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COST-EFFECTIVENESS OF COHESION POLICY INVESTMENTS IN ENERGY EFFICIENCY

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(pursuant to Article 287(4), second subparagraph, TFEU)

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CONTENTS

GLOSSARY

Cohesion policy: EU policy aiming at strengthening economic, territorial and social cohesion within the EU by reducing the development gap among the various regions. This audit concerned, in particular, the following two funds:

(a) The European Regional Development Fund (ERDF), which invests in infrastructure, creates or preserves jobs and sustains the local development activities of small and medium-sized companies;

(b) The Cohesion Fund (CF), which strengthens economic and social cohesion by financing environment and transport projects in Member States with a GNP per capita of less than 90 % of the EU average.

Cost-effective investment: Lowest cost alternative for achieving a given level of performance or the highest level of performance alternative for a given level of cost. It may also be used for the comparison and prioritisation of alternative projects within a programme. (Kreith, F., Goswami, Y. D. *Handbook of Energy Efficiency and Renewable Energy,* Taylor & Francis, Boca Raton, USA, 2007). The best relationship between resources employed and results achieved is a requirement of EU spending (see Article 27(2) of the Financial Regulation).

Cost-optimal methodology for buildings: The cost-optimal methodology aims to create a legal framework for raising the Member States' minimum energy performance requirements for buildings to ensure that all economically rational measures are adopted.

Energy audit: A standard energy audit consists of a comprehensive energy analysis for the energy systems of a facility. In particular, it includes the development of a baseline for its energy use, an evaluation of potential energy savings, and the cost-effectiveness of appropriately selected energy conservation measures.

Energy efficiency: Energy efficiency refers to using less energy input for an equivalent level of economic activity or service. Investment in energy conservation and energy efficiency provides a better economic and societal return than investment in energy supply. Energy efficiency increases the potential for economic growth, makes companies more competitive, lowers household energy bills and leads to lower energy import dependency and reduced emissions.

Managing Authority: The national, regional or local body designated by the Member State, which proposes the operational programme to the Commission for adoption and is responsible for its subsequent management and implementation.

Measurement units of energy:

- Tonne of oil equivalent (toe) is the amount of energy released by burning one tonne of crude oil, approximately 42 GJ.
- Giga joule (GJ)
- Giga/Mega/kilo watt hour (G/M/kWh)

National Energy Efficiency Action Plan (NEEAP): In their NEEAPs, the Member States must explain how they intend to reach the 9 % indicative energy savings target by 2016, as required by Directive 2006/32/EC of the European Parliament and of the Council on energy end-use efficiency and energy services. NEEAPs should describe intended energy efficiency improvement measures and the steps to be taken to comply with the provisions on the exemplary role of the public sector and providing information and advice to final consumers.

Operational Programme (OP): A document submitted by a Member State and adopted by the Commission setting out a development strategy with a coherent set of priorities (known in the Regulation 1083/2006 as 'priority axes') to be implemented with the aid of a Cohesion Policy fund. Priority axes comprise a group of operations which are related and have specific measurable goals. They are further broken down into measures. Measures (used in the report also to mean steps or processes) provide for a project or group of projects, which are selected by the managing authority (according to criteria laid down by the monitoring committee) and implemented by one or more beneficiaries.

Simple payback period: The payback period is one of the evaluation methods for cost-effectiveness. It measures the elapsed time between the time of an initial investment and the point in time at which accumulated savings are sufficient to repay the initial investment.

EXECUTIVE SUMMARY

I.
The cost of increased energy consumption, the depletion of fossil fuel reserves and the effect of human activities on global climate change are drivers of recent energy efficiency policies. Since 2000, the European Union, through its Cohesion Policy funds, has made available almost 5 billion euro for co-financing energy efficiency measures in the Member States. The European Commission and the national and regional authorities are responsible for the sound financial management of these funds in accordance with the 'shared management' system.

II.
The European Court of Auditors assessed whether Cohesion Policy investments in energy efficiency were cost-effective. To answer this question, the Court asked whether:

(a) the right conditions in programming and financing had been set to enable cost-effective energy efficiency investments; and whether

(b) energy efficiency projects in public buildings were cost-effective.

III.
The audit was carried out in the Czech Republic, Italy and Lithuania — the countries that had received the largest contributions from the Cohesion Fund and European Regional Development Fund for energy efficiency measures for the 2007–13 programming period and had also allocated the highest amounts to projects by 2009. The audit included an examination of four operational programmes and a sample of 24 energy efficiency investment projects in public buildings.

IV.
The Court concluded that:

(a) the right conditions in programming and financing had not been set to enable cost-effective energy efficiency investments, since:

— The operational programmes audited had not benefited from proper needs assessments to identify the specific sectors where energy savings could be achieved and the options for achieving those savings in a cost-effective manner, thereby justifying the chosen measures and their cost. The national authorities did not ensure that they were integrated into the National Energy Efficiency Action Plans;

— Cost-effectiveness concept, or the best relationship between resources employed and results achieved, was not a determining factor when Member States allocated funding to energy efficiency measures and concrete projects. Neither was this concept part of the Commission's assessment prior to approval of the operational programmes;

— Performance indicators for energy efficiency measures were not appropriate for the monitoring of the programmes. The Commission's monitoring guidelines did not lay down indicators concerning energy efficiency. Therefore, the results of the energy efficiency measures reported by the individual managing authorities are not comparable across the EU and cannot be aggregated.

(b) the audited energy efficiency projects in public buildings were not cost-effective:

— Although all the audited projects produced the planned physical output, such as replaced windows and doors or insulated walls and roofs, the cost in relation to the potential energy savings was high. A more important consideration than energy efficiency was the need to refurbish public buildings. While the projects audited aimed at saving energy and improving comfort, they did not generate a good ratio between energy savings and the corresponding investment cost. The average planned payback period for the investments was around 50 years, which is far too long considering the lifetime of the refurbished components and even of the buildings themselves;

— Energy audits were either not mandatory (Italy, Lithuania) or, where they were required (Czech Republic), the investment options recommended in the energy audits were far too costly. In 18 out of 24 audited projects actual energy savings could not be verified since they had not been reliably measured.

V.
The Court recommends that the Commission make the Cohesion Policy funding for energy efficiency measures subject to a proper needs assessment, regular monitoring and the use of comparable performance indicators as well as the use of transparent project selection criteria and standard investment costs per unit of energy to be saved, with a maximum acceptable simple payback period.

INTRODUCTION

ENERGY EFFICIENCY

1. Improved energy efficiency means using less energy input for an equivalent level of economic activity or service. Energy efficiency measures offer still untapped possibilities for reducing energy consumption, curbing the negative effects of human activities and fostering energy security[1]. Improved energy efficiency is important in residential, public and commercial buildings, the manufacturing industry, transport, and power generation and distribution.

2. Typical energy efficiency investments include the additional insulation of buildings, energy-efficient windows, thermoregulation, the upgrading of district heating systems, industrial motors, electrical and steam systems, combined heat and power generation and energy recovery from ventilation air and waste and recycling materials. In transport, a significant impact can be achieved by shifting transport from road to other modes[2] and through improved fuel efficiency.

3. As shown in ***Table 1***, the potential for energy efficiency is far from being fully exploited (progress was assessed by the Commission through a comparison of the original projections made in 2007 and the most recent ones from 2009). Many factors hamper investments in energy efficiency. The most important are high initial costs and uncertain benefits. Investment decisions are influenced by energy prices, regulatory uncertainty, the availability of subsidies, and access to credit. These barriers can be tackled by public measures addressing market and regulatory failures.

[1] COM(2006) 545 final of 19 October 2006 — Action Plan on Energy Efficiency: Realising the Potential.

[2] Ibid.

EU POLICY OBJECTIVES

4. The promotion of energy efficiency is set by the Article 194(1) of the Treaty on the Functioning of the European Union in the context of the establishment and functioning of the internal market and the need to preserve and improve the environment. In 2007, the EU set itself a non-binding target of saving 20 % of its projected primary energy consumption by 2020[3]. However, according to the Commission's assessment[4] of current policies (including those still in the design phase), without further action the EU will have achieved overall only 9 % energy savings by 2020 (see ***Table 1***). Most of the additional efforts to achieve the 20 % target will be required by the residential and tertiary (commercial and public buildings) sectors[5]. A new Energy Strategy for the 2011–20 period calls for stronger political commitment through 'a clear definition of the objective' to be achieved and 'strong compliance monitoring' of the EU legislation as enacted in national law[6].

