

Title of the measure:	<p>LV 33 Increasing Heat Energy Efficiency in Social Apartments Buildings (Measures to Improve the Thermal Stability of Social Hosing): EU Funds programming period of 2007-2013</p> <p><i>(Sociālo dzīvojamo māju siltumnoturības uzlabošanas pasākumi)</i></p>
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General description

The described measure had been included in both the Latvia's 1st NEEAP [1] and 2nd NEEAP [2] for the household sector. The implementation of the measure continued in years 2014-2015 as well, thus contributing 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 [3]. The energy end-use sector – buildings. The target audience – municipalities (tenants of social residential buildings).

The investments in energy efficient social apartments building renovation had been co-financed by the EU Regional Development Fund (ERDF) under the Latvia National Operational Programme „Infrastructure and services 2007-2013” [4, activity No 3442 „Energy Efficiency in Social Apartment Housing”]. The heavy energy consumption of residential buildings is the serious problem in the sphere of housing. The objective of the measure was to increase the energy efficiency of social apartments' buildings thus promoting quality and sustainability of housing, providing the socially unprotected groups with adequate housing. Restoring social housing stock and implementing the measures of energy efficiency would raise the life quality of residents and cut down the expenditures of municipalities on the maintenance of social housing. That, in turn, would foster the quality of environment and resource economy as well as fosters increased employment in construction sector [4].

The implementation of the measure had been regulated by the Cabinet of Ministers (Governmental) Regulations, adopted in January 2008 [5] and November 2009 [6]. Responsible ministry - Ministry of Economics, the responsible institution supervising implementation – state agency „Latvian Investments and Development Agency” (*valsts aģentūra "Latvijas Investīciju un attīstības aģentūra"*) [7]. Two open tenders were announced in years 2008 and 2010. Thus in the years 2011-2015 the implementation of already approved projects were done, however new open tenders had not been announced.

Financing. Financing of the measure by ERDF is presented in the Table 1. One can see, no all *ex-ante* allocated funding was used. In addition to ERDF, it was *ex-ante* planned also 2301117 EUR national public financing [9].

Table 1. Ex-ante and ex-post financing of the measure by ERDF, in EUR [8]

Total allocated EU funding, ex-ante	6903351
Contracted EU funding	5164740
EU funding Payments to the final beneficiaries minus recovered amount	5152158

The maximum rate of financial support had been stated 75% of total eligible costs of the project, the maximum financial support for one project should not exceed ~ 200 thousand EUR.

The following **threshold criterion regarding energy efficiency** – at least saving of 20% of heat energy - shall be reached after implementation of the project:

Projects' applicants were municipalities or municipal institutions. The social residential building, in which project activities were implemented, must be property of municipality, the status of the social buildings must be stated before 01 July 2007. At least 70% of flats of the social residential building shall

be rented to low income tenants receiving financial support for dwelling¹. The functions of the building shall not be changed at least 5 years after project completion as well as the building shall not be demolished.

The financing was provided for the following *activities promoting energy efficiency*:

- “soft” activities: energy audit, preparation of renovation technical documentation/project and of cost estimates, cost of supervision of construction works (shall not exceed 10% of the total eligible cost of the project),
- construction works to reduce consumption of energy resources, if they are indicated in energy audit report:
- insulation and replacement of the construction elements of a building’s external envelope, insulation of the basement and top floor ceilings, renovation or replacement of roof, windows, doors,
- renovation or reconstruction of heat supply and hot water distribution systems,
- renovation of the entrances and stairs premises, including, where necessary, adapting them to suit the needs of people with disabilities,
- renovation of internal and external corridors, rooms and groups of rooms, installation or renovation of the lift and adapting them to suit the needs of people with disabilities,
- renovation or installation of ventilation system, electric wiring, fire safety systems and installations.

Projects’ quality evaluation criteria included (Annexes 5, 4 of [5,6], maximum score available - 47 points, the threshold score – 20 points):

- heat energy saving compared with the existing heat energy consumption: 1 point is scored for each of 1% of saving, as the threshold level it is defined 20% saving, the maximum score applicable if 40% and above saving will be reached,
- development index [15] of the municipality in which project is realised, additional scores for the municipalities with negative development index, the maximum score (5 points) applicable if the development index of the municipality is “minus 0.9” and below, no threshold score stated,
- additional score (2 points) if the project includes specific activities to provide accessibility of building for people with disabilities.

Impact evaluation (methods and results)

The methods of impact evaluation – both “top-down” and “bottom-up” [2]. Monitoring requirement – report on heat consumption shall be submitted by the beneficiary for each of 3 years after project completion.

Within the framework of the measure it is implemented 55 projects [10]

The anticipated by *the Latvia’s 2nd NEEAP* [2, Table 8 in p.50] *ex-ante* energy savings due to implementation of the described measure is 36 GWh (0.13 PJ) in year 2016. However, some method of cumulative savings calculation has been applied here and this presented value thus do not correspond to annual savings.

The information report (2013, [11, p.4]; [12, p.40]), based on the on-time experience of the programme implementation, stated the specific energy saving per 1000 EUR, invested by ERDF, constitutes ~ 0.4 MWh/year. Thus, based on the total value of investments by ERDF, it could be calculated the total energy savings of ~ 2.1 GWh (~ 0.0075 PJ) annually at the end of the programme.

In its turn, the evaluation of energy savings by bottom-up method in 2015, presented in the **Latvia 2017 Report [16]** gives a higher value. Namely, the Table 3 (page 10) gives the value of 4.2 GWh (0.015 PJ).

¹ The criterion of 70% was defined for the 2nd tender [6], for the 1st tender [5] the noted criterion was defined 90%.

For comparison, the overall final energy consumption in Latvia residential sector in year 2009 (i.e., before the start-up of the impact of the measure) constituted ~ 65 PJ from which ~ 44.5 PJ (climate correction is taken into account) was used for heating [14]. Based on these considerations, the semi-quantitative impact evaluation of the measure is attributed as “low”.

To evaluate the **CO₂ savings**, the CO₂ emission average factor – 264 g/kWh – may be applied. This average emission factor was calculated pursuant to the total emissions in Latvia in the energy conversion sector (boiler houses and combined heat-power units), which were applied against the final consumption of the district heat 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 had been consumed for the generation of electricity, i.e. not taking into account the CO₂ emissions that had occurred during electricity generation process [13]. The *ex-ante* annual CO₂ savings thus may be evaluated 1109 tons.

Interaction of measures

The described measure had been complementary with the measures aimed to increase energy efficiency in Latvia district heating sector, both in heat energy production and heat energy transmission-distribution. These measures had been implemented within the Latvia National Operational Programme “Infrastructure and services 2007-2013”, chapter 3.5.2. “Energy”, co-financed by the EU Cohesion Fund. The measures are mutually complementary since within the framework of ERDF assistance had been provided in the sphere of housing and the beneficiaries are end-consumers, but the measures within the framework of the Cohesion Fund, in turn, had been oriented towards the service provider and the choice of energy resources on the side of service provider [4].

References

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Last update: 30 September 2017

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 8. 2007-2013 planning period EU Funds implementation progress, <http://www.esfondi.lv/es-fondu-finansu-progress>
 9. Cabinet of Ministers (Governmental) Order No 459 (14.09.2011) “The Amendments in the Supplement of the National Operational Programme “Infrastructure and Services”, <http://www.likumi.lv/doc.php?id=236032>
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