Clarify how HOMABs and board members can join the collaboration forum. Find out if contact information to HOMABs can be found in any data source and not in conflict with GDPR.
- Advertise the upcoming forum establishment on for example mail, web, social media, event calendars, newsletters and by participating in relevant events related to the idea of collaboration forum.
- Connect relevant local stakeholders: energy experts, service providers, cities, municipalities, authorities, associations, building managers, energy companies, organisations promoting energy and climate issues etc.

Step 2 – Plan forum event

- Ensure that the first forum event will have enough participants.
- Consider forming sub-groups based on technical details (e.g. year of construction, building area, primary energy source, final energy consumption etc.) or interest areas (e.g. geographical location, building management, water consumption, waste disposal, outdoor areas, green and attractive surroundings, economy, energy poverty).
- Consider how to gather confirmation about participation before the event, if needed.
- Decide if the event will be organised as a physical meeting, hybrid, or digital.

Step 3 – The first meeting

- Have all participants to introduce themselves and their role.
- Make a summary of each participant's background and interests regarding energy efficiency, including own experiences, know-how, current plans and energy targets.
- Discuss and support participants in defining targets and how to achieve them.

An initial questionnaire can be used to gain better knowledge about the participants and to help define targets:

1. Contact information.
2. Basic information about buildings.
3. Total number of apartments and m^2.
4. Description of the building and relevant details with own words.
5. Description of current plans for renovations and energy efficiency.
6. Good (or bad) practices and examples.
7. Wishes for coming activities in the forum.

Example of agenda for the first meeting:

1. Introduction to the forum.
2. The idea with the forum. General information on energy efficiency.
3. Introduction of participants.
4. Expectations and wishes. Current status of HOMABs buildings.
5. Presentation(s) by energy experts(s).
6. Schedule next meeting.

Agree if it is needed with meeting memos and recording of digital/hybrid meetings. If so, who will be responsible and how will they be shared.

Step 4 – Continued activities

Agree how to continue with collaboration forum activities, for example:

1. Convener of the next meeting.
2. Meeting frequency.
3. Suitable time of day for meetings, etc.

4. Coming topics and presenters/experts.
5. Online or face-to-face meetings.
6. Communication and advertising.
7. The sharing of presented material.
8. Exact time for the next event.
9. How costs for forum activities will be covered.

Challenges and how to overcome them

Finding the "right" people (decision makers of HOMABs) to join the forum activities and to get more active members to join the forum.

Advertise the upcoming forum event for stakeholders on websites, social media channels, event calendars, newsletters and during other relevant events where you can meet potential participants to join forum activities. Also be prepared for a lot of "manual work" to find members for the forum.

Finding experts/service providers to make presentations

Expand the network, for example, by participating in other events where you will meet experts.

To ensure that forum stays lively and active that inspires participation

Invite "good (or bad) examples and good practices", e.g. cases with energy efficient renovations or other innovative measures with concrete results. Find out if implementation of joint energy efficiency measures together with other forum members according to the "group procurement" model is of interest.

The idea and forum activities of a collaboration forum.

BEST PRACTICE EXAMPLE

Municipal forum in Małopolska region

Małopolska Collaboration Forum in Poland share knowledge, exchange experience, and disseminate best practices on improving energy efficiency of buildings. The forum is organised by Association of Municipalities of Małopolska Region in cooperation with the OSS Renovation Hub. In its first year the forum reached out to homeowners and building managers. Its goal is to support thermal modernisation and renovation of multi-family buildings.

The forum has held regular in-person or hybrid meetings where representatives of companies, institutions, organisations, and local governments can collaborate, exchange experiences, and discuss best practices related to energy efficiency and building renovation.

A new initiative targeting municipalities, mojarenowacja.pl, promote thermal modernisation of single-family homes, multi-family buildings, and public utility structures within municipalities. The forum has by that shifted from a macro – regional - scale to a micro – municipal – level.

Key actions that enhance the platform's effectiveness and support:

- Organising regular live or online meetings where municipalities can discuss common challenges and solutions.
- Establishing partnerships with companies and research institutes.
- Conducting training and workshops for residents.
- Hosting regular online events showcasing innovative solutions.
- Preparing guides and instructional videos.
- Documenting successful projects along with analyses of results.
- Providing information on available funding sources.

By participating in mojarenowacja.pl municipalities receive comprehensive support in carrying out thermal modernisation projects.

BEST PRACTICE EXAMPLE

Forum for HOMABs in Võru, Estonia

Since 2023, county-level collaboration forums for apartment associations (HOMABs) have been piloted in Estonia, starting with an event organised by Võrumaa Development Centre. Each forum has attracted 20–30 participants—mainly apartment owners and active board members of housing associations.

The meetings focus on sharing practical experiences, understanding renovation steps, and discussing legal, technical, and funding-related topics. Participants have especially appreciated hearing real-life case studies and tips from peers.

To get participants to join the forum requires effort. Participation has been steady, but successful outreach depends on diverse and persistent communication channels.

Key lessons for organisers:

- Collaborate locally: Engage county development centres and KredEx/EIS-funded consultants for structure and content.
- Use many channels: Local papers, Facebook, and even supermarket screen ads help reach the audience.
- Offer hybrid access: While in-person events work well initially, hybrid formats help reach those with limited mobility or time.

The forums have sparked genuine interest—participants value the chance to learn and connect with others in similar situations.

Provide technical assistance

To provide technical assistance in implementing actual energy measures is a core activity for OSS.

The different parts of the technical assistance are:

- Simplified diagnosis and recommendations
- Counselling and auditing
- Project design
- Selection of suppliers
- Financing plan
- Financing solutions
- Renovation work
- Worksite coordination and supervision
- Quality assurance, guarantees, and follow-up

Downloads: Find all the complete guides on the last page of this guide:

- Guide for Extended EPC
- Guide for Prefabricated solutions
- Guide for group procurement
- Guide for Neighbourhood concept
- Guide for Prosumerism
- Guide to Map and assess solution providers

+ links to best practise examples.

TECHNICAL ASSISTANCE

Simplified diagnosis and recommendations

To support HOMABs in getting a **first diagnosis** of the building, energy saving potential and **recommendations on how to move forward** is core service for all levels of OSS.

The **advice** needed for HOMABs to take a first decision can be:

- Technical advice: Condition of building, renovation need and possible energy efficiency measures
- Economic advice: The cost of renovation and potential energy savings
- Financial advice: How the investments could be financed.

To make a **first assessment** of energy use, saving potential and possibilities, the HOMAB should be supported in how to make a first preliminary self-assessment.it can be a paper-based questionnaire or a web-based tool where they fill in information and data about the status of the building and energy use. This can be followed by a tailored assessment in a face-to-face meeting to evaluate and identify possible action points.

The OSS can also provide **simplified diagnosis**, based on standardised typologies and calculations.

It is important to be aware of that simplified diagnosis methods with low quality can be counterproductive. If a HOMAB make an assessment and find out that there is very little energy efficiency potential (based on a misleading tool), it will be harder to convince the HOMAB to give it a second chance.

After assessment, the next step for the OSS is to give advice and recommend the next step for the HOMAB.

Good examples

FIRST ADVICE SERVICE

- **Municipal climate and energy advisors, Sweden** Link
  A national programme with free, commercially independent service in municipalities with individual counselling, site visits, lectures on energy efficiency and climate issues. Supported from national platform with lots of energy advice material.
- **Regional energy agency, Riga, Latvia** Link
  A public agency with information point about energy saving, heating systems and municipal support programmes. Advice on how to implement energy efficiency in multi-family buildings
- **Regional energy advisory services supported by national public company, Lappeenranta, Finland** Link
  Neutral energy advisory services for citizens, municipalities and enterprises provided by city of Lappeenranta. Supported by the public company Motiva, providing support to energy experts in municipalities and private companies.

PHYSICAL ENERGY ADVICE PLACES

- **Municipal Energy Centre, City Hall of Katowice, Poland** Link
  A public information point about energy saving, replacement of (coal) heating systems and municipal support programmes. Learn how various installations work, air quality solutions, and energy efficiency

WEB FOR ENERGY ADVICE SERVICE

- **National Board of Housing, Building and Planning, Sweden** Link
  Extensive recommendations of energy efficiency measures for buildings by Boverket.

SELF ASSESMENT TOOLS

- **Co2online, Germany**
  Digital self-assessment tools, e.g. which modernisation measures make sense for my building.

