

The evaluation of the relevant objectives of the Operational Programme Priority: the Efficiency of the Energy and the Promotion of Production and Usage of Renewable Resources

Summary of the Final Progress Report

Ministry of Energy of the Republic of Lithuania

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LIETUVOS RESPUBLIKOS
ENERGETIKOS MINISTERIJA



Kuriame
Lietuvos ateitį
2014–2020 metų
Europos Sąjungos
fondų investicijų
veiksmų programa

Summary

By the order of the Ministry of Energy of the Republic of Lithuania, during the period of February – August of 2018, the experts of Smart Continent LT evaluated the progress of the relevant objectives of the European Union's Structural Funds Operational Programme Priority: the Efficiency of the Energy and the Promotion of Production and Usage of Renewable Resources for the years 2014-2020.

Purpose of the evaluation – to enhance the usage of EU investment for the period of the years 2014–2020 in production and usage promotion of renewable resources while evaluating the progress of the measures, examining the results and impact of the investment of EU funds for the period of 2007-2013, and measuring, how much did the investments contributed to the objectives provided in RER Law until the year 2020.

Evaluation tasks:

- Evaluate the eligibility and implementation of the Measures of the Operational Programme, designed for the promotion of the energy efficiency and RER production and usage (measures), by evaluating the progress of these measures;
- Evaluate the efficiency and performance of investment of the Operational Programme, designed for the promotion of the energy efficiency and RER production and usage, in order to achieve the objectives provided in the Operational Programme;
- Evaluate the eligibility, performance, efficiency and impact of the Operational Programme measures, designed for the promotion of the energy efficiency and RER production and usage that are implemented/are being implemented.

Object of evaluation:

- The measures of the Operational Programme that contribute to implementation of the relevant measures of the Operational Programme Priority: the Efficiency of the Energy and the Promotion of Production and Usage of Renewable Resources (04.1.1-LVPA-V-108, 04.1.1-LVPA-K-109, 04.1.1-LVPA-K-110, 04.1.1-LVPA-K-112, 04.2.1-IVG-T-811, 04.2.1-LVPA-K-836, 04.3.1-FM-F-001, 04.3.1-FM-F-002, 04.3.1-APVA-V-023, 04.3.1-VIPA-V-101, 04.3.1-FM-F-105, 04.3.2-LVPA-K-102, 04.4.1-LVPA-K-106);
- Energy measures are financed by the EU structural funds during the period of 2007-2013 to only the extent examined in the evaluation of the Impact of the EU Structural Funds during the period of 2007-2013.

During the evaluation various quantitative and qualitative methods of data collecting and analysis were adopted: review of secondary sources, online survey for project executors, interviews with stakeholders, case analysis (Malta and Latvia), focus group discussion, analysis of statistical data, examples of the good practice, etc. Data used for the evaluation was taken from SFMIS, Lithuanian Statistics Department and other official sources; also data collected during the evaluation was used.

While evaluating the eligibility of measures, it was taken into account if and how the measures within the Evaluation extent contribute to the specific measures provided in OP. Analysis of the intervention logic of the OP objectives was conducted, while first defining the goals and specific objectives of OP, and then moving to the level of measures and financed activities. It was identified, that the implementation of all measures either directly or indirectly contribute to the objectives and assist in solving the challenges of the Energy Sector.

While evaluating the quantitative contribution of measures to the specific measures provided in OP, the following was concluded:

- contributing measures, which are aimed at result of the specific objective 'To increase the usage of the renewable resource energy', the indicators set up in OP will not be achieved;

- contributing measures, which are aimed at result of the specific objective 'To decrease the intensity of the energy usage in the industrial enterprises', will be achieved only one indicator set up in OP (Additional Capability of the Renewable Energy Sources);
- contributing measures, which are aimed at result of the specific objective 'To reduce the energy usage in public infrastructure apartment buildings', the indicators set up in OP will not be achieved;
- contributing measures, which are aimed at result of the specific objective 'To inverse the efficiency of energy usage in the heat delivery and households', the indicators set up in OP will be achieved;
- contributing measures, which are aimed at result of the specific objective 'Implementation and development of advanced low and medium voltage distribution systems', the indicators set up in OP will be achieved.

