



**EXPERT EVALUATION NETWORK
DELIVERING POLICY ANALYSIS ON THE
PERFORMANCE OF COHESION POLICY 2007–2013
YEAR 1 – 2011**

**TASK 1: POLICY PAPER ON RENEWABLE ENERGY AND
ENERGY EFFICIENCY OF RESIDENTIAL HOUSING**

LITHUANIA

VERSION: FINAL

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**A report to the European Commission
Directorate–General Regional Policy**

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LIST OF ABBREVIATIONS

- EEN – Expert Evaluation Network
- ERDF – European Regional Development Fund
- ESF – European Social Fund
- OP – Operational Programme
- EC – European Commission
- EEN – Expert Evaluation Network
- ERDF – European Regional Development Fund
- EPP – Lithuania’s Economic Promotion Plan approved by the Government of Lithuania on the 25th of February 2009
- EU – European Union
- LEI – Lithuanian Energy Institute
- LEIF – Lithuanian Environmental Investment Fund
- LT-PL CBC Programme – Lithuania–Poland 2007–2013 European Territorial Cooperation Objective Operational Programme
- RDP – Rural Development Programme for Lithuania 2007–2013
- RES – renewable energy sources
- RES – E – RES used for electricity production

1. EXECUTIVE SUMMARY

The development of renewable energy sources (RES) is considered to be one of the most important priorities of the national energy policy. All types of RES are supported in Lithuania, however feed-in tariffs which are the main measure of support vary among different types of RES used for electricity generation (RES-E). RES-E are also supported by various European Union (EU) funded programmes and national programmes (the ratio between EU-funded and national measures is 2:7) in the form of grants. The support to different types of RES differs between programmes. This paper focuses on relevant measures funded through the Operational Programme for Promotion of Cohesion (the Cohesion Promotion OP) and the Lithuania–Poland 2007–2013 European Territorial Cooperation Objective Operational Programme (LT–PL CBC Programme).

The rationale for public interventions in respect of RES is justified in the Operational Programmes in terms not only of environmental issues but also of socio-economic aspects. EUR 69.48 million (3.0% of the total of the Cohesion Fund for Lithuania) is allocated for RES-E for 2007–2013 under the Cohesion Promotion OP and EUR 3.5 million from the European Regional Development Fund (ERDF) under the LT–PL CBC Programme (4.9% of the total of the ERDF allocated to the LT–PL CBC Programme or just 0.1% of the total amount of ERDF allocated to Lithuania). Support of RES-E through EU-funded programmes has faced some implementation problems, though they are not significant and in most cases have already been resolved.

Energy efficiency in residential housing is a Government priority and one of the cornerstones of the Economic Promotion Plan (EPP) which has set some ambitious objectives. Unlike in the case of RES-E, the vast majority of the funding for energy efficiency measures comes from the ERDF (EUR 185.74 million or 5.4% of the total amount of ERDF for Lithuania). The rationale for intervention is justified in the Operational Programme on socio-economic grounds, in terms of rising prices for energy and improving the environment. Energy efficiency also seems to have an important effect on the market prices and rents of residential housing.

Two means of financing energy efficiency measures can be distinguished. The majority of support (74.5%) is allocated through the JESSICA Holding Fund and will be allocated through financial engineering, the projects supported being implemented right across Lithuania. A smaller amount of funding is to be distributed in the form of grants, especially in lagging regions. Energy efficiency projects of both kinds are experiencing implementation problems which appear more significant and numerous than those experienced in the case of RES-E. For the JESSICA Holding Fund, the most important problems are a negative attitude of the target group towards renovation and the novelty of the application of financial engineering in EU-funded programmes. In the case of lagging regions, the most important problem is the long time it takes for essential national legislation to be passed.

