

ENERGY EFFICIENCY

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Available support measures for energy efficiency in residential buildings of Latvia

Energy independence is a hot topic in Latvia, especially when the winter is approaching and knowing that about 60 per cent of energy in houses comes from natural gas imported from Russia.

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Housing energy efficiency promotion in Finland

Finland is very good in creating new cleantech innovations, but at the same time Finland has not succeeded in the commercialization of these new cleantech products.

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State grants in Estonia for renovation of Soviet-era block houses and alternative financing through ESCO activity

Most buildings in Estonia are energy inefficient.

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Not always millions are necessary...



Ansis Dobelis, Freedom and Solidarity Foundation, board member. Project „Housing energy efficiency- resource economy and environmental protection” coordinator

It is a well known truth that the energy that we do not produce and do not consume is the most friendly to the environment.

Therefore, it is equally important to produce more and more energy from renewable sources and to take energy efficiency measures to reduce energy consumption.

Latvia still has a great potential for becoming an energy independent and self-sufficient country. We can not achieve that

by constructing new LNG terminals, engaging in Nuclear Power Plant projects or by importing cheaper electricity from Scandinavia. These solutions would help us to diversify risks, but still we would remain excessively dependent on external conditions and suppliers.

In the Baltic countries, most of residential buildings are built during the Soviet era, when fossil energy was cheap and available - thus when constructing buildings a little attention was paid to energy efficiency. By renovating these buildings and significantly increasing energy efficiency indicators, Latvia could really reduce its dependence from Russian natural gas - in addition, the realization of energy efficiency measures would make a significant contribution to the local economy and create new jobs, as well as take a step towards building a more sustainable economy.

In order to achieve a more rapid renovation of apartment buildings not always extra millions from the state budget or the European Union funds are needed. A significant boost to the sector could be an elimination of variety of administrative barriers and informational support from the state to explain the benefits from building renovation and energy efficiency measures. There is not that much work, but in order to do it, it requires political will of both the executives and legislators.

By developing the use of local renewable energy sources, Latvia really would become more energy independent and self-sufficient. In addition, it would be a path that would create new jobs in the construction industry, energetics, science and would provide growth opportunities for Latvian regions.

We hope that information collected in this edition will make it easier to understand what changes in legislation are needed, what support steps need to be taken and what problems need to be resolved so that we can achieve better energy efficiency targets.

Watch video from conference „Possibility of effective support mechanisms for the housing energy efficiency improvement“:



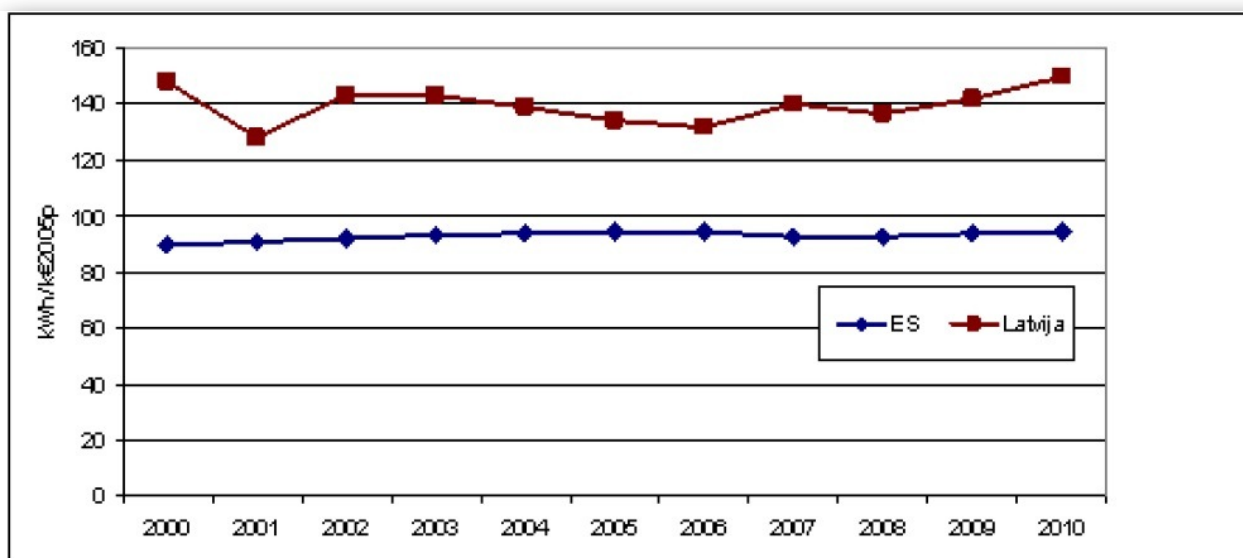
Available support measures for energy efficiency in residential buildings of Latvia

Selina Vancane, Chairperson of Board of the Latvian Green Movement / national coordinator at CEE Bankwatch Network

Energy independence is a hot topic in Latvia, especially when the winter is approaching and knowing that about 60 per cent of energy in houses comes from natural gas imported from Russia. At the same time, Latvia has very

low levels of energy efficiency, with nearly twice as much energy consumed when compared to the average household elsewhere in Europe. Therefore, the more energy efficient Latvia can become, the better it will be for developing local renewable energy resources and moving away from a reliance on gas imports.

Recent studies show that the Latvian building sector consumes about 40 per cent of the total energy balance, which puts a burden on both consumers and the economy as a whole. The largest final consumer is the household sector, which consumed 33.1 per cent of the total final energy consumption in 2011. The Latvian building sector has a high energy-saving potential, and realisation of complex energy efficiency measures in buildings could save between 30 and 70 per cent.¹



An average Latvian household consumes twice as much the energy as an average household in the EU. Latvian households therefore spend a larger share of their income on energy, compared to the EU¹

Energy efficiency in the residential sector involves efficient and effective use of heat and electricity, including people's behaviour in terms of heating their homes. Energy efficiency should be seen as a complex range of issues, where the heating and electrical supply must be systematically organised from energy production to final consumers.

Consumers must also ensure efficient and rational consumption of heat.

Watch Presentation:

A building's energy efficiency is a relative amount of energy (expressed in kilowatt-hours per square meter) that characterises the necessary energy consumption for heating, ventilation, cooling, lighting and hot water supply for a particular building.

Energy efficiency policy goals in Latvia are defined in a number of policy documents: "Energy Development Guidelines for 2007–2016", "National Energy Efficiency Action Plan of the Republic of Latvia for 2014–2016" and its Annex 2 "Long-term strategy of building renovation for 2014–2020",



¹ According to the Ministry of Economics of the Republic of Latvia

“National Development Plan for 2014–2020” (NDP), “National Reform Programme for implementation of strategy “EU 2020””, “Energy Long-term Strategy to 2030”, as well as in EU funds’ planning documents for 2014–2020.

These documents specify that the building’s average specific heat consumption should be reduced to 150 kWh/m² per year by 2020, and that new buildings must be constructed according to near-zero energy consumption standards. In order to achieve this goal, support for investments in energy efficiency in the residential sector and wider use of renewable energy of all kinds in the heating sector should be made available regardless of the form of building ownership (household, business or public sector).

The building sector and housing fund in Latvia

Most of the buildings in Latvia have high energy consumption level, and heating standards are considerably lower than currently allowed by technologies. The State Land Service Cadastre Information System (SLSC IS) contains data about 1.35 million buildings with a total area of 198 billion m², including different types of auxiliary buildings. Of the total number of buildings, approximately 400,000 are provided with heating, of which 352,400 are residential houses. Most of these (300,000 or 85 per cent) are single apartment buildings although they only account for 39 per cent of the total area.

