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STATUS-QUO ANALYSIS OF ENERGY EFFICIENCY POLICIES IN 8 EU COUNTRIES

D 1.2.

PART OF WORK PACKAGE 1: MAPPING OF ENERGY EFFICIENCY POLICY INSTRUMENTS AND AVAILABLE TECHNOLOGIES IN BUILDINGS AND TRANSPORT

NATIONAL REPORT FOR ESTONIA

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Contents

Table of Tables

ACRONYMS

CHP - Combined heat and power

EIB - European Investment Bank

EIC - Environmental Investment Centre (Estonia)

ENMAK - National Development Plan of the Energy Sector Until 2030 (Eesti Energiamajanduse Arengukava 2030+)

EPBD - Energy Performance of Buildings (Directive

ERDF - European Regional Development Fund

ESF - European Social Fund

IEA - International Energy Agency

KIKAS - Environmental Investment Centre Data System (SA Keskkonnainvesteeringute Keskuse andmesüsteem)

Kredex - Export Credit and Guarantee Foundation (Ministry of Economy and Communication)

MEAC - The Ministry of Economic Affairs and Communication (Estonia)

NZEB - nearly Zero-Energy-Buildings

R & D - Research & Development

RKAS - State Real estate company (Riigi Kinnisvara AS) (Estonia)

EXECUTIVE SUMMARY

In comparison to D 1.1 where policy packages are in the focus of analysis, this chapter presents single energy efficiency policies implemented. Additionally, specific case study of a city, focussing on the vertical integration of local actions into the national energy efficiency framework and vice versa, is presented at the end of this national report.

The main six policy instruments in the building sector analysed hereof, are energy labelling of buildings; energy audit and advice and assistance; the credit and export guarantee fund (KredEx Fund); establishment of energy savings competence centre under KredEx; pilot projects implemented to test zero-energy buildings; and state support schemes implemented by the Environmental Investment Centre (EIC). The summary table for the building sector in terms of policy instruments, can be found within the same report in table 3. Perhaps the most influential policy instrument in Estonian building sector today is the energy labelling of buildings which is an obligatory action for all the new buildings built as of January 1st 2009 onward. Another important instrument is the establishment of Foundation KredEx in 2001 and its funds and services offered for the renovation of apartment blocks explicitly. The multi-level policy process in building sector described in this paper, is the Tallinn city project „Fassaadid korda“, offering self-financing support (in addition to KredEx funding) to the apartment associations in order to help them renovate their apartment buildings.

It is only since 2010 that energy efficiency policies are introduced in Estonian transport sector more explicitly. One of the key roles in the policy instruments have been EU structural funds that have enabled funding for national, regional and local public transport and cycling infrastructure development (new passenger trains on commuter and long-distance lines, partly new trams and tramline in Tallinn, new rolling stock for regional bus lines, investment scheme for developing multi-modal access to railway stations and cycling infrastructure in major cities) and R&D activities in the Smart City Cluster (developing mobile services for public transport management). In July 2015 increasing fuel excise duty by 10% annually over the next three years was decided by the Parliament, having an estimated 5-7% energy saving impact on the transport energy consumption. New cars registered in Estonia tend to rate as the least fuel efficient cars compared to other EU member countries – therefore Estonian Ministry of Environment is introducing an energy labelling system for passenger cars from 2016 onwards in order to raise awareness of consumers. As energy efficiency is not a primary goal for all of these policies and the energy saving impacts are either not thoroughly assessed or monitored for these policies, there is only very little data available for energy efficiency impacts of these transport policies.

1. POLICY INSTRUMENTS ON THE NATIONAL LEVEL

1.1 POLICY INSTRUMENTS IN THE BUILDINGS SECTOR

1.1.1 Regulatory Policy Instruments

In Estonia, there are a number of national laws and regulations set on buildings such as the new "2030 Energy Management Development Plan", and various Acts (i.e. 01.07.2015 Building Act, 09.01.2013 Minimum Energy Performance Requirements) formed under the Minister of Economic Affairs and Communications, the latter being the main national body responsible when it comes to energy management in Estonia.

1.1.1.1 Energy labelling of buildings

a) General information

In Estonia, energy labelling of buildings could be considered as one of the most important policy instruments in further developing energy efficiency in buildings sector. In line with the EU Directive 2002/91/EC, all the buildings and its parts must be provided with an energy label. The legal basis for issuing the energy label was set by the Regulation No. 107 of 17 December 2008 "Form of Energy Performance Certificate and Issuing Procedure" of the Minister of Economic Affairs and Communications (MEAC) (Energiamärgise..., 2008[1]). The overall responsibility to manage the requirements related to the energy labelling of buildings is the duty of MEAC set by its construction and housing programme. New stricter energy performance requirements for all the buildings have been in effect since 9 January 2013 (Estonia 2013…, 2013). Yet today, new regulation was put in force by the Minister of Economic Affairs and Communications since July 2015, "Requirements for certification for energy and the energy label" (Nõuded..., 2015[2]).

b) Type of policy instrument

The "energy labelling of buildings" belongs to the policy type "Regulatory". It is a regulatory policy instrument which requirements are formed under the Building Act (Nõuded..., 2015). It is obligatory for all new buildings built from 2009 onward.

c) Objectives

Energy label or energy performance certificate is a document, the objective of which is to give an information about how much does a building with the assurance of internal climate consume energy in comparison with the average energy consumption of other equivalent buildings. Energy consumption includes the amount of energy that is needed for heating, cooling, hot water, ventilation and lighting of a building. The energy label gives the buildings energy efficiency class. The higher the energy efficiency class (from A, B, C … to G) of the building is, the lower are the electricity and heat consumption per square metre of the building (ÅF-Consulting, 2015).

[1] Energiamärgise vorm ja väljastamise kord 17.12.2008 nr. 107, RTL 2008, 100, 1428 [The form of the energy label and its issuing procedure]. Accessible at: https://www.riigiteataja.ee/akt/13094120 (30.07.2015).
[2] Nõuded energiamärgise andmisele ja energiamärgisele 30.04.2015 nr. 36 [Requirements for certification for energy and the energy label]. Accessible at: https://www.riigiteataja.ee/akt/106052015002 (30.07.2015).