Counselling and auditing

An OSS needs to be able to give direct **in-depth technical advice** and/or recommendations how to get access to deeper technical advice. Advice can be provided by energy counselling, by different kind of digital **knowledge platforms** and by energy service providers. If there is a digital platform for collecting and handling data about the technical conditions of buildings, this can be useful for the start of designing a project.

To set up an energy efficiency project there is a need to start with a thorough **building inspection** to find out the condition of the building and possible energy measures. The building inspections should be carried out by an independent expert. Inspections can include **thermal photography.**

A complete and high-quality **energy audit** that covers all energy use as well as renewable energy needs to be done to find all possible energy measures and to calculate them. The audit should recommend relevant energy saving measures, technologies and materials. CO_2 emissions from measures should also be calculated in a climate calculator for building renovations. If several HOMABs plan auditing at the same time, the OSS can organize a group procurement with one larger contract.

An extended **Energy Performance Certificate, EPC**, are equal to an energy audit in quality. The EPC can be developed further to an **Energy Renovation passport**, with a step-by-step plan to implement the proposed energy measures.

Based on knowledge from the building inspection and the energy audit a **long-term energy renovation plan with targets** can be developed. The plan can be to aim for deep renovation or for step-by-step renovation. It is recommended to combine a long-term energy renovation plan with other maintenance measures into an overall building **managing plan**.

The planned action will then be included in a project plan.

Good examples

BUILDING INSPECTIONS AND ENERGY AUDITING

- **Checklists for content in energy audits, Finland** Link
  Instructions for content in energy audits provided by national public company Motiva

IN-DEPTH KNOWLEDGE PLATFORMS AND GUIDANCE

- **BeBo, National energy agency, Sweden** Link
  A step-by-step guide in energy renovations of multi-family buildings, by BeBo national stakeholder forum.
- **Calculating specific technology solutions, Poland** Link
  E.g. Insulation thickness calculator.
- **Non-profit advisory service in Bremerhaven, Germany Link**
  Bremerhaven Modernisieren is providing planning, finding and contracting service providers, financing and funding advisory services to homeowners of old buildings for single refurbishment measures or deep retrofit.

IN-DEPTH TECHNICAL ADVICE

- **Energiekonsens, state of Bremen, Germany** Link
  Marketing and information on climate protection and energy efficiency in state of Bremen. Consultations on heating, insulation, solar energy, and modernisation. Information and networking events. Klimabauzentrum = information shop.
- **Beks Energieeffizienz GmbH, Germany** Link
  In-depth consultation and modernisation planning, project management for institutions, municipalities and companies

LONG-TERM ENERGY RENOVATION PLAN

- **Energy services and planning by HOMAB umbrella organization, HSB, Sweden Link**
  An association with HOMAB associations as members, providing full OSS service, including to produce long-term renovation plans with both energy and other maintaining measures.

An extended EPC as an important tool

An improved model for Energy Performance Certificates, EPCs, can support HOMABs to take decision on energy efficiency measures. Experience shows that HOMABs receiving an improved EPC with clear measures to achieve a higher energy class, along with a roadmap for implementation, are more likely to take energy efficiency actions.

The use of EPC differs between countries. The content and design of an EPC report needs to be adopted to national context and traditions. This guide therefore gives good examples of different elements of an EPC, rather than proposing a template to fit all.

Problems that need to be addressed

Even in member states with requirements for HOMABs to have an EPC, many lack it, and HOMABs often do not experience that they create added value. The quality of EPCs vary due to different competences among certifiers and due to the fact that HOMABs have a tendency of wanting to pay as little as possible for an EPC, just to meet legal requirements. The HOMAB often doesn't get a clear view of the potential in reaching higher energy class, provided with a single document, without a clear plan how to implement the full renovation journey.

Motives for HOMABs to have a high-quality EPC

Arguments for a HOMAB to have a high-quality EPC:

- More concrete information on how to reduce energy consumption and energy costs.
- Easier to understand.
- Ensure compliance with legal requirements.
- Serve as a solid basis when negotiating terms with banks.
- Meet criteria to be eligible for funding.

Supporting a HOMAB to order an EPC

The OSS should offer support to HOMABs in the procurement of an EPC, both the administrative part and to set quality requirements. Except for general building data, the following should be included:

- All bought and owned produced energy presented by source, per year and month. Share of renewables.
- All energy use measured or calculated and distributed to different energy entities: heating, cooling, mechanical ventilation, lighting, pumping, tap hot water, and other.
- Graphs how the energy sources are distributed to different entities.
- Energy unit price for each energy source.
- Assessment of building condition and indoor climate.
- If obligations for ventilation and cooling inspection have been met.
- National energy performance requirements
- Total energy performance for the building in terms of real energy use and primary energy use per m^2, including what energy class it corresponds to, and CO_2 emissions
- Possible energy measures presented with calculations:
  - Description of measures tailored to the customers knowledge.
  - Estimation of investment cost.
  - Calculation of energy cost and CO_2 energy savings. Payback time and internal rate of return.
  - A description of added values, where applicable.
- Reference values with other similar buildings.
- Recommendations of what measures to implement and in what order. Bundling of measures along with an illustration of the measures' impact on the buildings' energy class.

In practice this means that in most cases, an extended EPC may be equal to or deliver similar information as an energy audit. An extended EPC report will most likely have more pages than a traditional EPC, meaning also that the cost will be higher.

Presenting EPC in an easily understandable way

Presenting the information in a way that homeowners find easy to understand is critical to make value of the content.

<u>Do's (Good Practices)</u>

Use Clear and Simple Language

- Explain technical terms in plain language (e.g., "heat loss" instead of "thermal transmittance coefficient").
- Use analogies where helpful (e.g., "Improving insulation is like wearing a winter coat—it keeps the warmth inside").

Visualize the Data

- Use charts, graphs, and colour-coding to highlight key points.
- Energy efficiency classes (A-G) should be clearly marked using colour scales similar to energy labels on appliances.
- Provide before/after pictures of similar renovation projects.

Focus on Financial and Comfort Benefits

- Show potential cost savings per year in € or % (e.g., "You could save up to €500 per year on heating").
- Highlight the impact on comfort, health, and property value (e.g., "Fewer draughts, no mould, increased apartment value").

Compare "Current vs. Planned" Scenarios

- Show side-by-side comparisons of energy consumption, costs, and efficiency ratings.
- Use real examples or case studies of similar buildings that have undergone renovation.

Provide Clear Next Steps

- Outline a step-by-step process for HOMABs, including funding options, available support, and deadlines.

<u>Don'ts (What to Avoid)</u>

Avoid Overloading with Technical Data

- Too many formulas, equations, or complex energy efficiency terms without explanations.
- Excessive tables with too much raw data.

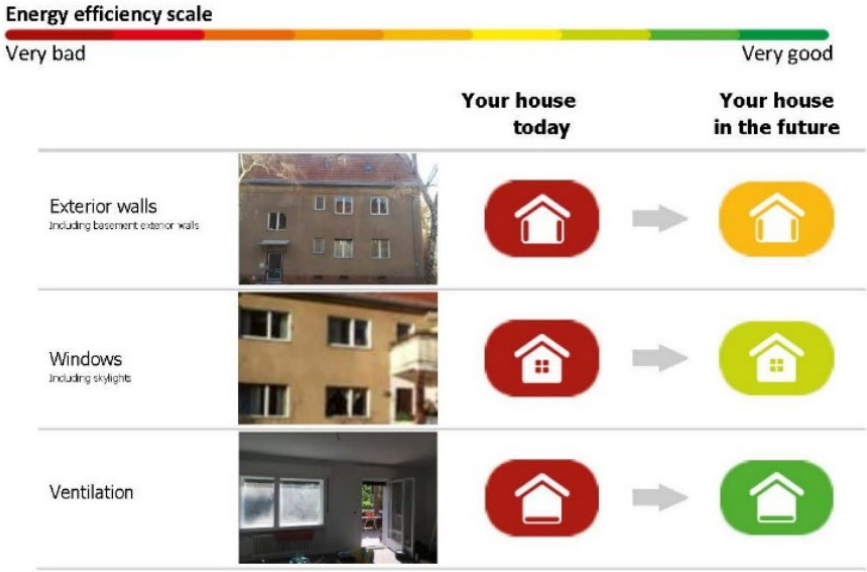
Don't Make It All About the Numbers

- Focusing solely on energy savings without explaining why it matters for HOMABs.
- Instead of just listing "Savings: 15%," add context like "This means €300 less on heating per year".