2. NATIONAL POLICY

The development of RES is considered to be one of the most important priorities of national energy policy. Lithuania is promoting the generation of electricity by wind power, biomass, photovoltaic and hydro power plants. The main measure for doing this is a system of feed-in tariffs based on the obligation of the State to purchase energy at fixed prices (see Annex Table A). The highest feed-in tariff is for photovoltaic, since it is currently very expensive to install a photovoltaic power plant as compared with other types of RES-E. The State also subsidises the connection of RES-E power plants to the electricity grid (through a 40% subsidy). RES-E sources are, in addition, subject to lower rates of excise and other taxes, and a Climate Change Programme is planned to start shortly with almost a half of its funds allocated to RES.

Direct support to RES-E projects is provided through the Lithuanian Environmental Investment Fund (LEIF) through grants and soft loans. The amount of grant cannot be higher than 70% or exceed EUR 0.2 million over a period of three years. Because of the economic recession, funding for new projects was suspended in 2009 and recommenced in the 4th quarter of 2010.

Our assessment is that measures of direct support for RES-E amount to only around 4% of the support provided through other means (see Annex Table A).

The aim of national policy as regards the energy efficiency of residential housing is stated in the Programme for Renovation of Multi-Apartment Buildings – to encourage owners to renovate multi-apartment buildings in order to ensure a higher quality of life, the rational use of energy resources and a reduction in heating costs. According to the programme, 16,800 multi-apartment buildings are to be renovated by 2020, thermal energy consumption in the renovated buildings is to be reduced by 30% and the emissions of CO₂ are to be cut by 400,000 tonnes a year. Because of the financial crisis in 2009, the vast majority of funds came from the ERDF. Only the preparation of technical documentation for projects and the costs of modernisation projects for low-income families and single people were eligible for 100% direct support from national funds in the form of grants (EUR 5.1 million being foreseen for this purpose in 2011). Additionally, the Government has implemented a number of non-financial measures, such as simplifying national legislation to facilitate renovation. In view of the improving national economic situation and in order to encourage participation in the programme, the Government decided in May 2011 to introduce an additional 15% subsidy financed from national funds for projects that resulted in energy savings of over 40%.

The economic recession has not led to any change in the aims of national policy. However, they gained more importance since renovation was announced as one of the cornerstones of

the EPP launched at the beginning of 2009 to mitigate the fall in GDP. Moreover, funding shifted from being purely national to the ERDF and was increased significantly as result. New types of measure were also introduced, national measures now providing only direct support.

3. ERDF AND COHESION FUND SUPPORT AND CONTRIBUTION TO NATIONAL POLICY

Measures in the programmes financed by the ERDF and the Cohesion Fund (EU Funds) to promote RES include “The use of renewable energy sources for energy production” in the Cohesion Promotion OP (EUR 69.5 million from the Cohesion Fund) and the “Cross-border cohesion and enhanced overall quality of the cross-border area” priority under the LT-PL CBC Programme (though according to estimates, only around EUR 3.5 million of ERDF support is expected to go to RES). (For more details of the aims, financial packages in place and the state of implementation, see Annex Table B.)

The Cohesion Promotion OP finances only one type of RES-E, biomass, while the LT-PL CBC Programme allocates EUR 0.6 million of ERDF in each case, to wind power, solar energy, biomass, hydroelectricity, and geothermal and other sources. National measures also support all types of RES-E, though the different types are subject to different feed-in tariffs.

In both cases assistance is provided through grants: of up to 50% under the Cohesion Promotion OP and up to 85% under the LT-PL CBC Programme.

The overall amount directed through the measures is around EUR 73 million for the period 2007–2013 (3.0% of the Cohesion Fund total and 0.1% of the ERDF total allocated to Lithuania), i.e. on average EUR 10 million a year, while support from national measures amounted to EUR 47.2 million in 2009 (see Annex Table A). Both sources of support do not vary in scale or nature between regions.