In comparison to other countries part of International Energy Agency (IEA), Estonia stands out as one of the biggest household energy users, residential sector contributing to 32.8% of total final energy consumption according to 2011 statistics (transport sector being the second largest consumer group) (Estonia, 2013). An energy label is thus an important tool for the flat owner in Estonia to know, what electricity- and heat bills there will be for him/her in the future. Thus, an energy label should promote the use and ownership of energy efficient homes. It helps to compare the energy use of different buildings, helping to choose the most energy efficient type of property.

d) Target groups

The issuing of energy labels is relevant for all the buildings (all the new buildings built from 2009 onward), except the buildings which have been recognized in accordance with the "Law on National Heritage", and the buildings which character or appearance would change under the appliance of minimum energy requirements. The minimum energy performance requirement is also exempted from:

a) The places of worship;
b) buildings with a service life of up to two years;
c) industrial buildings, workshops and a low-energy, non-residential agricultural buildings;
d) the buildings used for housing in less than four months a year;
e) buildings with usable area up to 50 m2 (Energy..., 2015).

e) Rules and influencing mechanisms

At present, new single-family dwellings need to achieve a 160 kilowatt hour per square metre (kWh/m2) total annual weighted energy consumption, and multi-apartment houses to achieve total weighted energy levels of 150 kWh/m2 per year.

The energy label must be given to all buildings or its parts, including apartments which are to sold or rented after January 1st 2009. The landlord or the seller of the flat must be able to let the buyer or renter to familiarize him-/herself with the energy label of the building. In case the building is older than from 2009, the energy label must be issued from a local government. Thus it plays an important role on the housing market in general (Energy..., 2015).

f) Implementation network

The energy label of all the new buildings built from 2009 onward must be provided by that company or person who drew up the building project. The entrepreneur issuing the energy labels must have a corresponding legal relationship with a specialist who can prove his\her competence with a professional certificate. The awarding of qualifications for energy auditors and energy label publishers is done by the Union of Estonian Heating- and Ventilation Engineers[3]. The qualification is awarded after the successful completion of the vocational training (Energy..., 2015). Those trainings are provided by the Open University of Tallinn University of Technology. The buildings which are just to be designed or which are undergoing a major renovation are to be provided by the energy labels designated by the design contractors. In line with the building code, the entrepreneur who gives out the energy labels needs to enter the data to the national construction register available electronically. When doing so, the form of the energy label will be generated automatically (Energy...,

[3] http://www.ekvy.ee/index.php?lang=et

2015). The overall duties related to the requirements issuing an energy label of the buildings falls under the tasks of MEAC.

g) Outcomes

An energy label of the building helps the tenant or buyer of the house\flat to be aware of the costs of the energy bills which the building may occur to, thus it in turn helps to further increase the energy awareness among the inhabitants in general. The more so as it is an obligatory action as from 2009 onward. Since energy label is to be given out by various companies eligible for it, it is hard to know the percentage of how many of the buildings out of the overall Estonian housing market are still lacking the energy label. No precise data is available about the exact figures of achieved energy efficiency after the implementation of the energy label regulation. Yet it is a positive approach towards increasing awareness and actual practical results to be seen.

1.1.2 Dissemination and awareness instruments\ information

1.1.2.1 Energy audit and advice, and assistance

a) General information

Energy audit is a procedure which explains how energy is being used, what the possible energy savings methods are and how energy can be used more sustainably on the object of the audit. Energy audit gives an overview about the technical situation of the building as well as the energy loss. Audit highlights the priorities of the renovation work together with the energy savings and feasibility study analysis. The requirements are laid down in a regulation of the Minister for Economic Affairs and Communications under „The formal requirements of energy audit of the residential buildings and its issuing procedure“, adopted in 04.03.2014[4] (Elamu..., 2014).

b) Type of policy instrument

The “energy audit and advice, and assistance” belongs to the policy type “Energy information and advice”. By performing an energy audit of building, useful information in terms of how building can be made more energy-efficient, will be made available. It is a necessary step also towards another regulatory policy instrument “energy labelling of buildings” which is in turn an obligatory action from 2009 onward.

c) Objectives

The main objective of the energy audit is to analyse buildings in respect of its energy usage in order to provide and promote more energy efficient solutions. The technical and energy situation of the building is examined in order to draw out a long-term renovation plan. After successful completion of

[4] Elamu energiaauditi aruande vorminõuded ja väljastamise kord 04.03.2014 nr. 16 [The formal requirements of energy audit of the residential buildings and its issuing procedure 04.03.2014 nr. 16], accessible at: https://www.riigiteataja.ee/akt/111032014004 (28.07.2015).

the energy audit, energy label could be attributed to the building, as well as it helps to implement different measures necessary for making the building more energy efficient.

d) Target groups

Energy audit could be ordered by anyone who is need of:

- Evaluation of energy efficiency of building envelope and heating systems and planning of renovation measures;
- planning of energy savings measures for a building if renovation of building envelope is planned and necessary;
- applying a loan from the bank;
- issuing an energy certificate;
- when improving the technical condition of building and improving energy efficiency at the same time, then the building's certificate will be better and the value of real estate higher (Energiasäästu..., 2015).

e) Rules and influencing mechanisms

The received data will allow the auditor to perform calculations, based upon which he or she can offer renovation measures in order to reduce energy consumption. Since issuing an energy label is obligatory as of 2009 onward, ordering an energy audit is a necessary step as to first analyse an energy performance of a building, based on what an energy label can be given. In addition, an influencing mechanism for people to order an energy audit in general (as to renovate their homes), is their own financial interest to keep their energy costs low, the more so as the energy prices are currently increasing.

f) Implementation network

As set in the regulation Nr.16 04.03.2014[5] set under § 38 of the Building Act, energy audit can be performed by any entrepreneur who has certain qualifications for it. The issuing of energy audit is led by specialist who complies with the rules set in paragraphs 1 and 2 of § 47 of the Building Act. All these rules have been set by MEAC who has the overall responsibility in managing the requirements and splitting the tasks related to issuing of an energy label.

g) Outcomes

Since energy audit is an evaluation made for the building to find out its current energy performance and the necessary steps which could be made in order to improve it, similarly to energy label it is hard to draw out any quantitative outcomes. Yet again it is a positive approach towards increasing awareness and actual practical results to be seen.

[5] Elamu energiaauditi aruande vorminõuded ja väljastamise kord 04.03.2014 nr. 16 [The formal requirements of energy audit of the residential buildings and its issuing procedure 04.03.2014 nr. 16], accessible at: https://www.riigiteataja.ee/akt/111032014004 (28.07.2015).

1.1.3 Economic policy instruments

Energy efficiency improvements in existing buildings are currently driven by funding programmes. The current renovation rate of funded energy efficiency programmes is 500 to 600 buildings per year at an average of 1 500 square metres per building. One well-functioning executive agency, The Credit and Export Guarantee Fund (KredEx Fund) develops and offers financial services aimed at energy efficiency and works with measures targeted to residential sector and electro-mobility (KredEx, 2015). KredEx provides grants for installing renewable energy generation installations for private households (solar panels, wind generators, heat pumps, etc.) and also, for energetic refurbishment, as well as guarantees for loans for reconstruction of multi-storey apartment houses to improve their energy efficiency.