[3] Presidency Conclusions of the European Council of 8/9 March 2007, doc. 7224/1/07 REV 1. This objective translates into a saving of 368 million tons of oil equivalent (Mtoe) of primary energy (gross inland consumption minus non-energy uses) by 2020 compared to projected consumption in that year of 1 842 Mtoe, implying a consumption level of 1474 Mtoe. This objective was reconfirmed by the June 2010 European Council (17/6/2010 No: EUCO 13/10) and is taken up by the new Energy Efficiency Directive.

[4] SEC(2011) 277 final of 8 March 2011.

TABLE 1

PROJECTED DEVELOPMENTS AND ENERGY SAVINGS POTENTIAL IN 2020

	2020 (baseline 2007) [Mtoe]	2020 (baseline 2009) [Mtoe]	Expected progress in 2020 without further action (%)	2020 Economic potential (%)
	1	2	3 [=(2-1)/1*100]	4
Gross inland consumption minus final non-energy use	1 842	1 678	-9 %	-20 % (EU target)
Final energy consumption, of which:	*1 348*	*1 214*	*-10 %*	*-19 %*
Industry	368	327	-11 %	-13 %
Transport	439	395	-10 %	-21 %
Residential	336	310	-8 %	-24 %
Tertiary	205	181	-12 %	-17 %
Energy transformation, transmission and distribution	494	464	-6 %	-35 %

Source: Commission Staff Working Paper, Impact Assessment, Accompanying the Directive of the European Parliament and of the Council on energy efficiency and amending and subsequently repealing Directives 2004/8/EC and 2006/32/EC, SEC(2011) 779 final.

COHESION POLICY FINANCIAL SUPPORT

5. The EU has several spending programmes[7] for promoting energy efficiency policy. The most significant funding sources are the Cohesion Policy funds (the European Regional Development Fund (ERDF) and the Cohesion Fund (CF)). In the 2000–06 programming period, the ERDF and CF supported projects in the field of energy efficiency with 306 million euro[8]. In the 2007–13 programming period, the overall planned allocations to energy efficiency have so far increased from 4 192 million euro in 2008 to 5 078 million euro in October 2012 (see ***Annex I*** for the breakdown by Member States in 2000–13). In the 2014–20 programming period, the Commission has proposed the allocation to be more than 17 billion euro[9].

SHARED MANAGEMENT

6. Within Cohesion Policy, the Commission issues guidelines for drawing up operational programmes. At the beginning of the programming period, it negotiates and approves the individual operational programmes proposed by the Member States. Its task is also to supervise the setting up and operation of management and control systems in the Member States. Later, its main role is to monitor the implementation of the operational programme, but it is not involved in the day-to-day management of individual projects. The Commission receives annual implementation reports from the Member States and participates in monitoring committees[10]. The Commission is ultimately responsible for the budget implementation[11].

[5] Residential, commercial and public buildings are responsible for nearly 40 % of energy consumption and they have the largest energy savings potential. Publicly owned or occupied buildings represent about 12 % by area of the EU building stock and the Energy Efficiency Plan stresses the importance of energy efficiency measures in the public sector (*Source:* COM(2006) 545 final). It should be noted that in this sector, as opposed for example to the transport sector, the technological solutions needed for a low-carbon society are already available.

[6] COM(2010) 639 final of 10 November 2010 — Energy 2020 — A strategy for competitive, sustainable and secure energy.

[7] The 7th Framework Programme for Research (FP7), Intelligent Energy Europe (IEE) and Energy Efficiency Financing Facility (EEFF).

[8] European Commission (2009) *Ex post Evaluation of Cohesion Policy Programmes 2000–06 Co-financed by the ERDF (Objectives 1 and 2) — Work Package 5B: Environment and Climate Change*, p. 43.

[9] According to the Commission's proposal, in more developed and transition regions, at least 80 % of ERDF resources must be focused on energy efficiency and renewables, research and innovation, and SME competitiveness, of which at least 20 % must be spent on energy efficiency and renewables; in less developed regions at least 50 % of ERDF resources must be focused on these three areas, of which at least 6 % must be spent on energy efficiency and renewables. (*Source*: COM(2011) 614 final of 6 October 2011, p. 4).

[10] Council Regulation (EC) No 1083/2006 of 11 July 2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999 (OJ L 210, 31.7.2010, p. 25).

[11] Article 17(1) of the Treaty on European Union (OJ C 326, 26.10.2012, p. 13) and Article 317 of the Treaty on the Functioning of the European Union (OJ C 326, 26.10.2012, p. 47).

7. The managing authorities, intermediate bodies and certifying authorities at the national, regional and local levels manage and monitor the implementation of the operational programmes[12]. The managing authorities or intermediate bodies select the projects and monitor their implementation. Project funding is subject to certain rules and conditions laid down partly at EU[13] and partly at Member State level (the criteria for selecting projects, the assessment of costs, benefits and potential earnings of projects as well as economic, social and environmental impact assessments are usually made at Member State level with the exception of major projects in the 2007–13 period, where the Commission adopts a decision to co-finance the projects).

[12] EU legislative summary on management and control systems for assistance granted under the Cohesion Policy funds can be found on: http://europa.eu/legislation_summaries/regional_policy/management/g24241_en.htm

[13] Regulation (EC) No 1083/2006.

AUDIT SCOPE AND APPROACH

8. The main audit question was whether the Cohesion Policy investments in energy efficiency were cost-effective. To answer this question, the Court examined whether:

— the right conditions had been established in programming and financing to enable cost-effective energy efficiency investments; and whether

— the co-financed public buildings projects were cost-effective.

9. Answering the question on programming and financing involved analysing the relevant operational programmes, their *ex ante* evaluations and the prioritisation of the energy efficiency policy at national level and within individual economic sectors. It also required an analysis of the achievement of national energy efficiency targets and the impact of the Cohesion Policy funds on this achievement, the availability of national and private co-funding and a review of other national financial support mechanisms.

10. The audit results shown in this Special Report are based on an examination of four operational programmes financed through the Cohesion Fund or the European Regional Development Fund in the Czech Republic, Italy and Lithuania. Three of the audited operational programmes are from the 2007–13[14] programming period and one is from the 2000–06 programming period[15]. By the end of 2011, these countries had allocated 1 199,3 million euro to energy efficiency projects under their respective operational programmes 33 % of the total amount of projects selected at that time under the Cohesion Policy funds allocated to energy efficiency in the 2007–13 programming period, see also ***Annex I***).

11. In order to answer the question on the cost-effectiveness of the public building projects, the audit examined 24 completed investment projects in the public buildings sector. The audit of the projects involved a review of project proposals and an examination of the project outputs and results to verify their cost-effectiveness.

[14] OP Environment (Czech Republic), Interregional OP Energy (Italy) and OP for Promotion of Cohesion (Lithuania).

[15] OP Basilicata (Italy).

OBSERVATIONS

PLANNING AND FINANCING

OPERATIONAL PROGRAMMES WERE NOT BASED ON PROPER NEEDS ASSESSMENTS

12. Operational programmes should be based on needs assessments and, for energy efficiency measures, they should consider the national and regional energy efficiency action plans. Such needs assessments should assess energy consumption by end-use in all sectors, identify the economy's energy savings potentials and establish objectives and appropriate methods for evaluating the success of the plan as defined and promoted by the International Energy Agency[16]. The energy savings potentials should be explored to the extent they are cost-effective.

13. The Commission also encouraged the Member States to ensure that relevant Cohesion Policy investments were fully integrated into national energy efficiency strategies and, as appropriate, consult the managing authorities on relevant measures, particularly at regional and local level, for inclusion in the National Energy Efficiency Action Plans[17].

14. The audited operational programmes included a number of actions which were based on Community Strategic Guidelines, National Strategic Reference Frameworks and national strategic plans and priorities. The energy efficiency priority axes were in line with both the Community Strategic Guidelines and the National Strategic Reference Frameworks, but their broad guidelines did not help turn the operational programmes into solid economic development instruments as described below.