The majority was built before 1941. In terms of area, the largest proportion of buildings (mostly three to five storey-buildings) was built in 1961–1992. The next period (1961–1979) is characterised by typical housing construction, with the exterior constructed of clay bricks, aerated concrete or ceramist concrete. From 1980, a series of special constructions (reinforced-concrete and ceramist concrete for large-panel buildings) started. Only after September 1991 did Latvia significantly raise requirements for the building envelope.

Heating standards for building envelopes in the Soviet Union were two times lower than in Germany and the UK, and five times lower than in Sweden. In addition, the heat resistance of typical housing was even worse because of the low-quality materials that were used and construction errors that were made. This resulted in condensation and mould in apartments and on the outside walls, as well as drafts, depreciation and a generally unattractive appearance. This all stems in part from the fact that, few resources were invested in the maintenance of buildings in 1941–1992.

Only 3 per cent of buildings (or 5 per cent of the area) was constructed after 2003 and is considered in line with the existing technical requirements on heating. Buildings constructed from 1993 to 2002 have only slightly lower technical qualities. The regulatory requirements for heating were not always complied with because of the low quality of materials and as well as errors made during construction².

² EMZino_060213_Finansesanas_risinajumi; Financial_solutions. Informative report on financial solutions for building renovation

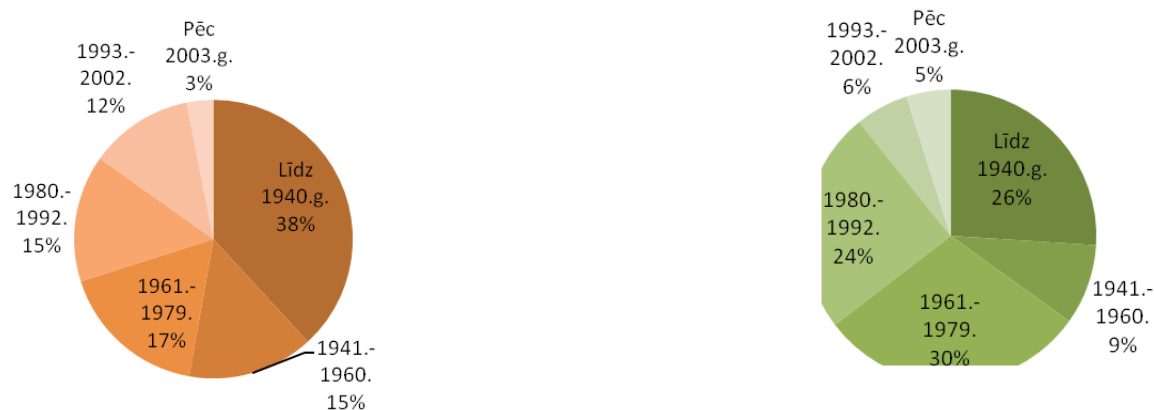


Figure 2. Division of multi-apartment residential buildings by number and area, depending on the construction period (source: SLSC IS).

Currently in Latvia the average annual specific heat consumption in buildings (for heating and hot water) is about 200 kWh/m², with heat consumption in multi-apartment buildings at around 157 kWh/m². In 1990 it was more than 300 kWh/m² annually.

As shown in Figure 3, energy consumption indicators have a tendency to decrease, which can be explained with private energy efficiency support measures and variety of support programmes for apartment buildings. It is important to note that in addition to these investments, a general public awareness about the need to decrease heat consumption has contributed to the reduction in energy consumption; however, it is important to point out that this decrease is also directly related to the low purchasing power of population and the consequent lowering of comfort level in apartments.

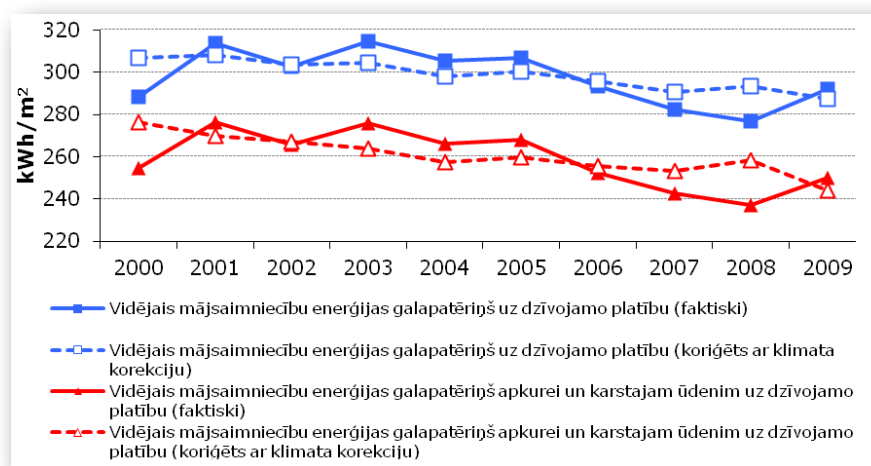


Figure 3. Household energy consumption based on floor space (kWh/m² per year³)

³ Climate correction coefficient is applied to the final part of the energy that is used for heating purposes. Climate correction coefficient makes it possible to compare different heating periods in terms of years. Using this coefficient, it can be determined what the consumption would have been if the number of degree days would correspond to the number of base year degree days

In order to achieve the country's goals on energy efficiency, the current rate of decreasing consumption is not sufficient, and additional incentives are needed to encourage the funding of energy efficiency improvements, improving the quality of energy efficiency of residential buildings, reducing consumers' costs for heating and reducing the country's dependence on energy imports.

Latvia's experience with introducing support measures

- **Support from international banks**

International financial institutions have provided a wide range of support for priorities including energy conservation and energy efficiency; unfortunately, the opportunities of attracting financing have not always been seized in Latvia in full. Since international banks, unlike domestic banks, provide support for large-scale projects or investment programmes, the government should provide for a programme fostering complete utilization of those financial means.

These institutions can also be credited for introducing the first real energy-saving measures in residential buildings and for a significant contribution to the development of the industry by providing technical assistance related to project implementation and monitoring.

Launched in 2004, one of the first residential energy efficiency improvement pilot projects included international co-financing. With this project, local authorities, associations of apartment owners and individuals were offered **an opportunity to receive credits for the complex insulation of apartment buildings on favourable terms**. The project was jointly implemented by the German environmental ministry and development bank KfW, along with Latvia's Ministry of Environmental Protection and Regional Development, the Latvian Environmental Investment Fund and Hipoteku Banka.

127 applications for the EUR 5 million were received, but after examining the applications' compliance with project criteria, experts from Hipoteku Banka selected only about 50 applicants for participation in the second round of the programme.

However, many applicants refused further participation in the project. Some of the difficulties hindering the project's implementation include:

- **obtaining the required three forths approval from apartment owners to launch the project;**
- **agreeing on joint activities for which to take the loans, because people living in the house have very different levels of wealth;**
- **reluctance to take on such large loans in order to finance the significant and complex building renovations.**

As a result, only seven multi-apartment buildings in Riga, Broceni, Salacgriva and Liepaja carried out the complex renovation, including the replacement of windows, insulation of exterior walls and the covering of the basement and top floor. The project is currently undergoing its post-implementation monitoring, which will last for 20 years after completion of the project. During this monitoring period a report on the

energy savings achieved each year will be prepared. This experience could serve as an excellent illustration of the benefits provided by complex or deep renovations, although the results of this project are not being disseminated to the public.

