

BUILDING STOCK

23,353 residential buildings

241,520 individual apartments

16,243 million m² total floor area

- Average thermal energy consumption: 200 kWh/m²/year
- Average cost of renovation: EUR 150/m²

TERRITORY

Area of 307 km²



The city housing accounts for 36% of energy consumption

PEOPLE

Population of 647,424



- Population of 1,150,000 in Riga region

6,000 buildings which cover almost 75% of the total floor area (12 million m²) were built during the post-war period and need urgent renovation. The city housing accounts for 36% of energy consumption. Emissions related to district heating account for about 28 % of total emissions in the city territory.

The issue

The city wants to achieve its climate goals

Latvia's National Reform Programme was set up to reach the sustainable development targets defined in the "Europe 2020" strategy. At the local level, the city of Riga approved the Riga Development Plan 2030 which includes energy and climate related measures in the housing sector. The mayor also signed the Covenant of Mayors, thus committing the city to reducing its CO₂ emissions by at least 20% by 2020. Since this objective has already been reached, the new emissions reduction plan approved by the City Council aims to reduce emissions by 60% by 2030.

Poorly insulated multi-residential buildings

In Riga, one can distinguish three types of buildings:

- **Post-war buildings built before**

1996 with poor insulation. These are privately owned and house about 60% of the city's population. Homeowners pay high utility bills although comfort is low. During the winter period, approximately 10% of an average salary may be used to cover these bills. The energy saving potential is between 50 – 60% with the average cost of renovation being €150 /m².

- **Pre-war buildings built before 1940** with relatively good insulation which are also privately owned.
- **Buildings built after 1996** which comply with European construction standards.

The post-war buildings have the biggest energy saving potential.

The energy renovation process is too slow and existing financial instruments are not attractive

When it comes to energy renovation, 6,000 post-war multi-apartment buildings have the highest priority. However, the renovation process is too slow. By 2015, only 68 buildings (1.13%) had been renovated. One of the reasons is that 75% of households plus 1 have to agree with the renovation. Although this may seem quite feasible, there is not enough information on possible options for carrying out the renovation. Secondly, the financial

benefits are perceived to be low and not motivating despite the fact that the initial projects have shown promising results (energy savings of up to 60%).

Several financial instruments for energy renovation were available in the past or are still on the market but they have proved to be **unsustainable or unattractive** for homeowners:

- **Grants** provided by the government through a national grant scheme set up in 2006 were successful from the point of view of homeowners. However, the whole budget had been spent by 2007.
- **Loans provided by commercial banks.** Banks offer individual loans which are not relevant for multi-apartment buildings where measures need to be taken collectively and the loan conditions are not very attractive for homeowners. They are often too expensive or require a guarantee which not all citizens have access to. In addition to high interest rates (up to 7%), banks require 70-80% of flat owners to agree with the renovation and they do not cover the renovation costs in full. Finally, banks issue individual loans assigning contractual obligations to each flat owner which can create a barrier when selling an apartment.



Solution

On behalf of the city of Riga, Riga Energy Agency (REA) assessed several financial instruments that could fill the market gap.

Finally, REA selected the most relevant tool and proposed setting up a **revolving fund and offering low interest and long-term loans** to homeowners and non-profit organisations via ESCOs and tenant cooperatives. The loans are gradually repaid and flow back to the fund. Then they can be used again (the money revolves).