Don't Use Confusing or Unclear Visuals

- Avoid small, cluttered graphs with unreadable labels.

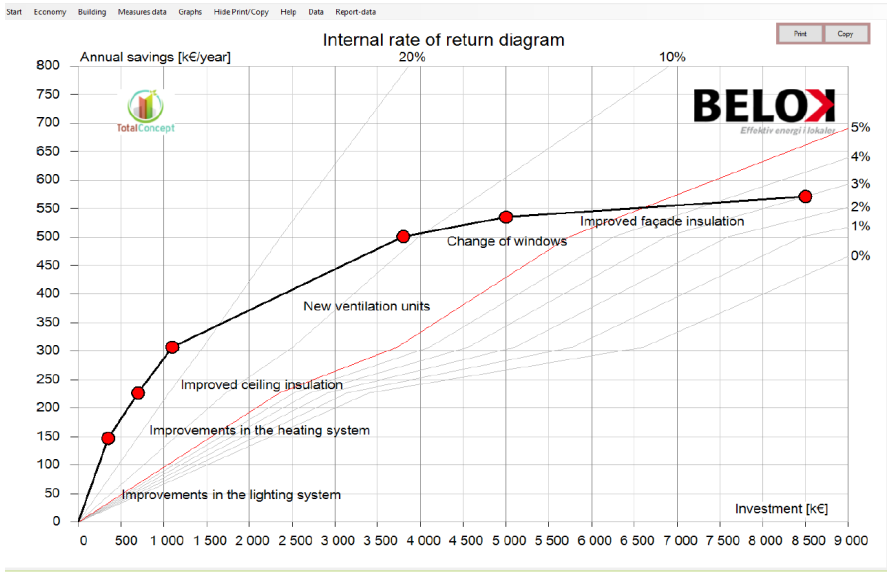
An example how an overview of measures can be presented in an easy understandable way.



Presenting measures as bundled packages

When decision-makers evaluate individual measures, there is a risk that only the most profitable ones will be prioritised, while many measures that could enhance energy efficiency may be overlooked. This risk is mitigated by using the Total Concept Method. The method combines measures into a cohesive package. The most economically viable measures support less profitable ones, enabling the entire package to meet the property owner's profitability requirements. By adopting a package-based approach instead of assessing individual measures separately, actions that would have been unprofitable on their own can be included, contributing to greater overall energy efficiency.

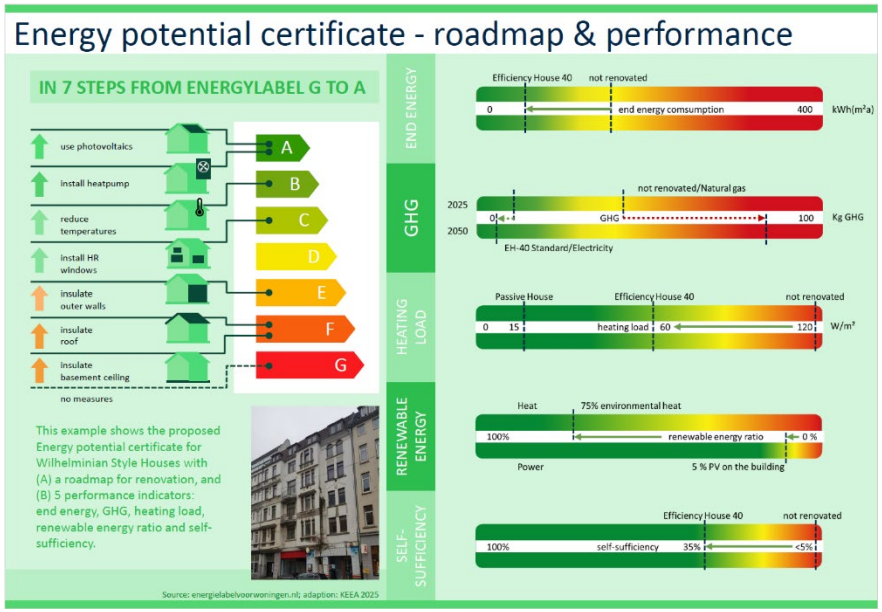
This example illustrates measures with different profitability (internal rate of return) and what a package with all the proposed measures bundled as one package will deliver as internal rate of return.



Presenting existing and potential energy class

To present this in a pedagogic way for the building owners gives opportunities to benchmark and set goals for energy efficiency.

An example of how to present existing and potential energy classes has been developed by Magistrat der Stadt Bremerhaven in the RenoWave project for Jugendstil style multi-apartment buildings.



To the left the infographic describes renovation in seven steps:
1) insulation of the basement ceiling, 2) roof insulation, 3) insulation of the façade, 4) replace windows, 5) reduction of the interior temperature, 6) installation of a heat pump and 7) installation of photovoltaics.

The left-hand section shows the building renovation based on the EU label of classes A to H. The right-hand section consists of bar charts that correspond to the current energy performance certificate and the target

values for complete renovation to energy label “A.” Visual communication is thus based on a familiar visual language.

Developing EPC results into a renovation passport

The new EPBD directive point out renovation passports as an important key component to increase the implementation of energy efficiency measures. Renovation passports should provide information on the number of renovation measures, details of individual measures and the best sequence of measures. They may also provide comprehensive and detailed information on energy and cost savings as well as guidance on funding opportunities.

Energy passports are voluntary for the building owner, but all member states shall have a framework for energy passports in place by May 2026. The mandatory content of an energy passport includes:

- Current energy performance of the building
- Graphical presentation
- Explanation of the optimal renovation step sequencing
- Information on each energy measure and renovation step, including possible energy sources
- Share of renewable energy before and after the renovation
- General information on improvement options for various other aspects of a green building, such as CO_2 emissions, circular economy, indoor climate.
- Information on funding
- Contact details for technical advice

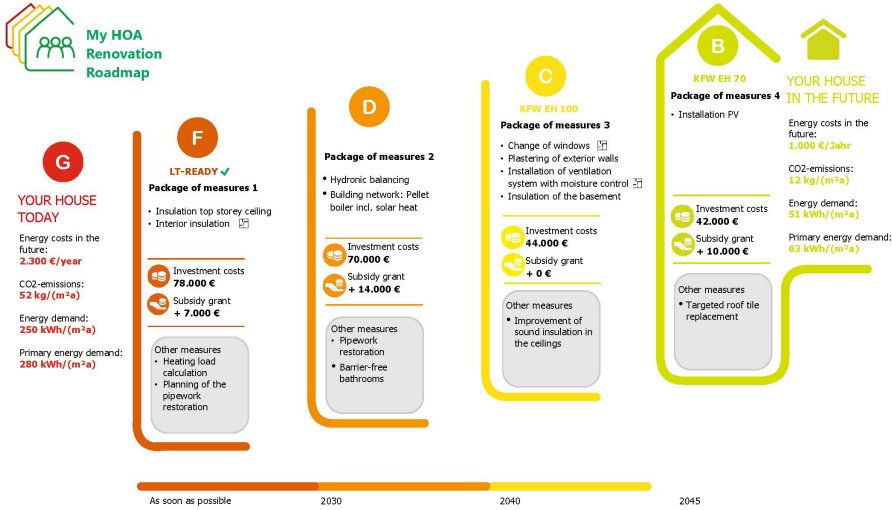
When comparing the mandatory content of energy renovation passports with what already is recommended from the RenoWave project on content for an extended EPC, the conclusion is that most requirements have already been met. In addition, a more detailed plan for the different renovation steps is needed along with information on how to get access to funding and technical assistance.

A step-by-step plan increases the possibility that the measures will actually be implemented. Promotion of renovation passports can therefore be a priority.

Step-by-step presentations

A step-by-step presentation of proposed energy measures can be done in many different ways. The success factor for reaching out to homeowners is to present each step in a pedagogic easy-understandable-way.

