Title of the measure:	**LV 7** **Investments in Municipal Public Buildings' Energy Efficiency to Reduce GHG Emissions** *(Energoefektivitātes paaugstināšana pašvaldību ēkās)* *Kompleksi risinājumi siltumnīcefekta gāzu emisiju samazināšanai pašvaldību publiskajās ēkās)*

General description

The described measure is included in the Latvia's 2nd EEAP for years 2011-2013 [1]. The measure continued in years 2014-2015 as well, thus contributed in meeting national indicative energy efficiency targets in 2014-2016 and in achieving a cumulative end-use energy savings target of 1.5%, determined in accordance to the Article 7 of the Directive 2012/27/EU [2]. The energy end-use sector – buildings. The main target audience – municipalities, public buildings (educational, health, culture sector institutions) owned by the state might apply as well.

Latvia, due to active participation in the GHG emissions trading mechanism, has the revenues from the sale of GHG emissions under procedures pursuant to Article 17 of the UNFCCC Kyoto Protocol. Part of these revenues had been allocated as the programmes of the national Climate Change Financial Instrument (CCFI) for CO_2 emissions reduction by decreasing energy consumption in public buildings. Financial support had been available for 5 groups of public buildings:

1. municipal public buildings necessary for ensuring autonomous functions of municipalities,
2. professional (vocational) education institutions,
3. higher education institutions,
4. medical/health care institutions,
5. culture sector institutions.

Below there are characterised:

1. two open tenders - "Increase of Energy Efficiency in Municipal Buildings" [3] and "Complex Measures to Reduce GHG Emissions in Municipal Buildings" [4] – announced in years 2009 and 2010 to reduce CO_2 emissions in the municipal public buildings necessary for ensuring autonomous functions of municipalities.
2. four open tenders of the CCFI programme "Complex Measures to Reduce GHG Emissions" [5], announced in October 2012 (2nd tender[1]), August 2013 (3rd tender), February 2014 (4th tender) and July 2014 (5th tender). In the framework of this programme educational (including pre-school education) institutions, health care institutions and culture sector institutions might apply[2].

Responsible ministry for the implementation of the measure was the Ministry of Environment Protection and Regional Development, the responsible institution supervising implementation – state ltd. company "Latvian Environmental Investment Fund" (*valsts sabiedrība ar ierobežotu atbildību "Latvijas Vides investīciju fonds")* [6].

[1] Note: within the 1st tender of this programme only business sector might apply, the public institutions were not eligible

[2] Medical/health care institutions and culture sector institutions had been stated as the beneficiaries starting from the August 2013, and might apply within the CCFI open tenders No 3, 4 and 5 of this programme.

Open Tenders "Increase of Energy Efficiency in Municipal Buildings" and "Complex Measures to Reduce GHG Emissions in Municipal Buildings"

The open tender "Increase of Energy Efficiency in Municipal Buildings" [3] was targeted to reduce heat energy consumption only, the activity area of the next tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings" [4] was widened by including measures for heat supply switch from fossil fuel to renewables and measures for reduction electric energy consumption for lighting as well.

Financing. The total co-financing, provided by the CCFI for the projects within the both tenders, were **50.467 MEUR[3].** It was implemented within both tenders 91 projects in public sector [18, Tables 1-3]

Beneficiary must cover not less than 15% of total eligible costs of the project. The project's co-financing by CCFI had been based on the principle of additionality, namely, to implement the project the beneficiary had not received a co-financing within the framework of other financing programmes (including the programmes of the national operational programme "Infrastructure and Services 2007-2013", co-financed by EU Structural Funds), from other financial instruments, European Union or foreign financial assistance resources for the eligible costs financed by the CCFI. The threshold for minimal financial support, provided by CCFI for one project, was defined 71.14 thsd EUR. The maximum financial support, provided by CCFI for one project, was defined ~ 2846 thsd EUR for the tender "Increase of Energy Efficiency in Municipal Buildings" and 1067 thsd EUR for the tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings".

A project applicant should be a municipality. The project application might include activities which were intended for implementation in several buildings. The building must be the property of the project applicant. The municipality must state that the building in which project has been implemented will continue to ensure the municipal functions at least 5 years after project completion. The activities provided for in the projects approved within the framework of the tenders should be implemented until 1 December 2012 at the latest.

