

Title of the measure:	LV17 Increasing Energy Efficiency in Municipal Buildings: EU Programming Period of 2014-2020 <i>Energoefektivitātes pasākumi pašvaldību ēkās</i>
------------------------------	--

General description

The low energy efficiency in the final consumption sectors is the challenge stated by the Latvian National Reform Programme for Implementation of „Europe 2020” Strategy (NRP). The Latvian NRP sets the following targets for 2020: total savings of primary energy 0.670 Mtoe, savings of final energy – 0.457 Mtoe, increase of share of renewable energy in the gross final energy consumption up to 40%.

Improvement of energy efficiency (EE) in public buildings is defined as one of the priority tasks of the Strategic Objective “Energy Efficiency and Energy Production” of the new National Development Plan for 2014-2020 financial planning period (NDP). The goal of this Strategic Objective states ensuring the sustainable use of the energy resources required by the national economy by promoting the availability of a market for the resources, a decrease of the energy intensity and emission intensity in certain sectors, and an increase of the proportion of renewable energy sources (RES) in the total consumption, while focusing on competitive energy prices [1, sections 191-207]. The measures stated by the NDP are in line with “Latvian Energy Long Term Strategy 2030 - Competitive Energy for Society”, in which the increase of EE is set as national priority [2].

Increasing of EE in municipal public buildings is supported within the framework of the Operational Programme 2014-2020 “Growth and Employment”, Thematic Objective No4 “Supporting the shift towards a low-carbon economy in all sectors”, Investment Priority 4.2. “Support energy efficiency, smart energy management and use of RES in public infrastructure, including in the public buildings and housing sector”, the Specific Objective 4.2.2. “To facilitate the increase of energy efficiency in municipal buildings, according to the integrated development programme of the municipality” corresponding to this Investment priority [3, sections 312-316]. These investments will ensure conformity to the EU Council Recommendations in the area of EE.

The measure is the national alternative measure to be implemented in combination with energy efficiency obligation scheme to achieve the cumulative end-use energy savings target pursuant to Article 7 of Directive 2012/27/EU [3, section 291].

According the Directive 2012/27/EU the support for the promotion of EE of municipal buildings must be planned according to the priorities set in the integrated development programmes (IDP) of the municipalities. Taking into account that *Latvian Regional Policy Guidelines for 2013-2019* define EE as one of the main factors in order to ensure economic, social and environmental sustainability of the use of energy resources, the support for the increase of EE in municipal buildings is granted to the priority investment projects defined in the IDP of the municipalities. Respectively, it is primarily supported the projects which are set as the priorities of municipalities, related to other projects promoting integrated development and directly focused on the reduction of expenditures of the municipalities and reconsideration of components constituting the costs of services provided to the inhabitants of the municipality. In the situation when demographic forecasts predict a negative trend, reduction of expenses of municipalities is an important precondition for facilitation or regional growth, thereby, freeing up resources of the municipalities, which can be used to solve social and economic matters¹ ([3], sections 321-331).

¹ Investment projects will be assessed within the context of the development specialisation of the municipalities and full-fledged use of local potential and in the synergy with other planned investments and development instruments. Integrated solutions that will plan the impact on the achievement of more than one Specific Objective results, will be primarily supported. Sustainability of projects will be assessed in particular ensuring that the support is provided only to the infrastructure, regarding further application of which there is clear vision set in development strategies [3, section 330].

Taking into account that the majority of Latvian buildings have low energy efficiency indicators, the first priority is to reduce their energy consumption. At the same time municipalities can provide crucial investment in wider use of RES, promoting their use in municipal buildings; moreover, such solutions will promote the reduction in costs of maintenance of municipal buildings and services provided therein. Thus, in addition to the renovation of municipal buildings, by promoting the reconstruction of local heat supply infrastructure, support is provided for sustainable use of resources.