One example how to present a roadmap comes from the German model called Mein Sanierungs fahrplan. *Sources: Lawrenz, Julia (2023)*



BEST PRACTICE EXAMPLE

Promoting extended EPC, by rolling out large scale auditing with reduced economic risk

In Sweden, home-owner associations (HOAs) are legally required to have a valid Energy Performance Certificate, EPC. While EPCs aim to inform property owners about energy-saving opportunities, many HOAs opt for the cheapest, basic version that fulfils the legal requirement but is rarely used as a tool for improvement. To tackle this, and as part of the RenoWave project, the County Board of Dalarna and the North Sweden Energy Agency, acting as OSS service providers, launched large scale programmes encouraging HOAs to procure extended EPCs. The programme targeted more than 200 associations due for an EPC update and included three key elements:

- A postal marketing campaign with inspiring examples, benefits of extended EPCs, and arguments for energy efficiency investments.
- A model for an extended EPC with in-depth calculations on possible energy measures.
- Qualified energy experts for auditing contracted by the OSS provider.
- An economic risk-sharing offer where the project covered the cost of the EPC if profitable measures were not identified. Two profitability assessment methods were tested in pilot studies: the internal rate of return and the payback method.

Results and Learnings

The marketing campaign proved effective, especially when highlighting the legal requirements and the link between energy efficiency, profitability, and property value. The scale of the programme raised interest among HOAs, creating a momentum where more wanted to join “because other did so”.
It lowered the cost for administration and auditing.

The offer led many HOMABs to choose extended EPCs over basic ones. These in-depth audits were appreciated for providing more valuable insights. However, the offer primarily appealed to energy-aware homeowner associations with already good performance—those less likely to bear the cost due to fewer profitable measures. Ironically, associations with poor energy performance, who would benefit most from extended EPCs, found the offer less attractive due to the higher likelihood of covering the cost themselves. To maximise societal impact, offering subsidies for energy audits in underperforming associations, combined with procurement support, could increase uptake and effectiveness.

Project design - Prefabricated solutions

The Guide on Promoting Prefabricated Refurbishment points out this refurbishment approach as a fast and efficient method for renovating multi-apartment buildings in the Baltic Sea Region.

Prefabricated refurbishment uses modular, factory-made components—mainly for facades—that can integrate windows, insulation, ventilation, and energy systems. The approach reduces on-site construction time by 20–50%, minimises disruption for residents, and enables deep renovations aligned with EU energy targets like nearly zero-energy buildings (nZEB).

Case studies across Europe (Italy, Estonia, Germany, etc.) show that prefabricated solutions can reduce primary energy by up to 89 %, while also improving living comfort. However, high initial costs and limited market development remain key barriers.

The guide provides tools for promoting this approach, including stakeholder mapping, market analysis, and tailored communication strategies. A highlighted case is the successful refurbishment of a panel building in Ludwigsfelde, Germany, demonstrating economic viability, resident satisfaction, and scalability.

Prefabricated refurbishment is positioned as a strategic solution for municipalities, developers, and one-stop shops aiming to meet EU renovation and climate goals efficiently.

BEST PRACTICE EXAMPLE

A pilot project in Ludwigsfelde, Germany, showcases the first prefabricated refurbishment of a 5-storey panel building with 85 units (type WBS70). Driven by the need to replace balconies and renovate façades, the project was initiated by the municipal housing company Märkische Heimat and funded under the KfW 55 Efficiency House programme. Residents remained in their homes during the six-month renovation, facing minimal disturbance. The housing company reported high satisfaction among residents and neighbours. Lessons learned from this pilot project will enable faster replication for similar buildings, improving scalability and countering labour shortages in the construction sector.

Benefits for the residents during and after the refurbishment:

- Residents do not have to move out and only experience one or two days of disturbance during the customisation of the windows.
- Short refurbishment time (6 months)
- Less noise on the construction site
- Smaller and cleaner construction site
- The heating costs decreased by up to 40 cent/m²
- The rent rise was cut by 2€/m² (max. 7,40€/m²)
- Residents are more satisfied with the look of and the living-comfort.

Project design - Group procurement

Group procurement procedure can be of benefit especially when several HOMABs (mostly of the same age) have similar renovation and energy efficiency needs.

Lower prices per unit can be reached when an OSS supports the overall process. The advantage of collective work (for example by building managers) may be significant compared to implementing the same steps building by building.

The RenoWave project has developed a step-by-step guide of a group procurement process, covering the following steps:

Step 1 Identify and decide if a group procurement can be of interest for the group of buildings that the OSS supports.

Step 2 Decide if HOMABs should be invited to a group procurement.

Step 3 Support the HOMAB in decision to join a group procurement.

Step 4 Discuss and decide if an energy audit is needed.

Step 5 Support HOMABs how to carefully review the proposed measures in the audit and support decisions on how to move forward.

Step 6 Support HOMABs in taking the decision to implement measures by proceeding to the planning phase of group procurement.

Step 7 Support HOMABs to review the results of the planning phase and to move on to the implementation phase.

Step 8 Support HOMABs in evaluation of the implemented measures.

BEST PRACTICE EXAMPLE – Group procurement in Lappeenranta

The Guide has been piloted and tested by the city of Lappeenranta, Finland within the RenoWave project. The city provides energy advisor services as an OSS for the whole South Karelian region.

During the heating period of 2023 – 2024 energy audits were conducted for 13 HOMABs who were also invited to join a collaboration forum. During a series of workshops, they were informed about group procurement and could be involved in the full planning phase of four group procurements:

- Solar panel installation
- Exhaust air heat pumps
- Powered roof extractor
- Renewing of heat exchanger equipment

The OSS presented rough estimations of investment costs and profitability calculations for each measure. Results of the tendering process was presented together with financing and implementation options.

After evaluating the offers, three HOMABs decided to move on to implementation. For the rest of HOMABs, too low economic savings potential and other higher priority investments were the main reasons why they did not complete.

For the investments, the cost per unit was reduced by 1-9 %, due to the group procurement procedure. In addition, there was savings made on administration and coordination.

Project design - Neighbourhood concept

A neighbourhood refurbishment concept is a strategic tool used by municipalities, mostly in Germany, to improve the social, environmental and economic situation of residents in a district and to promote carbon neutrality. It includes measures related to architecture, building structure, energy efficiency, energy sufficiency, climate adaptation and resilience, regulatory framework (e.g. building code or construction law), as well as demography, socioeconomics and behaviour of residents. It is the first of two steps:

1. Creating an integrated neighbourhood renovation roadmap
2. Implementation of measures with the help of a renovation management and a district-level OSS

Benefits of the neighbourhood approach:
The proximity of actors and buildings makes it easier for an OSS to deliver services and for homeowners to receive tailored support. The synchronisation of refurbishment activities also provides opportunities for more efficient use of local tradespeople, group procurement, and energy sharing, ultimately reducing refurbishment costs. The high visibility of the refurbishment in the neighbourhood creates additional motivation for homeowners to start their refurbishment journey.

Challenges of the neighbourhood approach:
This approach is considered to be one of the most effective, but also one of the most difficult, ways to increase renovation rates. Many different stakeholders make the project quite complex and require excellent project management skills. Engaging owners, finding good funding schemes and ensuring the replicability of the solutions developed are additional challenges to be considered.

Project design - Prosumerism

There are several things to pay attention to if a HOMAB plan to invest in on-site solar energy production and by then becoming a prosumerist (both producing and consuming solar energy). The decision making process is more complex, more technical aspects need to be considered and there are more economic factors to base the decisions on.

Solar cells in a south-facing position produce the most, but in the middle of the day electricity consumption may be lower. In an east-facing position, solar cells produce more in the morning and in a west-facing position more in the evening when the electricity use most often is higher. A 1 kW system placed due south with a 30–50-degree slope can produce about 1000 kWh per year.

The most profitable method is to size the system according to your own electricity needs in the summer so that you do not produce more than what is needed for your own use.

Each roof has its own load-bearing capacity, and the limits needs to be determined by an expert.

Quotes should be collected from several solar energy companies to make comparison possible. All electrical work must be carried out by a qualified electrician.

Sharing produced electricity between buildings in an energy community can be an interesting solution to optimize the size of the power plant and increase the share of self-used energy.

Battery energy storage involves a high investment cost. The benefit is that self-produced electricity can be stored for use after sunset or to store purchased electricity at a low price. A battery can help to lower power peaks and can be a solution for islanding, continuing to generate electricity even if the grid is down.

Map and assess solution providers

In each stage of a renovation project several different stakeholders need to be involved. A primary challenge lies in coordinating these phases seamlessly, as disruptions or inefficiencies at any stage can lead to project delays, cost overruns, and compromised quality. There are two important steps for any OSS to consider: analyse different stages of a renovation project, and identify key solution providers and determine the necessary actions to support solution providers' ability to provide services in the region of the OSS.