Another agency in energy efficiency field is The Environmental Investment Centre (EIC) which funds larger-scale energy efficiency projects such as DH systems and both onshore and offshore wind parks, reconstructing or constructing combined heat and power (CHP) plant (EIC, 2015).

1.1.3.1 The Credit and Export Guarantee Fund (KredEx Fund)

a) General information

Foundation KredEx was founded in 2001 by merging Export Credit and Guarantee Foundation, Enterprise Credit Foundation and Foundation *Eesti Eluase*. KredEx[6] is a financial institution which helps Estonian enterprises to develop faster and expand more safely to foreign markets. KredEx also helps to improve the living conditions of the inhabitants of Estonia, offering loan guarantees with state guarantee for purchasing homes, as well as loans, guarantees and grants for solutions aimed at energy efficiency (KredEx, 2015).

b) Type of policy instrument

The "credit and export guarantee fund KredEx" belongs to the policy type "Economic support mechanism". It is a collection of funds to support the improvements in terms of energy efficiency in the Estonian housing market.

b) Objectives

The Credit and Export Guarantee Fund KredEx provides grants for installing renewable energy generation installations for private households (solar panels, wind generators, heat pumps, etc.) and also, for energetic refurbishment, as well as guarantees for loans for reconstruction of multi-storey apartment houses to improve their energy efficiency.

[6] http://www.kredex.ee/

c) Target groups

Apartment blocks built during the Soviet era are currently considered as the most energy inefficient, being one of the main target groups for Kredex. Anyone wishing to renovate his\her home can apply for KredEx fund. Loans are guaranteed helping apartment associations to renovate buildings and young families and specialists to acquire a new home. Kredex have allocated the grants for reconstruction of apartment buildings to numerous apartment associations and local governments which had the possibility to receive support from the state for energetic refurbishment of apartment buildings and thus reduce energy expenses of flat owners.

d) Rules and influencing mechanisms

The reconstruction grant is designed for associations and communities wishing to reconstruct their apartment buildings. The grant may be combined with the renovation loan of KredEx to decrease the share of required self-financing, as well as with collected self-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. (KredEx, 2015) Having the opportunity to apply for the grant via the establishment of KredEx is already an important influencing mechanism in Estonia to increase the country's' energy efficiency. Yet, in order to be successful in his/her application, there are certain rules which one must apply. These rules have been described in the 2010 governmental regulation of conditions and procedures of "Support for the reconstruction of the apartment buildings" (Rohelise..., 2010).

e) Implementation network

To apply for the grant, a relevant application shall be submitted to the bank issuing the renovation loan. If an applicant has sufficient self-financing for the construction work and does not use the renovation loan, or the grant is necessary for the reconstruction of an apartment building completed after year 1993, the application shall be submitted to KredEx by mail. A prerequisite for applying for the grant is the existence of an energy audit (also an annex to the audit, if necessary) and building design(s). The grant shall be paid upon the completion of all construction tasks (Kredex, 2015).

g) Outcomes

Through the help of KredEx funding, about 1.1 m^2 of living area has been renovated since 2009. However, this is only 5% of the overall living area which needs to be renovated in Estonia. In order to achieve the EU 20/20/20 targets, the yearly amount of living space needed to be renovated should be about 700 000 – 1000 000 m^2, which makes it obvious that relying only on the EU Structural Funds is not sufficient enough and therefore an additional state funding schemes must be implemented. The study conducted for the implementation of the Estonian Energy Sector Development Plan 2030+ states, that in order to fulfil the yearly renovation targets, the investment necessary to be made to the building fond must be around 330 million Euros (ENMAK 2030+, 2015).

Information about the current energy savings achieved thanks to the help of KredEx can be accessed from their analysis report 2010-2014. The following table provides information about the energy efficiency achieved in 2013 throughout different Estonian counties, according to 314 houses renovated in total:

Table 1. Energy savings in Estonian houses in 2013 after the implementation of KredEx renovation fund

	Number of houses	2013 savings in kWh	Savings in euros
Tallinn	153	18 835 839	1 488 031
Tartu	31	4 367 870	279 544
Harjumaa	43	3 566 858	267 514
Tartumaa	19	1 667 597	125 070
Pärnumaa	20	1 288 205	96 615
Ida-Virumaa	6	998 427	74 882
Lääne-Virumaa	7	895 827	67 187
Raplamaa	10	638 517	47 889
Valgamaa	4	626 060	46 955
Viljandimaa	6	402 608	30 196
Jõgevamaa	5	246 233	18 467
Saaremaa	2	226 290	16 972
Läänemaa	3	197 523	14 814
Järvamaa	2	116 447	8 734
Põlvamaa	1	65 253	8 734
Võrumaa	1	45 793	3 434
Hiiumaa	1	22 453	1 684
Total	314	34 207 800	2 592 882

Source: Korterelamute renoveerimisturu…, 2014, pp 21-22.

1.1.4 Capacity building and networking

The environmental awareness of public (especially that in terms of energy efficiency) in Estonia is yet weak; however there are a number of training and education programmes given by the consultants of Tallinn University of Technology and Tartu University. Yet one of the biggest achievements in the awareness rising is gained by the Foundation KredEx, particularly by its Energy Savings Competence Centre.

1.1.4.1 Energy Savings Competence Centre of KredEx

a) General information

As of January 2006, a state financed Energy Efficiency Competence Centre operates under Kredex. The aim of the competence centre is to manage and provide information related with energy saving measures in high-rise residential buildings (KredEx, 2015).

b) Type of policy instrument

The “Energy Savings Competence Centre of KredEx” belongs to the policy type “Energy information, advice and awareness rising”. Although KredEx itself is mainly an economic support mechanism, its Energy Savings Competence Centre is an instrument which aims for knowledge increase and support of energy efficiency education.

c) Objectives

The main goals of the competence centre is to:

- Promote smart energy saving measures in apartment buildings;
- administer information concerning the energy saving topics for all apartment buildings;
- find common grounds between different parties related to the further use of energy consumption development in buildings in Estonia.

d) Target groups

The main target groups are:

- apartment associations
- apartment cooperatives
- communities of apartment owners
- housing maintenance managers
- private house owners

e) Rules and influencing mechanisms

Raising awareness of residents on energy efficiency measures in Estonia by KredEx Energy Savings Competence Centre is done through different courses, seminars and campaigns, as well as through wider channels such as media (radio, TV).

f) Implementation network

The awareness raising activities of KredEx fall under its Energy Savings Competence Centre which currently consists of 2 staff members.

g) Outcomes

The outcomes described under “Economic policy instruments” apply also as the same outcomes under this section. The KredEx Energy Savings Competence Centre is established in order to raise awareness, motivate more people to renovate their homes, teach them the benefits they can achieve by making their houses more energy efficient by using KredEx fund, etc.

