

<b>Title of the measure:</b>	<b>LV 34 Grants for Low Energy Consumption Building: 2011-2013</b> (Zema enerģijas patēriņa ēkas)
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### General description

The particular measure concerns both Household sector and Tertiary Sector of MURE database, thus it is included in both of sectors<sup>1</sup>.

The objective of the measure – reduction of CO<sub>2</sub> emissions by low energy consumption building. The measure has demonstration value. The energy end-use sector – buildings.

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 national green investment scheme - national Climate Change Financial Instrument (CCFI) - programme for CO<sub>2</sub> emissions reduction by both (i) existing buildings' (older than 10 years) reconstruction to reach low energy consumption and (ii) construction of new buildings corresponding low energy consumption criteria. The measure had been implemented by the open tender announced in year 2011 [2]. Responsible ministry - the Ministry of Environmental Protection and Regional Development, the responsible institution supervising implementation – state ltd. company “Environmental Investment Fund” (*valsts sabiedrība ar ierobežotu atbildību “Vides investīciju fonds”*) [3].

Regarding household sector, financial support, provided by CCFI, was available for following 3 groups of buildings.

1. single family dwelling houses (new building projects, applicants – physical persons which are tax payers in Latvia)
2. twin or rowline dwelling houses (new building projects, applicants – state administration institutions, municipalities, business entities),
3. multi-apartment social dwelling houses (both new building and reconstruction, applicants – state administration institutions and municipalities).

The building must be the property of the project applicant, the land – the property of the project applicant or rented (duration of rental agreement at least up to 1 November 2017). The applicant must state that at least 5 years after project completion the function of the building will not be changed. The projects had been implemented until 1 November 2013.

The following **threshold criteria regarding tangible results** – energy consumption and CO<sub>2</sub> emissions reduction – were stated for the implemented projects within the framework of the tender:

- 1) the threshold for reduction of CO<sub>2</sub> emissions in relation to the requested financing provided by CCFI - not less than 250 g CO<sub>2</sub>/1EUR per year for applicants – physical persons, the threshold should be fulfilled in buildings undergoing reconstruction,
- 2) the threshold of annual heat energy consumption for heating - 35 kWh/m<sup>2</sup> (Art.11 of [2])<sup>2</sup>,
- 3) the total primary energy consumption (summing up heating, hot water supply and electric energy consumption) should not exceed 150 kWh/m<sup>2</sup> per year (Annex 2 of [2]).

The thresholds for technical parameters for low energy consumption buildings are presented in Table 2 below.

<sup>1</sup> Regarding tertiary sector buildings, the described measure has been included in the Latvia's 2<sup>nd</sup> NEEAP for years 2011-2013 [1] for the tertiary sector, see the measure TER-LV10 of the MURE Tertiary sector database

<sup>2</sup> According submitted project applications, the expected output indicator for level of heat energy consumption assessed for the 6 buildings built within the programme does not exceed 14.8 kWh/m<sup>2</sup>/year [6].

**Financing.** In Household sector it had been built 6 new low energy buildings [5]. The total *ex-post* costs of all 6 implemented projects constitute 1.530 MEUR, the CCFI programme co-financing – 0.3485 MEUR.

Maximum financing available from CCFI for one project was stated ~ 1067 thousand EUR. The project’s financial support intensity rate for physical persons was defined up to 65% from the total eligible costs. The project’s financing by CCFI was based on the principle of additionality, namely, to implement the project the beneficiary had not received a co-financing within the framework of other financial programmes, from other financial instruments, European Union or foreign financial assistance resources for the eligible costs co-financed by the CCFI.

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

- “soft” activities: the costs of the energy audit (for buildings under reconstruction), the costs of preparation of the technical design, construction works’ supervision costs, consultations in relation to the issue (these “soft” costs should not exceed in total 10% of eligible costs of the project),
- the costs of construction works for new low energy consumption building,
- renovation works if they ensured reduction in consumption of heat energy (for existing buildings),
- 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) for buildings under renovation (for new buildings the costs of heating system installation were not eligible),
- the costs of building’s energy certification.

For new buildings the eligible costs were defined as the difference between the costs of low energy consumption building and the costs of „standard” building (the „standard” building had been stated as the building fulfilling the minimal requirements defined by the Latvia Construction Standard [4]). Furthermore, the eligible costs were defined depending on the level of heat energy consumption for heating to be reached as a result of project implementation, see the following Table 1. For single family dwelling house the heated area, eligible for financial support, was limited to maximally 200 m<sup>2</sup>.