Step 1 Understand the renovation project lifecycle

The first step is to analyse what stages a renovation process consists of, who are the stakeholders participating in the process, and what is there significance to project success.

Tool for mapping service providers

The **Renovation Pathway and Stakeholder Significance Assessment Tool** is an MS Excel-based tool developed to assist OSS and other stakeholders in evaluating the significance of different actors in the renovation process. It consists of the following key components:

1 Stakeholder categorization

- Legislative bodies (e.g. regulators, subsidy administrators)
- Technical service providers (e.g. auditors, architects, engineers)
- Implementation actors (e.g. contractors, project managers)
- Financial stakeholders (e.g. financing institutions, retail banks)
- Market facilitators (e.g., NGOs, real estate brokers)

2 Impact Assessment Criteria

- Energy Efficiency Impact: The extent to which the stakeholder contributes to the energy efficiency outcomes.
- Importance for Project Success: The level of influence to the overall success of the renovation.

3 Scoring System

- Each stakeholder group is evaluated on a numerical scale based on the two impact criteria and given an overall ranking of significance.

When interpreting the results, users should look for stakeholders with high scores in both categories. Discrepancies between the two scores highlight areas where additional support or policy interventions may be needed. For example, stakeholders with high project success but low energy impact may benefit from more training, while high energy impact but low success ratings may indicate logistical or financial bottlenecks.

Step 2 Plan your actions

By using the results, renovation initiatives can ensure that key actors are empowered, gaps are filled, and projects are executed efficiently.

Identification of high-impact stakeholders:

- Stakeholders scoring high in both Energy Efficiency Impact and Project Success should be actively engaged in the renovation.

Address stakeholders with high project success but lower energy impact:

- If critical in ensuring smooth project execution but lacking expertise in energy, they should be in core scope of the OSS.

Consider strengthening underutilised or low-scoring stakeholders:

- Actors with limited direct influence can be engaged to support awareness-raising and market facilitation.

Fill identified gaps in the stakeholder landscape:

- If missing or weak stakeholder engagement in key areas, business models should be developed to attract necessary expertise.
- Governments and market facilitators can introduce financial incentives, policy mandates, or pilot projects to encourage the involvement of underrepresented but necessary stakeholders.

Selection and promotion of high-quality suppliers

One of the barriers to building reconstruction, especially in less populated and rural areas, is the perceived lack of quality service providers. In order to ensure a successful and timely completion of the renovation projects, the OSS needs to guarantee that the contractors for the actual works are qualified, reliable and available. Improved coordination and communication among stakeholders increase project quality and sustainability.

The OSS needs to provide a list of 'quality suppliers' that they work with, which is the basis of a standard level of services. A few OSS' have own suppliers and capacity to carry out renovation work themselves. The contractors have to demonstrate that they have the skills, the technical and financial capacities to carry out certain sub-tasks.

Promotion of high-quality service providers

A publicly available rating system is a strong approach to promoting high-quality service providers, as it fosters trust, transparency, and competition in the renovation sector.

Why a public rating system works:

- Increases visibility: High-quality service providers gain recognition, making it easier for customers to find and trust them.
- Encourages competition: Providers are motivated to maintain high standards to secure better ratings.
- Reduces risk for customers: Homeowners and developers can make more informed choices based on verified performance metrics.
- Supports market growth: A transparent system attracts new skilled professionals and discourages low-quality services.

The OSS develop standard templates and requirements for suppliers' quotes and contracts, check the quotes and assist in selecting suppliers. It can be done without any contractual relationship with the suppliers (being neutral) acting on behalf of the HOMAB by delegation to sign contracts or for HOMABs taking decisions in the end.

Training is a popular way to set up a standard level of quality of the overall renovation, develop specific knowledge on new energy-efficient technologies and building methods, etc. An OSS can provide the training themselves or cooperate with training centres and construction associations to train contractors and installers. Certification scheme for suppliers and/or labelling of selected suppliers can be of high value to increase quality among suppliers.

Good examples

DATABASE OF SUPPLIERS

Platform to find energy consultants and advisors, Poland Link

The Polish Energy Efficiency Experts website promote verified technical expertise in building renovations. The site offers a search tool where users can filter experts by location, expertise area, and specific qualifications.

DATABASE OF TRAINING OF SUPPLIERS

Quality Network – Energie experten, Germany Link

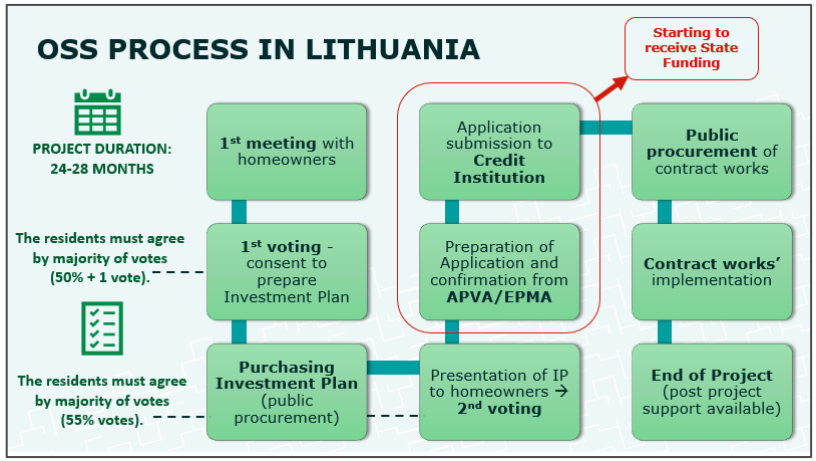
Energiekonsens in Germany has a directory of pre-qualified verified professionals such as craftsmen, engineers, planners, and architects. To maintain their status, network members often engage in ongoing training to stay updated on the latest energy efficiency techniques and regulations.

BEST PRACTICE EXAMPLE

Developing long-term energy renovation plan with both energy savings and financial plan in Lithuania

Atnaujinkime miesta (abbr. Amiestas) is a public, non-profit institution, established in 2007 by Vilnius City Municipality, and it has been appointed as an **Administrator** for the implementation of Vilnius City **Energy Efficiency Programme** which includes renovation and renewal of selected neighbourhoods and their territories.

In December 2019, the Institution started operating as an advanced **one-stop-shop (OSS) model** (*see Figure 1 below*) where homeowners can find all information and services which they require to implement renovation projects of multi-apartment buildings from one single source.



The main objectives include the promotion of energy efficiency and contribution to the reduction of environmental pollution, also encouraging residents to take good care of their homes and common public spaces whilst fostering the sense of community among

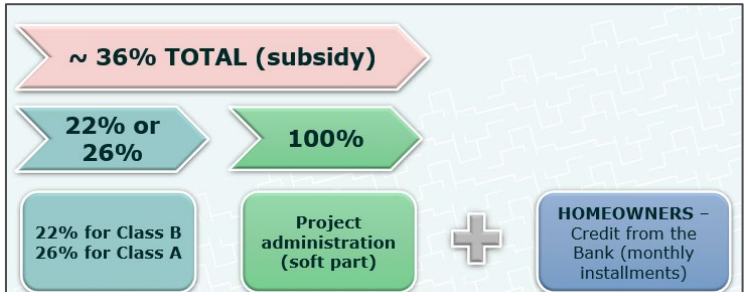
In Lithuania, all multi-apartment building renovation projects are implemented with financial support from the State. As of August 2024, the Government has revised the terms and conditions for renovation project subsidies as follows:

- An average **36 % subsidy** is provided by the State.
- The remaining costs are covered by homeowners through monthly instalments, with access to **favourable credit terms for up to 20 years** from financial institutions.

Currently, the subsidy structure includes:

- **100 % coverage** for the preparatory and administrative components of the project, including documentation management, technical project preparation, and project oversight following a successful public tender for renovation works.
- Subsidies for construction works:
  - 22 % for achieving Class B energy efficiency
  - 26 % for achieving Class A energy efficiency

Regardless of the energy class achieved, a **minimum energy savings of 40 %** (for heating and hot water consumption) is a mandatory requirement for all renovation projects. Compliance is verified through an **Energy Performance Certificate (EPC)** issued before and after project completion. Please see *Figure 2* below for an illustration of financing in Lithuania.



Financing plan and financing solutions

The OSS need to find out economical and financial capacity of the HOMAB and support in making a financial plan for the investments. An OSS can give general advice on existing financing options for which the HOMAB is eligible (subsidies, tax credits, energy efficiency certificates, etc.)