08 March 2016 the Cabinet of Ministers had adopted the Cabinet of Ministers Regulation No 152 on Energy Efficiency Measures in Municipal Buildings co-financed by the EU ERDF [4]. The aim of the given ERDF co-financed programme is to reduce primary energy consumption by promoting EE improvements and to reduce municipal costs related to heat supply.

Responsible ministry for implementation – Ministry of Environmental Protection and Regional Development (MEPRD). Authority coordinating projects content – Regional Development Coordination Council (RDCC, *Reģionālās attīstības koordinācijas padome*). To be co-financed by the ERDF, the EE projects of the municipalities, which are national significance centres, shall be included in their IDPs and the investment plan of the municipality, moreover these projects submitted for financing shall be agreed by the RDCC. In case of other municipalities the agreement by RDCC is necessary regarding project conceptual idea.

The programme's total planned financing is at least 55.3 MEUR (see Tables 1&2). Basically, the total amount of ERDF co-financing was planned to be 31.4 MEUR [3, *Table No.2.4.13 (7-12)*] and by the Government this amount was decided to be increased up to 47 million EUR (so called financial overobligation, see Tables below).

Table 1. Planned amount of financing for the measure [4, sections 14, 15], in EUR

	TOTAL, at least	Municipalities – development centres of national significance ² (1 st Open Tender)	Other municipalities (2 nd Open tender)
ERDF	46 996 394 ¹	31 299 565 ¹	15 696 829
State budget subsidies, municipal budgets	8 293 482	5 523 453	2 770 029
TOTAL	55 289 876	36 823 018	18 66 858
Note1. Including 15602736 EUR of overobligation			

Table 2. Planned amount of ERDF co-financing for the measure [4, sections 16,17], in EUR

	Available up to 31.12.2018, ERDF	Might be increased after 01.01.2019*, ERDF
1	2	3
Municipalities – development centres of national significance (1 st Open Tender)	30 342 133 ¹	31 299 565 ¹
Other municipalities (2 nd Open tender)	14 739 397	15 696 829
TOTAL	45 081 530¹	46 996 394¹
Notes:		
1. Including 15602736 EUR of overobligations		
* the increase of financing might be done after evaluation (by European Commission) the implementation performance of the programme. ERDF co-financing reserve of 6.1% is provided according the Article 20 of the Regulation 1303/2013.		

The ERDF maximal contribution is 85% of project's total eligible costs. The total costs of the project shall not be below 50000 EUR. The municipality within the 2nd Open Tender (see Table 1) may implement not more than three projects with total ERDF co-financing 1 million EUR. The projects shall be implemented up to 31 December 2022. The projects selection has started in the 2nd quarter 2016.

² Daugavpils, Jelgavas, Jēkabpils, Jūrmalas, Liepājas, Rēzeknes, Rīgas, Valmieras, Ventspils cities



Activities supported to improve EE of municipal buildings (the works shall be foreseen in the building's energy certificate, the green public purchasing is supported) [4, section 41]:

- renovation/construction works for the increase of EE, including works performed in the building's delimiting outer constructions,
- renovation, reconstruction or establishment of building's engineering systems if it provide EE improvements, of local or autonomous heat supply engineering systems, of ventilation systems, of lightning systems
- purchase and installation of heat energy production equipment which utilise renewables (not higher than 20% of project's total direct eligible costs)
- providing project's implementation management, as well as preparation of technical documentation and energy certification necessary for project application
- costs of publicity on project's implementation.

To achieve stated programme's output indicators (see Impact Evaluation below) and provide effectiveness of investments, the priority will be given to those EE improvement projects which will have the highest primary energy savings and/or the highest before the project implementation primary energy consumption for heating (Annotation of [4]).

In general, the EE improvement projects shall be implemented in buildings which are not used for commercial activities³. The exception (according EC decision No 2012/21/EU) is done for the buildings which is used for providing communal services (water supply and heat supply) and for providing state or municipality paid health care services. Also the exception is done for the buildings which is used for providing sport and culture activities (the providers of such activities should act only in Latvia territory and at least 85% of their clients should be Latvia inhabitants) if it does not have impact on trade commerce and does not impact competitiveness conditions.