To evaluate the sufficiency of the provided funds, during the evaluation, it was compared which portion of the funding was contracted and which portion of the measures is planned to be reached according to the contracts. After the evaluation of 13 measures, it was identified, that 12 measures are receiving sufficient financing - after using the planned funds, the provided values would be reached or exceeded, except for the values of the measure 04.2.1-LVPA-K-836: Renewable energy sources for the industry. The contracted portion of funding for this measure exceeded the provided funding by 14%, and achievable rate of one of the values (Additional Capability of the Renewable Energy Sources) is 86%.

While evaluating if during the period of 2014-2020 the recommendations provided in the final report of the impact of the EU Structural Funds for the Energy Sector for the period of 2007-2013 were taken into account, it can be stated, that the most of the recommendations were taken.

Based on the practice of Malta and Latvia, using the promotion measures of Energy Usage Efficiency and RER, it was established that the countries usually choose the most potential type of RER and allocate the biggest portion of investment towards the promotion of its development. In the case of Latvia, the biofuel (wood) was chosen, as the country has large amount of wood resourced, in the case of Malta – solar energy (the solar energy resources in Malta are valued as the best in Europe), but such concentration of investment determines the under-development of other potential types and to small diversification of resources, which can lead to the rise of prices.

In the Promotion of the Energy Efficiency, the most popular measure used remains the renovation of the building, but in Malta's case (due to the uniqueness of the climate) the most popular measure is the swap of double glass and roof isolation. The works for the applicants are not subsidized, materials are considered to be the only eligible cost. However, this measure receives the attention of the applicants and is implemented since 2006. In Latvia, the renovation of buildings is carried out while using the finance engineering measures (applied ESCO model), as the Building Fund has high need for investment.

Based on the final evaluation report of the years 2007-2013, the performance and efficiency of the measures of the period, and the analysis of the foreign practice for the years 2014-2020, it is recommended to continue the measures related to the renovation of the public building, renovation of apartment buildings, promotion of the biofuel usage, modernization of the heating networks and RER implementation in industry.

The Fund of the Governmental, Municipal, Public and Apartment Buildings has a huge potential in the Enlargement of Energy Usage and Efficiency (in the period of 2007-2013, of all buildings potential for renovation, only 9.8% of the central government buildings, 12.5% of the public buildings, and 3.1% of apartment building were renovated), thus, the continuation of these measures is expedient and required. It is recommended to continue the measures related to the renovation of the public building and apartment buildings, because:

- One renewed central government-owned building would reduce the average consumption of energy by 137280 kWh per year, with consumers saving 8236.80 EUR;

- One modernized municipally owned building would reduce the average consumption of energy by 130020 kWh per year, with consumers saving 7801.20 EUR;
- one modernized apartment building would reduce the average consumption of energy by 139920 kWh per year, with consumers saving 8395.20 EUR.

The modernization of the heating systems allows to ensure the efficiency and reliability of the energy usage, taking into the account the fact that the investment into the modernization of the heating network has a long period of repayability (20-30 years), the outside intervention which would foster investment is needed, but taking into the account that energy efficiency measures are also being financed (building renovation), it is recommended to assess the need of the heating network modernization before starting it (the complex evaluation of energy need / usage is suggested).

It is recommended to continue the measures related to the promotion of the biofuel usage. The promotion of the biofuel in the Heat Sector is important for the ensurance of the diversification, as a leverage to the gas. It is also important to ensure the non-competition of the central heating networks and individual heating (e.g., solar energy).

To achieve efficient use of funds and bigger sources of investment, it is recommended to implement more effective forms of financing or reducing the funding intensity.