Since the beginning of the programming period, the only changes have been to the scale of the Cohesion Promotion OP measure. Due to the high interest in and the need for investment in RES-E, an additional EUR 32.7 million was transferred from other Cohesion Promotion OP measures. According to the information provided by the Ministry of Economy, which acts as an intermediary, in 2009 it was planned to certify expenditure of EUR 12.65 million to the European Commission (EC) in 2010. However, de facto, only EUR 6.1 million was declared. In the case of the LT-PL CBC Programme, it is not possible to assess the extent of implementation of spending plans.

There have been a number of problems in implementing the measures. In case of the measure supported under the Cohesion Promotion OP, implementation of some projects was delayed due to possible double financing with another measure of the OP. In addition,

in May 2011 the Ministry of Economy announced that feed-in tariffs could not be applied to projects financed under the measure as there might be a risk of double financing. The call for proposals was stopped for further clarification, and projects already approved for financing are to be checked before they can receive support from feed-in tariffs. The projects financed under the LT-PL CBC Programme relating to RES face the same problems.

EU Funds were one of the main sources of finance to combat the effects of the economic recession in Lithuania, with an additional EUR 32.69 million being transferred to RES-E, as noted above, the intention being to use the EU funds as quickly as possible. The aim was to stimulate the construction sector, in particular, so easing the effects of the recession. However, most of these funds have not yet reached projects. There is no information about projects completed in the LT-PL CBC Programme, though the amounts involved are small in the context of recovery from economic decline.

Energy efficiency in residential housing is financed under two measures of the Cohesion Promotion OP: "Holding Fund for the modernisation of multi-apartment buildings" (Measure 1) and "Modernisation of multi-apartment buildings in particular by increasing their energy efficiency" (Measure 2). (For more details of aims, the financial packages in place and the state of implementation (see Annex Table B). It should be noted that the scope of the measures covers all means of improving energy efficiency.

ERDF financing is the main source of funding for both measures (EUR 185.7 million in total, or 5.4% of the total ERDF for Lithuania, with EUR 100 million of national co-financing). In the case of the Programme for Renovation of Multi-Apartment Buildings, a small amount to cover the costs of technical documentation and of modernisation projects for low-income families and single people is financed from national funds in the form of grants (EUR 5.1 million in 2011). Accordingly, the scale of support for the two measures is 11 times larger than for national measures (see Annex Table C).

Support for the regions varies at the measure level. Measure 1 supports projects through financial engineering, through 'soft' loans (EUR 138.4 million from the ERDF and EUR 100 million from national co-financing) right across Lithuania, while Measure 2 provides grants only in lagging regions (at the NUTS 4 level – municipalities).

The Programme for Renovation of Multi-Apartment Buildings launched in 2009 had the clear rationale of countering the effects of the economic recession. First it introduced a new measure for reducing heating costs for apartment owners at a time when income for most people was declining. It also provided help to people in difficult situations, such as covering the costs for low-income families and single people, in order not to relieve the financial burden on them. Secondly, it was intended to stimulate the construction industry, which was one of the sectors affected most by the economic crisis, by financing the renovation of

nearly 2,000 multi-apartment buildings a year. The funds invested in modernisation were intended to be one of the most important sources of recovery of the economy. The actual effect of the programme in reducing the consequences of the economic recession, however, is questionable since it remains to be fully implemented. Although all the funds are certified to the EC since they have been transferred to the JESSICA Holding Fund, only three investment projects are underway, compared to the planned 2,000 projects a year.

Several main problems can be identified with regard to the implementation of Measure 1:

- the negative attitude of the target group towards the projects concerned, the economic recession and the uncertainty created making them cautious about taking on any new financial liabilities. They also still remember that the grants for projects were 50% under the previous renovation programme and they believe that this may need to be the case in future since the current programme is not attractive enough;
- the prolonged preparation process, as a result of the novelty of financial engineering instruments, the lack of a clear interpretation of the implementation aspects, the need to establish the entire national institutional and administrative framework, and so on.

It should be noted that at the end of April 2011, political agreement was reached to revise the renovation system and to raise the rate of subsidy (up to 30-50%).