15. The national authorities had not established a link between the operational programmes and National Energy Efficiency Action Plans. None of the audited operational programmes was preceded by, or included, a proper needs assessment encompassing a detailed description and analysis of the overall energy savings potential of the economy, by sector and by region, identifying the economy's energy savings potential and establishing objectives and adequate methods for monitoring the achievement of the objectives of the programme. Hence, it was not clear why the various sectors should be funded and to what extent the energy savings potential could be achieved via existing market instruments and public subsidies, including the ERDF and CF. As a consequence, the operational programmes did not identify the specific sectors where energy savings could be achieved and the options for achieving those savings, thereby justifying the chosen measures and their cost.

[16] OECD/IEA (2008) *Energy Efficiency Policy Recommendations*, Paris.

[17] SEC(2009) 889 final of 23 June 2009 — Synthesis of the complete assessment of all 27 National Energy Efficiency Action Plans as required by Directive 2006/32/EC on energy end-use efficiency and energy services, p. 47.

16. For illustration, ***Table 2*** provides an overview of the contribution of the operational programmes to the energy savings objectives of the three Member States audited. The Environment OP's energy savings target (Czech Republic) is 21,7 % of the energy savings target set by the National Energy Efficiency Action Plan by 2016. In the other two countries, the operational programmes were expected to play only a minor role. For the Basilicata OP, no energy savings target was set.

17. When approving operational programmes, the Commission did not require the Member States to support their allocation of funds to energy efficiency measures with the results of needs assessments.

TABLE 2

PLANNED CONTRIBUTION OF COHESION POLICY FUNDS TO THE ENERGY SAVINGS OBJECTIVES OF SELECTED MEMBER STATES

Member States	Operational Programme (allocations to energy efficiency)	Energy savings target of the Member States by 2016 (in GJ) as stated in NEEAP (2007)	Energy savings target for the operational programme (in GJ)	%
Czech Republic	Environment	7 143 120	1 550 000 (in 2007, originally 430 000)	21,7 (6)
Italy	Basilicata	45 477 720	Not set	N/A
	Energy IOP		52 500	0,1
Lithuania	Promotion of Cohesion (renovation of public buildings)	13 669 200	360 000	2,6

Source: Operational programmes, NEEAPs (2007), calculations by ECA.

COST-EFFECTIVENESS WAS NOT A DETERMINING FACTOR WHEN ALLOCATING FUNDING TO ENERGY EFFICIENCY MEASURES

18. An analysis of cost-effectiveness compares costs (of investments or other types of spending) with the effects to be achieved. Cost-effectiveness considerations should be a major determinant of public spending decisions[18]. The cost-effectiveness concept should be used especially when prioritising energy efficiency projects. The Commission has emphasised that the objective of saving 20 % of the EU's projected energy consumption by 2020 can be achieved by introducing cost-effective measures, which means that the investments made will be paid back from the reduced energy bills within the lifetime of the energy savings measures, or often even much sooner[19].

19. Member States are required to ensure that energy efficiency improvement measures are taken by the public sector, focusing on cost-effective measures which generate the largest energy savings in the shortest span of time[20]. Given the low level of the projected achievement of the 20 % target (see paragraph 4), the allocation of funding and selection of projects should aim at maximising cost-effectiveness (see the ***Box*** for actual practice reported in Belgium and Denmark).

[18] Article 27(1) and Article 27(2) of the Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities (OJ L 248, 16.9.2002, p. 1).

[19] SEC(2011) 277 final.

[20] Article 5 of Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC (OJ L 114, 27.4.2006, p. 64).

BOX

EXAMPLES OF THE USE OF THE COST-EFFECTIVENESS CONCEPT IN TWO MEMBER STATES

In Belgium, under the Flemish region's 'Energy management in Flemish government buildings' Action Plan, all regional investments with a payback period of seven years or less must be implemented within three years. The first phase must be assessed within five years to decide whether, and if so how, a second phase of investments with a payback period of 10 years or less can be implemented. In Denmark, government institutions are required to implement energy savings measures with payback times of up to five years[21].

[21] Flemish Energy Efficiency Action Plan (2007) and Action Plan for Renewed Energy Conservation (2005), Denmark (www.ec.europa.eu/energy).

20. In none of the operational programmes audited was cost-effectiveness a determining factor for the allocation of funds to investments in energy efficiency. The managing authorities explained that the allocation of Cohesion Policy funds to energy efficiency projects was decided on the basis of the governments' estimates of energy consumption and its planned reduction made by the government and also, to a certain extent, on the pattern of the absorption of appropriations in the regions in the previous programming period. However, it did not include investment cost projections of such reductions. The audited operational programmes did not provide any analysis which would have clarified how the funds had been allocated to each priority or measure.

21. When assessing the operational programmes, the Commission did not require the Member States to justify their allocation of funds to energy efficiency measures on the basis of their cost-effectiveness, nor did it take this requirement into consideration in its inter-service consultations and Commission's comments on draft operational programmes submitted by the managing authorities for approval.

22. The original version of the Environment OP (Czech Republic) was expected to result in an investment cost of 722 euro for each GJ saved, resulting in a simple payback time of 61 years (with the second reallocation, the cost decreased to 339 euro/GJ and the payback to 28 years)[22]. In Italy, the performance indicators and their values were not reliable. In the Basilicata OP 2000–06, the energy savings indicator related only to residential buildings. In the Energy IOP, the energy savings target was low, resulting in a very long payback period (from 288 to 444 years depending on the energy price). In Promotion of Cohesion OP (Lithuania), the cost of 1GJ saved was estimated at 861 euro, with a payback period of 72 to 96 years depending on the energy price (see ***Table 3***). The payback periods are far too long considering the lifetime of the refurbished building components and also those of the buildings.

WEAKNESSES IN PROJECT SELECTION CRITERIA

23. The selection criteria used by managing authorities should be transparent and should ensure that support is given to cost-effective energy efficiency projects. They should set a standard or accepted value for each selected parameter, such as the (maximum) simple payback period for an investment, or the cost per unit of energy saved, which would help direct funds towards cost-effective investments.

[22] For comparison, the annual Czech State Programme for Support of Energy Savings and Use of RES, now Programme EFEKT has operated since 1991. The simple payback period for the investments varied between five years (industry), seven years (tertiary sector) and 21 years (households) with the average cost of 1 GJ saved of 74 euro in the 2005–07period.

24. The managing authorities did not seek to ensure that the projects selected provided the best ratio between energy consumption reduction and the investment made. The selection criteria used showed a number of weaknesses as explained in the following paragraphs.

25. In the Environment OP (Czech Republic), the selection criteria were objective and transparent and helped the potential beneficiaries predict whether they would be successful. Each project proposal was checked against two ecological criteria (cost of 1GJ saved and annual cost of CO_2 emissions reduction) and three technical criteria (percentage of energy saved against the original situation, cost of the renovation and energy standard achieved after project completion). In addition, projected five-year energy savings were deducted from the total eligible project cost. However, even though the project selection criteria were objective and included the cost per 1 GJ saved, the acceptable value was between 200 and 560 euro per GJ, indicating a payback period of 17 to 47 years, much longer than for the State Programmes (see footnote 23).

TABLE **3**

COST OF 1 GJ SAVED IN FOUR AUDITED OPERATIONAL PROGRAMMES

Member States	Operational Programme (allocations to energy efficiency)	Energy savings target of the operational programme (in GJ)	Budget (in million euro)	Cost of 1 GJ saved	Payback (in years)
Czech Republic	Environment	1 550 000 (430 000)[1]	525 (310)[1]	339 (722)[1]	28 (61)[1]
Italy	Basilicata	Not set	26 (17)[1]	N/A	N/A
	Energy IOP	52 500	764	14 560	288–444
Lithuania	Promotion of Cohesion	360 000	310	861	72–96

[1] After the reallocation of funds.

Source: Operational programmes, calculations by ECA.

26. In the Basilicata OP (Italy), the managing authority adopted, as the sole evaluation criterion, the ratio between the estimated quantity of energy saved during the lifetime of the investment and the total eligible cost. The quantity of energy saved was calculated by the managing authority. Using this ratio, the managing authority intended to select projects which would potentially generate the highest return on total project cost. Since the calculations did not take into account the actual state of the buildings concerned (i.e. their energy class or actual energy consumption) and were therefore based on energy savings estimates instead of reliable data from energy audits, it is difficult to conclude whether the selected projects offered cost-effective solutions.