The following 2 criteria regarding tangible results – energy savings and CO_2 emissions reduction – were defined for the projects implemented within the framework of the tender "Increase of Energy Efficiency in Municipal Buildings":

1) after implementation of the project, in each building, in which project activities had been implemented, reduction in annual consumption of heat energy in relation to the average heat energy consumption, calculated during the time period from 2006 to 2008, shall not be less than 25 %.
2) The reduction of CO_2 emissions in relation to the requested financing provided by CCFI shall not be less than 180 g CO_2/EUR annually.

For the projects implemented within the framework of the tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings" these criteria had been modified in the following way:

1) instead of the criterion of 25% heat energy consumption reduction, the requirement to reach minimum threshold of heat energy consumption for heating (namely, 100 kWh/m^2 annually) was introduced,
2) The minimum threshold for the reduction of CO_2 emissions in relation to the requested financing provided by CCFI was raised up to 250 g CO_2/EUR annually.

The costs of the following project activities might be supported within the framework of the tenders:

(i) the costs of the energy audit, of the preparation of technical design, supervision costs of construction works (shall not exceed in total 10% of eligible costs of the project),
(ii) the costs of construction works for renovation of a building envelope, if such works had been included in the energy audit report as measures to be performed and if they ensure reduction in consumption of heat energy,

[3] In addition, the administrative costs, evaluated for the whole CCFI, constitutes around 2.4% of the finances paid to beneficiaries [18]

(iii) the costs of renovation of a heat supply, hot water supply, ventilation systems allowing to reduce the energy consumption if included in energy audit report; purchase and installation of temperature control and adjustment devices in premises, if it is implemented together with other measures for reduction of heat energy consumption;
(iv) additional costs included in the project budget, which had not been indicated in the energy audit report but which had been provided for in the technical design (shall not exceed 5% of total eligible costs of the project),
(v) the costs of heat supply switch from fossil to renewable resources, installation of renewable energy based heat supply system (wood pellets or chips, solar heat, heat pumps, eligible within the tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings" only),
(vi) the costs of reconstruction or renovation of a lighting system and installation of efficient lightning, if included in energy audit and if they ensured reduction in consumption of electric energy (eligible within the tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings" only),
(vii) the costs of building's energy certification.

The following activities were not supported: the costs which were not related to the energy efficiency measures specified in the energy audit report (except the additional costs provided for in the technical design); construction of new heat supply networks; the costs of change or repair of electrical equipment (for example, purchase or repair of washing machines, television sets or refrigerators).

To submit the application, an energy audit should be performed in the building, the building should had a technical design in respect of the activities included in the project application (if it was applicable in accordance with regulatory enactments). In addition to that, for the application within the tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings" it had to be submitted (i) energy consumption calculation (performed in accordance with Latvian standard LVS EN ISO 13790:2009) for those buildings in which it was planned that heat energy consumption after reconstruction will not exceed 60 kWh/m^2 annually, and (ii) detailed specification of technological equipment and devices to be installed.

The criteria applied for projects' quality evaluation are presented in the following Table 1. One can see, the quality criteria for the tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings" had raised the requirements for the CO_2 emissions reduction's cost efficiency (the level of CO_2 emissions reduction in relation to the requested financing provided by CCFI); the threshold level and scale for quality points in relation to expected heat energy consumption in building after project implementation were established; the importance of realising construction works according the principles of sustainable development and green procurement was raised as well.

Table 1. Layout of projects' quality evaluation criteria: the 1st tender "Increase of Energy Efficiency in Municipal Buildings" and the 2nd tender 'Complex Measures to Reduce GHG Emissions in Municipal Buildings"