In renovated apartment building, 45% of the heating costs could be saved, which makes it about half of the actual energy bill. The increasing energy costs and raised awareness have further helped Estonia to become more energy efficient. Yet, there is still a lot which is needed to be done (KredEx, 2015).

1.1.5 Promotion of energy services

The higher the potential in energy development and promotion activities, the higher the capabilities to implement changes in energy sector. In order to achieve the goals to become more energy efficient "Estonian Energy Technology Programme" was established in 2008 under the strategy of the "Knowledge based Estonia 2007-2013" (ENMAK 2030+, 2015). Today this document is not in use anymore, and the new energy development strategy directions and potentials have been studied for and implemented within the new Estonian Energy Development Plan 2030.

One of the things which was studied for the mentioned document, was the potential for nearly zero-energy buildings[7] in Estonia (Eesti..., 2013). Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings requires all new buildings to be nearly zero-energy by the end of 2020. All new public buildings must be nearly zero-energy by the end of 2018. Its provisions cover energy needs for the heating of premises, the production of hot water, cooling, ventilation and lighting for new and existing buildings, whether they are residential or not (The European Parliament & The Council of the EU, 2010).

1.1.5.1 Pilot projects of zero-energy buildings

a) General information

In Estonia there are a quite a number of nearly zero energy pilot buildings already, the most recent one was built at the campus of Tallinn University of Technology in 2015. The first truly functioning "Smart house" has been designed by Smart House Competence Centre in Rakvere town (Rakvere Smart House Competence Centre, 2015) which was opened in May 2015. The capacity, knowledge, and lack of experience and experiments to achieve this ambitious EU target of nearly zero energy buildings in Estonia is however, not at the desirable level yet (Tuuleenergia…, 2014). Nevertheless, the relevant training courses for target groups have been started four-five years ago already. Still, there are a number of construction companies specialising on design and implementation of nearly zero energy buildings in private housing as well as in public buildings sector. Relevant market is rapidly developing and gaining high popularity for the people planning to build the private house.

b) Type of policy instrument

The "pilot projects of zero-energy buildings" belong to the policy type "policy instruments for the promotion of energy services".

[7] The definitions of nearly zero-energy-buildings differ by EU Member States as the building regulations and calculation methods may significantly differ from country to country. In the study "Overview of Member States information on NZEBs" by Ecofys Germany GmbH the Estonian definition is given as the following. A NZEB is a building which is characterised by sound engineering solutions, which is built according to the best possible construction practice, which employs energy efficiency and renewable energy technology solutions and whose energy performance indicator is greater than 0 kWh/m²/y but does not exceed the limit values established (Overview …, 2014).

c) Objectives

The objective of the pilot projects is to understand and study the potential of fulfilling the goal of the European Union Directive 2010/31/EU. Nearly zero-energy buildings have very high energy performance and the low amount of energy that these buildings require comes mostly from renewable sources. All new buildings must be nearly zero-energy by the end of 2020 and all the new public buildings must be nearly zero-energy by 2018 (The European…, 2010).

d) Target groups

The target group for this task are all the EU member state countries who have formally established the requirements set in Directive 2010/31/EU. Yet, it is necessary to involve a great number of architects, construction experts, scientists, electrical engineers and other stakeholders involved in the decision making processes, who could start working for the implementation of achieving that EU goal in Estonia.

e) Rules and influencing mechanisms

In 2012, together with the State Real Estate Ltd (Riigi Kinnisvara AS) and Tallinn University of Technology, the instruction and guidance report for the establishment of the nearly zero-energy buildings was finalized. The aim of the guidance report is to bring out the differences in nearly zero-energy building solutions compared to conventional construction practices. Since the important choices are made in the initial stages of design, focusing on the preliminary design is an important step to ensure that energy efficiency in the nearly zero-energy buildings is achieved. The guideline is made for the architects, builders, project managers, contractors, energy efficiency and peripheral designers and all the others involved in the construction processes or decision making. The focus of the guidance report so far is mainly on the office buildings though, since this type of buildings are technically most demanding building types. However, the solutions can be applied also in other public buildings. (Real Estate Ltd, 2012)

Another guidance report was published by the order of KredEx also in 2012 with the focus on the residential buildings (Madalenergia- …, 2012).

f) Implementation network

The implementation network equals with the target group.

g) Outcomes

As previously underlined, there are several pilot projects already in Estonia. However, in order to achieve the mass production of zero-energy buildings, even more pilot projects should be built as to further experiment the potential of achieving this EU target. The public sector should be the leading example for the residential sector. Some analysis could be however made on the example of the already existing pilot projects. The main worry so far seems to be the question whether achieving the EU goal is economically feasible or not. (Tuuleenergia …, 2014) The research group of zero-energy buildings at Tallinn University of Technology (consisting of prof Jarek Kurnitsiki, prof Targo Kalamees, prof Hendrik Voll, PhD students Thalfeldt, Ergo Pikas, Erkki Seinre, Leena Paap, Mikk Maivel and MSc students) is thus yet very active in answering the most timely questions regarding the topic of zero-energy buildings in Estonia (Real Estate Ltd, 2015).

1.1.6 Policy instruments for research and development and BAT promotion

There are a number of services established in Estonia which promote research and development. In this respect, the Ministry of Economy and Communication is mainly working together with Foundation KredEx and Estonian Environment Investment Centre (EIC). In addition, active on the topics of energy efficiency are also bodies such as State Real Estate Company Ltd (RKAS) and Estonian Competition Authority (Konkurentsiamet). The completion of energy efficiency strategies and research on energy efficiency is also supported by the Estonian Development Fund (Eesti Arengufond). The ones directly dealing with buildings are Foundation KredEx and Riigi Kinnisvara AS (public buildings), whilst the other mentioned organizations are more of an indirect manners to promote energy efficiency in housing sector (Energy …, 2015).