27. In the Energy IOP (Italy), the managing authority required that, in order to be selected, a project should be of an exemplary nature, consistent with the IOP and the objectives of the regional energy plans, 'ready' (for the work to start) and innovative in terms of technology and materials, while the amount of energy saved and the cost incurred, and ratio, between these, was not a determining factor for selection.

28. In the Promotion of Cohesion OP (Lithuania), different project selection criteria were used at regional and national level for similar projects in the public building sector. In two measures out of three, although energy consumption was the main selection criterion, an energy audit was not required. Therefore projects related to public buildings with the highest energy consumption were selected for financing. Such criteria which do not include the cost of energy saved cannot, however, establish which building can bring the best ratio between energy savings and costs and will therefore only by chance result in cost-effective projects.

INADEQUATE PERFORMANCE INDICATORS AND MONITORING

29. The management of any spending programme or development project should set rational objectives and establish objectively verifiable indicators for their achievement. In the context of Cohesion Policy investments in energy efficiency, the managing authorities should establish a system of relevant and measurable performance indicators[23]. With the Commission's help they should issue relevant guidelines in order to facilitate the monitoring of the achievements of projects, such as the quantity and cost of energy saved and their contribution to the achievement of energy efficiency policy objectives. Data collected should be of acceptable quality in terms of relevance, comparability and reliability[24].

[23] Article 27(3) of Regulation (EC, Euratom) No 1605/2002 provides that specific, measurable, achievable, relevant and timed objectives shall be set for all sectors of activity covered by the EU budget. Achievement of those objectives must be monitored by performance indicators.

[24] Court of Auditors Opinion No 7/2011 (OJ 47, 17.2.2012, p. 1).

30. The managing authorities lacked baseline data on energy savings potential in the sectors selected for investment when they were drawing up their operational programmes. Without these data, the policymakers did not have the information to estimate to what extent a programme could contribute towards the achievement of a policy objective and therefore could not decide whether a programme should be financed or not.

31. Performance indicators for energy efficiency measures were not adequate for the proper monitoring of the programmes. While the use of performance indicators was mandatory for the managing authorities, the type of indicator was not prescribed. As a result, the audited managing authorities used different measurement methodologies and units. Therefore, the results of the energy efficiency measures are not comparable across the EU and cannot be aggregated.

32. In the Environment OP (Czech Republic), the indicator for the energy efficiency measure was the total amount of energy saved by the measure in GJ. Data were reported at project level and then aggregated. These data were accurate and reliable since they were calculated by certified energy auditors. However, only technical output objectives (windows and doors replaced, walls and roofs insulated in m^2) were binding for the projects, while energy savings targets were not.

33. In Italy, neither the baseline value on energy savings potential nor the measurement methodology had been established. In the Basilicata OP, the physical output indicator for energy savings was the number of projects, and the result indicator (energy savings in GJ/year) was based on theoretical estimates. In the Energy IOP, the absence of baseline data on energy savings potential was reflected in unreliable impact indicators. The result and physical output indicators lacked a measurement methodology, therefore their target values were not justified.

34. In the Promotion of Cohesion OP (Lithuania), the indicators were set for the operational programme, its priority axes and its measures. An increase or decrease in available funding for energy efficiency did not always result in change in the value of the indicators as normally is expected. At priority axis level, the indicators related to the decrease in energy intensity and, at measure level, the indicators regarded the number of projects and the amount of energy saved, but not the cost of energy saved.

35. The Commission's monitoring guidelines did not give recommended or binding indicators concerning energy efficiency[25]. Furthermore, Cohesion Policy funds promote improved energy efficiency under many other headings in addition to energy efficiency (electricity, gas, petroleum products and various infrastructures). The Commission has not monitored the contribution of these measures to the achievement of the 2020 energy savings objective, nor has it envisaged the use of such performance indicators in the energy efficiency sector[26].

IMPLEMENTATION OF PUBLIC BUILDINGS PROJECTS

ENERGY EFFICIENCY NOT THE MAIN OBJECTIVE

36. The municipalities and regions should have plans based on needs assessments, which should include inventories of all their buildings and their energy costs and prioritise those with the highest energy savings potential. This strategy would give priority to funding energy efficiency measures in buildings with the highest energy savings potential.

37. The municipalities or regions did not have plans based on proper needs assessments. According to the managing authorities, buildings were typically regarded as being 'ready' for funding if they were in need of refurbishment and their documentation complied with the requirements.

38. The projects selected for financing did not have rational objectives in terms of cost-effectiveness, i.e. cost per unit of energy saved. Their objectives were to save energy and improve comfort, but they were not selected for financing on the basis of their potential to produce financial benefits through energy savings, thus compensating for the cost incurred (see the ***Annex II*** for the payback periods for the audited projects).

39. None of the audited countries had approved cost-optimal minimum energy performance requirements for buildings and building components, nor did they systematically collect data of the energy consumption profiles of existing buildings. Although national construction standards set limits for the thermal values of buildings and construction materials, beneficiaries used flexible approaches, technologies and materials to achieve various energy performance classes.

[25] Commission working document No 2 The New Programming Period 2007-13, Indicative Guidelines on Evaluation Methods: Monitoring and Evaluation Indicators, August 2006.

[26] Commission working document on Outcome indicators and targets, Towards a new system of monitoring and evaluation in EU Cohesion Policy, June 2011, not published.

40. The managing authorities did not provide guidance for the implementation of energy efficiency measures, such as specifications for works, technologies to be employed and costs or optimal cost-benefit ratios to be achieved.

ENERGY AUDITS NOT ALWAYS OBLIGATORY OR NOT OF GOOD QUALITY

41. A standard energy audit includes the development of a baseline for a facility's energy use, an evaluation of energy savings, and the cost-effectiveness of appropriately selected energy conservation measures and should be performed before the funding decision. The energy auditor should propose only options which lead to compliance with existing technical norms. The Commission is in favour of energy audits as they can be an appropriate tool for delivering energy savings, particularly in buildings and industry. For this reason, a number of Member States have introduced energy audits in the public sector and made them obligatory[27].

42. In the Czech Republic, energy audits were obligatory for public buildings with an energy consumption of more than 1 500 GJ/year. The beneficiaries were fully reliant on the recommendations of these audits. The energy auditor usually recommended a very costly investment option, because it promised higher energy savings than the cheaper options. No cost-effective option was proposed.

43. In Italy, projects were not preceded by an energy audit. The project beneficiary was not required to monitor energy consumption before the project and after its completion.

44. In Lithuania, the energy audits were not sufficiently detailed with regard to measurement data for buildings before renovation. Therefore, it was not possible to verify the actual benefits of projects[28]. Similar problems were noticed in the monitoring report on the implementation of the residential building modernisation programme[29]. Moreover, no baseline assessment of energy performance before project implementation was required. Energy audits had only been performed for two out of eight audited projects before the projects started and the remaining six were energy audited after the start of the refurbishment works.

[27] SEC(2009) 889 final, p. 36 and 59.

[28] This is not required under the methodology for energy audits and audits of energy resources and cold water use in public buildings approved by the Minister of Economy order No 4-184 of 29 April 2008.

[29] Monitoring of the Programme for Refurbishment of Multi-apartment Residential Buildings. Public Institution 'Kompetencijų centras', ordered by HUDA, 2009.

PROJECTS PRODUCED PHYSICAL OUTPUTS, BUT AT A HIGH COST IN RELATION TO THE ENERGY POTENTIALLY SAVED

45. All audited projects produced their physical outputs (e.g. windows and doors replaced, walls and roof insulated) to an appropriate standard and in the planned quantity. All the audited projects produced benefits such as building maintenance and increased comfort (e.g. reduction of noise, water/wind infiltrations) or better observance of current legal requirements in terms of safety (e.g. exit doors).

46. For 18 out of 24 audited projects the managing authorities could not state how far the projects had achieved their objectives in terms of energy savings, because the energy savings had not been reliably measured. In the operational programmes audited in Italy and Lithuania, the resulting energy saving was only estimated by the managing authority or beneficiary. Only in the Czech Republic were the measurements carried out by qualified energy auditors. The definitive results of the projects in the Czech Republic and Lithuania should be evaluated three years after project completion. However, at the time of the audit, the monitoring system was not yet operational.