In 2010–2011, KfW also initiated a training and experience sharing project called: **“Design, planning and implementing energy savings measures in residential buildings by local residential building renovation managers”** (also known as Mājas draugs or “Friends of the house” www.majasdraugs.lv). The project distributed the results of the existing renovation project and the experiences from the Latvian–German partnership. Overall, 25 experts from Latvia were trained as building renovation managers and were involved in managing the renovation processes in the project buildings. The project was led by the German and Latvian environmental ministries in collaboration with the German Development Bank, and it was introduced by the Housing Initiative of Eastern Europe IWO eV (Initiative Wohnungswirtschaft Eastern European e.V.).

Latvia has experience also in co-operation with the European Investment Bank (EIB), which issues low-interest credits to Member States and developing countries for projects, including energy efficiency related ones. In 2008–2012, the EIB lent Latvia EUR 190 million for the energy sector⁴. However, Latvia has yet to access funds available from the European Bank for Reconstruction and Development and the Sustainable Energy Initiative or Nordic Investment Bank.

The country has also not made use of other financial instruments like JESSICA, which has been used in Lithuania since 2006. In 2009, the Lithuanian government, in cooperation with the EIB, established the JESSICA fund⁵ of EUR 227 million, which enabled high energy efficiency results in the insulation of apartment buildings. Lithuania attempted to prevent various obstacles to energy efficiency through legislation like tying credits for energy efficiency measures to a particular property. In reselling or inheriting the building then, the loan balances were transferred. The country also eased the terms for applying for a loan. Lithuanians admit that the scheme had its weaknesses that were eliminated by adapting the scheme to the situation of the country over the time.

- **Support measures from the state and municipalities**

From 2009 to 2010, Latvia's Ministry of Economics implemented a support programme for energy efficiency improvements in homes. The programme's funding was EUR 993,165 , and the programme provided for a support for energy efficiency audits, technical evaluations of buildings, preparation of 80 per cent of documentation for the construction project, as well as 20 per cent of renovation costs in case of apartment building.

Latvian municipalities, including Daugavpils, Liepaja, Rzekne, Riga and Ventspils, provided additional support mainly in preparing technical studies related to efficiency measures.

⁴ <http://www.eib.org/infocentre/publications/all/the-eib-in-latvia-in-2008-2012.htm>

⁵ JESSICA Holding Fund

So far the support from the state and municipalities for the implementation of energy efficiency has been limited, due to budgetary restrictions and the relatively short budget planning period.

- **Taxation and energy certification**

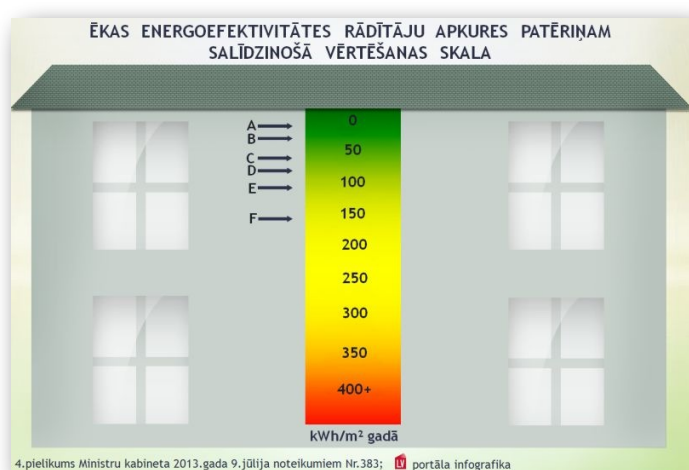
Energy prices are volatile and tend to increase, so in purchasing or renting a building, energy efficiency indicators serve as an important factor in the final selection. For example, a buyer of a building with low energy consumption will be willing to pay more than for a house where a part of the heat is lost. Energy efficiency is a real factor affecting property value, and it is likely to inspire changes in the market, contributing to the demand for energy-efficient buildings. Currently the reconstruction or renovation of a building increases its cadastral value and hence the real estate tax rate. Reconstruction and renovation of buildings requires significant investments and, in most cases, financial commitments to creditors.

Real estate tax policy should therefore promote reconstruction and renovation of buildings in order to contribute to tax revenues. Municipalities should have rights to set such real estate tax relieves or applicable interest rates in order to entice building owners to make energy efficiency improvements. Not only do homeowners and residents benefit from tax credits but also the construction industry and building material retailers. Experts estimate that energy efficiency measures can bring as much as 30 per cent to state and municipal budgets through tax⁶.

Latvia's Law on the Energy Performance of Buildings, which entered into force in 2013, was an important step towards initiating construction of more energy-efficient buildings, promoting rational use of energy

resources and ensuring that society could get information about buildings' energy consumption. The EU was the main driver of such legislation. In summer 2013, the Cabinet of Ministers⁷ set the evaluation and classification system for energy efficiency of comparative buildings. Consumers can evaluate and compare the heat resistance of a building with the help of a simple marking from A to G, where A is the most efficient. A and B buildings correspond to increased energy efficiency class, and C, D, E and F are basic energy efficiency classes. An A rating is given to houses that meet the so-called zero-energy standards,

while an F rating requires managers of residential building to plan energy efficiency improvement (including building renovations) if the average annual heat consumption of the residential building in the



⁶ According to the estimates of renovation works, 17.4% of the total amount of the contract is Value Added Tax, while the tax on labour (employer and employee social security contributions and personal income tax) represented 10 to 15% of the total construction cost estimate.

⁷ Republic of Latvia Cabinet Regulation No. 383 "Regulations on the energy certification of buildings" and No. 382 "Regulations on independent experts in the field of energy efficiency in buildings"

last three calendar years exceeds 230 kWh/m². At the same time, these rules do not restrict owners' rights to handle their property. All residential buildings, including most of the apartment buildings, currently correspond to the E rating, meaning that heat energy consumption exceeds 60 kWh/m² per year.

However, in line with the transitional provisions, a part of important requirements will come into force only after 31 December 2015, and the new provisions do not apply to most of the houses built during the Soviet era which do not have systems for tracking individual heating, because the so-called vertical heating system did not allow it. The law applies only to those houses that have installed an individual energy carrier tracking system. The law also specifies that in advertisements for the sale, rent or lease of a building or a part of a building, the building owner will be required to indicate energy efficiency rating.

The Ministry of Economics plans to review the minimum energy efficiency requirements for new buildings and buildings that can be reconstructed and renovated, in order to set higher requirements for building envelopes and technical systems. While this could lead to higher initial investment requirements for larger buildings, it would be beneficial for both the owner of the building and the economy as a whole in the long run.

- CCFI

One of Latvia's most important tools for increasing energy efficiency is the Climate Change Financial Instrument (CCFI). In operation since 2010, the CCFI derives from the sale of emissions under the Kyoto Protocol. CCFI is supervised by the Ministry of Environment and Regional Protection and held as much as EUR 200 million in autumn 2014. Measures for improving energy efficiency in buildings were implemented by the state in the manufacturing sector, public buildings and the transition from fossil fuels to renewable energy.



In the household sector, CCFI supports the purchase of renewable energy-based equipment that contributes to the improvement of energy efficiency in buildings. Under the programme, homeowners were eager to monitor the energy consumption and find solutions for more efficient management of their homes. CCFI supported private homeowners by providing up to 50 per cent for the purchase of equipment and installation.