Measure 2 provides grants of up to 85% (the total amounting to EUR 47.3 million from the ERDF). The target is to renovate 150 apartment buildings and improve housing conditions for 4,100 people.

Preparation of Measure 2 started before the economic recession and was based on the objectives and needs defined in the Lithuanian Strategy for Regional Policy up to 2013. The crisis had no direct effect on the aims of the measure or the amount of support allocated.

However, early implementation of the measure was delayed due to issues relating to state aid rules and whether they applied or not. Consultation led to *de minimis* requirements being introduced. Currently, the main problems arise from the absence of approved programmes for lagging regions for 2011-2013, which are crucial for the determination and approval of new projects. Without their approval, around half of the funds cannot be used. This issue also influences spending plans. According to the Ministry of the Interior, which acted as an intermediary in 2009, EUR 4.3 million of the eligible expenditure needed to be certified to the EC during 2010, but in fact only EUR 0.7 million were certified.

4. RATIONALE FOR PUBLIC INTERVENTION

The rationale for the RES is spelled out in the Cohesion Promotion OP and is based on the principles of sustainable development – namely, to reduce the negative effect on the environment. The Cohesion Promotion OP also refers to reducing pollution and the dependence on imported fossil fuel, the possibility of implementing national obligations relating to the use of RES in the overall primary energy balance, a positive effect on the production and supply of local RES and a contribution to improving economic competitiveness.

The rationale expressed in the LT–PL CBC Programme is based on the insufficient development of sustainable energy sources in the region and the large potential of such investment. The emphasis is on environmental protection. The issue of profitability or other kinds of gain, such as reducing energy dependence or the socio–economic impact, is not touched upon.

No distinction is made between regions or types of RES. In addition, there is no wide public discussion on the rationale and methods used to support RES–E. The issue of RES–E, unlike energy efficiency in housing, is of less interest to the general public and the discussion centres on different interest groups.

The rationale for measures to improve energy efficiency in residential housing is clearly established in the Cohesion Promotion OP. This is based on the rational use of energy resources which is more and more relevant due to the ageing of buildings and the increasing price of fuel. It is important to note that in Lithuania 40–50% of the energy used is consumed in buildings, which explains why energy consumption per capita is very high compared with the European average. As indicated in the Lithuanian Housing Strategy, there is substantial need for investment in improving energy efficiency in buildings, especially in apartment blocks built in the Soviet era (about 66% of the population in Lithuania live in this type of housing). Moreover, the Cohesion Promotion OP refers to improving the quality of life, the rational use of energy resources, reducing funds from the state budget for subsidising the maintenance of housing and reducing CO₂ emissions.

The stated rationale for modernising multi–family buildings in lagging regions is to improve housing conditions, which is regarded as an important way of promoting social and economic cohesion. Renovation in these regions is complicated not only because of the relatively low income levels of the population but also because renovation itself does not increase the value of housing as in other parts of the country. The market is, therefore, not effective in these areas and state intervention and additional investments from the ERDF are

needed¹. The Cohesion Promotion OP also refers to reducing energy consumption, a positive contribution to improving the quality of the environment, social and economic benefits such as additional jobs, the development of business activities, reducing social exclusion and emigration, and the possibility of using the savings achieved in the state budget for other improvements.

5. RATE OF SUPPORT AND PROFITABILITY

The rate of support from EU funds for investment in RES depends on the profitability of the project, since applicants need to provide investment plans which estimate the funding gap. The maximum possible support of projects financed under the Cohesion Promotion OP is 50%, with a maximum amount of EUR 3 million. In the case of the Cohesion Promotion OP, only biomass is supported. The changing prices of fossil fuels do not affect the amount of support.