**Table 1.** The maximal eligible costs of renovation and building (VAT not included) [2]

Heat energy consumption per year	Maximal eligible costs, EUR / 1m <sup>2</sup> heated	
	New building	Reconstruction of existing building
less 15 kWh/m <sup>2</sup>	1422.87	426.86
15 – 25 kWh/m <sup>2</sup>	1209.44	355.72
25 - 35 kWh/m <sup>2</sup>	1067.15	284.57

Note: If during the existing building’s reconstruction new boundary constructions are built, for these ones the eligible costs defined for new building are applicable.

Similarly, if heat supply switch from fossil to renewable resources had been done, the eligible costs were defined as the difference between the costs of renewable and fossil fuels based technologies. The specific eligible maximum level of financial support by CCFI per 1 kW<sub>th</sub> for installation of different renewables based heating technologies were determined (Annex 4, [2]). The eligible costs which exceed the defined maximal level had to be covered by the project beneficiary.

To submit the application, an energy audit should be performed for existing buildings (for new building – energy consumption calculation) by certified energy auditor; the building should has a technical design in respect of the activities included in the project application, detailed specification of technological equipment and devices to be installed had to be added as well. The principles of green purchase should be applied for the technical design of the building and construction works. After the completion of the project the beneficiary shall place publicly available visual information demonstrating the achieved results.

**Table 2.** Technical requirements for low energy consumption buildings in the projects within the framework of the tender “Low Energy Consumption Buildings” [2].

Heat energy consumption per year	Heat penetrability coefficient U, W/m <sup>2</sup> K			Ventilation system	Air penetrability coefficient for boundaries, air escape n <sub>50</sub> (h <sup>-1</sup> )
	Windows	Roofs and ceilings	Other boundaries		
below 15 kWh/m <sup>2</sup>	not above 0.8; triple	not above 0.2	not above 0.3	recuperation, η <sub>□</sub> = 75% at least, electricity consumption not above ‘04 Wh/m <sup>3</sup> h	0.6
up to 25 kWh/m <sup>2</sup>					1 (dwellings) 1.2 (public buildings.)
25 – 35 kWh/m <sup>2</sup>	not above 1, improved double (if windows are not reconstructed - 1.8),		not above 0.4		1.2 (dwellings) 1.8 (public buildings)

The criteria applied for projects’ quality evaluation are presented in the following Table 3.

**Table 3.** Layout of projects’ quality evaluation criteria [2].

	Maximum available Points	Percentage in relation to maximum score
maximum available score	65	
1. Expected heat energy consumption after implementation, <i>threshold level – 35 kWh/m<sup>2</sup> annually; 15 kWh/m<sup>2</sup> to be reached to receive the maximal score (25 points)</i>	25	38%
2. Reduction of CO <sub>2</sub> emissions in relation to the requested financing provided by CCFI (kg CO <sub>2</sub> /1EUR), applicable for reconstruction of existing buildings only <i>Projects are ranged, the project with the highest CO<sub>2</sub> specific reduction value receives 5 points, the project with the 5<sup>th</sup> CO<sub>2</sub> reduction value – 1 point</i>	5	8%
3. Existing heat energy consumption for heating, kWh/m <sup>2</sup> per year, applicable for reconstruction of existing buildings only <i>Maximal score (5 points) if not above than 120 kWh/m<sup>2</sup>; 1 point if not above 180 kWh/m<sup>2</sup></i>	5	8%
4. Expected heat energy consumption for heating, kWh/m <sup>2</sup> annually, applicable for new building only <i>Projects are ranged, the project with the highest energy efficiency receives 10 points, the project with the 5<sup>th</sup> energy efficiency value - 1 point</i>	10	15%
5. Expected heat energy consumption for heating, kWh/m <sup>2</sup> annually, <i>additional points for the 1<sup>st</sup> best (10 points) and for the 2<sup>nd</sup> best (5 points) projects within each group of buildings</i>	10	15%
6. Project’s total eligible costs, EUR/m <sup>2</sup> , <i>additional points for the 1<sup>st</sup> best (10 points) and for the 2<sup>nd</sup> best (5 points) projects within each of 3 classes of buildings’ annual heat energy consumption (below 15 kWh/m<sup>2</sup>, 15-25 kWh/m<sup>2</sup> and 25-35 kWh/m<sup>2</sup>), evaluated separately for new buildings and buildings under reconstruction</i>	10	15%

### **Impact evaluation (methods and results)**

In the given tender the contracting of CO<sub>2</sub> emission savings had been applied for the projects of renovation of existing buildings only. As within the noted tender there were built only new family buildings, the contracted savings do not apply.