Expert opinions are mixed. On the one hand, some of the renewable energy solutions set by the programme have not been the most effective ones for the specific situation. Often

beneficiaries relied on the recommendation of suppliers and vendors who offered not only the purchase of equipment and service but also help in the preparation of the project application. Since the conditions for

accessing financing are set as specific amounts of energy consumption or CO₂ emissions, building owners needed to achieve these figures with the installed equipment. In addition, beneficiaries were ill-prepared for the administrative part of the project. At the time when funding was available, huge increases in the price of equipment created another hindrance.

Also not much information about the advantages of the CCFI programme was made available, so few were able to access it. Although the Ministry made clear the programme's conditions, many expected that a second support would be announced, as is usually the case with municipal programmes. Nevertheless, project results are available, but the opportunities of collecting and sharing the relevant experiences about economic and comfort benefits have not been used.

One CCFI contribution, the programme for the “Development of Public Awareness Regarding the Importance and Opportunities of Greenhouse Gas Emission Reduction”, made an important impact on the public awareness. A number of activities including creative competitions were organised and featured in top newspapers, magazines and websites. There are also support programmes available for NGOs to communicate about climate change and environmentally-friendly behaviour, including the importance of energy efficiency.

Support from the EU funds

With Latvia's accession to the EU in 2004, the country accessed resources for the promotion of growth and competitiveness. Energy efficiency measures have been a priority of the EU Funds since 2008. The EU states in its Country Specific Recommendation that Latvia should provide incentives to reduce energy consumption costs and to shift consumption towards energy-efficient products, as well as to continue efforts to increase energy efficiency in transportation, buildings and heating systems. The recommendation was set in both 2007–2013 and 2014–2020 EU budget periods, and these measures-to-be are in line with Latvia's Energy Long-term Strategy 2030.

Since 2009, the ERDF programme “Heating Efficiency Measures at Multi-residential Buildings” has provided EUR 89 billion and the “Heating Efficiency Measures at Social Residential Buildings” has allocated EUR 6.9 million. Since then, significant increases in funding for these activities, along with improvements in the conditions of the programme, have been made.

The main benefits of the programme have come in cost and energy savings in heating, and improvements in energy efficiency of the housing stock. The intention of the “Heating Efficiency Measures at Multi-residential Buildings” was to increase energy efficiency in multi-residential buildings, ensure the sustainability of the housing stock and the efficient use of energy resources. The average energy savings obtained from implementation of the renovation ranges from 30 to 57 per cent. Additionally, the housing stock has improved, which would not have happened otherwise. Energy efficiency improvements have also contributed to the formation of associations and cooperatives of apartment owners, as residents want to manage the building's management issues themselves. Often without such impetus, residents are unwilling to engage and are also suspicious of someone else organizing projects on their behalf.

According to estimates of the Ministry of Economics, the construction sector has received around EUR 196 billion for these projects, most of which are still in progress. By mid-2013, the whole available funding was already claimed for, so no new applications were accepted since 31 July 2013. In summer 2014, 400 multi-residential building projects were completed and around 490 buildings are underway. Deadlines for most of the projects were exceeded and completion dates extended due to cost increases, procurement procedures, delays in receiving credit and the ability to complete projects within the set two-year period. Also many contracts were broken or terminated⁸.

All the terminated contracts within this programme accounted for EUR 12 million in total. The main reason for dropping out of the programme (indicated by project promoters accounting for EUR 9 million altogether) is that commercial banks do not participate in renovation projects or participate with less favourable conditions even if the programme support had been approved, if building owners are able to pay, etc. Recently, there have been cases when the loan interest rate amounts to 6% and additional guarantees are demanded (now the Ministry of Economics has reached an agreement with the Latvian Guarantee Agency on providing such guarantees).



In 2009, before renovations were available from the ERDF, bank loans were the only way to ensure building renovations.⁹ **With the ERDF support, the use of mortgage for building renovations has resumed, as the majority of residents were unable to provide the 50 per cent co-financing.** Residents' own financing comes from the savings formed of regular payments for planned repairs of the house. In order to build such savings, apartment

owners have to agree in a general meeting on the need for such a payment and determine the aim and amount.

In order to implement energy efficiency projects in apartment building, owners must agree on the desired project, after that apartment owners or their authorised representative is required to prepare and submit the necessary documentation to the Investment and Development Agency of Latvia.¹⁰ Reaching an agreement among the owners of the apartments is one of the major challenges for implementing these measures—residents of different ages, social groups and financial situation have to set a common goal and means how to achieve it. Often the flat owners are not motivated enough or they lack information about

⁸ Informative report on the European Union Structural Funds and the Cohesion Fund, the European Economic Area Financial Mechanism, the Norwegian Financial Mechanism and the Latvian and Swiss cooperation programme absorption until 27/08/2014

⁹ Project "Energy Efficient and Integrated Urban Development Action (UrbEnergy)", Financial concept for energy-efficient renovation of buildings in Jugla, SIA "Rīgas pilsētņēmnieks", 2010

¹⁰ EMZino_120813_Solutions; Informative report on use of the EU funds resources and standard solutions in energy efficiency improvements for typical multi-residential apartment buildings

the benefits of the project. To receive a credit from the bank, consent is needed from 75 to 85 per cent of apartment owners.

The campaign “Let’s live warmer”, launched in February 2010, informed citizens about the benefits of the EU funded programme “Improvement of Heat Insulation of Multi-apartment Residential Buildings”. The Ministry of Economics, in collaboration with other partners, raised awareness about energy efficiency support measures in Latvia and the absorption of EU funds. Similar campaigns were organised across Latvia, including public debates, seminars, conferences and exhibitions with more than 8,500 participants. Part of the workshops was broadcast online and recordings made available. The events covered topics like the need to improve conditions in the home, decision-making at a general meeting of apartment owners, qualitative renovation of a house and experiences from renovated homes.

Since 2010, a competition called the “Most Energy-efficient Building in Latvia” has aimed to promote the best practices in the field of energy efficiency with respect to design, construction, renovation and reconstruction. The campaign includes also an online map of the renovated buildings, where one can find information about projects under the ERDF activity “Heating Efficiency Measures at Multi-residential Buildings”.¹¹

While this campaign improved citizens’ awareness and even received an award from the European Commission, more interest, understanding and motivation is needed for efficiency measures to take off. Though homeowners are responsible for the project results, more capacity is needed in order to ensure quality decision-making and project monitoring. Projects run by building owners lack professional management to ensure that energy audits, design, and construction supervision are prepared in line with the apartment owners’ expectations and regulatory requirements, as well as to achieve the planned rate of energy savings. The monitoring of the “Heating Efficiency Measures at Multi-residential Buildings” by the Investment and Development Agency of Latvia has focused more on processes (procurement documentation checks, contract amendments) than on results.¹²

Projects co-financed by the “Heating Efficiency Measures at Multi-residential Buildings” are regarded as unprofitable because of the long payback period, around 22 to 23 years. There are number of reasons for this, including existing regulations (debt collection, collateral) which restrict the availability of funds and the high costs of loans that do not provide a positive cash flow to the apartment owners. Loans are often not available for economically legitimate projects in the regions. Commercial banks have been cautious about lending to such projects during the previous 2007–2013 EU budget period, and as a result, even if the project corresponds to the requirements of the “Heating Efficiency Measures at Multi-residential Buildings” programme and is approved by the Investment and Development Agency of Latvia, financing has not been available for implementation. Commercial banks see risks and would lend to such projects only for a relatively short period (5–8 years), thus requiring greater individual accountability.