1.1.6.1 State supported schemes implemented by the Environmental Investment Centre EIC

a) General information

The foundation Environmental Investment Centre (EIC) was founded on 11 May 2000 by the Ministry of Finance. EIC performs as the implementing agency for the environmental projects funded by the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund (CF). It also lends money for the implementation of environmental projects. From 2010 new financing measure was added to EIC´s portfolio – the Green Investment Scheme, money which comes from the sale of the excess CO2 quota. Areas of financing will be decided by the buyers. The first funds channelled through EIC were for the renovation of the district heating networks, renovation of combined generation plants and more environmentally-sustainable boiler houses. Lately, the measures to support investments in the wind energy has joined the portfolio. In addition, the European Regional Development Fund (ERDF) provided grants also for the renovation of combined generation plants, more environmentally-sustainable boiler houses and heating mainlines (EIC, 2015)

b) Type of policy instrument

The “state supported schemes implemented by the Environmental Investment Centre EIC” belongs to the policy type “Economic support mechanism”. It is a great source of funding for a wide range of environmental projects in Estonia. Promotion of sustainable energy services is one of the key areas of EIC. However, focus in terms of buildings energy efficiency under the mentioned scheme is still rather weak.

b) Objectives

The objectives of EIC include ensuring maximum efficiency for the benefit of the Estonian people, a healthy living environment, and resource-efficient development of the country. The environmental management programme of EIC supports all kinds of works to reduce the amount of emissions and pollutants coming from the energy industry and works towards the improvement of the ambient air quality. One of the objectives of the EIC is also to increase environmental awareness by supporting various activities aimed namely at increasing the awareness, educating and changing the attitudes of the people. Grants aimed at increasing environmental awareness are awarded from three sources: Environmental Programme, ERDF and ESF (EIC, 2015).

c) Target groups

The target group of EIC involves a wide range of applicants from all over Estonia who can enter their data to KIKAS database (SA Keskkonnainvesteeringute Keskuse andmebaas - Environmental Investment Centre Data System) in order to apply for the funding as to fulfil their environmental projects. There are about 2000 applications received a year. In 2014, majority of the funding was granted for the projects related to the water management, protection of atmospheric air and nature conservation. EIC helps to implement thousands of projects each year in order to improve and restore Estonian environmental condition, rectify environmental damage or reproduce natural resources (Yearbook 2014, 2015).

d) Rules and influencing mechanisms

EIC accepts applications twice a year. The applications must be submitted through electronic database KIKAS. The deadline for the applications is announced one month before the submission deadline and the process of decision making lasts for about 4-5 months (EIC, 2015).

e) Implementation network

EIC grants and loans are financed from four separate sources: the environmental fees of the Republic of Estonia, the European Union structural funds, part from the European Investment Bank's (EIB) loan to the Estonian State and the sale of Estonians' CO2 quotas (also known as Green Investment Scheme). The financing of the main activities has changed over the years – while in the early years grants were awarded mostly from the Estonian State funds, in recent years the volume of foreign aid projects has reached the same level (EIC, 2015).

d) Outcomes

Each year, EIC is giving out a report describing their annual successes, the projects which got funding and which have been implemented. The following table provides an overview of the payments made by EIC in 2014 for projects related to the renewable energy and protection of ambient air (yet no specific data is available on how much energy efficiency in housing sector particularly has been achieved due to the implementation of EIC funded projects):

Table 2. An overview of EIC payments in 2014 made for renewable energy and protection of ambient air projects

Payments for renewable energy and protection of ambient air projects		
2014	Projects	Payments EUR
Renewable energy	24	1,994,834
Ambient air	41	2,841,760
Co-financing	2	16,282
CF sustainable transportation development	1	15,385,184
ERDF extended use of renewable energy sources for the generation of energy	3	398,675
GIS extended use of renewable energy sources for the generation of energy and reconstruction of district heating networks	32	6,845,731
GIS supporting investments of the enterprises for the application of wind energy in electricity generation	1	1,455,875
GIS constructing energy-efficient street lightning	7	919,381
TOTAL	**111**	**29,857,723**

Source: Keskkonnauuringute Keskuse Aastaraamat 2014, pp 24.

1.1.7 Summary Table for the Buildings Sector in Estonia

Table 3 Main policy instruments in building sector in Estonia

Summary table: Buildings					
	Status quo	**Objective**	**Target group and targeted objects**	**Rules and influencing mechanism** (motivation or punish non-compliance)	**Describe Implementation network**
Regulation	Energy labelling of buildings	- Be a tool for the flat owner to know, what electricity- and heat bills there will be. - To promote the use and ownership of energy efficient homes.	From 2009 onward, the energy label must be given to all new buildings or its parts (except the buildings which have been recognized in accordance with the "Law on National Heritage"), including apartments which are to be sold or rented after January 1st 2009.	The influencing mechanism of having an energy label on a building is quite rigid since it is an obligatory action from 2009 onward, thus non-compliance is not allowed. In addition, all the EU Directives and ambitions to reduce energy emissions sets further motivation for the government of Estonia and other local governments, to further implement and have control over energy labelling.	Energy label is given out by the entrepreneur issuing the energy labels who must have a corresponding legal relationship with a specialist who can prove his\her competence with a professional certificate. The awarding of qualifications for energy auditors and energy label publishers is done by the Union of Estonian Heating- and Ventilation Engineers. The qualification is awarded after the successful completion of the vocational training provided by the Open University of Tallinn University of Technology.
Transparency and information	Energy audit and advice and assistance	- To provide technical and energy situation of the building, promote energy awareness - Assessment necessary for issuing of energy label	Energy audit could be ordered by all kind of building\property owners who are interested in improving the energy efficiency of their building or who wants to know the technical situation of their property.	Issuing of an obligatory energy label might be a good motivation behind ordering an energy audit first. In addition, knowing what financial savings could be achieved, might as well be a good motivation to know what measures could improve one's property.	Energy audit can be performed by any entrepreneur who has certain qualifications for it. The issuing of energy audit is led by specialist who complies with the rules set in paragraphs 1 and 2 of § 47 of the Building Act.
Incentives and financing	The Credit and Export Guarantee Fund (KredEx Fund).	To provide grants for installing renewable energy generation installations for private households (solar panels, wind generators, heat pumps, etc.) and also, for energetic refurbishment, as well as guarantees for loans for	Anyone wishing to renovate his\her home can apply for KredEx fund, however, apartment associations has been one of the main stakeholders.	The reconstruction grant is explicitly designed for associations and communities, as well as private households wishing to reconstruct their apartment buildings. In order to decrease the share of required self-financing, the grant may be combined with a KredEx loan. Aging housing	A prerequisite for applying for the grant is the existence of an energy audit, after what an application may be submitted to the bank or directly to Kredex (in case sufficient self-financing is there or loan is not needed).