The OSS either participates in the financing of the project directly, or – more often – as an intermediary. The OSS explores the funding sources that are already available and refer them to the HOMAB. However, in many cases, when the existing schemes are not suitable, e.g. because local banks offer only short-term loans, or loans with high interest, or the clients have poor credit status the OSS can facilitate the setting up of new sources.

An OSS assists the HOMAB to identify the best mixture of financing from available schemes (market-based financial products and public support, such as subsidies, tax credits and loans). As part of the project preparation, the OSS can support in accessing public grants, e.g. information, optimise project design with grant requirements, helping with applications and possible also negotiating prices.

Loans can be offered by partner banks (potentially supported by a public guarantee fund), or via revolving funds established by regional or national authorities for the purpose of supporting energy renovation of buildings.

Good examples

FINANCING SOLUTIONS

- **Bank Gospodarstwa Krajowego, Poland** Link
  Offer several forms of co-financing that the consultant/auditor promote and help to choose, e.g. BGK, White certificates
- **KredEx/EIS bank, Estonia** Loan link, Loan guarantee link
  Offers financial support (grant) that can be coupled with loan guarantee. Give loans if it is not possible from a commercial bank**.**
- **ESCO-model provided by Reneco, Latvia**
  Reneco offers renovation according to the ESCO-model, including financing the renovation. Link
- **JSC Development Finance Institution ALTUM, Latvia Link**
  National support programme with grants for improving the energy efficiency of multi-apartment buildings.

SUPPORT TO DEVELOP FINANCING PLAN

- **Financial guidance from Bremer Aufbaubank, Germany** Link
  Bank offering guidance on funding schemes for renovation
- **Reconstruction cost estimation calculator, Estonia** Link
  The calculator helps associations to estimate the cost for renovation by inserting general data.

PROJECT AND WORKSITE COORDINATION

- **Full project management by Reneco, Latvia,**
  Full management of energy efficiency projects by Reneco, Link
- **Construction supervisor requirement, Estonia** Link
  Larger specialised companies like Balti Vara offers “full service”. Requested by KredEx when using financial support.

QUALTIY ASSURANCE, GARANTEES AND FOLLOW-UP

- **Verified energy data required by KredEx, Estonia**
  KredEx requires EPC issued based on real energy data when renovation has been completed.

The ESCO-model

One way of financing energy renovation can be by Energy Performance Contracting. Energy Performance Contracting is an agreement between representatives of the multi-apartment building and the ESCO company, guaranteeing certain energy savings.

The model means that the ESCO service provider take the technical and financial risk of the renovation whilst guaranteeing a certain level of comfort and energy savings to the building residents. All renovation costs are financed by the value of future energy savings. As a result of renovations, the ESCO-provider uses achieved final energy savings for earning the investments back as well as ensuring profits and payback on the investment.

The ESCO model is common in Finland and Sweden and is becoming more common also in other countries. The EFFECT4building project have developed a detailed guide and templates for implementing the ESCO-model: https://www.effect4buildings.se/toolbox/energy-performance-contracting/

Renovation work. Worksite coordination and supervision

In order to simplify the renovation process, the OSS can take over the overall management and organization of the renovation. The OSS identifies and contracts the contractors, organizes timing and material supplies.

Some OSS mediate between the contractors and the HOMAB, in which case the HOMAB still needs to navigate with multiple contractors. The benefit of the OSS in this case is the assistance in the selection, the quality assurance, and client representation.

An OSS can provide a guarantee on the quality of the work performed with a clear commitment to correct defects that lead to lower energy performance than planned.

Provide a guarantee on the actual energy savings, in the form of an energy performance (or similar) contract.

The OSS as coordinator can ensure that the operating conditions are detailed in the audit and project and then that the contractor/supplier trains HOMAB in the use.

Quality assurance, guarantees and follow-up

The OSS can provide a guarantee on the quality of the work performed with a clear commitment to correct defaults that lead to lower energy performance than planned.

Some OSS' use an online assistance tool to aid contractors at the renovation site and in dealing with the clients and their data.

The OSS can establish quality control procedures for the construction, and coordinates suppliers and contractors and oversees the whole renovation process.

An all-inclusive OSS should be able also to provide maintenance of energy installations.

The OSS can provide complaint management, ensuring homeowners satisfaction.

Service offered by a one stop-shop

Depending on what level of service the OSS has chosen to operate on, different elements of OSS services are more or less relevant to include in its operating model.

Services can be CORE activities, SECONDARY activities or MARGINAL activities. The template below indicate how relevant different services are, but there can be alternatives to this.

		Advice model	Support model	Implementation model
Overview and detection	Data and knowledge about building stock. Setting targets.	**CORE**	**SECONDARY**	**MARGINAL**
	Knowledge of HOMAB-s energy performance and target group.	**CORE**	**CORE**	**SECONDARY**
Marketing and communication	Awareness-raising/changing norms by marketing and communication. Virtual platform for information. Collecting and promoting good examples. Promotion of services offered by others.	**CORE**	**CORE**	**CORE**
Training	Training and education in energy issues for HOMABs.	**CORE**	**SECONDARY**	**MARGINAL**
	Promotion in a physical office or shop where HOMABs can come to learn.	**SECONDARY**	**MARGINAL**	**MARGINAL**
	Targeting the issue of energy poverty and other societal factors.	**SECONDARY**	**MARGINAL**	**MARGINAL**
Collaboration forums	Organize stakeholder forums for HOMABs.	**CORE**	**CORE**	**SECONDARY**
Simplified diagnosis and recommendations	Advice (technical aspects, financial aspects, profitability, subsidies,) to make HOMAB take the first decision, e g: ▪ Support for preliminary self-assessment, including energy performance, saving potentials, costs, etc. ▪ Support for preliminary self-assessment– online tool. ▪ Providing simplified diagnosis, based on standardised typologies and calculations.	**CORE**	**CORE**	**CORE**
Counselling, auditing and project design	Recommend relevant energy saving measures.	**CORE**	**CORE**	**CORE**
	Building inspection.	**MARGINAL**	**CORE**	**CORE**

		Advice model	Support model	Implementation model
	Energy auditing.	SECONDARY	CORE	CORE
	Priority of measures, developing an energy renovation plan/investment plan with targets.	MARGINAL	CORE	CORE
	Development of 'Energy renovation passports'	MARGINAL	CORE	CORE
	Combining the energy renovation plan/investment plan with other maintenance measures into an overall managing plan.	MARGINAL	CORE	CORE
Selection of suppliers	Keeping an overview of quality suppliers and updating a list of them. (E.g. a digital platform for supplier collaboration).	SECONDARY	CORE	CORE
	Provide a list of 'quality suppliers', develop standard templates and requirements for suppliers' quotes and contracts, check the quotes and assist in selecting suppliers.	SECONDARY	CORE	CORE
	Providing own 'quality suppliers' to deliver renovation works.	MARGINAL	MARGINAL	CORE
	Support for group procurements, organizing several HOMABs.	SECONDARY	SECONDARY	SECONDARY
	Training of local suppliers.	CORE	SECONDARY	MARGINAL
	Certification scheme for suppliers and/or labelling of selected suppliers that provide works at the expected quality level.	MARGINAL	MARGINAL	MARGINAL
Financing plan	General advice on existing financing options.	CORE	CORE	CORE
	Support in accessing public grants, e.g. information, optimse project design with grant requirements, helping with applications.	CORE	CORE	CORE
	Finding out economical and financial capacity of the HOMAB and support in making a financial plan for the investments.	SECONDARY	CORE	CORE
Financing solutions	Providing financing solutions for example pre-paid short-term loans (paid back monthly or after grants has been provided).	MARGINAL	MARGINAL	SECONDARY

		Advice model	Support model	Implementation model
	Arrange/sign contracts on behalf of the HOMAB.	MARGINAL	SECONDARY	CORE
Renovating work	Carry out construction work.	MARGINAL	MARGINAL	CORE
Worksite coordination and supervision	Assistance in coordination of suppliers and renovation works.	MARGINAL	CORE	CORE
Quality assurance, guarantees and follow-up	Inspections of quality in renovation works. Dealing with deviations.	MARGINAL	CORE	CORE
	Provide a guarantee on the quality of the work performed.	MARGINAL	MARGINAL	CORE
	Provide a guarantee on the actual energy savings, in the form of an energy performance (or similar) contract.	MARGINAL	MARGINAL	SECONDARY
	Monitoring and follow up on energy use and performance.	MARGINAL	SECONDARY	CORE
	Training for HOMABs in how to use installed equipment.	SECONDARY	CORE	CORE
	Provide maintenance.	MARGINAL	MARGINAL	CORE
	Complaint management, ensuring homeowner satisfaction for the project.	M	SECONDARY	CORE

One-Stop Shop Models Across the Baltic Sea Region

The RenoWave project showcases a variety of One-Stop Shop (OSS) approaches developed to support energy-efficient renovation of residential buildings across the Baltic Sea Region. These OSS models help simplify the renovation journey for homeowners, housing associations, and municipalities by providing technical advice, financing guidance, and stakeholder coordination.