¹¹ <http://www.em.gov.lv/em/2nd/?id=33352&cat=621>

¹² EMZino_120813_Solutions; Informative report on use of the EU funds resources and standard solutions in energy efficiency improvements for typical multi-residential apartment buildings

Compared to the CCFI and support for multi-apartment buildings, the latter resulted in higher annual energy savings (kWh/per year) and CO₂ reductions (kgCO₂/per year). Although CCFI projects are not comparable to energy efficiency programmes implemented by the Ministry of Economics because CCFI projects procure equipment for producing renewable energy, the savings ratio to investment was 0.436 kg CO₂/LVL for the programme projects, while for CCFI projects the ratio to total investment was 0.379 kg CO₂/LVL.¹³

Analysis of the programme results suggests that the former average heat consumption per flat was 175 kWh/m² a year. After the renovation, this indicator is 100 kWh/m² on average. The usual loan term was 10–15 years with interest rate of 3.5–6%. Knowing this data and the heat tariff, it is possible to calculate the financial gain per flat (let us take a demo flat of 50 m², loan term of 15 years with interest rate of 5%):

- **payment for heat before the project: around EUR 598 annually;**
- **payment for heat after the project, including loan costs: EUR 555 annually (EUR 199 for loan repayment, EUR 356 for heat);**
- **payment for heat after the loan term (15 years): EUR 351 annually.**

Investment payback period:

- **4% interest rate: 9 years;**
- **5% interest rate: 12 years;**
- **6% interest rate: not profitable (there is no payback also in case the construction costs rise for more than 20%).¹⁴**

So, for the programme to be viable it is necessary to ensure that technically and financially eligible projects are provided bank loan with an interest rate of maximum 4%.

The benefits of these various programmes have not been sufficiently analysed or have been left to the supervising institutions, often without adequate and readily understandable information presented to the public.

• **New funding model**

For all projects that meet the criteria set in the EU Funds period 2014–2020 vis a vis energy efficiency, funding should be ensured. The Ministry of Economics has urged the promotion of energy efficiency funding model to ensure funding for all the approved projects, and that the amount of aid to beneficiaries is equivalent to the existing EU funds period 2007–2013.

The Ministry of Economics, in its assessment of financial instruments, has said that in order to encourage the renovation of buildings, provisions for increasing the building owners' interest in energy efficiency improvements should be developed and implemented as part of real estate tax legislation. Additionally, identification of energy consumption and assessment of energy efficiency and energy certification at

¹³ EMZinoPielik2_170314_VEERP Long-term strategy for renovation of buildings 2014-2020.

¹⁴ Data provided by the Ministry of Economics regarding implementation of EU Fund projects as of 30.09.2014

public sector buildings, and planning and implementing of energy efficiency activities should be carried out. An analysis of ways to improve regulations concerning the management of residential buildings should be done in order to ensure more effective management of buildings and operational decision-making.¹⁵

Additionally, financial instruments should encourage a more active participation from energy service companies (ESCOs) and attract private funding to the Latvian energy services market. Conditions for the use and better functioning of alternative models (e.g., ESCO and PICO¹⁶) for implementing energy efficiency measures should be created, thereby expanding the range of available solutions and funding sources.

ESCOs are a type of business that provides a wide range of energy-related services, including the implementation of energy saving projects, energy infrastructure outsourcing, power generation and supply, as well as risk management, by attracting private sector capital. ESCO activities allow renovation of real estate that would not be renovated by the state or municipality because of underfunding otherwise. Thanks to ESCO-renovated residential buildings, the municipality receives a clean living space with a restored housing stock, and the residents—a renovated real estate that has increased market value. The EU policy promotes greater involvement of ESCO in the implementation of energy efficiency projects to provide additional financing and more efficient returns on investment.

PICO is a municipality-owned company that operates according to the principles of an ESCO. Usually the municipality does not aim to make a profit and deals with maintaining of public buildings and the housing stock owned by it. Municipal ESCO schemes are referred to in the long-term building renovation strategy as one of the possible funding mechanisms. So far Latvia does not have experience in establishing state or municipal ESCOs. However, the creation of such a model would be possible at the municipal level in cases where financial resources were offered for the development of PICO.

Information about ESCO services is weak in Latvia, and imperfect regulations for public procurement are not suitable for such long-term service contracts. Also residents' distrust in complex systems and the bitter experience of previous building managers does not encourage ESCO activities.

Significant changes in future energy efficiency support measures

A huge challenge for Latvia is the implementation of the EU's Energy Efficiency Directive, which requires Member States to reduce end-use energy consumption. The Directive requires the implementation of two binding goals: every year energy savings provided to end users must reach 1.5 per cent (8.9 PJ) and 3 per cent of the area of state-owned buildings must be renovated. The Latvian Energy Efficiency Obligation (EEO) scheme is meant to ensure that energy distribution or retail energy sales companies, which have been delegated the responsibility, reaches the cumulative end-use energy savings of 1.5 per cent. This obligation scheme has to be implemented from now until 31 December 2020. To ensure that the 1.5 per

¹⁵ EMZino_120813_Solutions; Informative report on use of the EU funds resources and standard solutions in energy efficiency improvements for typical multi-residential apartment buildings

¹⁶ ESCO—Energy Service Company, PICO—Public Internal Performance Commitments

cent target is met, the responsible parties must introduce energy efficiency measures in any end-use sector and achieve new savings in line with the set objectives every year.

The Ministry of Economics requires that the EEO scheme refer only to district heating, electricity supply and gas supply companies, which have to implement energy efficiency measures at their own expense. Measures can be wide-ranging, like installation of heat regulators and meters in apartments, solar collectors for heating and water heating, more energy-efficient boilers or simply changing electrical devices and lighting elements. If companies do not take these measures, then they must contribute to the state fund. It is now known that there will be a rotating fund, the Latvian Energy Efficiency Fund (LEEF), where funds will be combined with the EU funds in order to introduce as many energy efficiency measures as possible.

An energy supply company interested in carrying out saving measures and willing to fund the activities for the consumer in order to achieve savings? Sounds indeed promising. But the “EY” study published in September shows that heating tariffs to final customers may increase from 5 to 25 per cent, by implementing energy efficiency obligations. The same concern is expressed by the Latvian Association of District Heating Companies, who calculated that by implementing the energy efficiency obligation schemes, heating tariffs to end user will inevitably grow by the same amount. The association suggests that there is a need to promote the involvement of residents: for example, in the case of households, legislation should define a concrete minimum energy consumption threshold, above which households would be required to implement energy efficiency measures.

Latvia has chosen to achieve the objective of saving not only with the introduction of EEO scheme, but also through the implementation of a variety of alternative measures using EU funding. For the 2014–2020 EU funds period, an indicative EUR 176 billion is planned for the improvement of energy efficiency at multi-apartment residential buildings. This support, in addition to the EU funds’ investments, will attract money from international financial instruments.

The main difference for beneficiaries who are used to at least a 50 per cent grant is that now they will receive a loan of 100 per cent of the amount required for construction and supervision costs. This loan will have a low percentage rate (EURIBOR + 2 per cent) but if the project will achieve high energy efficiency readings, it is possible to receive a grant of up to 35 per cent of the loan amount. The idea of the loan is to carry out the most effective investment and to insulate as many buildings as possible. In several EU countries, including Estonia and Lithuania, better results can be achieved even with less support.