In the case of national measures, feed-in tariffs vary significantly by type of RES, from, e.g., EUR 0.086 for 1 kWh of electricity from wind power to EUR 0.47 for 1 kWh from solar power. Tariffs are set by the National Control Commission for Prices and Energy. The criteria of setting tariffs vary between different types of RES-E, e.g. in the case of photovoltaic, the size of investment, the financing conditions, the operating costs and the annual average amount of energy generated all play a part. The main aim is to ensure that the tariff is high enough to motivate entrepreneurs to construct photovoltaic power plants. The same principles apply to other types of RES-E, though different criteria are used. It should be noted that some experts have doubts about setting a high tariff for photovoltaic when the Lithuanian climate does not favour this kind of RES-E and, therefore, is not consistent with ensuring the best economic result for the lowest subsidy.

Moreover, it is not known whether there is any correlation between the tariff set and changes in the cost of fossil fuels, though other types of support do not take account of this aspect.

The system for setting tariffs is covered in the Draft Law on RES (which states that, among other factors, different costs should be assessed before a tariff is set for a particular group of producers).

In the case of energy efficiency in residential housing, the rate of support depends on energy efficiency gains: if modernisation projects achieve energy efficiency class C, they receive additional support – a 15% write-off in the form of an interest rate subsidy. This applies irrespective of where the project is located.

¹ Development Programmes for the Problem Territories approved by the Government of Lithuania on the 18th of May 2011

6. COSTS, PUBLIC SUPPORT AND PRICES

No distinction is made between support for various types of RES. According to the data (see Annex Table A), wind power received support of EUR 24.1 million in 2009, hydro power, EUR 10.6 million and bio-mass, EUR 21.0 million. Support does not vary between regions.

The current costs of producing electricity from each type of RES-E in Lithuania are difficult to obtain. Some data are given on the www.avei.lt website, which is a joint project of the State Enterprise Energy Agency, the Ministry of Energy and the Danish consultancy firm Danish Energy Management A/S. However, they are quite fragmented as only a small number of power plants provide such information (see Annex Table D).

According to Lithuanian Energy Institute (LEI) data, the cost of 1 kWh of a wind power plant with a power capacity of 5.2 MW, where the average wind speed is 7 metres per second amounts to EUR 0.043. If the average wind speed is 6.4 metres per second the cost rises to EUR 0.052. LEI also provides data and calculations on photovoltaic costs, estimating an approximate cost of EUR 0.6 per 1 kWh in 2000 and project one of around EUR 0.16 per 1 kWh in 2025.

The limited data on the cost of each type of RES-E mean that there is no reliable information on differences between regions. However, to some extent it can be estimated given the variation in natural conditions, e.g. development of wind energy near the Baltic Sea costs less (see Annex Table E), though other factors, such as distance from the electricity grid, might significantly affect the cost in each case.

In the case of energy efficiency in residential housing, no studies assessing the relationship between market prices or rents and the energy efficiency of buildings have been carried out. However, the importance of energy efficiency has risen significantly over the past two years along with the cost of heating. Previously, the main factors affecting rents were furnishing and the location of the apartment, while now maintenance costs have become a factor.

According to various assessments of estate agents, rents might be 20% or more lower if bills for heating are high. Alternatively, two rents – one for summer and one for winter – might be applied. A similar situation exists for sales of real estate. The price of apartments with similar characteristics are estimated to vary by between 18% and 4% according to energy efficiency of the building (see Annex Table F).

7. CONCLUSIONS

The development of RES-E is one of the priorities of national energy policy and is financed by both national resources and EU Funds. In principle, the two complement each other. EU Funds are mostly concentrated on the creation of infrastructure, national measures on ensuring the operation of the infrastructure is profitable. Although the implementation of

projects relating to RES-E and financed by EU Funds has experienced problems, most of them have been solved and are unlikely to adversely affect the achievement of objectives. However, there is a need to draw attention to a number of issues, in particular, the influence of feed-in tariffs is not clear, especially bearing in mind possible breaches of state aid rules and the means for monitoring double financing might be more developed, especially as regards in monitoring non-Convergence Objective funding, i.e. creating the e-system which monitors all sources of funding.