	1st tender	2nd tender
maximally available score, in points	34	30
1. quality of application of the requirements for green procurement to implementation of project activities, maximally available points	3	6
2. reduction of CO_2 emissions in relation to the requested financing provided by CCFI, maximally available points *threshold level, kgCO_2/EUR annually* *the level to be reached to receive the maximal score, kgCO_2/ EUR annually*	10 *0,180* *0,320*	10 *0,250* *0,560*
3. Expected heat energy consumption after implementation, maximally available points *threshold level, kWh/m^2 annually* *the level to be reached to receive the maximal score, kWh/m^2 annually*	not included	9 *100* *20*
4. Proportion of the co-financing of the project applicant (% of the total eligible costs of the project),	10	5

the level to be reached to receive the maximal score, in %	*25*	*35*
5. project's applicant experience in management of energy efficiency related projects, maximally available points	3	not included
6. the buildings, in which educational activities take place, are included in the application (social importance criterion), maximally available points if 100% buildings are of educational activities (the 1st tender)	3	not included
7. Documentation of the project prepared: procurement procedure (5 points - if completed, 0- points if not completed, the 1st tender)	5	not included

The measure has raised great interest from the potential beneficiaries, see the following Table 2. Summing both tenders, it was implemented 94 projections and improved energy performance of more than 300 public buildings. The expected annual heat energy consumption after implementation of the projects was in the range 25 – 99 kWh / 1m2 annually.

Table 2. Results of the open tenders [7-9]

	1st tender "Increase of Energy Efficiency in Municipal Buildings"	2nd tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings"	Total
Number of submitted applications (number of buildings, one project may include activities in several municipal buildings)	69 (253)	101 (324)	170 (577)
The total requested financial amount	42298 thsd EUR	55657 thsd EUR	97955 thsd EUR
Ratio available/ requested financing	0.8	0.45	0.6
Number of implemented projects	56	38	94

Open Tenders of the CCFI programme "Complex Measures to Reduce GHG Emissions"

The eligible activities of the given CCFI programme [5] in general had corresponded to the eligible activities of the described above tender "Complex Measures to Reduce GHG Emissions in Municipal Buildings" [4]. In addition to heat supply switch from fossil to renewable resources and installation of renewable energy based heat supply system it had been included as eligible also electricity production applying solar PV, wind and biomass cogeneration (up to 3 MW of heat capacity) technologies. The beneficiaries responsibility for projects results and method for calculation of CO_2 savings in general terms is the same. As above, public sector beneficiary must cover not less than 15% of total eligible costs of the project. The maximum financial support, provided by CCFI for one project, was defined ~ 854 thsd EUR.

Financing. The total co-financing, provided by the CCFI within these tenders for the given category of beneficiaries, has been **36.293** MEUR [10-13, 18]. Within the framework of the 2nd - 5th tenders of the noted CCFI programme "Complex Measures to Reduce GHG Emissions" it was implemented 221[4] public sector projects, including 23 projects focused to reduced GHG emissions in medical/health care sector institutions. The activities within the 5th tender should be implemented until 29 May 2015.

[4] Regarding education sector, in the given number the projects implemented in the primary and secondary general education institutions, pre-school education institutions and in specialised boarding-schools of education as well as in pre-school and general educational institutions of private ownership are included, but it is not included the projects implemented in vocational and higher education institutions as they are described in the separate measure of the MURE database (see the measure LV8 Tertiary).

Regarding health care and culture sector, in the given number both the projects implemented in municipal and state owned institutions as well as private sector owned health care institutions are included, the dominated share of these projects had been implemented in municipalities owned institutions.

Within the given CCFI programme "Complex Measures to Reduce GHG Emissions" the following criteria regarding tangible results had been stated:

1) the general requirement was to reach minimum threshold of heat energy consumption for heating, namely, 90 kWh/m^2 annually, after implementation of the project[5],
2) the minimum threshold for the CO_2 emissions reduction cost efficiency (reduction of CO_2 emissions in relation to the requested co-financing provided by CCFI) was raised up to 420 g CO_2/EUR annually.

The layout of projects' quality evaluation criteria [5] within the CCFI programme "Complex Measures to Reduce GHG emissions" is provided in the Table 3.