		reconstruction of multi-storey apartment houses to improve their energy efficiency.		conditions and increasing energy prices most probably are the main influential factors for people to renovate their homes, and thus apply for the grant.	
Capacity building and networking	Energy Savings Competence Centre of KredEx	- Promote smart energy saving measures in apartment buildings; - administer information concerning the energy saving topics for all apartment buildings; - find common grounds between different parties related to the further use of energy consumption development in buildings in Estonia.	- apartment associations - apartment cooperatives - communities of apartment owners -housing maintenance managers	Raising awareness of residents on energy efficiency measures in Estonia by KredEx Energy Savings Competence Centre is done through different courses, seminars and campaigns, as well as through wider channels such as media (radio, TV).	Energy Saving Competence Centre itself (created under Foundation KredEx) with its 2 staff members.
Promotion of energy services	Pilot projects of zero-energy buildings	To understand and study the potential of fulfilling the goal of the European Union Directive 2010/31/EU.	- All the EU member state countries who have formally established the requirements set in Directive 2010/31/EU - Necessary to involve a high amount of architects, builders, scientists , electrical engineers, and other stakeholders involved in the decision making processes	Obligations set by EU and different guidance reports.	- All the EU member state countries who have formally established the requirements set in Directive 2010/31/EU - Necessary to involve a high amount of architects, builders, scientists , electrical engineers, and other stakeholders involved in the decision making processes
RD&D and BAT promotion	State supported schemes implemented by the Environmental Investment Centre EIC	- Ensure maximum efficiency for the benefit of the Estonian people, a healthy living environment, and resource-efficient development of the country - Increase environmental awareness	The target group for EIC grants involves a wide range of applicants from all over Estonia who wish to apply for projects related to the environment.	EIC accepts applications twice a year, with the deadline for the applications announced one month before the submission.	EIC grants and loans are financed from four separate sources: the environmental fees of the Republic of Estonia, the European Union structural funds, part from the European Investment Bank's (EIB) loan to the Estonian State and the sale of Estonians' CO_2 quotas (also known as Green Investment Scheme).

1.2 POLICY INSTRUMENTS IN THE TRANSPORT SECTOR

As energy efficiency is not a primary goal for most of the existing policies and the energy saving impacts are either not thoroughly assessed or monitored for these policies, there is only very little data available for energy efficiency impacts of the selected transport policy instruments. Yet some can be underlined.

1.2.1 PLANNING INSTRUMENTS

1.2.1.1 Development of regional and local public transport connections

a) General information

Within the framework of national implementation for EU structural funds 2014-2020, Estonia has set 3 different funding schemes for improvement of railway connections, public transport and pedestrian and cycling infrastructure (Ühtekuuluvuspoliitika…, 2015). These include support schemes for:

- improvement of rail connections and accessibility to railway stations
- sustainable development of urban areas
- sustainable development of Ida-Viru county cities
- increasing the competitiveness of the regions

During the previous EU funding period all rolling stock of commuter and long-distance passenger trains in Estonia were renewed.

b) Type of policy instrument

Planning, financial.

c) Objectives

Improve system efficiency by improving passenger rail, regional and local public transport connections and pedestrian and cycling facilities. The instrument targets energy efficiency implicitly and no concrete energy efficiency targets are set.

d) Target groups

10 major Estonian cities, municipalities with railway connection, rail company Elron. Multi-modal transport users (especially car) with a potential to cover part of their journey by train.

e) Rules and influencing mechanisms

The projects have to be selected based on sustainable urban development strategies, 15% co-funding requirement, public procurement rules.

f) Implementation network
Ministry of Interior, Ministry of Economy and Communications, Enterprise Estonia, Environmental Investment Centre, Technical Regulatory Authority.

g) Outcomes

The schemes do not have explicit energy efficiency targets. As outputs the schemes have defined following targets:

- improvement of accessibility to at least 20 railway stations (outside Tallinn);
- improvement of consumer satisfaction among public transport users, pedestrians and cyclists (30 improved connections);
- 60 km of new cycling infrastructure;
- 3 new public transport improvement projects;
- new rolling stock for passenger train fleet.

1.2.2 REGULATORY POLICY INSTRUMENTS

1.2.2.1 Maximum parking standard in Tallinn city centre

a) General information

Tallinn parking development plan sets parking standards, among different parking zones, Tallinn city centre developments are set a maximum parking provision standard that the developer is not allowed to exceed (Tallinna…, 2006).

b) Type of policy instrument:

Regulatory.

c) Objectives

Improve transport system efficiency by managing the supply side of car-based infrastructure.

d) Target groups

Real estate developers and property owners in Tallinn city centre. Car users and car owners.

e) Rules and influencing mechanisms

The regulation sets parking standards for different zones in Tallinn city, including maximum standard for city centre.

f) Implementation network

Tallinn Transport Department[8] is responsible for implementing the parking norm, on-street parking regulations and management of parking in general, Tallinn Urban Planning Department[9] is responsible for implementing the parking norm in detailed planning processes and building permits.

g) Outcomes

No relevant studies have been carried out.

1.2.3 FINANCIAL POLICY INSTRUMENTS

1.2.3.1 Increasing fuel excise duty

a) General information

Fuel excise duty is imposed on different kinds of liquid fuel, solid fuel and natural gas. The current Alcohol, Tobacco, Fuel and Electricity Excise Duty Act, which was adopted on 4 December 2002, has been amended several times, most recently on 1 July 2015. The fuel excise has been raised on ten occasions in the last 15 years.

In June 2015, the Estonian parliament, *Riigikogu,* has decided to raise excise duty rate on petrol 10 percent each year from 2016−2019, and on diesel 14 percent in 2016, and 10 percent thereafter (4). The higher rate for diesel stemmed from the wish to tax diesel and petrol more equally. This should increase the state income from motor fuel excise from 59.3 million euros in 2016 to 85.3 million in 2018.

Table 4 Excise duty rates per 1,000 litres of liquid fuels

Excise duty rate per 1,000 litres of liquid fuel / Entry into force	1.01.2010	1.01.2016	1.01.2017	1.01.2018
Petrol, incl. unleaded petrol and aviation spirit (€)	422.77	+10% 465	+10% 512	+10% 563
Diesel fuel (€)	392.92	+14% 448	+10% 493	+10% 542

Alkoholi-, tubaka-, kütuse- ja elektriaktsiisi seadus. (2003). [Alcohol, Tobacco, Fuel and Electricity Excise Duty Act] Riigi Teataja I 2003, 2, 17. accessible at: https://www.riigiteataja.ee/en/eli/ee/518062015016/consolide/current (23.07.2015).

b) Type of policy instrument

Financial policy instrument, belonging to the policy type: tax increase.