After the evaluation of the performance of values, the following was concluded:

- the probability of achieving the product values and the result of the specific objective 'To increase the usage of the renewable resource energy' is rated as low. During the evaluation, the result value is not achieved, and to change it, it is needed to further develop RER. The achievement of the product values is also unclear, since the indicators achieved in the measures and in the contracts concluded with the applicants do not achieve the values of the indicators provided for the specific task of the OP. The values provided in the concluded contracts, assuming that they will be achieved, also will not ensure the achievement of OP values.
- the probability of achieving the product values and the result of the specific objective 'To decrease the intensity of the energy usage in the industrial enterprises' is rated as low. The value is not achieved, but, assuming that the intensity of the energy usage in the industrial enterprises will remain as in 1995-2015, it is likely that the value will be achieved by the year 2023. However, if evaluating the product by the values provided in the concluded contracts, these values are insufficient to achieve the indicators set in OP.
- the probability of achieving the values of the specific objective 'To reduce the energy usage in public infrastructure apartment buildings' is rated as low. Given that most of the measures contained in the assessment that contribute to the implementation of this specific task have not attained the values of actual indicators during the assessment and, after calculations, it has been established that in order to achieve the indicators, applicants' interest should be at least several times higher than it is.
- the probability of achieving the product values and the result of the specific objective 'To inverse the efficiency of energy usage in the heat delivery and households' is rated as average. Although the value of 'Modernized Centralized Heat Delivery Networks' was exceeded by almost two times, but the values of the indicators related to it ('Transportation and Distribution Costs in Heating Networks' and 'Heating Users Who Are Receiving Heating in a More Reliable and Higher Quality Way') are not achieved, although the contracted funding consists of 95% of all funds provided for the measure. The underachievement of the indicator of the Reduction of Transportation and Distribution Costs could have been influenced by an over-ambitious objective or the fact that the centralized heating delivery networks eligible for modernization and chosen by the applicants were not the oldest or the most unprofitable ones.
- the probability of achieving the product values and the result of the specific objective 'To try out the perspectives of the installation of the advanced network technologies' is rated as high – the values provided in the concluded contracts reach more than 50% of the values provided by the

OP, and a part of the funding contracted during the evaluation made up 33% of the provided funds, thus, it is likely, that after contracting the remaining part of the funding until the end of 2023, the values of OP will be achieved.

The achievement of intermediate (2018) and sequential (2023) indicator values provided in the OP 4 plan for the evaluation of the action results is rated as high, as the most of the provided values during the time of evaluation were achieved.

Concluding the achievement of indicator values, it can be said, that the provided investment, in most cases, is sufficient and contributes to the achievement of the indicators, but the probability of achievement is reduced by the delays in the implementation of the projects, measure retention, low interest of the applicants.

During the period of 2007-2013, the investment was channeled towards the modernization of infrastructure, integration into the Western Energy Market, reliability and safety of energy delivery, enlargement of the RER usage in energy production, improvement of domestic and environmental quality.

The infrastructure created for the Energy Economy is evaluated positively, no features of over-development were found. During the period of 2014-2020 the investments in the installation or renewal of new transformer substations and switchboards are continued. Potentially developed infrastructure is evaluated positively, as projects can be used as examples of good practice in order to encourage the entities themselves to invest in transformer upgrades by installing intelligent network elements.

During the period of 2007-2013 according to the measure 'Modernization and Development of the Natural Gas Delivery System', the financing was provided for implementing the project 'Construction of the Main Gas Pipeline Jurbarkas-Klaipėda', which ensure the the Lithuanian gas system circulation. The continuation and relevance of the infrastructure usage is not further assessed in the content of this evaluation, as none of the assessed measures is aimed towards the Gas Economy.