Table 3. Layout of projects' quality evaluation criteria

maximally available score, in points	37
1. reduction of CO2 emissions per year, kg CO2 annually *The submitted by the applicant emission reduction value is scored against the average value calculated taking into account all projects which passed administrative evaluation*	0 - 10
2. reduction of CO_2 emissions in relation to the requested financing provided by CCFI, maximally available points *threshold level, kgCO_2/EUR annually* *the level to be reached to receive the maximal score, kgCO_2/ EUR annually*	1 - 10 *0.42* *4.92*
3. proportion of the co-financing of the project applicant (% of the total eligible costs of the project), *the level to be reached to receive the maximal score, in %*	1 - 5 *20*
4. evaluation of the financial capacity of the applicant (if applicable)	0 -2
5. preparadness of the application *as the minimum requirement the technical project of construction shall be submitted*	5 - 10

Responsibility of a beneficiary. A beneficiary is responsible for achievement of CO_2 emissions reduction specified in the project application and project contract. Beneficiary, during 5 years period after completion of the project, shall submit project results' monitoring reports. The monitoring year corresponds to full calendar year (01 January – 31 December). If the responsible institution supervising the implementation determines that, according the submitted monitoring report (except the final monitoring year), the reduction of CO_2 emissions per year specified in the project contract has not been achieved, the responsible institution shall calculate the scope of non-conformity and inform (within 20 days after receiving the monitoring report) the beneficiary. A beneficiary shall submit (within 40 days after receiving the noted information) the plan for elimination of non-conformity. This plan shall include: (i) necessary technical and organizational measures, (ii) additional measures to provide energy efficiency (important, the measures which are financed by public funding of any kind cannot be included in the list of these additional measures), the additional measures shall be approved by the independent energy auditor competent in the field (iii) reasoned information on *force majeure* extraordinary events or circumstance beyond the control of the beneficiary which had impacted the meeting of the contracted results. The responsible institution approves the plan or provide information on the necessary improvements of the plan (within 20 days). After the approval of the plan, a beneficiary shall implement the plan, using his own resources. Monitoring period is suspended during implementation of the plan. The implementation of the plan shall be done no later than 31 December of the next year (after approval of the plan). Important, the plan for elimination of non-conformity might be implemented in each of years (except last one) of the whole monitoring period and calculation of non-conformity is based on the average result of all submitted monitoring reports. If the responsible institution, after receiving the monitoring report of the last monitoring year, determines that the reduction of CO_2 emissions per year specified in the project contract has not been achieved, the responsible institution calculates non-

[5] the projects which envisaged only such activities which were not targeted to reduce heat consumption (ie., fuel switch to renewables) might be implemented in the buildings which had annual heat energy consumption for heating 120 kWh/1m2 and below .

conformity (average yearly CO_2 emission reduction value within the whole monitoring period is used, *force majeure* conditions are taken into account) and makes the decision regarding recognition of resources of the CCFI disbursed for the project as ineligible and commence recovery of that part of resources corresponding to the calculated non-conformity. In case the monitoring period has ended and the contracted CO_2 savings are not reached, the beneficiary may ask the responsible institution to prolong the monitoring period up to 3 years, and if it is approved, shall submit and implement the plan for elimination of non-conformity. In case of prolongation of monitoring period the best 5 years regarding CO_2 emissions reduction are taken into account, thus the non-conformity in the first years (or end years) of monitoring period does not have the impact on beneficiary responsibility

Impact evaluation (methods and results)

The evaluation method – "bottom-up", based on the data provided by the contracted projects.

Contracted savings [8-13]. The contracted CO_2 savings of implemented projects, summing up all six tenders, gives 36.7 CO_2 thsd tons annually. The dominant part of CO_2 savings relates to savings in heat energy consumption. If all noted above CO_2 savings are assumed to be achieved due to heat energy savings, and the specific method for CO_2 savings calculation (see below in the description) is applied, one can calculate 139 GWh (0.5 PJ) annual heat energy savings. In practice, final energy savings are somewhat lower, due to the part of CO_2 savings relate to savings in electricity consumption (having higher specific CO_2 savings per 1 MWh) as well as implementation of RES technologies.

Monitored savings. The CCFI 2017 monitoring report [18] indicates 27.285 thsd tons of CO_2 savings, reached in total 259 projects. In addition, for 53 projects the monitoring period has ended in years 2016 or 2015, for these projects the CCFI 2015&2016 monitoring report [7,16] data – 15.826 thsd tons of CO_2 savings – might be used. Thus, in 2017 the **CO_2 savings of 43.111 thsd tons** might be accounted. One can see, monitored CO_2 savings is per ~ 17.5% higher than contracted CO_2 savings.