Beneficiary responsibility. The project implementation contract contains values of annual energy consumption (MWh) and/or RES capacity (MW) and CO₂ emissions savings (tons). A beneficiary is responsible for achievement of these results. If the responsible authority (RA) supervising project's implementation determines that the contracted values have not been achieved, the RA has the right to take a decision regarding recognition of resources of the ERDF disbursed for the project as ineligible and commence recovery of them. In order to determine the amount of ineligible resources to be recovered, the real achieved values shall be divided by the values specified in the project contract; the obtained value shall be subtracted from the value "1". For the determination of recovery of the financial resources, the lowest achieved value from all contracted ones shall be taken into account.

On-going implementation.

The EU Funds progress report, August 2017, indicates 55 submitted projects (of which 14 approved) and 13 MEUR required (5.6 MEUR approved) [11].

Impact evaluation

Overall impact on municipal buildings sector. By the ownership status, 4967 buildings owned by the municipalities are registered in the Information System of the National Cadastre, with the total area of 6.29 Mm², including buildings hosting education and health care institutions [3, section 319]. The given ERDF co-financed programme will provide renovation of at least 6% of the total area of the Latvia municipalities owned buildings.

Final indicators of the programme

As a result of the implementation of the particular measure, EE in the sector of municipal buildings will be improved, by decreasing heat consumption and ensuring sustainable use of energy resources.

³ The part of building which is used for income generating commercial activities shall not exceed 15% of the total area of the building.

Table 3. ERDF specific result and output indicator [4, section 10]

Indicator	Unit	Baseline value	Planned value (2023)	Source of data	Frequency of reporting
ERDF specific result indicator					
Average heat consumption for heating	kWh/m ² /year	150 (2012)	120 (2023)	CSB data base	Annually
ERDF specific output indicators					
Primary Energy savings	MWh/year		At least 20536.239 ^{1,4}	Project data	Annually
Additional RES capacity installed	MW		At least 1.8 ²	Project data	Annually
Evaluated CO ₂ savings	tons/year		At least 5180 ³	Project data	Annually
Notes:					
The given values corresponds to the financial plan indicated in the column 2 of the Table 2. In case the financing will be increased (column 3 of the Table 2), the specific output indicators will be re-calculated as well.					
1. including at least 6818.002 MWh/year savings which shall be obtained due to implementation of projects financed by financial overobligation.					
2. including at least 0.6 MW which shall be obtained due to implementation of projects financed by financial overobligation.					
3. including at least 1720 tons which shall be obtained due to implementation of projects financed by financial overobligation.					
4. Decrease of annual primary energy consumption of 20.536 GWh corresponds to the decrease of annual final energy consumption of 15.797 GWh (0.057 PJ).					

CO₂ savings within the given programme arise both from energy efficiency improvements and new renewable heat production capacity.

The final energy consumption in Latvia Tertiary sector (public and commercial, in total) in years 2010-2015 varied in the range 23.4-26.1 PJ (average ~ 25 PJ) [9]. Thus *ex-ante* expected final energy savings will constitute ~ 0.3 % of this consumption. The impact of the measure might be attributed as medium.

Envisaged cumulative savings in year 2020

However, the **Latvia national Plan of the Alternative Measures of Energy Efficiency Policy to Reach the Target of Energy End-Use Consumption Saving 2014-2020** [10] envisages higher energy savings. Namely, the 2020 cumulative energy savings is stated 77.9 GWh (0.28 PJ) due to implementation of the measure. Thus, if assuming the impact period 2018-2020, the 2020 annual savings should be at least 39 GWh (0.14 PJ).