The CCFI 2017 Monitoring Report [9] indicates 2017 annual CO<sub>2</sub> emissions savings of 27 tons.

*Both Method of Calculation of Reduction of CO<sub>2</sub> Emissions and Beneficiary Responsibility in details are described in the MURE database Tertiary sector measure TER-LV10 "Low Energy Buildings"*

### **Interaction of measures**

The given measure has the value of technical demonstration regarding the implementation of new building standards. In 2013 it is introduced by the new Governmental Regulations [7] six (A-F) energy efficiency classes of residential buildings (see the Table 2 in the MURE Household sector measure HOU-LV30 "Energy Audits and Energy Certification of Residential Buildings").

### **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. Cabinet of Ministers (Governmental) Regulations No.1185 "Regulations of the Open Tender "Low Energy Consumption Buildings" for the Projects Financed by the Climate Change Financial Instrument", (*Ministru Kabineta Noteikumi Nr.1185 "Klimata pārmaiņu finanšu instrumenta finansēto projektu atklāta konkursa "Zema enerģijas patēriņa ēkas" nolikums"*, adopted 28 December 2010, in force 13 January 2011). Published in Latvian: "Latvijas Vēstnesis", 6 (4404), 12.01.2011. Amendments (i) 25 September 2012, the Governmental Regulations No.667, (ii) 10 December 2013, the Governmental Regulations No.1399. Actual consolidated version <http://www.likumi.lv/doc.php?id=224137> , in Latvian
3. Latvian Environmental Investment Fund (LEIF), <http://www.lvif.gov.lv/>
4. Cabinet of Ministers (Governmental) Regulations No.495 "Regulations Regarding Latvian Construction Standard LBN 002-01 "Termotechnics of Building Envelopes" (*Ministru Kabineta Noteikumi Nr.495 "Noteikumi par Latvijas būvnormatīvu LBN 002-01 "Ēku norobežojošo konstrukciju siltumtehnika"*", adopted 27 November 2001, in force from 01 March 2003 to 30.06.2014, published in Latvian: "Latvijas Vēstnesis", 174 (2561), 30.11.2001. Amendments adopted by the Governmental Regulations No.621 (27 July 2004), No.791 (26 September 2006), No.1064 (23 November 2010) and No.189 (8 April 2014). Historical consolidated version available <http://www.likumi.lv/doc.php?id=56049> in Latvian.
5. LEIF. List of projects implemented within the open tender "Low Energy Consumption Buildings" <http://kpfi.lv/modules/Konkurs/projekti.php?id=9&lang=lv>, in Latvian
6. Ministry of Environmental Protection and Regional Development (MEPRD) Republic of Latvia. Website of the CCFI Open Tender „Low Energy Consumption Buildings”, in Latvian [http://www.varam.gov.lv/lat/darbibas\\_veidi/KPFI/projekti/?doc=11775](http://www.varam.gov.lv/lat/darbibas_veidi/KPFI/projekti/?doc=11775)
7. Cabinet of Ministers (Governmental) Regulations No 383 „Regulations On Energy Certification of Buildings" (*Ministru Kabineta noteikumi Nr.383 „Par ēku energosertifikāciju”* ), adopted 09 July 2013, in force 19 July 2013., published in "Latvijas Vēstnesis" 138 (4944), 18.07.2013. Amendments adopted by the Governmental Regulations No634 (adopted 10.11.2015, in force 21.11.2015). Actual consolidated version <http://likumi.lv/doc.php?id=258322>, in Latvian.
8. 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://www.varam.gov.lv/lat/darbibas\\_veidi/KPFI/likumd/](http://www.varam.gov.lv/lat/darbibas_veidi/KPFI/likumd/)
9. Ministry of Environmental Protection and Regional Development (MEPRD). "Informative Report on the Results of the Climate Change Financial Instrument Operation in Year 2017" (*Informatīvais ziņojums "Par Klimata pārmaiņu finanšu instrumenta darbību 2017.gadā)*, June 2018, in Latvian, [http://varam.gov.lv/lat/darbibas\\_veidi/KPFI/likumd/](http://varam.gov.lv/lat/darbibas_veidi/KPFI/likumd/)