The soft loan is designed in a way that

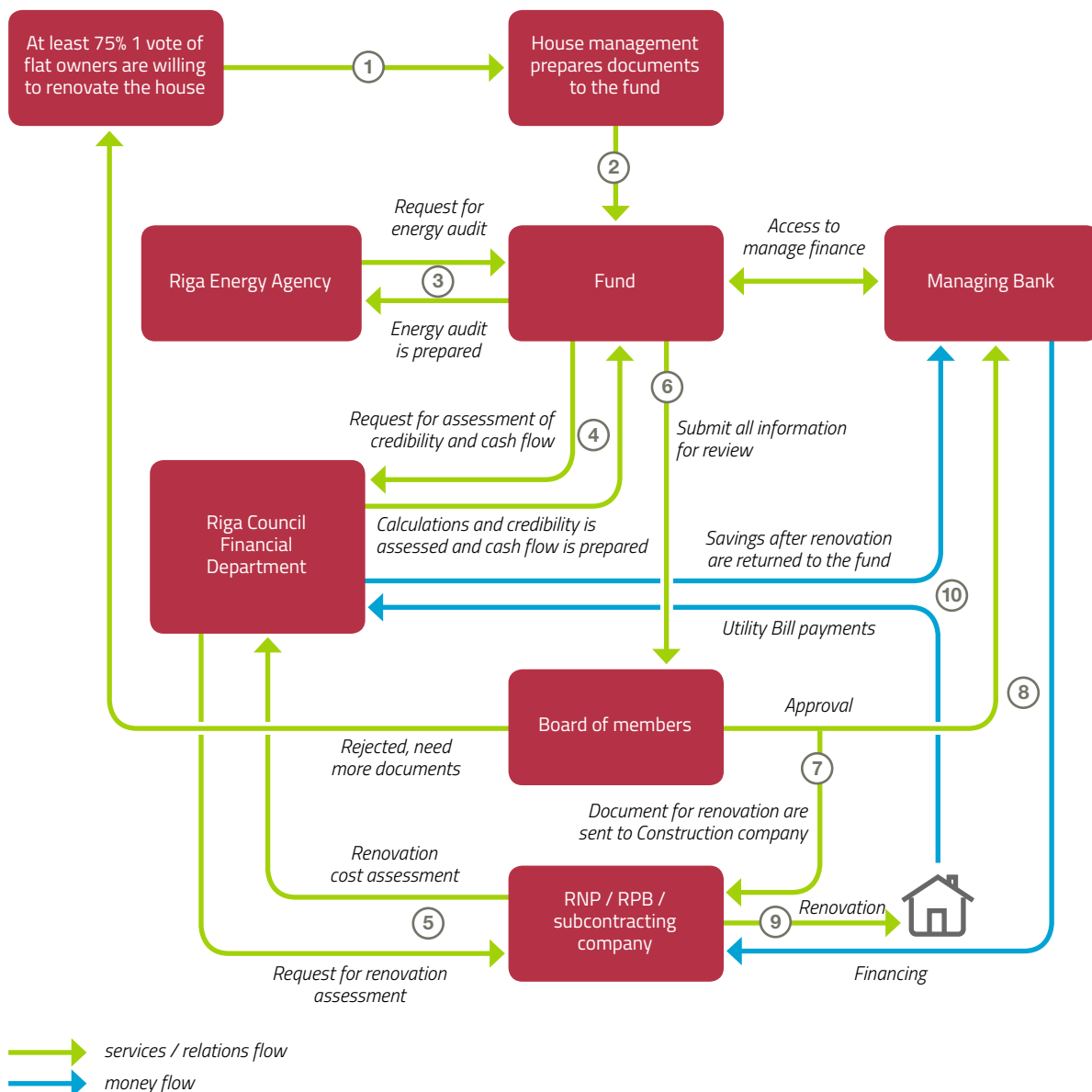
the **monthly loan installments** are always lower than the money saved thanks to energy savings. The loan is paid back through the utility bills managed by the Riga municipality administration. Homeowners have more flexibility when selling their property as the future homeowner takes on the responsibility of paying the utility bills. The debt is attached to a property not a homeowner.

The city provides free-of-charge **technical expertise** to homeowners and does not require any **guarantee** apart from the homeowners' utility cash flow (banks normally require a lot more).

The Fund targets the **homeowners of the priority post-war multi-apartment buildings** with energy consumption exceeding 177 kWh/m²/year, whose average annual debts on utility bills are below 10% and who have voted for renovation (75%+1 flat owner). Although 60% heat energy savings have proved to be feasible in the past, REA's business model assumes energy savings of 40%, to be on the safe side.

A short-term goal is to renovate 10 buildings in the first year and then at least 20 buildings per year.

Business Model



Application	<ol style="list-style-type: none"> At least 75% + 1 vote (or 2/3) of flat owners are willing to renovate. House manager prepares the documents and application that are submitted to the fund.
Review process	<ol style="list-style-type: none"> Riga Energy Agency (REA) <ol style="list-style-type: none"> The energy audit request is submitted The energy audit is prepared and returned to the Fund Riga Council/Financial Department <ol style="list-style-type: none"> Request for assessment of creditworthiness and future cash flow Calculations and creditworthiness are assessed and cash flow is prepared Riga House Managers (RNP)/ Riga City Builder (RPB) <ol style="list-style-type: none"> Request for renovation assessments Renovation cost assessment provided
Process of approval	<ol style="list-style-type: none"> The fund gathers all information about the building and submits it to the Board of Members. If the Board of Members approves the application, the documents approving the renovation are sent to a Construction company. Managing Bank <ol style="list-style-type: none"> Immediately after the application for renovation is approved, the request to provide financing is sent to a Managing Bank. Financing is provided to a construction company.
Renovation and post-renovation	<ol style="list-style-type: none"> At this stage, a construction company is able to start the renovation. Repayments <ol style="list-style-type: none"> Once the renovation is completed, the building energy consumption is reduced. Homeowners pay back the loan through the utility bills to the Riga Financial Department. Savings after the renovation are then calculated and sent from the Financial Department to the Managing Bank.