[8] http://www.tallinn.ee/Parking-in-Tallinn
[9] http://www.tallinn.ee/eng/Urban-Planning-Department

c) Objectives

According to the explanatory report of the draft Act, the increase of excise rate aims at raising the state tax revenues and reducing fuel consumption.

d) Target group

Consumers of motor fuels (directly and indirectly), road transport.

e) Rules and influencing mechanisms

The excise duty rates will be increased in 3 years as presented in **Fehler! Verweisquelle konnte nicht gefunden werden.**.

f) Implementation network

The Ministry of Finance develops the tax policy and coordinates its implementation.
The Tax and Customs Board, a government agency within the area of government of the Ministry of Finance, collects the state's tax revenues.

g) Outcomes

Although the primary instrument for influencing energy use in the transport sector has been excise duties, the households' response to motor fuel excise has been low and consumption of a taxed good has not decreased significantly over the past 15 years (Poltimäe, 2014). Energy consumption in transport has grown at the same rate as GDP and purchasing power has grown quicker than fuel excise duty (Jüssi et al., 2010). Depending on the development of fuel world market prices, the transport energy saving potential study commissioned during the elaboration of Estonian Energy Sector Development Plan 2030+, estimated that 15% increase in fuel excise duty (at constant fuel prices) will lead to a reduction of 2-3% (ca 900-1000 TJ/year) of transport fuel consumption (Jüssi et al., 2014). Based on these estimates, the likely impact on energy saving of this policy is ca 5-8% for diesel vehicles and 4-7% for petrol vehicles, resulting in the energy saving in the order of 1800-2000 TJ/year by 2020 (Table 5).

Table 5 Savings expected/ estimated due to increasing fuel excise duty

Policy instrument	**Recorded Savings 2009-2013 (in PJ)**	**Expected/estimated Savings total 2014-2020 (in PJ)**
Increasing fuel excise duty	Not recorded	1800-2000 TJ/year, estimated (based on Jüssi et al, 2014)

1.2.4 DISSEMINATION AND AWARENESS INSTRUMENTS

1.2.4.1 Energy labelling of passenger cars

Currently there are no policy instruments in place that explicitly target transport energy efficiency. Ministry of Environment is currently drafting an act for energy labelling of passenger cars.

a) General information

"National regulation on the communication of fuel consumption and CO2 emissions of new passenger cars" is currently redrafted to introduce energy labelling system for new passenger cars sold in Estonia. It is the direct outcome of one of the policy recommendations proposed by Sustainable Transport Report 2010 (Jüssi, et al., 2010) which highlighted the energy saving potential of passenger car fleet and lack of awareness raising measures similar to electric appliances. Labelling is compulsory for new cars and voluntary for second-hand cars.

b) Type of policy instrument

Regulatory

c) Objectives

Increase awareness about the energy consumption and options for consumers, to reduce energy consumption in transport.

d) Target groups whether the policy instrument

Consumers buying new cars, car retail companies.

e) Rules and influencing mechanisms

Not specified in the regulation.

f) Implementation network

Road Administration is responsible for implementing the database of cars and their energy label/CO2 emissions and designing the label. Car retail companies are responsible for updating the labels once a year and displaying the energy label at sales points.

g) Outcomes

The regulation and accompanying documents do not set any targets in terms of consumer awareness nor behaviour. During the writing of the transport energy saving potential study (Jüssi et al 2014) SEI-Tallinn carried out a literature survey on potential impacts on energy labelling of cars, however no relevant studies were found on the impacts of energy labelling of cars in the context of lacking fiscal measures (like vehicle taxation related to energy classes).

1.2.5 POLICY INSTRUMENTS FOR RESEARCH AND DEVELOPMENT

1.2.5.1 Smart City Cluster

a) General information

Smart City cluster (smartcitylab.eu) is part of the Estonian National Cluster Programme and is linked with 18 industrial cluster initiatives supported by the programme.

The cluster supports the fulfilment of the strategic development objectives set down in the sector strategy "Knowledge-Based Estonia. Estonian Research and Development and Innovation Strategy 2007-2013". It is co-financed by the EU Structural funds (European Regional Development Fund), in the period of 1.08.2012 – 31.07.2015.
The cluster is designed to create an innovative environment in Tartu, the 2nd largest city in Estonia, by bringing together businesses, citizens, public authorities, R&D institutes and structures that support innovation.

b) Type of policy instrument

Policy instrument for Research and Development in the policy type: funding of public and private R&D for sustainable transport.

c) Objectives

Smart City e- and m-Services Cluster is aiming at development, delivery and export of smart ICT and mobile based services and products in the following priority areas: Transport, Energy and Environment, Tourism, Healthcare and Wellbeing, Governance and public services.
The solutions created will eventually be introduced in other towns and cities in Estonia and elsewhere around the world.

d) Target group

Cluster membership can be applied by all registered companies in Estonia and abroad, local governments, educational establishments and other sector specific NGOs and organisations. Covers all modes of transport.

e) Rules and influencing mechanisms

Membership fee start from 10 000 euros per 3 years for larger companies and 3 000 euros for smaller companies and will be agreed on as a result of the negotiations with the board of the cluster.
Benefits of the membership include participation in sector specific joint actions, in global network of contacts and new cooperation possibilities and in shaping the future of the sector.

f) Implementation network

As of July 2015, 17 organisations have become a member of the cluster.
Funding agency: The Ministry of Economic Affairs and Communications. The members of the cluster pay the co-financing.
Administering agency: Enterprise Estonia

g) Outcomes

Completed pilot projects in transport:

- Needs assessment for developing an application of buying, selling and checking the public transport tickets,
- Study for developing a tool of participatory public transportation planning,
- Study and prototype of mobile application for public transportation information system.

Energy efficiency improvement assessment of the cluster has not been carried out.

1.2.6 SUMMARY TABLE FOR THE TRANSPORT SECTOR IN ESTONIA

Table 6 Main policy instruments in transport sector in Estonia

	Short list of implemented policies and measures	**Objective**[10] (improve system, travel or vehicle efficiency)	**Target group and targeted objects**	**Rules and influencing mechanism** (motivation or punish non-compliance)	**Implementation network**
Planning instruments	Development of regional and local public transport connections	Improve system efficiency	Local municipalities, all transport users, railway stations	The projects have to be selected based on sustainable urban development strategies, 15% co-funding requirement, public procurement rules	Ministry of Interior, Ministry of Economy and Communications, Enterprise Estonia, Estonian Environmental Investment Fund, Technical Regulatory Authority, local municipalities
Regulatory policy instruments	Maximum parking standards in Tallinn centre	Improve system efficiency	Developers, property owners, car users and owners	Building permit depends on compliance with the regulation	Tallinn city government
Financial policy instruments	Fuel excise duty, annual increase by 10% 2016-2018	Improve system, travel and vehicle efficiency	Consumers of motor fuels: diesel and petrol, especially road transport	Gradual increase of fuel excise rate 2016-2018	Ministry of Finance, Tax and Customs Board
Dissemination and awareness instruments	Energy labelling of new cars	Improve vehicle efficiency	Consumers buying new cars, car retail companies	Not specified	Estonian Road Administration
Policy instruments for Research and Development	Smart City cluster	Improve system and travel efficiency	Companies, local governments, educational establishments, NGOs	Membership fee	Ministry of Economic Affairs, Enterprise Estonia, 17 member organisations

[10] Energy efficiency in the transport sector can be divided into system efficiency (reduce or avoid travel or the need to travel), travel efficiency (shift to more energy efficient modes) and vehicle efficiency (improve the efficiency through vehicle technology).