47. According to the energy auditors' preliminary reports, all but one of the audited projects in the Czech Republic achieved their objectives of energy consumption reduction[30] with the actual energy savings even exceeding those planned. However, all audited projects were costly investments with payback periods exceeding the lifetime of the individual components or buildings. The payback period for the audited projects varied from 27 to 148 years, with an average of 52 years.

48. In Basilicata (Italy), it was not possible to assess the benefits of the audited projects in a reliable way. No energy audits had been carried out and no energy consumption data were collected before and after the projects. Saving 1 GJ was planned to cost 252 euro on average in the six audited projects. For five out of six projects, the beneficiaries provided the auditors with some energy consumption data which indicated that the projects might result in an average payback period of approximately 50 years.

[30] Project Kladno.

49. Under the Energy IOP (Italy), only one project had been finalised by the end of 2011[31]. In the project application, the benefits were estimated at 1 million euro/year, which would have resulted in a simple payback period of 10 years. It is estimated that, after completion, the project will only generate energy savings of around 500 000 euro/year (the beneficiary had made a calculation error in the project application), which gives a simple payback period of 19 years.

50. In Lithuania (Promotion of Cohesion OP), actual investment costs in the audited projects were between 130 and 488 euro per m^2 of heated area, i.e. several times higher than the 31,85 euro per m^2 forecast in the National Energy Efficiency Action Plan for 2006–10. Five of the eight audited projects claimed to have achieved their planned energy savings, but these were not reliably measured[32]. In three cases the results had not been measured yet[33]. For the audited projects, the planned simple payback period varied from 8 to 156 years, with an average of 58 years (see ***Annex II*** for the results of all audited projects).

[31] Project Cardarelli Hospital, Naples.

[32] Projects Palanga, Gargzdai, Garliava, Alytus, and Vilnius University Clinics.

[33] Projects Klaipeda, Kaunas oncology and Vilnius Mykolas Marcinkevicius.

CONCLUSIONS AND RECOMMENDATIONS

51. The right conditions in programming and financing had not been set to enable cost-effective energy efficiency investments using the Cohesion Policy funds, because:

(a) The operational programmes audited had not benefited from proper needs assessments to identify the specific sectors where energy savings could be achieved and the options for achieving those savings in a cost-effective manner, thereby justifying the chosen measures and their cost. The national authorities did not ensure that they were integrated into the National Energy Efficiency Action Plans (see paragraphs 12 to 17).

(b) cost-effectiveness concept, or the best relationship between resources employed and results achieved, was not a determining factor when Member States allocated funding to energy efficiency measures and concrete projects. Neither was this concept part of the Commission's assessment prior to approval of the operational programmes (see paragraphs 18 to 22, 23 to 28);

(c) performance indicators for energy efficiency measures were not appropriate for the monitoring of the programmes. The Commission's monitoring guidelines did not lay down indicators concerning energy efficiency. Therefore, the results of the energy efficiency measures reported by the individual managing authorities are not comparable across the EU and cannot be aggregated (see paragraphs 29 to 35).

52. The audited energy efficiency projects in public buildings were not cost-effective.

(a) although all the audited projects produced the planned physical output, such as replaced windows and doors or insulated walls and roofs, the cost in relation to the potential energy savings was high. A more important consideration than energy efficiency was the need for refurbishment of public buildings. While the projects audited aimed at saving energy and improving comfort, they did not generate a good ratio between energy savings and the corresponding investment cost. The average planned payback period for the investments was around 50 years, which is far too long considering the lifetime of the refurbished components and even of the buildings themselves (see paragraphs 18 to 22, 23 to 28, 36 to 40, 45 to 50);

(b) energy audits were either not mandatory (Italy, Lithuania) or, where they were required (Czech Republic), the investment options recommended in the energy audits were far too costly. In 18 out of 24 audited projects actual energy savings could not be verified since they had not been reliably measured (see paragraphs 41 to 44).

RECOMMENDATIONS

The Commission should take the necessary initiatives, including making further proposals on the regulations in order to make the Cohesion Policy funding for energy efficiency measures in the next programming period subject to:

(1) The establishment of a proper needs assessment at a programme level. Such needs assessment should assess energy consumption by end-use in all sectors, identify the economy's energy savings potential and establish objectives and adequate methods for evaluating the success of the energy plan. It should identify cost-effective solutions in each sector.

(2) Regular monitoring and the use of comparable performance indicators. Each operational programme dealing with energy efficiency projects should be regularly monitored in terms of the development of the cost per unit of energy saved and the payback period planned and achieved by the operational programme. Also, data collected should be of acceptable quality in terms of relevance, comparability and reliability. Data on energy savings generated by the Cohesion Policy funds supported measures should be collected by the national authorities and aggregated by the Commission. The contribution of the Cohesion Policy funds to the target of saving 20 % of EU primary energy consumption by 2020 should be identified.

(3) The use of transparent project selection criteria and standard investment costs per unit of energy to be saved (using a unified measurement unit and methodology). The Commission should set a maximum acceptable simple payback period on the basis of the usual depreciation periods for the energy efficiency investments. This could be supported by the introduction of cost-optimal levels of reference buildings in the Member States complying with Directive 2010/31/EU on the energy performance of buildings. Energy audits should be used as the primary selection requirement for energy efficiency projects where the reference cost-optimal levels for buildings have not been yet laid down at the national level.

This Report was adopted by Chamber II, headed by Mr Harald NOACK, Member of the Court of Auditors, in Luxembourg at its meeting of 14 November 2012.

For the Court of Auditors

Vítor Manuel da SILVA CALDEIRA
President

ANNEX I

COHESION POLICY FUNDS ALLOCATION TO ENERGY EFFICIENCY 2000–13 AND SELECTED PROJECTS 2007–11

Member State	Allocated amount 2000–06 (euro)	Allocated amount 2007–13 (euro)	Total funds allocation in the Member State 2000–13 (euro)	Total funds allocation in the Member State/ total funds allocation (%)	Selected projects 2007–11 (euro)	Selected projects 2007-2011 (%)
Czech Republic[1]	9 225 386	942 214 473	951 439 859	17,7	342 658 632	36,4
Italy	35 298 133	838 592 232	873 890 365	16,2	417 305 116	49,8
Poland[1]	11 410 880	499 012 133	510 423 013	9,5	389 379 855	78,0
Lithuania[1]	31 815 678	370 508 149	402 323 827	7,5	439 300 937	118,6
Germany	11 969 823	373 182 646	385 152 469	7,1	307 047 003	82,3
Hungary[1]	7 181 475	328 531 227	335 712 702	6,2	163 856 263	49,9
France	25 596 690	291 167 688	316 764 378	5,9	177 008 914	60,8
Bulgaria[2]	0	258 104 621	258 104 621	4,8	74 144 427	28,7
Romania[2]	0	253 241 727	253 241 727	4,7	60 131 969	23,7
United Kingdom	23 362 973	150 657 204	173 420 177	3,2	167 360 699	111,1
Spain	39 941 325	110 048 101	146 803 260	2,7	33 326 165	30,3
EU cross-border cooperation	4 029 659	119 642 025	123 671 684	2,3	164 027 992	137,1
Greece	42 623 511	71 170 000	113 793 511	2,1	492 363 482	691,8
Slovenia[1]	0	105 700 000	105 700 000	2,0	73 707 906	69,7
Latvia[1]	21 048 774	60 220 000	81 268 774	1,5	106 078 878	176,2
Slovakia[1]	1 334 466	78 584 184	79 918 650	1,5	64 760 737	82,4
Portugal	0	74 200 883	74 200 883	1,4	49 599 067	66,8
Ireland	22 864 270	19 000 000	41 864 270	0,8	22 346 186	117,6
Netherlands	793 076	34 250 000	35 043 076	0,7	19 917 049	58,2
Estonia[1]	2 568 584	28 760 241	31 328 825	0,6	27 844 967	96,8
Finland	190 740	24 243 917	24 434 657	0,5	6 926 847	28,6
Belgium	5 271 426	18 976 147	24 247 573	0,5	9 375 338	51,0
Malta[1]	0	12 550 000	12 550 000	0,2	3 096 758	24,7
Sweden	0	9 173 788	9 173 788	0,2	1 057 737	11,5
Austria	2 864 306	6 156 013	9 020 319	0,1	17 383 781	282,4
EU interregional cooperation	6 891 928	0	6 891 928	0,1	0	0
Luxembourg	0	504 873	504 873	0,01	1 744 838	345,6
Cyprus[1]	0	0	0	0	0	0
Denmark	0	0	0	0	0	0
Total	**306 283 104**	**5 078 392 272**	**5 384 675 376**	**100 %**	**3 632 051 543**	**71,5**

Note: Rate of selection above 100 % means funds were reallocated from other priorities or measures within the same or from another operational programme.