As part of the project, **four new OSS pilots** were launched:

- In **Estonia**, the *Võrumaa OSS* provides advisory services and collaborative tools to support housing associations and local authorities.
- In **Poland**, the *FEWE OSS* delivers technical and financial consulting for over 250 buildings, while *OSS krk HubRenowacji* uses digital platforms and regional forums to engage and inform.
- In **Latvia**, the *Vidzemes EnergoGids* offers consultations, technical assessments, and financing advice across 11 municipalities.

The project also draws on the experience of **two long-standing OSS**:

- In **Finland**, *Lappeenranta's Energy Advisor Services* have provided regional support since 2012.
- In **Lithuania**, *Amiestas* in Vilnius has acted as an advanced OSS since 2019, managing multi-apartment renovations and engaging residents.

Together, these six stories present a rich picture of how OSS models can be adapted to different national contexts and needs—whether newly launched or based on long-standing experience.

Explore the following pages to discover how each OSS supports building renovation and the diverse services they offer.

Estonia: A Regional Model Making Renovation Possible

In Võrumaa, Estonia, a regional OSS for residential building renovation was created to respond to the growing issues of aging apartment buildings, rising energy costs, and complex renovation procedures. With support from the RenoWave project (Interreg Baltic Sea Region), the Võrumaa Development Centre launched a practical and accessible model that offers comprehensive support tailored to local needs.

Advisory Services for Every Step

The OSS functions as an advisory platform, empowering homeowners and housing associations with one-on-one consultation sessions with legal and financial experts, workshops, and easy-to-follow guidance materials. It supports the entire renovation journey, from raising awareness to accessing financing and selecting appropriate technical solutions. Special emphasis is placed on helping residents navigate public funding opportunities, making renovations more feasible for a wide range of homeowners.

Building a Local Network

To improve collaboration among key actors, the OSS created Koduomanike Kogu, a stakeholder forum that brings together property owners, financial institutions, energy experts, and policymakers. This forum ensures a more efficient renovation process.

Community-Focused Communication

While the OSS currently operates within Võrumaa, its model is scalable and adaptable to other regions in Estonia and the broader Baltic Sea area. Its core services include advisory support on improving energy performance, assistance in finding reliable service providers, and guidance on selecting suitable renovation strategies. The primary target groups are housing associations, apartment owners, local municipalities, and stakeholders who are either directly involved in or responsible for

initiating building renovations. Communication with these groups takes place through various channels, including social media, public forums, mailing lists, and direct consultations.

Expert Team and Sustainable Financing

The OSS is operated by a dedicated team of energy consultants, financial advisors, and project managers, who work closely with external specialists to provide tailored support. Its funding is primarily sourced from EU grants and municipal contributions.

Overcoming Challenges and Gaining Trust

Naturally, the implementation of the OSS was not without challenges. Initial scepticism from homeowners, bureaucratic barriers, and limited awareness about financing options created hurdles. However, through consistent outreach, transparent sharing of case studies, and strong policy advocacy, the OSS gradually earned the trust of residents and demonstrated the tangible benefits of energy-efficient renovations. Today, the Võrumaa OSS is recognized nationally as a model regional OSS for building renovation.

More information: vorumaa.ee/projekt/renowave

Poland: Supporting 250 Buildings and Counting

The Polish Foundation for Energy Efficiency (FEWE) has long been involved in initiatives supporting building energy upgrades. Drawing on experience from projects like EKO-Wspólnota z Zyskiem (ELENA) and PolSEFF/PolREFF by the EBRD, FEWE recognized a growing need for comprehensive support for property managers and owners of multi-family buildings. Many faced challenges navigating modernisation projects, especially in securing funding. This led to the creation of an integrated One Stop Shop (OSS) to streamline and support the energy renovation process.

An Integrated Response to Complex Barriers

OSS was developed to address barriers such as limited technical knowledge, complex financing procedures, and lack of coordination. FEWE's solution combines technical, financial, and organisational consulting to guide clients through all stages of energy modernisation, from audits to implementation (excluding construction works). Close cooperation with key partners, including the Municipal Housing Management Authority (MZBM) and the City of Sosnowiec, allowed the development of an effective, replicable model.

Helping Hundreds of Buildings Across Poland

Operating primarily in southern Poland but accessible nationwide, the OSS supports around 250 buildings. It provides initial consultations for housing communities and managers, on-site assessments, energy audits, performance certificates, and project documentation. It also assists in preparing grant applications and maintains communication with funding institutions during implementation phases.

Staying in Touch with Those Who Need It Most

The main target groups are housing cooperatives, property managers, and housing communities. Communication takes place through seminars,

workshops, and direct contact facilitated by MZBM, including a phone line for quick advice. Though direct interaction with individual owners is rare, the OSS remains accessible for informational consultations.

A Small Team with a Big Impact

The core FEWE team includes three full-time staff, supported by 25 consultants and experts, and around five MZBM representatives who assist in outreach and coordination. Services are funded through a combination of ELENA programme support and public-private investor contributions, including grants and loans from national and EU sources.

The OSS faced several challenges—from setting up procedures with MZBM, standardising documentation, and interpreting unclear regulations, to low awareness among housing managers.

Through strong stakeholder collaboration, adaptive solutions, and trust-building activities, FEWE successfully established a robust OSS model that is now contributing to Poland's energy efficiency transition.

More information: https://fewe.pl/en/

Poland: How OSS Is Making Renovation Smarter in Poland

OSS krk HubRenowacji is the only One Stop Shop of its kind currently operating in Poland, offering an integrated renovation support model for residential buildings.

Developed by the South Poland Cleantech Cluster in cooperation with the Association of Municipalities and Poviats of Małopolska (SGiPM) under the RenoWave project (Interreg Baltic Sea Region), this OSS simplifies the thermal modernization process through two dedicated online platforms (www.spcleantech.com; www.mojarenowacja.pl) and a dynamic Cooperation Forum. The OSS was established to address the complexity of coordinating multiple renovation actors.

Simplifying a Complicated Process

Instead of managing numerous contractors independently, building owners and managers can rely on a single point of contact that offers comprehensive analysis, renovation planning, and process coordination. This model reduces administrative burden, saves time, and enables cost-effective project execution by leveraging long-standing partnerships and minimizing intermediaries.

Bringing Everyone to the Table

OSS krk HubRenowacji operates in southern Poland, covering the Małopolska, Silesian, Podkarpacie, and Świętokrzyskie regions—an area with over 12 million inhabitants. It serves a broad ecosystem of actors involved in the renovation process, including property owners, municipalities, districts, banks, contractors, consultants, and the local community.

More Than Advice: Education, Innovation, and Strategy

The OSS currently focuses on awareness building, education, stakeholder cooperation, sharing knowledge, developing local energy strategies, and

promoting innovative technologies. A key tool is mojarenowacja.pl, a municipal platform supporting thermal upgrades of single-family, multi-family, and public buildings.

Powered by a Small Team with a Big Vision

Communication with target groups takes place through webinars, social media (Facebook, LinkedIn), in-person workshops, and local outreach activities. The team actively visits communities across the region, promoting best practices and successful project case studies via their websites and events. The OSS is currently operated by a three-person team within SPCleantech and financed from the cluster's own funds. Plans are in place to secure public financing to scale operations.

Key challenges have included ensuring financial sustainability, building stakeholder trust, raising public awareness about energy efficiency benefits, and addressing technical and behavioural barriers.

OSS krk HubRenowacji continues to evolve as a central player in Poland's building renovation ecosystem, pioneering a scalable and cooperative approach to energy-efficient modernisation.