2. POLICY INSTRUMENTS ON THE REGIONAL / LOCAL LEVEL

The interaction between the different levels (national, regional, local) in energy efficiency policy making has already been covered in D.1.1. Next to national energy efficiency policies, many regions and cities have implemented own climate action plans, energy efficiency action plans, or are part of the Covenant of Mayors. Describing all existing policy instruments or energy efficiency measures, would be too voluminous to perform and is not possible in the frame of this project. Therefore, specific policy instrument on the regional / local level are exemplarily covered by a case study. In case of Estonia, a case study only on building sector has been drawn out. There is currently no example to give on a transport sector in terms of the vertical integration of local actions into the national energy efficiency framework and vice versa.

2.1 PRESENTATION OF THE CASE STUDY: PROJECT "FASSAADID KORDA"

- **City / Region:** Tallinn/ Harjumaa

- **Energy Efficiency Policy / Action:**

When it comes to energy efficiency policies, measures and instruments in Estonia, Tallinn is probably the front runner out of all the Estonian cities. Tallinn has joined the Covenant of Mayors on 15.02.2009 in order to implement measures given by EU climate-and energy package. By joining the Covenant of Mayors, Tallinn took the following commitments:

- To exceed the targets set by EU 20/20 Directive, reducing CO2 emissions by at least 20% by implementing a Sustainable Energy Action Plan within their fields of competence ;
- to draw up the emissions inventory which provides the basis for the Sustainable Energy Action Plan;
- to submit a Sustainable Energy Action Plan one year after formally signing the Covenant of Mayors;
- to adapt city structures, including allocation of sufficient human resources in order to take the necessary measures;
- to create an implementation report in at least every two years after the submission of the Action Plan for the purpose of evaluation, monitoring and verification.
- to organize so called Energy Days or City Covenant Days in collaboration with European Commission and other stakeholders, allowing citizens to benefit directly from the opportunities and advantages what more intelligent use of energy could offer, and to regularly inform the local media on developments concerning the action plan;
- to participate every year on an annual conference organized by the Mayors of the EU, on sustainable energy and provide input. (Linnapeade..., 2015)

In the period following accession to the Covenant of Mayors, the Environment Agency started the implementation of the up-listed tasks. CO_2 emissions inventory was organized, as well as energy days and an action plan for Tallinn on sustainable energy was established (Linnapeade..., 2015).

In line with the Tallinn City Council Decision No. 27 of 10 March 2011, "Tallinn sustainable energy action plan for the period of 2011-2021" was introduced. To implement the objectives set in the aforementioned document, as well as for the implementation of the objectives, an implementation plan must be developed, which would set short-term operating prospects for the next three years of operation (Linnapeade..., 2015).

Tasks in the field of energy are divided by the Environment Agency, the city planning agency, neighbourhood councils, Municipal Services, Transportation Authority and Business Enterprise Agency. This makes controlling the implementation of "Tallinn sustainable energy action plan for the period of 2011-2021" a rather difficult task. In order to gather the information provided by different city authorities, Tallinn Energy Agency was established (Linnapeade..., 2015).

The specialists of Tallinn Energy Agency manage all the tasks which come from the obligations taken by joining the Covenant of Mayors and if possible, initiate and implement foreign-financed projects related to sustainable energy projects (Linnapeade..., 2015).

- **Energy Efficiency instrument / measure in building sector:**

Project "Fassaadid korda" ("Renovation of facades") is a project started by the City of Tallinn as of 1st of June 2009 onward, within the framework of the aid package to the city of Tallinn. The project "Fassaadid korda" is a co-operation project which works together with KredEx funding scheme. In order to receive KredEx funding, one must have the capability to provide his\her own self-funding to it. Thus, "Fassaadid korda" helps to cover the self-funding part of it. Within this project, necessary self-financing support is provided to the apartment associations in order to help them renovate their apartment buildings. Like that, the apartment associations` capability to get the financial grant and thus increase the energy efficiency of buildings as well as lower the heating costs during the winter. In addition, the appearance of houses will be improved. The target group for the renovation fund are the apartment blocks built before 1993 and which have an energy audit. The amount of the grant given depends on the amount of the renovation fund requested by the apartment association, as support will be given maximum of up to 10% of the requested amount (however not more than 19 173 euros per year) (Fassaadid..., 2015).

- **Interaction between national and local policies:**

"Fassaadid korda" is an initiative started directly by the city of Tallinn. Since the project works closely together with the funding provided by Foundation KredEx, started by the Ministry of Economic Affairs and Communication (MEAC), there is a direct linkage in terms of co-operation between national (MEAC) and local (City of Tallinn) policies. The responsibilities of Tallinn City administration have been divided between 8 different city district councils. Thus also the overview of facades renovation has been divided between different councils which fall under the City of Tallinn.

- **Discussion / Recommendations:**

The project "Fassaadid korda" benefits the inhabitants of Tallinn only, being one of the reasons why majority of the KredEx applications have been done in Tallinn. Thus the barrier of the introduced case study is its overlay local character which is a pitfall for the other local Municipalities in Estonia and the overall Estonian energy efficiency in building sector in general. Another barrier might be the rules

(requirements for grant applicants and applications) and a rather long application procedure which one must go through in order to apply both for KredEx and grants provided by "Fassaadid korda" project. For instance, since the target group of the project are the buildings built before 1993, and most of them do not have the required energy audit, it is quite a long and motivation costly procedure for the applicant to apply for the funding. On the other hand, the benefit is that under the KredEx Foundation, free consultancy is offered for anyone who wants to apply for the renovation fund. Yet a set of requirements, such as an obligation for the applicant to be registered in the register of non-profit organization and foundations register at least six months prior to the application, makes it a time costly procedure for an applicant in case she or he is not yet fulfilling the requirements. Thus perhaps softer requirements could be implemented in the future.

- **Further information:**

The website of the described project is accessible at: http://www.tallinn.ee/fassaadidkorda/, and the general contact person is Mr. Peep Lass from Tallinn Municipal Services (e-mail: Peep.Lass@tallinnlv.ee).

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