In addition, allocating more EU funds to this policy area should be considered in the next programming period as the demand for this type of investment is evident, as is the need to meet national obligations.

Energy efficiency in residential housing has strong political support from the Government and significant financing has been devoted to it. However, there is an increasing risk of failure of the whole Programme for Renovation of Multi-Apartment Buildings and a need to return funds to the EC, notwithstanding the fact that Lithuania is one of the leading countries in terms of the implementation of JESSICA initiatives in the EU. This might be resolved by using more effective means of making public opinion more favourable towards renovation and/or adopting new measures complying with the rules of the existing JESSICA Holding Fund but based on different principles (e.g. loans taken out by administrators of buildings used for common purposes rather than by apartment owners or by applying higher rates of subsidy). Only once effective measures have been taken will the risk of failure be eliminated.

In addition, the delayed implementation of the measures also limited their impact in reducing the effects of the economic recession. However, even when the economic recovery takes place, the issue of energy efficiency in residential buildings will remain relevant and will become more important as the prices of fossil fuel increases.

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TABLES

Annex Table A – Financing of the RES-E.

Direct support					
LEIF (EUR) (2009)*	Cohesion Promotion OP (EUR)	LT-PL CBC Programme (EUR)*	Rural Development Programme for 2007- 2013 (subsidies)	Subsidy for connection to the electricity networks (40%) (EUR) (2009)	Climate change programme* (EUR) (sources: economic fines, emission allowances, assigned amount units)
1.5 million of national funding	69.48 million from the Cohesion Fund in total for the period 2007-2013 (an annual average of 10 million)	3.5 million ²	394 million, though there is no way of distinguishing direct support for RES-E,	0.24 million of national funding	No allocation in 2009 as it was a new programme. – 27.51 million for RES in 2010, of which 15.93 million for subsidies, 5.79 million for loans and 5.79 million for investment in share capital of enterprises; – 69.51 million for RES in 2011, of which 46.3 million for subsidies, 11.58 million for loans and 11.58 million for investment in share capital of enterprises. No funding was received in 2010 as no allowances or units were sold.
1.5 million	10 million	3.5 million	N/A	0.24 million	-
Total: 15.24 million					

² 5 projects were approved under sub-priority 2.2 of the LT-PL CBC Programme's first three calls for proposals, the ERDF amount averaging EUR 1.75 million. As two projects relate to RES, the estimated amount going to this is EUR 3.5 million

				Other instruments		
Type of RES-E	Feed-in tariffs			Rural Development Programme for 2007-2013* (financial engineering)	Lower rates of excise and other taxes	Climate change programme* (EUR) (sources: economic fines, emission allowances, assigned amount units)
	Quota (MWh) (2009)	Tariff (MWh) (2009)	Total subsidy (EUR) (2009)			
Wind	320,400	EUR 75.30	24.13 million	64 million, but there is no way of distinguishing direct support for RES-E,	N/A	No allocation in 2009 as it was new programme. – 27.51 million for RES in 2010, of which 15.93 million for subsidies, 5.79 million for loans and 5.79 million for investment in the share capital of enterprises; – 69.51 million for RES in 2011, of which 46.3 million for subsidies, 11.58 million for loans and 11.58 million for investment in the share capital of enterprises. No funding was received in 2010 as no units were sold.
Hydro	122,000	EUR 86.89	10.62 million			
Biomass	127,100	EUR 86.89	11.04 million			
Solar (photovoltaic)	3,200	– (tariff was set from 2010)	–			
45.79 million			N/A	N/A	–	
Total: 45.79 million						
Ratio between EU Funds and national measures (yearly basis): 2:7						
Ratio between direct support and other instruments (financial engineering is included among other instruments) (yearly basis): 1:26						
Ratio between direct support and other instruments (including EU funded programmes) (financial engineering is included among other instruments) (yearly basis): 1:3						

Source: collected by the expert.

* It is not possible to distinguish RES-E from the production of biofuel or heat.