[1] Allocations from 2004.

[2] Allocations from 2007.

Source: DG Regional Policy database SF 2000–06, SFC2007, 2011 Annual Implementation Report for selected projects.

ANNEX II

PAYBACK PERIOD AND ENERGY SAVINGS ACHIEVED BY PROJECTS IN THE CZECH REPUBLIC, ITALY AND LITHUANIA

Project	Purpose	Status on energy savings after one year	Payback period planned (in years)	Payback period actual/ estimated (in years)
Uherské Hradiště	Wall, roof insulation, window replacement in a cultural house and a school	Achieved	42	35
Karviná	Wall, roof insulation, window replacement in a high school	Achieved	93	78
Frýdek-Místek	Wall, roof insulation, window replacement in a high school	Achieved	40	30
Sokolov	Wall, roof insulation, window replacement in two primary schools, one kindergarten and a leisure centre	Achieved	86	81
Sokolov II	Wall, roof insulation, window replacements in three primary schools	Achieved	30	26
Volyně	Complex project of wall, roof insulation, window replacement, replacement of coal powerplant in a joint high and upper vocational school, and dormitories	Achieved	148 (46)[1]	146 (26)[1]
Kladno	Wall, roof insulation, window replacement in eight kindergartens	Not achieved	27	32
Plzeň	Wall, roof insulation, window replacement in one primary school and one high school	Achieved	55	48
Melfi	Window replacement in a secondary school	NA	20	NA
Matera	Window replacement in the headquarters of the Province of Matera	Not reliably measured	42	104
Grassano	Window replacement in the primary school	Not reliably measured	28	56
Sant'Arcangelo	Window replacement in the main Sant'Arcangelo Commune building	Not reliably measured	37	17
ENEA-Rotondella	Window replacement in the canteen building of the ENEA centre of Trisaia	Not reliably measured	21	10
Policoro	Window replacement in the primary school of Policoro	Not reliably measured	33	53
Napoli	Supply-side measures aiming at increasing the efficiency in production and distribution, such as the modernisation of the thermal power plant and replacement of technical devices, pipes and supply systems for hot and cold water and air used mainly in the main hospital building	Not reliably measured	10	19
Palanga	Palanga Vladas Jurgutis Secondary school renovation	Not reliably measured	40	21

[1] The energy auditor used price of brown coal (85,45 CZK/GJ) burnt originally in the reconstructed boiler station; for comparison, the auditor used average energy price of 279 CZK/GJ paid by the school for all energy inputs.

Project	Purpose	Status on energy savings after one year	Payback period planned (in years)	Payback period actual/estimated (in years)
Gargždai	Viliaus Gaigalaitis elderly people care home renovation	Not reliably measured	49	36
Klaipėda	Klaipėda Tourism School renovation	NA	156	NA
Garliava	Increase in the efficiency of energy consumption in Kaunas County Hospital in Garliava	Not reliably measured	57	31
Kaunas	Renovation of the Kaunas Medical University' the Oncology Centre	NA	8	NA
Vilnius	Partial renovation of Mykolas Marcinkevičius Hospital and engineering systems, improving their energy characteristics	Not reliably measured	63	21
Alytus	Increase in EE of Alytus Vocational Training Centre	Not reliably measured	26	23
Vilnius	Roof insulation and renovation of heating and ventilation systems of Vilnius University Hospital Santariškių Clinic Operative Unit	NA	66	NA
Average			**51**	

Source: Energy audits and projects' actual outputs, calculation by auditors based on data from EAs, evaluation period between 25 and 50 years.

REPLY OF THE COMMISSION

EXECUTIVE SUMMARY

II.
The Commission notes that the scope of the audited projects covers public building projects only.

IV. (a)
There might be a potential conflict between the results of a 'needs assessment' and a 'cost-effectiveness' approach. In fact, the assessment of needs might lead to a different prioritisation compared to a prioritisation on the basis of cost-effectiveness.

IV. (a) First indent
The energy efficiency policy has experienced a dynamic development in recent years. This was not yet the case at the time of the drafting, negotiation and approval of the programmes of the 2007–13 programming period. Only since then, the Commission has developed in full its energy efficiency policy. The four audited programmes were negotiated before the Commission fully developed its energy efficiency policy.

All operational programmes financed by Cohesion Policy have to comply with the policy's objectives to strengthen economic, social and territorial cohesion and promote overall harmonious development by reducing disparities between the levels of development of regions and promoting development in least favoured regions.

Cohesion Policy is an integrated policy. In the case of investments in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone. They should be rather considered as part of a general refurbishment leading to the overall improvement of a particular building.

As a general requirement for all operational programmes funded under Cohesion Policy, programmes contain 'an analysis of the situation of the eligible area or sector in terms of strengths and weaknesses and the strategy chosen in response'. A needs assessment can be useful in this context.

REPLY OF THE COMMISSION

All 2000–06 and 2007–13 programmes had been negotiated and approved before the first National Energy Efficiency Action Plans (NEEAPs) were due (i.e. June 2007). NEEAPs are not designed as an investment strategy for the use of Cohesion Policy funds for energy efficiency-related allocations.

IV. (a) Second indent

Energy efficiency is one of multiple objectives of Cohesion Policy programmes. Cohesion Policy is an integrated policy. In the case of investments in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone. They should be rather considered as part of a general refurbishment leading to the overall improvement of a particular building. Cost effectiveness of the investments is, therefore, one of the determining factors for the allocation of the funds within a programme. The programme can allocate funds also with a view to other Cohesion Policy objectives.

In the case of energy efficiency investments in public buildings, there is a case for deep renovation, going beyond cost-optimal levels. In this context, the actual level of the energy savings achieved is an important factor. Deep renovations would obviously need longer payback times. As the Court states in § 3, public measures can be used to address market failures. While the market could provide financing for the cost-effective part of the energy efficiency investment, the Cohesion Policy co-financing element could be used to support the part of the investment going beyond that level, thus ensuring higher energy savings and avoiding additional works in the future, which would potentially make the total investment cost even higher.

IV. (a) Third indent

The Commission acknowledges that the current legal framework for Cohesion Policy does not prescribe the type of indicators to be used for monitoring purposes and is working towards the improvement of programme performance. It has, therefore, proposed in the draft ERDF Regulation for the programming period 2014–20 three common indicators for energy efficiency for all Member States: (a) number of households with improved energy consumption classification; (b) decrease of primary energy consumption of public buildings; and (c) number of additional energy users connected to smart grids (COM(2011) 614 final, Annex to the draft Regulation). For these three indicators, EU-level aggregation would thus be possible.

IV. (b) First indent

Energy efficiency is one of multiple objectives of Cohesion Policy programmes. In the case of investments in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone, but rather consider them as part of a general refurbishment leading to the overall improvement of a particular building. If a particular public building is up for renovation at a specific point in time it makes sense to also address the energy efficiency aspects in the same round of work. Cost effectiveness of the investments is, therefore, one of the determining factors for the allocation of the funds within a programme. The programme can allocate funds also with a view to other Cohesion Policy objectives. The Commission considers that there is a case for deep renovation, going beyond cost-optimal levels. The new Energy Efficiency Directive will also require Member States to develop long term renovation strategies for the whole building stock, including policies to stimulate deep renovations. Deep renovations would obviously need longer payback times.

REPLY OF THE COMMISSION

IV. (b) Second indent

The Commission agrees on the need for good quality energy audits as a basis for investments in energy efficiency in buildings. The new Energy Efficiency Directive will require Member States to promote the availability of high quality and cost-effective energy audits and energy management systems to all final customers.