Fund value

It is planned that the Fund will start with **EUR 34.5 million**, of which EUR 4.5 million would be a contribution from Riga City Council and EUR 30 million would be a **loan from a financing institution or an investment fund**¹. It is expected that additional capital would come from a local municipal heating producer and supplier in addition to international financial institutions such as the European Investment Bank (EIB) or the European Bank for Regional Development (EBRD). The most important point with regards to external financing is that the interest rate charged by a financing institution / investor should be below 1% which will ensure the fund offers loans at the lowest possible rate for citizens. Should the city be unable to attract an external investor, the business

model would probably fail. With capital of only EUR 4.5 million, the whole revolving concept would not be able to perform at the scale planned. The plan is to first carry out 5-6 pilot building renovations, make necessary adjustments if needed and gradually increase the renovation rate and scale. The proposed model can easily be adjusted in terms of financial flow changes. Thus larger investments will result in an increased renovation rate.

Fund management

- **Governance** of the Fund is ensured by a Board of Members which includes people who have the expertise, reputation and proper understanding of renovation-related issues.
- **Administrative decisions** are taken by the City Council. One of the Council Committees also elects the Board of Members.

- **Operational management** of the loans and Fund cash flow in general is the role of the Managing Bank. The Bank will handle the accounts and provide advice on finance management if needed (in the event of unused capital, the funds could be reinvested short-term and risk-free). The City Council will be launching a public procurement tender to select a commercial bank who will fulfil this role. Meanwhile, the city Financial Department takes on these tasks.

Management costs: the Fund management costs are estimated at €100,000 per year. These will be covered by the interest rate the soft loan beneficiaries will pay.

¹The city council has been negotiating with potential investors (2016-early 2017).



Revolving fund and soft loan scheme step-by-step

Step	Action
Set up a team	The revolving fund business model was developed by Riga Energy Agency in close cooperation with Riga City Council
Carry out a market study	<ul style="list-style-type: none"> - Key findings: the target group is the 6,000 priority post-war buildings built before 1996 with poor insulation; commercial loans are not attractive and a national grant scheme proved attractive but did not last. - Experience with financial instruments in the Baltic region: in Estonia and Lithuania, the central governments set up revolving funds and soft loan schemes in the past. The study summarised the main lessons learnt: <ul style="list-style-type: none"> ▪ Establishing an investment fund and organising a public tender for its management are time-consuming. In Lithuania this process took 1.5 years. ▪ A combination of grants and loans is attractive. In both countries, grants are used to pay for the project preparation, to some extent they cover the investment costs (rewarding the most ambitious projects) and support low income households. ▪ A forceful information campaign is necessary to convince citizens to take out a loan.
Develop a business model	<ul style="list-style-type: none"> - REA assessed several potential financing instruments. One option was that a bank would offer a mortgage to homeowners, however a large share of apartments are already mortgaged and do not qualify for a second one. Another solution was a bank loan that would be issued by a partner bank against future financial savings. In most cases, the duration of such a loan would not be more than 5 - 10 years which means a short-term loan with relatively high monthly installments. Riga did not have sufficient budget to offer grants and this solution was not considered sustainable anyway. - REA thus developed a business model for a revolving fund and soft loans, inspired by two regional examples - Jessica Holding Fund in Lithuania and KredEx revolving fund in Estonia. This was the most suitable solution for managing both financial flows and quality control for construction work. Other solutions did not seem relevant due to specific regional circumstances. - The assumptions set by REA when developing the business model were: <ul style="list-style-type: none"> ▪ The loan should be available for a long period (ideally up to 30 years). After renovation, utility bills should decrease by at least 40%. The model introduces a loan payback discount for citizens. Costs for redemption and interest should not exceed the energy savings achieved. ▪ No extra injection of money over time is needed (but welcome). Revolved money must be reinvested in renovation. ▪ The Fund operation must be efficient. ▪ The volume of renovated homes per year has to be stable for the model to be sustainable. - The Fund can offer what banks cannot: <ul style="list-style-type: none"> ▪ A lower interest rate ▪ Long maturity ▪ No guarantee required beyond the house utility cash flow (banks normally require a lot more) ▪ Free-of-charge technical expertise - The biggest challenges are to: <ul style="list-style-type: none"> ▪ Establish the Fund - negotiations related to administrative and technical issues are lengthy and time-consuming. Many issues still need to be solved and decisions taken. REA has been working on the development of the Fund for more than 2 years. ▪ Secure the seed money and refinancing: the city plans to start with a limited number of pilot projects, adjust the Fund's standard procedures and prove the sustainability of the model. This will hopefully attract more private funds.