Annex Table B – ERDF and Cohesion Fund support to renewable energy and energy efficiency of residential housing.

No.	Operational Programme	Priority/Measure	Aims/Activities	Results	Financial package	Form of support	State of play
Renewable energy sources							
1.	Cohesion Promotion OP	“The use of renewable energy sources for energy production”	To promote the use of renewable energy sources for energy production. The measure supports construction and connection to heating systems of new boilers and thermal power plants, which use RES (except for landfill gas), as well as the modernisation (adaptation to the use of biomass) of old boilers.	It is expected that after the successful implementation of the measure a power generating units using biomass will have a capacity of 100 MW and 35 units will be installed.	EUR 69.48 million from the Cohesion Fund	Assistance is provided in the form of grants with an intensity of up to 50%.	15 project contracts were signed (EUR 41.64 million or 60% of funds from the Cohesion Fund) by 15 March 2011. On 16 March 2011 a (2 nd call for proposals was launched for a total sum of EUR 21.7 million from the Cohesion Fund.
2.	LT-PL CBC Programme	“Cross-border cohesion and enhanced overall quality of the cross-border area”	Efforts will be made to increase public information and awareness. Small-scale investment in infrastructure could be provided.	Programme provides for financing two plants using clean and renewable energy sources.	EUR 27.96 million from ERDF ³	Maximum funding is 85% of the total eligible project costs, with applicants providing the rest from their own sources.	According to the annual report for 2009, no projects were implemented in respect of RES.
Energy efficiency in multi-apartment buildings							
3.	Cohesion Promotion OP	“Holding Fund for the modernisation of multi-apartment buildings”	To improve financing conditions for projects for improving energy efficiency in housing.	According to the Cohesion Promotion OP, 1,000 multi-apartment buildings are to be renovated by the end of 2015 with energy efficiency improved by 30%	EUR 138.44 million from the ERDF plus EUR 100 million of national co-financing	Loans with an interest rate of up to 3% for the 20-year period are provided. Projects can receive an additional 15% write-off in the form of interest	By 14 April 2011 only 3 projects had been implemented and investment plans for 30 projects had been approved

³ 5 projects were approved under sub-priority 2.2 of the ETC LT-PL CBC Programme’s first three calls for proposals with an average of EUR 1.75 million from the ERDF. As two of these projects relate to RES, EUR 3.5 million are estimated for the ETC LT-PL CBC Programme

No.	Operational Programme	Priority/Measure	Aims/Activities	Results	Financial package	Form of support	State of play
						rate subsidy.	
4.	Cohesion Promotion OP	“Modernisation of multi-apartment buildings in particular by increasing their energy efficiency”	To renovate multi-apartment buildings, primarily by increasing their energy efficiency.	It is planned to improve housing conditions for 4,100 people and to renovate 150 multi-apartment buildings.	EUR 47.3 million from ERDF	The maximum funding amounts to 85% of the total eligible project costs.	58 project contracts were signed (EUR 17.05 million or 36.04% of ERDF funds) by 15 th March 2011.

Source: collected by the expert.

Annex Table C – Funding of energy efficiency in residential housing.

	Cohesion Promotion OP “Holding Fund for the modernisation of multi-apartment buildings” (financial engineering)	Cohesion Promotion OP “Modernisation of multi-apartment buildings in particular by increasing their energy efficiency” (grants)	National funding (grants)	Ignalina Programme (EU funding) (grants)	Climate change programme (EUR) (sources: economic fines, emission allowances, assigned amount units)
	EUR 138.44 million from ERDF and EUR 100 million of national co-financing. Funding was transferred to the measure in 2009. The average annual contribution for 5-year period.	EUR 47.3 million from ERDF. 15% is co-financed by applicants. The annual average d for the 7 years 2007–2013, amounts to EUR 6.76 million	The amount of support varies year by year. In 2011, it is planned to be (EUR 5.1 million. Planned: 2008 – EUR 15.2 million; 2009 – EUR 24.3 million; 2010 – EUR 10.6 million. Used: 2008 – EUR 11.9 million; 2009 – EUR 10.4 million; 2010 – EUR 4.3 million ⁴ .	EUR 25 million was planned for the modernisation of multi-apartment buildings which were approved for a 50% subsidy before 2009 but the implementation of which was postponed due to insufficient funds. EUR 18 million were committed but take-up was lower as many apartment owners refused to participate in the programme, either because they decided to wait for the	On 16 May 2011 an additional 15% subsidy was introduced from national funds, i.e. Climate change programme in cases where energy class D is reached and savings of over