Energy Savings indicated by the 2nd NEEAP.
The 2nd NEEAP indicates in p.62 [1] savings of 428.2 GWh (in 2016) and 738.76 GWh (in 2020). Thus, these figures do not correspond to annual savings, namely, some method of cumulative savings calculation had been applied in the 2nd NEEAP.

The 2nd NEEAP had envisaged energy savings within the particular measure against CCFI financing 2.33 MWh/year/1000 LVL [1, page 62]. As 1EUR=0.702804 LVL, it corresponds to 1.6375 MWh/year/1000 EUR. If taking into account the full volume of CCFI financing (~87 MEUR) and increased, compared to contracted ones, savings, it might be calculated **~ 167 GWh (0.6 PJ**) energy savings in 2017. In case of first two open tenders, by applying this methodology it might be calculated respectively 82.6 GWh savings (increased savings factor not included) and 104.6 GWh savings (if increased savings factor is included).

Energy Savings evaluated by bottom-up method
The evaluation of savings by bottom-up method is presented for the noted above open tenders on increase of energy efficiency in municipal buildings. The Table 3 (page 10) of [17] and Table 6 (page 15) of [19] indicate in total 93.4 GWh (0.336 PJ) final energy savings in year 2015. Thus, this presented figure is in line with the indicated above 2nd NEEAP savings.

The actual final energy consumption in Latvia tertiary sector (commercial and public, in total) in years 2010-2015 varied in the range 23.45-26.1 PJ (average ~ 25 PJ) [14]. Thus the impact of the measure is high.

Method of Calculation of Reduction of CO_2 Emissions.

According [3,4] the CO_2 saving, which is achieved due to reduction of heat energy consumption of public buildings, is determined pursuant to the CO_2 emission average factor – 264 g/kWh. This average emission factor is calculated pursuant to the total emissions in Latvia in the energy conversion sector (heat boiler houses and combined heat-power units), which are applied against the final consumption of the district heating energy – the average value during the time period from 2000 until 2007 – by correcting the indicator value by the amount of heating fuel used in CHP units and which has been consumed for the generation of electricity, i.e. not taking into account the CO_2 emissions that have occurred during electricity generation process. The average emission factor shall be applied to buildings which are heated by using biomass (for example, wood, chipped wood, granules) or which are connected to the district heating system, in which the biomass is used for the heat production. If autonomous heating of a particular building is ensured by a heating fuel with a higher emission factor than the average value of emission factor specified above, a project applicant may use the CO_2 emission factor of the relevant heating fuel. If heating of particular building is ensured by district heating, the CO_2 emission factor provided by district heating operator may be used, in this case heat losses in district heating network are accounted as well.

The CO_2 saving, which is achieved due to reduction of electric energy consumption (2^{nd} tender) is determined pursuant to the specific CO_2 emission factor for electricity production and transmission - 397 g CO_2 /kWh, this coefficient is determined as the emission factor of the last marginal power production unit, including transmission and distribution losses, which may be replaced by renewable technologies. When calculating CO2 saving, which is achieved due to heat supply switch from fossil fuel to heat pumps (2^{nd} tender), the electricity consumption is taken into account by applying the above specific CO_2 emission factor. The minimal requirements for energy transformation coefficient for different types of heat pumps' are defined by [4].

Interaction of measures

see also Latvia tertiary sector measures TER-LV8 "Investments in Vocational Education and Higher Education Institutions Buildings' Energy Efficiency" and TER-LV15 "Energy Certification of Non-residential Buildings".

The energy efficient renovation of public buildings will be continued also in the 2014-2020 programming period of EU Structural Funds. In this period the ERDF co-financing of ~ 145 mln EUR is allocated for this purpose, from which ~ 98 mln EUR for state public buildings and ~ 47 mln EUR for municipal public buildings [15], see the MURE database Tertiary sector measures TER-LV16 and TER-LV17.