Set up strategic partnerships	<p>Partnership with banks:</p> <ul style="list-style-type: none"> Riga City Council is seeking partnerships with financing institutions willing to invest in the revolving fund through an equity or to provide a loan and to manage the Fund. The Financial Department will launch an open tender or a competitive dialogue with potential partners and disseminate information through the media and the Commercial Bank Association. The partner bank should be trustworthy and be able to provide low interest rates. The European Investment Bank (EIB) was considered as a potential partner. The reason for approaching the EIB was an interesting interest rate and scalability that could be obtained, as the aim of renovating 6,000 buildings would require up to €500 million over the next 30 years. Specifically, having funding of €500 million would allow Riga to sustainably renovate 200 buildings per year, which would result in 6,000 houses over a 30-year period. However, the interest rate that would be paid to the EIB is also a potential weakness of the business model. The city does not need all the money right at the start of the project. There are two ways to cover the cost of borrowed funds that are not used. First, the city could only borrow the money at the time it is needed. In such a case, there should be a clear and fast process of transferring funds, so that the renovation process is not stopped. Second, the city could borrow all the money and the Managing Bank that operates the Fund could cover the interest rate by making a profit from the borrowed money, for example by lending overnight on the money market. The decision will be taken by the City Council. The City Council's main interest is to provide secure loans with the lowest possible interest rate to citizens. The fact that the Fund governance is secured by the City Council should make the whole process sustainable and credible. Meanwhile, the Managing Bank's expertise in finance will allow the maximum potential to be leveraged, while ensuring professional management of the Fund's financial flows.
Set up strategic partnerships	<p>Partnership with other key actors</p> <ul style="list-style-type: none"> The Fund will be established as a separate structure under the control of the City Council which is the main decision-maker but there are a number of different stakeholders involved in the process including REA, housing management companies, utilities as well as associations representing homeowners. The renovation work will be carried out by a Municipal Construction Company (Rīgas Pilsētubūvnieks) or a Municipal Housing Management Company (Rīgas Namu Pārvaldnieks). However, further subcontractors could be involved in the future.
Launch the scheme & communicate	<p>The fund has not been launched yet but a number of REA activities including the promotion of energy renovation through seminars, conferences, regular newsletters which raise awareness on renovation issues, free-of-charge advisory services provided to citizens by a local Information Centre and an update of the multi-apartment building energy consumption database, are preparing the ground for the launch of the Fund.</p>
Monitoring and improvement	<p>REA plans to monitor the following: number of buildings renovated thanks to the revolving fund, overall energy consumption and CO₂ emission reductions by households as well as financial indicators and additional benefits.</p>

Homeowners' advantages

Technical assistance provided free of charge by the Riga Energy Advice Centre.

Reduced monthly costs, higher energy efficiency and more comfort.

After renovation, homeowners pay for their energy and the monthly loan installments. The total annual

costs (energy bill, redemption and interest) should be lower than the original energy bill. A 5% discount is introduced which makes the loan more attractive, especially for older people.

As a consequence, the duration of the loan will be longer (on average 1 year). The table below gives an overview, assuming an energy bill of 100% at the start.

	Before renovation	After renovation	After renovation and after payback time
Energy bill	100%	60%	60%
Redemption and interest	0%	40%	0%
Discount	0%	- 5%	0%
Total bill	100%	95%	60%



Soft loans

Eligibility criteria		
Type of housing	Type of households	Measures
Type of housing: <ul style="list-style-type: none"> – Housing units in Riga that require renovation. The loan targets multi-apartment buildings built after the war and before 1996. – Energy consumption above 177 kWh/m² (this is part of the energy audit). – 75% + 1 owner must agree with the renovation. 	Type of households: <ul style="list-style-type: none"> – All types of households 	Eligible measures: <ul style="list-style-type: none"> – Insulation of an attic, roof, ground floor and external walls. – Replacement of windows, replacement or insulation of external doors. – Renovation of a ventilation system. – Renovation or replacement of a hot water preparation system, incl. insulation of pipelines. – Renovation or replacement of heating units. – Renovation of a heating system, including replacement of radiators, installing temperature controls, allocators and other heat metering devices

Loan conditions
Loan amount: approx. €150/m ² ; on average €350,000 EUR per building
Maturity: between 10 and 15 years
Interest rate: below 3%
Guarantee: reduced energy bills are the guarantee for the Fund. The assumption is that all beneficiaries have lower monthly spending and are able to pay back the loan. Existing debts on utility bills must not exceed 10%.
Beneficiary's own contribution: no own contribution is required.

Financing scheme highlights

Strong points	Weak points
<ul style="list-style-type: none"> – Focus on a target group with the highest energy consumption – Discount for homeowners makes the loan more attractive – Sustainable model, fund can operate for 30 years – Reimbursed money is used for new loans 	<ul style="list-style-type: none"> – Decision to operate the fund for 30 years may slow down the pace of renovation.

Need more details about this case study?

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