V. (1)

The Commission is working along the lines of the recommendation. The proposed 2014–20 Common Provisions Regulation[1] requires that:

— Partnership Contracts with Member States shall include an analysis of disparities and development needs with reference to the thematic objectives, the Common Strategic Framework key actions and the Country-Specific Recommendations under the European semester[2]; and

— all programmes should be in line with these contracts[3].

V. (2)

The proposed 2014–20 ERDF Regulation envisages three common indicators for energy efficiency for all Member States, thus making an aggregation at EU level possible.

However, the Commission cannot fully accept the set-up of the recommended indicators at programme level as their comparability would be limited given that these indicators depend on many factors (e.g. energy/commodity prices, climate conditions) that could render them misleading.

[1] COM(2012) 496.

[2] Article 14.

[3] Article 24.

V. (3)

The draft Common Provisions Regulation proposes that the monitoring committee shall examine and approve the methodology and criteria for selection of operations[4]. Furthermore, the managing authority shall draw up and, once approved, apply transparent and non-discriminatory selection criteria[5]. However, setting standard investment costs per kWh saved across the EU is not possible because these costs differ considerably due to different prices for equipment and different levels of already implemented savings.

Finally, energy efficiency investments in public buildings may be part of 'deep renovation' works entailing longer payback times.

[4] Article 100.

[5] Article 114.

REPLY OF THE COMMISSION

OBSERVATIONS

12.
The energy efficiency policy has experienced a dynamic development in recent years. This was not yet the case at the time of the drafting, negotiation and approval of the programmes of the 2007–13 programming period. Only since then, the Commission has developed in full its energy efficiency policy. The four audited programmes were negotiated before the Commission fully developed its energy efficiency policy.

As a general requirement for all operational programmes funded under EU Cohesion Policy (Article 37 of Regulation (EC) No 1083/2006), programmes contain 'an analysis of the situation of the eligible area or sector in terms of strengths and weaknesses and the strategy chosen in response'. A needs assessment can be useful in this context.

Cohesion Policy programmes are implemented in differing economic, social and territorial contexts. These exogenous factors and the inherent uncertainties are mitigating factors that impact on the planning, the implementation and the outcome of the projects. As regards the quoted recommendations from the OECD/IEA, these can certainly be very useful but they do not constitute any legal requirement in relation to Cohesion Policy programming. Moreover, they were only published in 2008, when the operational programmes had already been negotiated and approved.

14.
The audited sample comprised four programmes in three Member States. The programmes represent around 28 % of the funds to be allocated to energy efficiency in the period 2000–13. The projects audited represent a very small share of this amount. One audited programme was from the 2000–06 programming period. Therefore, the results cannot be extrapolated to the policy as a whole.

15.
All 2000–06 and 2007–13 programmes had been negotiated and approved before the first National Energy Efficiency Action Plans (NEEAPs) required by Directive 2006/32/EC were due (i.e. June 2007). Moreover, the NEEAPs are not designed as an investment strategy for the use of Cohesion Policy funds for energy efficiency-related allocations. While a voluntary template established for the second NEEAPs, submitted by Member States in 2011/2012, gave them an opportunity to provide indications as regards the allocations for the implementation of energy efficiency measures using Cohesion Policy funds, this template was not mandatory for the Member States.

Concerning the needs assessment, see the Commission's reply to paragraph 12.

17.
Concerning the needs assessment, see the Commission's reply to §12. When approving programmes, the Commission required 'an analysis of the situation of the eligible area or sector in terms of strengths and weaknesses and the strategy chosen in response' (Article 37 of Regulation (EC) No 1083/2006).

18.
The Commission notes that there is a conflict between the principle of cost-effectiveness as a factor for allocation funding to energy efficiency measures and the request to prioritise energy efficiency measures on the basis of a needs assessment (see §§12–17). Both methodological approaches to prioritise investments may lead to different results.

REPLY OF THE COMMISSION

19.
Article 5 of Directive 2006/32/EC is not obliging the Member States to accomplish this only with Cohesion Policy funds, or, to put it differently, the Cohesion Policy funds are not the only funding source for implementing the Directive.

The Commission refers also to its reply to paragraph 18.

The Commission does not consider the examples in Box 1 directly comparable to the audited programmes.

20.
Energy efficiency is one of multiple objectives of Cohesion Policy programmes. Cohesion Policy is an integrated policy. In the case of investments in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone. They should be rather considered as part of a general refurbishment leading to the overall improvement of a particular building. Cost effectiveness of the investments is, therefore, one of the determining factors for the allocation of the funds within a programme. The programme can allocate funds also with a view to other Cohesion Policy objectives. In the case of energy efficiency investments in public buildings, the Commission considers that there is a case for deep renovation, going beyond cost-optimal levels (SWD(2012) 61 final of 14 March 2012, Part II, pp. 14–15). The new Energy Efficiency Directive will also require Member States to develop long-term renovation strategies for the whole building stock, including policies to stimulate deep renovations. As the Court states in § 3, public measures can be used to address market failures. While the market could provide financing for the cost-effective part of the energy efficiency investment, the Cohesion Policy co-financing element could be used to support the part of the investment going beyond that level, thus ensuring higher energy savings and avoiding additional works in the future, which would potentially make the total investment cost even higher.

It is stressed in the new Energy Efficiency Directive that public authorities are expected to take an exemplary role in this area. They can do so in engaging in state-of-the-art, deep renovation of public buildings for improved energy efficiency, thus also strengthening the innovation demand side.

21.
It is not possible to assess cost-effectiveness at programme level but only at project level. Cost-effectiveness considerations may be defined in the selection criteria of the specific interventions. Directive 2006/32/EC stresses that the Member States shall ensure that the public sector fulfils an exemplary role. As for the specific projects, Member States themselves are in charge of the selection. In the case of deep renovation projects, the assessment of needs might lead to a different prioritisation compared to a prioritisation on the basis of cost-effectiveness.

22.
In the case of energy efficiency investments in public buildings, there is a case for deep renovation, going beyond cost-optimal levels. In this context, the actual level of the energy savings achieved is an important factor. Deep renovations would obviously need longer payback times.

23.
The Commission refers to its reply to paragraph 22 and the principle of shared management.

For example, the Lithuanian OP Promotion of Cohesion refers to pursue better environmental quality by giving special attention to increasing efficiency of using energy. Specific selection criteria are not set at programme level.

24.
The Commission refers to its replies to paragraphs 20 and 22.

26.
The Commission refers to its reply to paragraph 22.

27.
The Commission refers to its reply to paragraph 22.

28.
The Commission refers to its reply to paragraph 22. Following the second Lithuanian NEEAP of 2011, the energy audit is now obligatory.

REPLY OF THE COMMISSION

31.
The Commission acknowledges the increasing importance of energy efficiency and has proposed in the draft ERDF Regulation for the programming period 2014–20 three common indicators for energy efficiency for all Member States: (a) Number of households with improved energy consumption classification; (b) Decrease of primary energy consumption of public buildings; and (c) Number of additional energy users connected to smart grids (COM(2011) 614 final, Annex to the draft Regulation.

34.
As regards the quality and appropriateness of the indicator system, the Commission questioned the Lithuanian system at the time of the negotiation of the programme. For the 2014–20 period, it is clear that these two aspects need to be very carefully assessed.

35.
The Commission refers to its reply to paragraph 31.

It was on the Commission's initiative, with the working document No 2 in 2006, that some suggestions as to core indicators being used for aggregating values at EU level were first made.

The 2020 energy savings objective was only set in 2007, after the negotiation and the approval of the programmes.

The document 'Outcome indicators and targets' was a methodological paper prepared by academics as part of the reflection on the future Cohesion Policy, and not an official position paper of the Commission.

36.
The Commission refers to its reply to paragraph 12.

In view of the 2014–20 programming period, the new Energy Efficiency Directive will support work in this area by encouraging regional and local government energy efficiency plans and energy management systems, renovation roadmaps and heat maps for the use of Combined Heat and Power.

The Commission refers also to its replies to paragraphs 18, 20 and 22.