The thermal energy pipelines are weary, thus, they need to be replaced by new, modern ones that are capable of providing the necessary amount of energy. The infrastructure created during the period of 2007-2013 is rated positively. During the years 2014-2020, the investment into the modernization, reducement of loss and increasement of reliability of the centralized heat delivery network is also planed

Projects implemented during 2007-2013 allowed to accumulate, on average, 560 GWh worth of energy for the building by the Building Economy. Renovation still has a large potential in Lithuania because only 9.8% of the governmental, 12.5% of the public and 3.1% of the apartment buildings were renovated, therefore, investment into the renovation of buildings is valued positively and the infrastructure created by the renovation is not regarged as excessive.

While evaluating the infrastructure created during the period of 2007-2013, no excessive investment was found.

During the period of 2014-2020 various financing forms are used: finance engineering measures, non-refundable and refundable subsidies.

The form of refundable subsidy, used for the renovation of public buildings, is new and was not used in the previous financing periods. During the time of the preparation of the Progress Report, not a single financing contract was made, thus, its evaluation possibilities are limited. However, it is worth mentioning, in a theoretical aspect, a few main advantages: more responsible evaluation of the investmen need, repeated use of funds, administrative mechanizm of average complexity. Refundable subsidies may also be used in financing public building renovation (used at the moment), as the municipalities have borrowing limits.

During the period of 2014-2020, the installation of the energy production capacity using RER is being financed, taking into account that the measure received a big number of applicants and the shortage of financing is found, it is recommended to implement more effective forms of financing or reducing the funding intensity.

Finance engineering measures are actively used in the modernization of the buildings, a finance method that has already been implemented during the period of 2007-2013 (finance engineering mechanism: JESSICA Controlling Fund), so there is enough of experience. Taking into account the fact that the modernization of the apartment buildings using the financial measures already has achieved a solid pace it is recommended to not alter the financing form.

Non-refundable subsidies are the most suitable form of financing projects that are of public interest (but would not be implemented based on the private interests) or that have a long repurchase period and applicators would not invest by their own initiative. Non-refundable subsidy is recommended for Thermal and RER Economy applications.

During the period of 2007-2013, to finance the projects of Energetics (investment, associated with energy efficiency and promotion of energy production and usage from renewable resources) caused several key changes: the promotion of biofuel caused the diversification in the thermal energy production market, and dependency on gas and one energy supplier decreased (during the period of 2008-2015 consumers saved 563.65 million EUR at the cost of heat energy), after modernizing the thermal routes the losses associated with thermal energy selling reduced by 3.5%, the modernization of the electricity network also allowed to reduce losses (by 3.23%). During the years of 2007 – 2013, the financing received contributed to the growth of the efficiency of energy usage, as 763 apartments were renovated, which allowed to increase the efficiency of the energy usage by 67.3%.

During the evaluation, no discrepancies in terms of OP provided goals and specific objectives were found. Funded activities described in the descriptions of the financing of the measures totally match the OP provided needs in the Energy Sector and contribute to the solutions of the challenges of this sectors by implementing projects, the applicants undertake the responsibility to strive for the values provided in the measures that are directly associated with the specific objectives and indicators provided by OP.

The eligibility of the implemented projects is closely related to the eligibility of measures, based on which the projects are implemented. Taking into the account that after the evaluation and measure matching to the logic of the interventions, it was determined, that the measures are eligible, it is assumed, that the projects are also eligible and match the logic of OP intervention.

Projects that contribute to the energy efficiency objective the most (the amount of saved energy until 2020 would be 11,675 TWh of final energy) are the projects, during which building are being renovated. In quantitative terms, the modernization of apartment buildings, which would save a third of the value of the goal to be achieved, contributes to this goal. Implementation of renovation of public buildings would achieve energy savings of 0.06 TWh.

The biggest contribution to the RER strategic objective (until 2020, the level of RER, compared to the general total energy usage, should be no less than 23%) is brought by the projects, which are aimed at creating high-utility cogenerational capacities that use RER, building biofuel-driven heat production facilities in reconstructed or newly-built boiler houses, updating biofuel-driven heat production facilities.