References

1. Second National Energy Efficiency Action Plan of Latvia 2011-2013, http://ec.europa.eu/energy/node/84 (see: Second NEEAPs translated into English)
2. Ministry of Economics. Information Report on the Progress towards the Indicative National Energy Efficiency Targets in 2014-2016 according to Directive 2012/27/EU On Energy Efficiency amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, 17 March 2014, viewed by the Government 26 May 2014, http://ec.europa.eu/energy/node/84
3. Cabinet of Ministers (Governmental) Regulations No.645 "Regulations of the Open Tender "Increase of Energy Efficiency in Municipal Buildings" for the Projects Financed by the Climate Change Financial Instrument", (*Ministru Kabineta Noteikumi Nr.645 ""Klimata pārmaiņu finanšu instrumenta finansēto projektu atklāta konkursa "Energoefektivitātes paaugstināšana pašvaldību ēkās" nolikums"*), adopted 25 June 2009, in force 25 July 2009. Amendments. adopted (i) 03 November 2009, the Governmental Regulations No.1288, (ii) 18 January 2011, the Governmental Regulations No.48, (iii) 11 October 2011, the Governmental Regulations No.797, (iv) 25 September 2012, the Governmental Regulations No.660, (v) 17 December 2013, the Governmental Regulations No.1533, (vi) 08 August 2017, the Governmental Regulations No

458. Basic version published in Latvian: “Latvijas Vēstnesis”, 117 (4103), 24.07.2009. Actual consolidated version available http://www.likumi.lv/doc.php?id=195280, in Latvian, English.translation (http://m.likumi.lv/saistitie.php?id=195280&saistitie_id=7) no amendments included

4. Cabinet of Ministers (Governmental) Regulations No.542 “Regulations of the Open Tender “Complex Measures to Reduce GHG Emissions in Municipal Buildings” for the Projects Financed by the Climate Change Financial Instrument”, (*Ministru Kabineta Noteikumi 542 “"Klimata pārmaiņu finanšu instrumenta finansēto projektu atklāta konkursa "Kompleksi risinājumi siltumnīcefekta gāzu emisiju samazināšanai pašvaldību ēkās" nolikums"*), adopted 21 June 2010, in force 30 June 2010. Amendments adopted (i) 18 January 2011, the Governmental Regulations No.49, (ii) 11 October 2011, Governmental Regulations No.798, (iii) 25 September 2012, the Governmental Regulations No.663, (iv) 17 December 2013, the Governmental Regulations No.1532, (v) 08 August 2017, the Governmental Regulations No 452 . Basic version published in Latvian: “Latvijas Vēstnesis”, 101 (4293), 29.06.2010. Actual consolidated version available http://www.likumi.lv/doc.php?id=212431 , in Latvian.
5. Cabinet of Ministers (Governmental) Regulations No.559 “Regulations of the Open Tender “Complex Measures to Reduce GHG Emissions” for the Projects Financed by the Climate Change Financial Instrument”, (*Ministru Kabineta Noteikumi 559 “"Klimata pārmaiņu finanšu instrumenta finansēto projektu atklāta konkursa "Kompleksi risinājumi siltumnīcefekta gāzu emisiju samazināšanai" nolikums"*), adopted 14 August 2012, in force 30 August 2012. Amendments adopted (i) 25 September 2012, the Governmental Regulations No.661, (ii) 13 May 2013, Governmental Regulations No.250, (iii) 19 November 2013, the Governmental Regulations No1340, (iv) 27 January 2015, the Governmental Regulations No36, (v) 17 February 2015, the Governmental Regulations No.79, (vi) 08 August 2017, the Governmental Regulations No 456. Basic version published in Latvian: “Latvijas Vēstnesis”, 136 (4739), 29.08.2012. Actual consolidated version available http://likumi.lv/doc.php?id=251098 , in Latvian.
6. Latvian Environmental Investment Fund (LEIF), http://www.lvif.gov.lv/
7. Ministry of Environmental Protection and Regional Development (MEPRD). “Informative Report on the Results of the Climate Change Financial Instrument Operation in Year 2015” (*Informatīvais ziņojums “Par Klimata pārmaiņu finanšu instrumenta darbību 2015.gadā*), June 2016, in Latvian, http://varam.gov.lv/lat/darbibas_veidi/KPFI/likumd/
8. MEPRD. Website of the CCFI programme “Increase of Energy Efficiency in Municipal Buildings”, http://www.vidm.gov.lv/lat/darbibas_veidi/KPFI/projekti/?doc=10121 ,in Latvian. LEIF: List of implemented projects, http://kpfi.lv/modules/Konkurs/projekti.php?id=3&lang=lv , in Latvian
9. MEPRD. Website of the CCFI programme “Complex Measures to Reduce GHG Emissions in Municipal Buildings” http://www.vidm.gov.lv/lat/darbibas_veidi/KPFI/projekti/?doc=11068 , in Latvian. LEIF: List of implemented projects, in Latvian: http://kpfi.lv/modules/Konkurs/projekti.php?id=4&lang=lv
10. MEPRD. Website of the 2nd open tender „*Complex Measures to Reduce GHG Emissions”, http://www.varam.gov.lv/lat/darbibas_veidi/KPFI/projekti/?doc=16096,* LEIF. List of implemented projects, in Latvian http://kpfi.lv/modules/Konkurs/projekti.php?id=17&lang=lv
11. MEPRD. Website of the 3rd open tender „*Complex Measures to Reduce GHG Emissions”, ihttp://www.varam.gov.lv/lat/darbibas_veidi/KPFI/projekti/?doc=16776,* LEIF. List of implemented projects, in Latvian, http://kpfi.lv/modules/Konkurs/projekti.php?id=18&lang=lv
12. MEPRD. Website of the 4th open tender „*Complex Measures to Reduce GHG Emissions”, i*http://www.varam.gov.lv/lat/darbibas_veidi/KPFI/projekti/?doc=17720, LEIF. List of implemented projects, in Latvian, http://kpfi.lv/modules/Konkurs/projekti.php?id=21&lang=lv
13. MEPRD. Website of the 5th open tender „*Complex Measures to Reduce GHG Emissions”,* http://www.varam.gov.lv/lat/darbibas_veidi/KPFI/projekti/?doc=18130, LEIF. List of implemented projects, in Latvian, http://kpfi.lv/modules/Konkurs/projekti.php?id=23&lang=lv
14. Central Statistical Bureau of Latvia. The Statistic Database ENG02 “Energy Balance”, http://data.csb.gov.lv/pxweb/en/vide/vide__ikgad__energetika/?tablelist=true&rxid=cdcb978c-22b0-416a-aacc-aa650d3e2ce0