37.
The Commission refers to its replies to paragraphs 12, 18, 20 and 22. If a particular public building is up for renovation at a specific point in time it makes sense to also address the energy efficiency aspects in the same round of work.

38.
The Commission refers to its replies to paragraphs 18, 20 and 22 and the fact that deep renovations need longer payback times. The selection of projects takes place on the basis of the project description in the project application which may aim at more objectives than energy efficiency.

39.
During the period covered by the audit, Member States were not obliged to set cost-optimal Minimum Energy Performance Requirements (MEPRs). This obligation will only exist once Member States have undertaken their national cost optimal calculations as per Delegated Regulation 244/2012. Nevertheless, they all should have had 'normal' MEPRs in place as per Directive 2002/91/EC.

REPLY OF THE COMMISSION

41.
The new Energy Efficiency Directive will require Member States to promote the availability of high quality and cost-effective energy audits and energy management systems to all final customers.

45.
The Commission notes that the projects produced benefits and refers to its replies in paragraphs 20 and 22 on the integrated approach in Cohesion Policy.

46.
The verification of the regularity of the interventions and of their outputs lies within the competence of the managing authorities on the basis of the information submitted by the beneficiaries.

CONCLUSIONS AND RECOMMENDATIONS

51.
There might be a potential conflict between the results of a 'needs assessment' and a 'cost-effectiveness' approach. In fact, the assessment of needs might lead to a different prioritisation compared to a prioritisation on the basis of cost-effectiveness.

51. (a)
The energy efficiency policy has experienced a dynamic development in recent years. This was not yet the case at the time of the drafting, negotiation and approval of the programmes of the 2007–13 programming period. Only since then, the Commission has developed in full its energy efficiency policy. The four audited programmes were negotiated before the Commission fully developed its energy efficiency policy.

Cohesion Policy is an integrated policy. In the case of investments in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone. They should be rather considered as part of a general refurbishment leading to the overall improvement of a particular building. As a general requirement for all operational programmes funded under Cohesion Policy, programmes contain 'an analysis of the situation of the eligible area or sector in terms of strengths and weaknesses and the strategy chosen in response'. A needs assessment can be useful in this context.

All 2000–06 and 2007–13 programmes had been negotiated and approved before the first National Energy Efficiency Action Plans (NEEAPs) were due (i.e. June 2007). NEEAPs are not designed as an investment strategy for the use of Cohesion Policy funds for energy efficiency-related allocations.

REPLY OF THE COMMISSION

51. (b)
Energy efficiency is one of multiple objectives of Cohesion Policy programmes. Cohesion Policy is an integrated policy. In the case of investments in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone. They should be rather considered as part of a general refurbishment leading to the overall improvement of a particular building. Cost effectiveness of the investments is, therefore, one of the determining factors for the allocation of the funds within a programme. The programme can allocate funds also with view to other Cohesion Policy objectives.

In the case of energy efficiency investments in public buildings, there is a case for deep renovation, going beyond cost-optimal levels. In this context, the actual level of the energy savings achieved is an important factor. Deep renovations would obviously need longer payback times. As the Court states in §3, public measures can be used to address market failures. While the market could provide financing for the cost-effective part of the energy efficiency investment, the Cohesion Policy co-financing element could be used to support the part of the investment going beyond that level, thus ensuring higher energy savings and avoiding additional works in the future, which would potentially make the total investment cost even higher.

51. (c)
The Commission acknowledges that the current legal framework for Cohesion Policy does not prescribe the type of indicators to be used for monitoring purposes. It has, therefore, proposed in the draft ERDF Regulation for the programming period 2014–20 three common indicators for energy efficiency for all Member States: (a) number of households with improved energy consumption classification; (b) decrease of primary energy consumption of public buildings; and (c) number of additional energy users connected to smart grids (COM(2011) 614 final, Annex to the draft Regulation.

52. (a)
Energy efficiency is one of multiple objectives of Cohesion Policy programmes. In the case of investments in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone, but rather consider them as part of a general refurbishment leading to the overall improvement of a particular building. If a particular public building is up for renovation at a specific point in time it makes sense to also address the energy efficiency aspects in the same round of work. In the case of energy efficiency investments in public buildings, there is a case for deep renovation, going beyond cost-optimal levels. In this context, the actual level of the energy savings achieved is an important factor. Deep renovations would obviously need longer payback times.

52. (b)
The Commission agrees on the need for good quality energy audits as a basis for investments in energy efficiency in buildings. The new Energy Efficiency Directive will require Member States to promote the availability of high quality and cost-effective energy audits and energy management systems to all final customers.

REPLY OF THE COMMISSION

RECOMMENDATIONS

1.
The Commission is working along the lines of the recommendation. It has proposed in the 2014–20 Common Provisions Regulation[6] that

— Partnership Contracts with Member States shall include an analysis of disparities and development needs with reference to the thematic objectives, the Common Strategic Framework key actions and the Country-Specific Recommendations under the European semester[7], and

— all programmes should be in line with these contracts[8].

The new Energy Efficiency Directive adopted in 2012 will support the work in the area of energy efficiency by encouraging regional and local government energy efficiency plans (i.e. needs assessments in the area of energy efficiency) and energy management systems, renovation roadmaps and heat maps for the use of Combined Heat and Power.

2.
The Commission is working towards the improvement of programme performance. It has proposed in the draft ERDF Regulation for the programming period 2014–20 three common indicators for energy efficiency for all Member States: (a) number of households with improved energy consumption classification; (b) decrease of primary energy consumption of public buildings; and (c) number of additional energy users connected to smart grids (COM(2011) 614 final, Annex to the draft Regulation). For these three indicators, EU level aggregation would thus be possible.

However, the Commission cannot fully agree to the recommendation, as the comparability of the recommended indicators would be limited, given the fact that these indicators depend on many factors (e.g. energy/commodity prices, climate conditions) that could render them misleading.

3.
The Commission has proposed in Article 100 of the draft Common Provisions Regulation for the programming period 2014–20 (COM(2012) 496 final) that the monitoring committee shall examine and approve the methodology and criteria for selection of operations. In Article 114, the draft Regulation further proposes that the managing authority shall draw up and, once approved, apply appropriate selection procedures and criteria that (i) are non-discriminatory and transparent; and (ii) take into account the general principles of promotion of equality between men and women and non-discrimination and sustainable development.

However, the Commission cannot fully agree to the recommendation. Setting standard investment costs per kWh saved across the EU is not possible because these costs differ considerably due to different prices for equipment and different levels of already implemented savings.

The Commission is developing energy efficiency project assessment guidelines, which could serve as a basis for setting up project evaluation, monitoring and verification mechanisms. Moreover, the new Energy Efficiency Directive will require Member States to promote the availability of high quality energy audits to all final customers.

In the case of investments in energy efficiency in public buildings, it is important to take an integrated approach and not carry out energy efficiency improvements alone, but rather consider them as part of a general refurbishment leading to the overall improvement of a particular building.

The Commission considers that there is a case for deep renovation, going beyond cost-optimal levels. Deep renovations would obviously need longer payback times.

[6] COM(2012) 496.

[7] Article 14.

[8] Article 24.

European Court of Auditors

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THE COURT ASSESSED WHETHER COHESION POLICY INVESTMENTS IN ENERGY EFFICIENCY WERE COST-EFFECTIVE. THE COURT CONCLUDES THAT THE RIGHT CONDITIONS IN PROGRAMMING AND FINANCING HAD NOT BEEN SET AND THAT THE AUDITED PROJECTS IN PUBLIC BUILDINGS HAD A LONG AVERAGE PLANNED PAYBACK PERIOD (AROUND 50 YEARS). THE COURT RECOMMENDS THAT THE COMMISSION MAKE THE COHESION POLICY FUNDING FOR ENERGY EFFICIENCY MEASURES SUBJECT TO A PROPER NEEDS ASSESSMENT, REGULAR MONITORING AND THE USE OF COMPARABLE PERFORMANCE INDICATORS AS WELL AS THE USE OF TRANSPARENT PROJECT SELECTION CRITERIA AND STANDARD INVESTMENT COSTS PER UNIT OF ENERGY TO BE SAVED, WITH A MAXIMUM ACCEPTABLE SIMPLE PAYBACK PERIOD.

EUROPEAN COURT OF AUDITORS

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