It is worth noting, that the objective of RER percentage in total energy balance would not be less than 23% was accomplished in 2014. Cogenerational (heat and electricity production) power plants, biofuel boiler rooms and, built in 2007-2013 and financed from the EU structural funds, and development of wind and solar electricity production, financed by other means, contributed to the cause.

The biggest result will be achieved by implementing measure 04.1.1-LVPA-V-108: Promotion of Urban High Efficiency Cogeneration in Vilnius. One project implemented according to this measure would generate additional 228 MW of RER capacity. Implementing the rest four measures together would generate 147.05 MW of additional RER capacity (in the contracts made during the evaluation, it is planned to achieve 75% of this indicator).

Projects during which the renovation and modernization of apartment, governmental and public buildings, street lighting modernization is implemented, contribute to reducing the total energy consumption (the total level of energy consumption in 2020 must be 17% lower than in 2009). During the evaluation, it was established, that the biggest contributor is the measure 04.3.1-FM-F-001: apartment building renovation.

The price of the fossil fuel in 2017 for the average-sized enterprises was 43%, and for average-sized homesteads – 40% percent lower than in 2013. The development of biofuel used for the energy production, and the decision to eliminate electricity power quotas and do not set the supportive electricity made in the fossil-fuel-powered cogenerational power plants, which was accepted in 2015, contributed to the decline of prices.

Taking into the account the fact that during the development of Energy Sector and the reduction of energetic poverty by promoting RER development in thermal and general thermal and electric power plants, the usage and price of the fossil fuel will continue to drop in the future. The maximum and buying rates of the electricity produced out of RER, set by the State Price and Energetics Control Commission in 2016 has not changed, as the RER development is ongoing and the objectives, set in the Renewable Resource Energetics Law of the Republic of Lithuania, are met.

The amount of gas causing greenhouse effect in 2018 was almost 18% lower than in 2005. Measures, that finance the promotion of biofuel (04.1.1-LVPA-V-108: Promotion of High-Efficiency Cogeneration in Vilnius City, 04.1.1-LVPA-V-109: Promotion of Biofuel Usage For Thermal Energy Production, 04.1.1-LVPA-V-110: Construction of Low-Power Biofuel Cogeneration), and the renovation of buildings (04.3.1-FM-F-001: Renovation of Apartment Buildings, 04.3.1-FM-F-002: Renovation of Public Buildings, 04.3.1-VIPA-V-101: Renovation of Governmental Buildings, 04.3.1-FM-F-105: Enlargement of the Energy Usage Efficiency in Public Infrastructure), contribute to the reduction of greenhouse gases. By implementing projects based on these measures, it is aimed to reduce the amount of greenhouse gases by more than 500,000 tonnes of CO₂. By implementing a project based on the measure 4.1.1-LVPA-V-108: Promotion of High-Efficiency Cogeneration in Vilnius City, it is aimed to reduce the total aimed amount of greenhouse gases by 59%, by implementing the measure 04.3.1-FM-F-001: Renovation of Apartment Buildings, it is aimed to reduce the aimed amount of greenhouse gases by 21%.

In conclusion, it can be said, that the Operational Programme is aimed at solving numerous challenges of the Energetics Sector, however, the solutions of the challenges are limited by the fact, that a part of the measures, halfway through the programming period, are not being implemented, or projects implemented based on the measures are not finished and factual data has not been reached. Such situation restricted the evaluation of the progress, when, there was no factual data and, as a result, there was no possibility to evaluate the performance of the measures and / or the achievement of indicators, provided in the Action Programme. Upon the delay of the measure implementation, it is expedient to conduct the evaluation of the Operational Programme not by the provided preliminary plan, but, taking the current situation into the account, conduct the progress evaluation when the implementation of the measures and the projects will catch pace.