More information: https://sgpm.krakow.pl/

Latvia: Encouraging Neighbor's to Start the Renovation Conversation

The Vidzemes EnergoGids is a regional OSS launched by the Vidzeme Planning Region to support apartment owners, housing managers, and municipalities in renovation of multi-apartment buildings. Created within the RenoWave project, funded by the Interreg Baltic Sea Region Programme, this OSS responds to the urgent need to modernize Latvia's aging housing stock, particularly in Vidzeme, where many buildings require energy efficiency upgrades and structural improvements.

Why This Support Matters

The building renovation process in Latvia, especially for private owners, can be overwhelming. Legal and technical complexities, financial planning, and decision-making required for multi-owner settings often hinder action. Vidzemes EnergoGids was created to fill this gap, providing trusted, accessible, and personalised guidance for every step of the journey. It helps residents gain confidence to begin renovation and shows them how to do it effectively.

Bringing Support Directly to the People

Operating in 11 municipalities, Vidzemes EnergoGids offers free consultations, training and awareness-raising campaigns to empower local communities. A small but dedicated team, including a lead consultant, technical expert, PR specialist, and project manager, ensures expert support is available. Services include energy audits, identifying financing opportunities, and advice tailored to each building's needs.

Real Action Through Pilot Projects

To raise awareness and inspire action, six apartment buildings in Vidzeme were selected as pilot cases. Each received a detailed energy audit, with findings used as a starting point for public discussions with residents. These meetings not only increased technical understanding but helped residents become more engaged in making decisions about their homes.

From Thermal Images to Real Change

A standout activity was the "Where Does the Heat Go?" campaign. Using thermal imaging to show where buildings were losing energy, the campaign sparked immediate interest and initiated dialogue between building residents and experts. Sharing success stories and peer learning continues to be an important part of the initiative's approach.

Working Together Works

Collaboration with local municipalities, building administrators, and international partners is key to the OSS' success. The team has worked closely with RenoWave partners to adapt best practices and create a supportive framework. The experience of other OSS models helped Vidzemes EnergoGids refine its communication tools and service structure. So far, more than 80 households have received individual consultations, with interest growing steadily.

The OSS is becoming a trusted contact point in Vidzeme for those looking to take their first or next step toward energy-efficient renovation.

More info: www.vidzeme.lv

Finland: From Advice to Action

The story of energy advisory services in South Karelia began in 2012. Since then, the service has operated as a regional one-stop shop (OSS), coordinated by the city of Lappeenranta. It was launched in response to a clear regional need for comprehensive and impartial energy advice for residents, municipalities, and businesses. The initial development was supported by the European Regional Development Fund (ERDF), which provided crucial funding for building a robust service model. After the project phase, continued financing has come from the city of Lappeenranta, Motiva, and the Finnish Energy Authority (Energiavirasto).

Helping All Sectors Take Energy-Smart Steps

The core mission of the South Karelia Energy Advisory Service is to provide unbiased, non-commercial advice focused on sustainable energy use and efficiency. The service supports various user groups—from families seeking to reduce energy bills, to municipalities planning green transition steps, and to businesses improving energy performance. The advisory team also plays an active role in public awareness, regularly organising workshops, seminars, and information campaigns to educate people about energy efficiency and sustainability. These efforts have helped create a culture of energy awareness across the region, empowering individuals and organizations to take meaningful action.

A Forum for Sharing and Growing Together

In 2021, a local collaboration forum was established to provide housing associations with a regular space to exchange experiences and promote energy efficiency. The forum has proven especially useful for associations facing similar renovation or renewable energy goals. As a practical outcome, energy audits were conducted for 13 voluntarily participating in private multi-apartment buildings by the end of 2023. Based on the results, group procurement activities began in 2024.

From Thermal Cameras to Tailored Advice

Among the most popular services today is the free lending of thermal cameras, which are used to detect heat leaks in buildings. Two cameras are available, and residents can reserve them by phone, e-mail, or in person. Instruction materials are provided to ensure efficient use. Additionally, energy advisors are available to give presentations at events, tailored to the needs of each audience. For municipalities and SMEs, the current advisory focus is on energy efficiency agreements, energy surveys, and financial support opportunities.

South Karelia's regional energy advisory service offers practical, impactful support that contributes to Lappeenranta's ambitious goal of becoming carbon neutral by 2030. The model continues to inspire similar services in other regions.

More information: https://greenreality.fi/hankkeet/renowave

Lithuania: OSS in Vilnius is revitalising multi-family buildings through innovative renovation solutions

The traditional renovation process was fragmented and complex, involving multiple stakeholders such as property owners, administrators, contractors, banks, and public authorities. These factors often caused delays, inefficiencies, and increased costs, discouraging residents from initiating much-needed renovations.

All Services Under One Roof

To address this, the public non-profit institution VšĮ Atnaujinkime miestą (Amiestas), established by the Vilnius City Municipality in 2007, began developing a more advanced and centralised support system. Since December 2019, Amiestas has operated as a comprehensive OSS, offering residents access to all necessary information and services for multi-apartment renovation from a single, coordinated source.

Helping Residents Every Step of the Way

Amiestas functions as a project support and coordination platform—designing projects, liaising with suppliers, and guiding homeowners through every stage of the renovation process. While it does not carry out physical renovation work itself, Amiestas ensures that each phase, from initial feasibility assessments to project completion, meets quality, regulatory, and resident expectations. Amiestas provides technical project management, administrative support for loan repayments, and facilitates access to financial instruments and renovation incentives.

Public engagement is central to Amiestas' approach, with regular awareness campaigns, live meetings, and educational events informing residents about renovation and energy efficiency. Communication is also maintained via Facebook and LinkedIn to reach both residents and professionals.

Digital Tools That Empower Decisions

Amiestas also publishes articles and press releases across local and national platforms, sharing updates, success stories, and milestones. One innovative tool is a public "renovation configurator," which helps residents explore energy-saving options and visualise outcomes—making decision-making more informed and interactive.

A Strong Team Behind the Mission

The institution employs a team of 48 skilled professionals, including project managers, lawyers, technical advisors, communication specialists, and customer service staff. Their shared mission is to support sustainable urban renewal and drive progress toward climate neutrality. Amiestas is primarily funded by the Vilnius City Municipality. EU-funded international projects contribute to the development of new tools and methodologies. Renovation costs are shared between the Lithuanian government (35 %) and residents (65 %), with support provided through subsidised loans and long-term repayment plans.

Overcoming Doubts and Building Trust

Among the key challenges faced by Amiestas was coordinating the wide range of stakeholders involved. Divergent interests and complex regulations initially hindered progress. To overcome this, collaborative forums were introduced to enable dialogue and alignment of goals. Another challenge was motivating residents. By combining live engagement, digital tools, and tailored support, Amiestas successfully increased participation and trust.

Today, Amiestas plays a vital role in transforming Vilnius's aging building stock into modern, energy-efficient, and climate-resilient homes—supporting both residents' quality of life and the city's sustainability goals.

More information: https://amiestas.lt/renowave/

RenoWave deliverables and useful links

Overview and detection

- Data Handling Guide – Download
- Best practice: Interactive Digital Technical Assessment Tool in Lithuania – Link

Marketing and communication

- Guide: Communication and Marketing Strategy - Download
- Guide: General Advice material “Shape Your House For A Better Future” – Download

Trainings

- Guide: Training program - Download
- Best practice: Trainings for Municipalities on Energy Efficiency in the Małopolska Region – Download

Collaboration forums

- Guide: Arranging collaboration forums – Download

Technical assistance

- Guide: Extended Energy Performance Certificate, EPC - Download
- Best practice: Promoting extended EPC, by rolling out large-scale auditing with reduced economic risk - Download
- Guide: Prefabricated solutions - Download
- Best practice: Prefabricated Refurbishment in Ludwigsfelde - Link
- Guide: Group procurement - Download
- Guide: Neighborhood concept - Download
- Guide: Prosumerism – investing in solar energy - Download
- Guide: Map and assess solution providers - Download

One-Stop-Shop extended model to increase the multi-apartment building stock renovation in the Baltic Sea Region

Project «One-Stop-Shop extended model to increase the multi-apartment building stock renovation in the BSR» (RenoWave) is implemented with the support from the EU funding Programme Interreg Baltic Sea Region 2021 -2027. The project develops One-Stop-Shop extended model specifically designed for the multi-apartment buildings in Baltic Sea Region countries. Partner countries - Sweden, Finland, Poland, Germany, Lithuania and Estonia.

For more information: www.interreg-baltic.eu/project/RenoWave