Impact Calculation Methodology

(developed by the Ministry of Economics, according: *Output indicator passports of specific measures of the Operational Programmes "Growth and Employment 2014-2020"* [5])

Basic data

- total investments 55289876 EUR
- 98% of total budget of the measure are allocated for the energy efficiency
- total amount of investments, invested in energy efficient renovation = 54184078 EUR
- average specific costs of public buildings energy efficiency renovation = 140 EUR/1 m²
- total amount of renovated area: 54'209'876 EUR / 140 EUR/1m² = 387029 m²

Energy Savings

- anticipated specific energy savings 40 kWh/ 1m² renovated
- total anticipated **final (heat) energy savings** 40 kWh/1 m²*387213 = **15481 MWh (0.056 PJ)**
- conversion factor to primary energy = 1.3



- total anticipated primary energy savings = $15481 * 1.3 = 20126$ MWh annually⁴

New Renewable Capacity

- for this purpose 2% (1106 thsd EUR) of measure's total budget is anticipated. The specific costs of RES technologies is expected 600 thsd/1MWh_{th}. Thus installation of 1.84 MW new RES capacities are thus anticipated.

CO₂ savings

CO₂ savings due to energy efficient renovation

- the specific CO₂ emission factor for heat produced by using natural gas is applied, 0.201 tons CO₂ / 1 MWh
- the total CO₂ emissions savings are anticipated: $0.201 \text{ tons CO}_2 / 1 \text{ MWh} * 15481 \text{ MWh} = 3112$ tons CO₂ annually (conversion factor to primary energy is not applied)

CO₂ savings due to new RES capacity

- annual load 4870 hours,
- new heat energy produced by RES: $1.84 \text{ MW}_{\text{th}} * 4870 \text{ hours} = 8975$ MWh
- the assumed efficiency of natural gas heat boiler = 90%
- the anticipated CO₂ savings = $0.201 \text{ tons CO}_2 / 1 \text{ MWh} * 8975 \text{ MWh} / 0.9 = 2004$ tons CO₂

Total CO savings

- $3112 \text{ tons} + 2004 \text{ tons} = 5116$ tons annually⁴.

Interaction of measures

The Cabinet of Ministers (Governmental) Regulations [7] states six (A-F) energy efficiency classes of non-residential buildings (see the Table 1 in the MURE Tertiary sector measure TER-LV15 “Energy Certification of Non-Residential Buildings”). The “F” class (more than 150 kWh/1m² annually for heating⁵) is stated as energy efficiency requirements’ non-corresponding class in which energy efficiency improvement measures shall be implemented.

The EE investments in public buildings in 2014-2020 financial programming period are supplemented with the investments to improve efficiency of district heating systems, foreseen by the [3, sections 334-345].

Historical data

The funding for the promotion of EE in public buildings in previous period was available within the framework of national Climate Change Financial Instrument (CCFI). The particular CCFI programmes, related to EE in public building sector, implemented in years 2010-2015 are described in the MURE database Tertiary sector - see the Latvia measures:

- (i) TER-LV7 “Investments in Municipal Public Buildings’ Energy Efficiency to Reduce GHG Emissions”,
- (ii) TER-LV8 “Investments in Complex Solutions for GHG Emissions Reduction in Professional Education Institutions Buildings and Investments in Higher Education Institutions Buildings’ Energy Efficiency to Reduce GHG Emissions”

Within the national CCFI, it was financially supported 294 EE improvement projects in municipal buildings of different type. The total financing of these projects had constituted ~ 100 million EUR, of which ~ 62 national CCFI co-financing (Annotation of the Governmental Regulations [4], Section 2).

In addition to CCFI, within the 2007-2013 programming period of EU funds the EE improvements in municipal buildings might be supported within the framework of projects for improvement of urban environment as well.

⁴ One can see, this calculated energy savings value (20126 MWh annually) is slightly lower than the previous value stated in the Cabinet of Ministers Regulations (20536 MWh annually, in Table 1). The same relates to CO₂ savings values (respectively 5116 tons and 5180 tons annually). The heat energy savings value indicated in the Table 1 (20536 MWh) might be calculated if all financing is allocated to EE measures (RES measures thus are excluded).