15. Operational Programme "Growth and Employment". Ministry of Finance of the Republic of Latvia, 2015. http://www.esfondi.lv/upload/14-20_gads/Planosana/fmdp_03052016.pdf (in Latvian); English translation: http://www.esfondi.lv/upload/Planosana/FMProg_270115_OP_ENG_2.pdf , see 4.2 investment priority in pages 109-113.
16. Ministry of Environmental Protection and Regional Development (MEPRD). "Informative Report on the Results of the Climate Change Financial Instrument Operation in Year 2016: Annex" (*Informatīvais ziņojums "Par Klimata pārmaiņu finanšu instrumenta darbību 2016.gadā: Pielikums*), July 2017, in Latvian, http://polsis.mk.gov.lv/documents/5957 and http://varam.gov.lv/lat/darbibas_veidi/KPFI/likumd/
17. Ministry of Economics (2017). Information Report on the Progress towards the Indicative National Energy Efficiency Target in 2017-2019 according to Directive 2012/27/EU On Energy Efficiency amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, 21 April 2017, viewed by the Cabinet of Ministers (Government) 11 July 2017, in Latvian, http://polsis.mk.gov.lv/documents/5952
18. Ministry of Environmental Protection and Regional Development (MEPRD). "Informative Report on the Results of the Climate Change Financial Instrument Operation in Year 2017: Annex" (*Informatīvais ziņojums "Par Klimata pārmaiņu finanšu instrumenta darbību 2017.gadā: Pielikums*), June 2018, in Latvian, http://varam.gov.lv/lat/darbibas_veidi/KPFI/likumd/
19. Ministry of Economics (2018). Report on the Progress towards National Energy Efficiency Target 2020 according to Directive 2012/27/EU (Ziņojums par virzību uz valsts energoefektivitātes mērķu 2020. gadam izpildi par 2016. gadu atbilstoši Direktīvas 2012/27/ES 24. panta 1. punkta un XIV pielikuma 1. daļas prasībām), https://ec.europa.eu/energy/sites/ener/files/documents/lv_annual_report_2018_lv.pdf