From now on, the quality of the energy efficiency project or the achieved energy consumption for heating after renovation will be important, meaning that a grant of 25 per cent will be available if energy consumption for heating after implementation of the renovation is not more than 90 kWh/m²; 30 per cent if not higher than 80 kWh/m² per year, and 35 per cent, if not higher than 70 kWh/m² per year. In addition, a part of the loan principal will be erased only after one full heating season.

Currently information about this funding model is rather general and there is no concrete information about all the criteria by which the LEEF (which could be Latvian Development Financial Institution

“Altum”) will determine whether to give a loan to a project. “Altum” projects require sponsors to provide support during the project and advice in the preparation of project documentation.

Opinions on this model are mixed, particularly with respect to the availability of a loan for project. The majority of apartment owners, energy experts and representatives of municipalities speak positively about the scheme, as it would prevent mistakes and failures of the previous period.

But there still are biases against taking credits, and one of the reasons for doubts is the level of support. During the prior period interest rose sharply about insulation projects with support of 50%, but now the maximum support reaches 35% only and claims for particularly high quality conditions, and there are concerns that this will cause drop in interest, given the particularly high quality conditions.

Another concern is that the 20-year loan repayment period used by the Ministry of Economics may not match the actual implementation experience, as residents surveyed by organisations have closed loan contracts on average term of ten to twelve years.

Many households are limited in their ability to make substantial financial commitments and so the state should provide a mechanism to involve these residents and households into energy efficiency measures. This is particularly important in order to avoid situations where the proportion of such residents and households make it impossible for a sufficient number of building inhabitants to agree on the implementation of energy efficiency project.

When introducing new support policies, it is important to encourage the involvement of municipalities and to raise awareness about the importance of energy efficiency measures. To successfully attract funding for regions and municipalities, a well-coordinated information campaign is needed to promote public awareness and motivate participation in activities related to energy efficiency. By using the traditional model of cooperation among municipalities, an informative support centre that could provide loan recipients with all the necessary information for preparation of the technical documentation of the project could attract experienced energy auditors and provide financial support for the development of documentation as well.

Attention should also be given to the fact that energy audits are a necessary condition for the preparation of a project and at the moment is not intended to be covered by project costs. Through the involvement of municipalities in such activities however, this could contribute to encouraging energy efficiency activities. Energy efficiency measures introduced during the previous EU funds period show that there is still not enough time devoted to the development of technical documentation, which then contributes to delays in project implementation and significant cost increases. To avoid these failures, information about the importance of this documentation, the most effective solutions for energy efficiency, and an explanation of long-term investments in both social and economic context should be available.

Currently, financial support for the development of technical documentation for the implementation of energy efficiency measures is provided only in a few municipalities: Carnikava, Ikšķile, Limbazi Marupe, Rīga, and others. We encourage national level promotion of municipal participation in information campaigns, as well as availability of technical and financial support for project preparation. This can be

furthered by promoting examples of good practices or by drawing up common guidelines for municipalities, promoting public involvement in the implementation of energy efficiency measures.

In order for the model to succeed, there needs to be serious planning to attract private and international funding for such projects and develop funding streams. A decrease in the risk of poor quality project implementation is needed. Measures should focus on achieving particular results in energy saving rather than on abiding by procedures and should continue to increase public awareness about the opportunities for energy efficiency measures.

Institutions must invest time to prove the benefits from energy efficiency measures by monitoring the industry, as well as continue to work on public information and education in this area. In situations where people are not motivated by the fact that their energy bill is growing, comfort levels are dropping, property is of little concern and ESCO companies do not build trust, chances are that the new energy efficiency fund is the only hope. By polishing the support scheme, Latvia could manage to achieve the set objectives. The Energy Efficiency Obligation scheme could provide a great investment, both by contributing directly to the reduction of final consumption and by contributions to Energy Efficiency Fund (EEF). Since the State already has institutions to deal with the implementation of energy efficiency measures, it would be wise to consider opportunities to build EEF on the basis of the existing capacities. EEF could be very effective if even more financial instruments could be attracted in addition to the already planned EU funds' investments and revenue from EEO scheme.

Big energy companies have substantial earnings and fulfilling these obligations should not be a problem. Serious consideration should be given to the fact whether the achieved energy savings can cover the cost difference to residents. Also the State should ensure a support scheme to low-income families, with particular attention paid to regions where the development index is not high and bank loans may not be available.

On the positive side, financing for energy efficiency in buildings will be available to more and more building owners, but the grant will depend on energy efficiency indicators that could motivate implementation of complex measures. Given the fact that the investment required in this area is much greater than the available resources, a serious consideration should be given to how to attract private investment and to introduce measures encouraging citizens to become more energy efficient.

It is no secret that we have made a lot of quality-related mistakes in energy efficiency in buildings—we are still learning. As some building experts say, some buildings that are renovated now will have to be renovated again in a couple of years, and this re-renovation could be much more expensive if not done properly with passive or low-energy building components the first time. Thus, a serious focus should be paid to quality work, materials and professional management of projects, if we are to benefit in the long-term.

The report has been prepared within the project "Housing energy efficiency: resource economy and environmental protection" implemented by the Freedom and Solidarity Foundation of Latvia with the support from the Nordic Council of Ministers.

Housing energy efficiency promotion in Finland

26.9.2014, Dr Hanna-Liisa Kangas, Senior Climate Policy Officer, WWF Finland

Background

Finland is one of the best performing countries in cleantech innovation indexes (WWF 2014). It shows that Finland is very good in creating new cleantech innovations, but at the same time Finland has not succeeded in the commercialization of these new cleantech products. This is mainly caused by the lack of domestic cleantech markets. The main cleantech sector in Finland is energy efficiency, and it is one of the best examples of poor domestic markets – and great cleantech possibilities.

In Finland the energy consumption per capita is the second highest in the EU and it is double the energy consumption of the EU average (Metla 2013). Housing sector accounts for about 20 percent of final energy consumption in Finland. One third of the energy consumption of the housing sector is caused by electricity consumption, and the remaining two thirds is heat consumption. (Statistics Finland 2014.) Heating is also the biggest component of Finns carbon footprint. The Finnish houses are not energy efficient in the average, the average rating is for them F, when the scale is A-G.

Unfortunately, the Finnish energy efficiency policy in the housing sector could be mostly defined as implementing EU policy by taking the easy way out. Since the EU policy gives strong regulation for the new buildings, they are performing well in energy efficiency. However, the building stock renews slowly, so the main potential in improving the energy efficiency of housing sector is in the current building stock. (NEEAP-3 Finland 2014.)

At the current policy framework, the biggest housing energy efficiency programs in Finland are aimed at (1) improving energy efficiency of new buildings, (2) increasing the use of heat pumps, and (3) improving energy efficiency of oil heating. Despite the significant potential, the energy efficiency renovations of the current building stock are in minor role compared to the above-mentioned policies. (NEEAP-3 Finland 2014.)



Watch Presentation:



Finnish housing sector energy efficiency policies

A bulk of Finnish energy efficiency policies are aimed for other sectors than housing. Also, most policies are national implementation of EU directives. In addition, many of the energy efficiency improvement tools are international in nature, such as the ESCO and Green Lease models. The main national policies for the housing sector are presented in this chapter. In some cases the separation between EU and national policies is impossible. The main references for this chapter are NEEAP-3 Finland, Motiva, Ministry of Employment, the Economy and Ministry of Environment and Energy Efficiency Agreements.