⁵ for the buildings which have rooms of 3.5 meters high, for higher rooms the value is recalculated.

References

1. National Development Plan of Latvia for 2014-2020. Approved by a Decision of the Parliament (Saeima) on 20 December 2012. Published in Latvian: "Latvijas Vēstnesis" 6 (4812), 09.01.2013. English translation: http://www.pkc.gov.lv/images/NAP2020%20dokumenti/NDP2020_English_Final.pdf
2. Latvian Energy Long Term Strategy 2030-Competitive Energy for Society. Ministry of Economic of the Republic of Latvia, approved by the Latvia Government on May 28, 2013, <http://tap.mk.gov.lv/mk/tap/?pid=40263360> (in Latvian).
3. 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.
4. Cabinet of Ministers (Governmental) Regulation No 152 (2016) "Regulations regarding the 4.2.2. Specific Objective "To Facilitate the Increase of Energy Efficiency and Utilisation of Renewable Sources in Municipal Buildings, According to the Integrated Development Programmes of Municipalities" of the Operational Programme "Growth and Employment" (*Ministru Kabineta Noteikumi Nr152 "Darbības programmas "Izaugsme un nodarbinātība" 4.2.2 specifiskā atbalsta mērķa "Atbilstoši pašvaldības integrētajām attīstības programmām seknēt energoefektivitātes paaugstināšanu un atjaunojamo energoresursu izmantošanu pašvaldību ēkās" īstenošanas noteikumi*). Adopted 08 March 2016, in force 24 March 2016, published in "Latvijas Vēstnesis" 58 (5630), 23.03.2016, in Latvian, <http://likumi.lv/doc.php?id=281111>.
5. Output indicator passports of specific measures of the Operational Programmes "Growth and Employment 2014-2020 (*Darbības programmas "Izaugsme un nodarbinātība" rādītāju noteikšanas apraksti*), published 03.05.2016, in Latvian, <http://www.esfondi.lv/planosanas-dokumenti>
6. Central Statistical Bureau (CSB) of Latvia. The Statistic Database ENG02 "Energy Balance", http://data.csb.gov.lv/pxweb/en/vide/vide_ikgad_energetika/?tablelist=true&rxid=cdeb978c-22b0-416a-aacc-aa650d3e2ce0
7. Cabinet of Ministers (Governmental) Regulation No 383 (2013) „Regulations On Energy Certification of Buildings” (*Ministru Kabineta noteikumi Nr.383 „Par ēku energosertifikāciju”*), adopted 09 July 2013, in force 19 July 2013. Amendments: (i) Cabinet of Ministers Regulations No 643 (2015) adopted in 10 November 2015, in force 21.November 2015, (ii) Cabinet of Ministers Regulations No 804 (2016) adopted in 13 December 2016, in force 17 December 2016. Actual consolidated version <http://likumi.lv/doc.php?id=258322>, in Latvian.
8. Law On the Energy Performance of Buildings (*Ēku energoefektivitātes likums*), adopted 06 December 2012, in force 09.01.2013. Amendments adopted: (i) 10 March 2016, in force 05 April 2016, (ii) 15 June 2017, in force 06 July 2017. Actual consolidated version in Latvian <http://likumi.lv/doc.php?id=253635>
9. Ministry of Economics (2015). 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>
10. Ministry of Economics. Latvia national Plan of the Alternative Measures of Energy Efficiency Policy to Reach the Target of Energy End-Use Consumption Saving 2014-2020 (*Energo-efektivitātes politikas alternatīvo pasākumu plāns enerģijas galapatēriņa ietaupījuma mērķa 2014.–2020. gadam sasniegšana*), approved 24 May 2017 (Cabinet of Ministers Order No 257). Available in Latvian <http://polsis.mk.gov.lv/documents/5921>
11. Ministry of Finance. EU Funds Progress Report (*EU Fondu ieviešanas progress*), August 2017, <http://www.esfondi.lv/finansu-un-raditaju-plani-to-izpilde>