⁴ Data provided by Ms E. Radavičienė, Head of the Housing Division, Construction and Housing Department, Ministry of the Environment

	2009–2013, amounts to EUR 47.7 million.		The funding is used for the preparation of technical documentation and costs of modernisation projects for low-income families and single people (100% grants), as well as for financing projects which were approved before 2009 for the 50% subsidy, but the implementation of which was postponed for lack of funds.	economic situation to become more stable; or because they had joined the new programme. EUR 4.9 million was used in 2009 and EUR 3.1 million in 2010 ⁵ . The remaining EUR 7 million is planned to be used for modernisation projects in Visaginas, but the decision has not been approved yet.	40% are achieved. No information on the resources allocated is available.
Total	EUR 47.7 million	EUR 6.76 million	EUR 5.1 million	EUR 4.5 million	n/d
(2011)	EUR 54.5 million		EUR 5.1 million	EUR 4.5 million	n/d
Ratio between ERDF and national measures (yearly basis): 11.6:1					
Ratio between direct support and other instruments (including EU funded measures) (financial engineering is included among other instruments) (yearly basis): 1:3					

Source: collected by the expert.

⁵ Data provided by Ms. E. Radavičienė, Head of the Housing Division, Construction and Housing Department, Ministry of the Environment

Annex Table D – Average costs of electricity produced by different types of RES-E.

	Type of RES-E	Total number of power plants	Number of power plants with available information on costs	Power plants with available information on costs from total number of power plants (%)	Average costs (EUR/kWh)	Currently applied feed-in tariffs (EUR/kWh)	Difference between feed-in tariffs and average costs for production (EUR)*
1.	Wind	43	5	11.6	0.062	0.075	0.013
2.	Hydro	89	11	12.4	0.043	0.086	0.043
3.	Biomass	21	1	4.8	0.065	0.086	0.023
4.	Solar	1	-	-	-	-	-

Source: www.avei.lt (7 April 2011).

* The results should be evaluated with caution as only a small number of operating power plants provided data.

Annex Table E – Parameters of wind energy

Parameters of wind energy 10, 25 and 50 meters from ground surface						
	Average wind speed (m/s)			Energy E (W/m ²)		
	10	25	50	10	25	50
Nida	5.75	6.94	8.00	364	594	864
Kaunas	3.77	4.71	5.58	103	185	291
Utena	2.94	3.74	4.50	49.7	95.0	156
Telšiai	2.90	3.71	4.47	42.2	82.5	138
Tauragė	2.67	3.44	4.16	35.3	69.8	117
Varėna	2.50	3.23	3.93	28.6	57.5	97.9

Source: Katinas, V., Markevičius, A., Wind energy resources and erection of observation stations in Lithuania, 2001.

Annex Table F – Rise of value of apartments in the renovated multi-apartment buildings (%) (2010).

	1 room apartment	2 rooms apartment	3 rooms apartment	4 and more rooms apartment
Vilnius	44	44.4	42.3	42.9
Kaunas	31.9	35.6	31.8	36.6
Klaipėda	18.5	19.2	17.6	17.6

Source: Why I have renovated my house? Brochure printed implementing project No. VP3-1.1-AM-02-V-01-001 "Promotion of multi-apartment buildings, 1st part" financed by ERDF.