Household subsidies

Tax credit for domestic costs. The work related costs of many energy efficiency improvements and renovations can be credited for in taxation. 45 percent of the work related costs can be relieved in taxation. The energy efficiency related work that can be credited for is e.g. heating system renovation, renewal and improvement. The subsidy is only aimed at work related costs, so materials and other costs are excluded from the tax relief. One person can get maximum of 2400 euros of tax relief annually, and the maximum for one household is 4800 euros. The purpose of the tax relief is to increase the demand for labor and also promote energy efficiency. The main energy efficiency improvement expected from the tax relief is the installations of heat pumps. For heat pumps, the expected energy saving by 2020 is 7726 GWh annually.

Energy subsidy for households. Low income households can apply for discretionary energy subsidy for (1) energy efficiency improvements or (2) renewable energy heating systems. The subsidy covers maximum 25 percent of the renovation costs. Same household can apply for tax credit for domestic costs and energy subsidy for households. The expected energy saving by 2020 is 1321 GWh annually.

Energy efficiency agreements

Property and Building Sector energy efficiency agreement is divided into two sectors: Housing and commercial properties, which both have their own action plans. The agreement in the housing properties sector is a rental property action plan aimed at companies and organizations renting apartments for households. The main energy efficiency action in the agreement is to promote energy surveys in rental properties. Twenty-six companies have joined the agreement covering approximately 80% of the housing stock falling under the operational program. The expected energy saving of housing properties by 2020 is 430 GWh annually.

Höylä III energy efficiency agreement. The Höylä III energy efficiency agreement has been agreed between the Finnish government and oil sector. The aim of the agreement is to improve energy efficiency in the use of heating oils and transportation fuels and to increase the use of renewable energy sources. The main working of the agreement is in providing advisory service for households. The expected energy saving by 2020 is 2476 GWh annually.

Energy efficiency regulations

Energy efficiency regulations for new buildings. All new buildings have to be built according to the energy efficiency requirements. The regulations cover both heating and electricity consumption of

buildings. The regulations have been altered in the years 1978, 1985, 2003, 2008, 2010 and 2012 to comply with the technology transfer. The latest change in 2012 aims at decreasing the heat consumption by 20 percent. The expected energy saving by 2020 is 7085 GWh annually.

Energy efficiency improvements of the current building stock. Energy efficiency improvements have to be taken into account in major overhauls. However, the rate of major overhauls has not been increased, and the energy efficiency improvements that are not related to major overhauls are not obligatory. The energy efficiency improvements have to be made only if they are cost-efficient and also technically and functionally appropriate. By 2020, 6 percent of the current building stock is expected to be improved by this regulation. The expected energy saving by 2020 is 1750 GWh annually.

Energy Audits. Energy audits are introduced gradually for different building types. By 2017, energy audit is required for most building types. Energy audit determines building's energy class, graded from A-G. A "class A" property consumes the least energy, while a "class G" property consumes the most. There is no specific energy saving target for energy audits.

Conclusions

Finland has multiple energy efficiency policy instruments in place for the housing sector. The main solutions are for new buildings, improving oil heating efficiency and increasing the amount of heat pumps. However, the solutions for improving the energy efficiency of the current building stock are very limited, and are not expected to contribute to cause major energy savings.

Since Finland is one of the leading countries in cleantech innovations, improving energy efficiency policies in the housing sector would help to create domestic markets for the innovations. Energy policy is expected to be one of the major discussions in the forthcoming Parliamentary elections in April 2014. Thus, energy efficiency will most certainly be in the heart of the political discussions in Finland in the upcoming months, and all knowledge from the policies of other countries is most welcome.

References

- Energy Efficiency Agreements 2014. <http://www.energiatohokkuussopimukset.fi/en>
- Metla 2013. Finnish Statistical Yearbook of Forestry. Sastamala 2013.
- Ministry of Employment and Economy 2014. https://www.tem.fi/en/energy/energy_efficiency
- Ministry of Environment 2014. http://www.ymparisto.fi/fi-FI/Rakentaminen/Rakennuksen_energia_ja_ekotehokkuus
- Motiva 2014. Final consumption of energy. http://www.motiva.fi/en/energy_in_finland/energy_use_in_finland/final_consumption_of_energy
- NEEAP-3 Finland 2014. http://www.tem.fi/files/40778/Suomen_NEEAP-3_29_04_2014.pdf
- Statistics Finland 2014. http://www.stat.fi/index_en.html
- WWF 2014. Cleantech Innovation Index 2014. http://wwf.panda.org/what_we_do/footprint/climate_carbon_energy/?224397/Global-Cleantech-Innovation-Index-2014-report-released

State grants in Estonia for renovation of Soviet-era block houses and alternative financing through ESCO activity

Jaana Tepp, CEO of energy efficiency and renewable energy consultation company OÜ Energiasäästubüroo (Energy Saving Bureau Ltd).



Most buildings in Estonia are energy inefficient. The average annual heating energy used in the buildings is 200-400 kWh/m² compared to the figure in industrial nations with a similar climate which is only 150-230 kWh/m². Thus Estonians consume more energy and also pay quite a lot for it.

Rapidly rising energy prices not only lead residents to supplement the heating insulation of the buildings, but also they are forced to. Above all, additional insulation is a way of saving both on a personal and on a national scale. The microclimate of the rooms can be improved by the insulation. In addition, the less energy is used the less the environment is damaged.

For changing the current situation, Estonian government has introduced a series of measures to promote rapid renovation of soviet-era block houses. Most of the instruments are provided to the market through state fund KredEx who is offering currently to the market two main instruments: renovation loan and reconstruction grant.

Renovation loan

Long-term renovation loan with low interest rate is suitable for apartment associations wishing to renovate an apartment building and thus improve its energy efficiency and the living environment.

Renovation loan is designed for the reconstruction and improvement of energy efficiency of apartment buildings constructed before 1993. Renovation loan can be applied for by apartment associations, building associations and communities of apartment owners in buildings with at least 3 apartments.

Watch Presentation:



An ordinary bank loan has a too short repayment period and higher interest rate for an apartment building. Renovation loan provides a more favorable interest rate and a longer repayment period for apartment buildings.

Reconstruction grant

Reconstruction grant is suitable for apartment associations planning full-scale reconstruction.

The grant is designed for associations and communities wishing to reconstruct their apartment buildings as completely as possible. The grant may be combined with the renovation loan to decrease the share of required self-financing, as well as with collected own funds. Apartment buildings constructed since 1993 that do not belong in the renovation loan target group of KredEx may combine the grant with regular loan. The grant may be applied for in the amount of 15%, 25% and 35% of the total project cost depending on the level of integration in the reconstruction of the relevant apartment building.

Although, there is always more interested parties for renovation than capital available, therefore Estonian Energy Service Companies (ESCOs) are looking towards introduction of a new innovative financing measures to the market.

As described above, all state aid is targeted currently towards residential sector, therefore, businesses and industry are excluded from the public financing, where innovative financing is highly welcome.

Estonian ESCO market analysis

Underinvestment and resulting energy inefficiencies exist in private and public sector assets of Estonia. These assets includes (a) public sector buildings and infrastructure (e.g. schools, hospitals, street lighting), (b) plant and equipment of industrial Small and Medium sized Enterprises (SMEs) and (c) multi-party residential buildings.

These energy inefficiencies give rise to commercially viable energy saving investments. Such investment opportunities can save up to 60 per cent and have commercially attractive payback periods (<7 years).

The available commercially viable energy efficiency investments are often not exploited by the owners of the assets. This is due to the owners (a) lacking knowledge for designing energy efficiency projects, (b) lacking funding or them (c) having different priorities, in particular to invest in core business activity and growth. Even when financing is available, this could be leveraged with private sector financing that exploits these commercial attractive energy saving opportunities.

Private sector engineering companies, also called Energy Service Companies (ESCOs), can exploit these efficiency investment opportunities. They have the expertise for designing, implementing and operating these commercially viable energy saving investments. ESCOs offer different commercial concepts for exploiting these commercially attractive saving opportunities, which give ESCOs a smaller or stronger involvement in operational aspects.

These energy efficiency investments can be made under different commercial ESCO concepts, each of which has particular strengths and weaknesses in different sectors.

- (a) In sectors with stable, predictable energy consumption (e.g. public sector buildings and street lighting, as well as some industrial sectors and large residential buildings), Energy Performance Contracting (EnPC) is such an ESCO concept, whereby the private firm or public authority selects an ESCO to undertake energy saving investments. These investments are repaid from future guaranteed energy savings. ESCO is particularly used in industrial sectors.
- (b) In sectors with unpredictable energy demand or with individual energy intensive applications Energy Supply Contracting (ESC) is more often used. The ESCO provides a specific type of energy (e.g. only heat or only pressured air) for a regular base payment and an additionally charged fixed price per consumed energy unit. ECS is most common in residential buildings but also industrial sector.
- (c) Constructing new, energy efficient buildings or infrastructure (e.g. water plant) can also be designed, implemented, financed and operated by a contractor/ESCO. This concept is referred to as Private Finance Initiative (PFI). Depending on the nature of the project and related energy efficiency component, PFI is also suitable for ESCOs.

While there are qualified engineering companies in the Baltic countries that are capable to offer such services, their limited balance sheet capacity does not allow them to take long-term loans or develop large portfolios of ESCO projects.

A financing product that solves this financial constraint enables ESCOs to sell future receivables (forfeiting) to an FI/non-banking FI. Different safeguards are to execute the forfeiting transaction only once the energy efficiency investment (equipment) is completed, commissioned and savings have been verified. The forfeiting transaction also only relates to the capex of the project, i.e. no future receivables for services are sold. Forfeiting helps ESCOs to refinance themselves and to release working capital for new projects. The ESCOs remain liable for the energy savings performance during maturity of EnPC. Forfeiting can refer to capex under EnPCs, ECSs and under PFIs.

Nevertheless, as in the ESCO concept there is nothing new, the current ESCO market in the Baltic countries is still in development phase. While there is a demand for energy services, in Estonia there are less than 10 established companies capable to offer full range of ESCO services in the residential, public and industrial sector. Totally over 100 small scale energy consultancies are registered, but only few are able to cover all needed competencies.

The estimated Estonian market size is in the range of EUR 5 million to EUR 10 million annually. As far as potential customers are not well informed about availability of the ESCO services alongside with EnPC/ESC/PFI contractual opportunities, the market size estimation is given by four basic variables derived from Estonian data. As the heat consumption in Estonia is around 9,2 TWh annually and if to calculate average energy saving potential close to 40%, we can come to 3,6 TWh savings annually with monetary value of 288 million EUR.

Under the current financial markets situation, the main obstacle for implementation of energy efficiency projects is availability of off-balance sheet, long term financing. Additionally administrators of public assets (buildings or street lights) often do not have the technical and project management expertise to

undertake such investments and evaluate their costs, risks and benefits. Therefore the potential client sectors would be a) residential multifamily buildings; b) public buildings and local municipalities; c) industrial SME's.

The verified scope of investment for renovation of residential multifamily buildings during 2010-2012 (including the state aid) was around 50 million EUR. Therefore local ESCOs can estimate targeting around 120 000 sq. meters of renovated residential multifamily buildings annually for EnPC contracts. As state aid budget for renovation of residential multifamily buildings is highly volatile and can not carry long term policy measures, the local ESCOs must work out with the Scandinavian financial sector the suitable EnPC financing model to be ready to offer new instruments to the market.

According the Estonian State Real Estate Agency, who is managing part of the public buildings, are having in their portfolio over 846 854 sq. meters of assets, that requires attention and shall be primary target for local ESCO-s. The State Real Estate Agency is not covering a whole real estate portfolio of local municipalities. More than double of the named portfolio is under direct management of local municipalities that requires ESCO's attention. Also need for street lighting projects is high, but proper investigation of technical conditions and investment need of abovementioned sector is desirable.

Investment volume under PFI contracts for industry is rather unknown and shall be a matter of a further investigation. Although, local engineering ESCO, the Energy Saving Bureau Ltd. www.energiaaudit.ee has conducted at 2008 the research among 50 industrial companies regarding willingness to improve their energy management, found that more than two-third of the respondents were indicating further interest for co-operation. Because of lack of availability of proper investments, results of the research were not implemented.

Estonian ESCO status 2014

Despite favorable conditions described above, the Estonian ESCO market has not been able to take off primarily due to missing suitable financial instrument and abovementioned state grants and low interest rate loans for residential sectors that compete with market-based offers (Bertoldi, Boza-Kiss, and Rezessy 2007; Marino et al. 2010).

In the industrial sector, lack of suitable financial instrument have restricted wide introduction of ESCO projects. Based on the first NEEAP, the government had plans to upscale the ESCO market through measures such as the "development of the provision of energy services and the training of specialists" (Ministry of Economic Affairs and Communications of Estonia 2011), however these activities were not realized.

Current size, trends and features of the market

There are 2-3 small local companies in Estonia that deal with ESCO services as a supplementary business (JRC survey 2012). The market is practically unchanged for more than a decade with very few ESCO projects carried out. The market potential of all building renovation is estimated at €100 million (JRC survey 2012). At 2013 Estonian government conducted through Environmental Investment Centre the market research on ESCO opportunities and the agency is researching the ways to secure from the next

EU budgetary period resources for diminishing the harmful impact of accumulated discounting of the external financing of ESCO projects. Also possible bridge financing for ESCO-s is analyzed. Several ESCO seminars have been conducted, but as market lacks the proper ESCO financing instrument, the local engineering ESCO's can not trigger the clients to enter the EnPC negotiations.

Also, there is no ESCO association in Baltic's that can address abovementioned issues towards policymakers and financial community.

Types of projects

The few engineering ESCO projects that are done, are directed at HVAC renovation, automation, lighting in private tertiary buildings, such as hotels, offices, retail, and sometimes in industrial buildings (JRC survey 2012) with short payback time. Mostly third part financing has been used and due to lack of proper ESCO financial instruments only engineering and project management intelligence is offered.

Barriers

Competing energy efficiency solutions in the building sector are of outmost importance. Limited amount of state grants and low cost loans for housing sector available, practically impede efficiency offers based on profitability as high expectations for continuation of the grants makes competitive offers difficult. According new structural funds action plan, the Ministry of Economic Affairs and Communications is planning to distribute at 2014-2020 over 232 million euros as follows:

- 102 million euros for energy efficiency in apartment buildings;
- 78 million for renovation of inefficient heat pipes in district heating systems;
- 43 million for energy efficient street lighting systems at the municipal sector.

Therefore there is still presumption among SMEs, who might be the primary target for EnPC offers and ESCO deals, that somehow, from somewhere there might be some grants available, and therefore commercially viable offers are tended to be turned down.

Summarizing the current ESCO market in the Baltic's, there needs to be special task force established for analyzing the SMEs readiness to receive third party financing tied to the efficiency gain via energy performance contracting and if solution found, to introduce a new instrument to the market through special revolving fund or other investment institution.

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